



NAS

REST API reference

NetApp
July 17, 2026

Table of Contents

NAS	1
ONTAP REST API NAS endpoints	1
Overview	1
APIs	1
Manage Active Directory accounts	1
Manage Active Directory accounts	1
Retrieve Active Directory accounts for all SVMs	3
Create an Active Directory account for an SVM	12
Manage Active Directory accounts for an SVM	22
Manage Active Directory accounts for an SVM	22
Delete an Active Directory account for an SVM	24
Retrieve an Active Directory account for an SVM	27
Modify an Active Directory account for an SVM	33
Manage Active Directory domain controllers	41
Manage Active Directory domain controllers	41
Retrieve an Active Directory preferred DC configuration for an SVM	45
Create an Active Directory preferred DC configuration for an SVM	50
Delete an Active Directory preferred DC configuration for an SVM and domain	53
Retrieve an Active Directory preferred DC configuration for an SVM and domain	55
Manage NAS audit configurations	58
Manage NAS audit configurations	58
Retrieve audit configurations	68
Create an audit configuration	79
Delete an audit configuration	89
Retrieve the audit configuration for an SVM	93
Update the audit configuration for an SVM	101
Manage S3 audit configurations	111
Manage S3 audit configurations	111
Delete an S3 audit configuration	119
Retrieve an S3 audit configurations	123
Update an S3 audit configuration for an SVM	132
Create an S3 audit configuration	140
View CIFS connection information	151
View CIFS connection information	151
Retrieve the CIFS connection information for all SVMs	153
View CIFS domain-related information	160
View CIFS domain-related information	160
Retrieve the CIFS domain-related information of all SVMs	164
Manage CIFS domain-related information	176
Manage CIFS domain-related information	176
Retrieve the CIFS domain-related information for an SVM	182
Modify the CIFS domain-related information for an SVM	189
Manage CIFS DC configuration	198

Manage CIFS DC configuration	198
Retrieve the CIFS domain preferred DC configuration for an SVM	202
Create the CIFS domain preferred DC configuration for an SVM	208
Delete the CIFS domain preferred DC configuration for an SVM and domain	214
Retrieve the CIFS domain preferred DC configuration for an SVM and domain	216
Retrieve unapplied group policy objects for all SVMs	221
Retrieve unapplied group policy objects for an SVM	237
Create a background task to update the GPO settings for an SVM	249
Retrieve applied central access policies for an SVM	250
Retrieve an applied central access policy for an SVM	256
Retrieve applied central access rules for an SVM	261
Retrieve an applied central access rule for an SVM	266
View group policy objects	271
View group policy objects	271
Retrieve applied group policy objects for an SVM	271
Retrieve an applied group policy object for an SVM	283
Retrieve applied restricted group policies for an SVM	291
Retrieve an applied restricted group policy for an SVM	297
Manage home directory search paths	302
Manage home directory search paths	302
Retrieve CIFS home directory search paths	305
Create a home directory search path	310
Delete a CIFS home directory search path	314
Retrieve a CIFS home directory search path for an SVM	316
Re-order a CIFS home directory search path	320
Manage local groups	321
Manage local groups	321
Retrieve local groups for all SVMs	327
Create the local group configuration for an SVM	332
Delete a local group configuration for an SVM	337
Retrieve local group information for a group and SVM	339
Update local group information for a group in an SVM	344
Manage local group members	348
Manage local group members	348
Delete local users or Active Directory users and groups from a local group and SVM	350
Retrieve local users and Active Directory users and groups that belong to a local group and SVM	354
Add local users and Active Directory users and groups to a local group and SVM	361
Delete a local user, or Active Directory user or group from a local group and SVM	365
Retrieve a local user, Active Directory user or group belonging to a local group and SVM	368
Manage local users	372
Manage local users	372
Retrieve local users for all SVMs	378
Create the local user configuration for an SVM	386
Delete the local user configuration for an SVM	392
Retrieve the local user information for a user and SVM	394

Update the local user information for a user and SVM	400
View NetBIOS information	405
View NetBIOS information	405
Retrieve NetBIOS information	409
Manage CIFS services	416
Manage CIFS services	416
Retrieve CIFS servers	431
Create a CIFS server	466
Delete a CIFS server and related configurations	492
Retrieve a CIFS server	503
Update CIFS mandatory and optional parameters	524
Retrieve CIFS protocol historical performance metrics for an SVM	548
View CIFS active file sessions	557
View CIFS active file sessions	557
Retrieve CIFS open files	561
Close open files identified by SVM	571
Retrieve a CIFS open file	573
View CIFS active sessions	580
View CIFS active sessions	580
Retrieve CIFS session information for all SVMs	585
Delete SMB session information for an SVM node	596
Retrieve SMB session information for an SMB connection in an SVM node	598
View and update shadow copy information	606
View and update shadow copy information	606
Retrieve shadow copies	612
Retrieve a shadow copy	621
Update a shadow copy	626
Retrieve shadow copy sets	632
Retrieve a shadow copy set	637
Update a shadow copy set	641
Manage CIFS shares	644
Manage CIFS shares	644
Retrieve CIFS shares	652
Create a CIFS share	668
Delete a CIFS share	684
Retrieve a CIFS share	686
Update a CIFS share	697
Manage share-level ACL	709
Manage share-level ACL	709
Retrieve a share-level ACL on a CIFS share	713
Create a share-level ACL on a CIFS share	720
Delete a share-level ACL on a CIFS share	725
Retrieve a share-level ACL on a CIFS share for a user or group	727
Update a share-level ACL on a CIFS share	733
Manage CIFS UNIX symlink mapping	736

Manage CIFS UNIX symlink mapping	736
Retrieve UNIX symbolic link mappings for CIFS clients	741
Create a UNIX symbolic link mapping for a CIFS client	748
Delete a UNIX symbolic link mapping for CIFS clients	755
Retrieve a UNIX symbolic link mapping for CIFS clients	757
Update a UNIX symbolic link mapping for CIFS clients	763
Perform bulk import for CIFS user groups	767
Perform bulk import for CIFS user groups	767
Retrieve import operation status for CIFS local users, groups, and group memberships	771
Upload the bulk-import status of an SVM to a URI	776
Load CIFS local users, groups and group membership files from a URL	782
Manage CIFS user group privileges	789
Manage CIFS user group privileges	789
Retrieve privileges for all local, or Active Directory users or groups and SVMs	792
Add privileges to a local, or Active Directory user or group and SVM	798
Retrieve privileges for a local, or Active Directory user or group and SVM	803
Update privileges for a local, or Active Directory user or group and SVM	808
View file security permissions	813
View file security permissions	813
Retrieve effective security permissions on a file	815
Manage file security permissions and audit policies	820
Manage file security permissions and audit policies	820
Remove all SLAG ACLs for a path	838
Retrieve file permissions	840
Update the SD information	849
Apply an SD to a path	860
Add a new SACL or DACL ACE	874
Delete a SACL or DACL ACL	883
Update SACLs or DACLS	892
Manage FPolicy configuration	900
Manage FPolicy configuration	900
Retrieve an FPolicy configuration	908
Create an FPolicy configuration	939
Delete the FPolicy configuration for an SVM	960
Retrieve the FPolicy configuration for an SVM	963
View and update FPolicy server configuration	982
View and update FPolicy server configuration	982
Retrieve the status of FPolicy servers	989
Retrieve the status of an FPolicy server	997
Update the FPolicy server status	1002
Manage FPolicy engine configuration	1008
Manage FPolicy engine configuration	1008
Retrieve the FPolicy engine configuration for all engines of an SVM	1013
Create the FPolicy engine configuration for an SVM	1027
Delete an FPolicy external engine configuration	1044

Retrieve a particular FPolicy engine configuration for an SVM	1045
Update a specific FPolicy engine configuration for an SVM	1055
Manage FPolicy event configuration	1067
Manage FPolicy event configuration	1067
Retrieve the FPolicy event configuration for all events for an SVM	1077
Create the FPolicy event configuration for an SVM	1089
Delete a specific FPolicy event configuration for an SVM	1097
Retrieve a specific FPolicy event configuration for an SVM	1099
Update a specific FPolicy event configuration for an SVM	1105
Manage FPolicy persistent store configuration	1112
Manage FPolicy persistent store configuration	1112
Retrieve the FPolicy persistent store configurations for an SVM	1116
Create an FPolicy persistent store configuration for an SVM	1121
Delete an FPolicy persistent store configuration for an SVM	1126
Retrieve an FPolicy persistent store configuration for an SVM	1128
Update an FPolicy persistent store configuration for an SVM	1131
Manage SVM FPolicy configuration	1135
Manage SVM FPolicy configuration	1136
Retrieve an FPolicy configuration for an SVM	1149
Create an FPolicy configuration for an SVM	1159
Delete an FPolicy configuration for an SVM	1169
Retrieve an FPolicy configuration for an SVM	1171
Update an FPolicy configuration for an SVM	1178
View lock details	1186
View lock details	1186
Retrieve lock details	1191
Delete locks for a parameter	1202
Retrieve the lock for a specific UUID	1203
View NFS client information	1212
View NFS client information	1212
Retrieve NFS client information	1213
View and update NFS client settings	1219
View and update NFS client settings	1219
Retrieve the NFS connected-client cache settings for a cluster	1220
Update NFS connected-client cache settings properties	1223
View NFS connected clients	1227
View NFS connected clients	1227
Retrieve the NFS configuration for an SVM	1229
Manage NFS export policies	1238
Manage NFS export policies	1238
Retrieve export policies	1243
Create an export policy	1253
Delete an export policy	1261
Retrieve an export policy	1263
Update export policy properties	1269

Retrieve export policy rules	1275
Create an export policy rule	1285
Delete an export policy rule	1294
Retrieve an export policy rule	1296
Update the properties of an export policy rule	1302
Retrieve export policy rule clients	1309
Create an export policy rule client	1315
Delete an export policy client	1322
View and update Kerberos interfaces	1324
View and update Kerberos interfaces	1325
Retrieve Kerberos interfaces	1325
Retrieve a Kerberos interface	1332
Update Kerberos interface properties	1337
Manage Kerberos realms	1343
Manage Kerberos realms	1343
Retrieve Kerberos realms	1344
Create a Kerberos realm	1352
Delete a Kerberos realm	1358
Retrieve a Kerberos realm	1360
Update Kerberos realm properties	1365
Manage NFS services	1371
Manage NFS services	1371
Retrieve the NFS configuration for SVMs	1373
Create an NFS configuration for an SVM	1426
Delete NFS configuration for an SVM	1458
Retrieve NFS configuration for an SVM	1460
Update NFS configuration for an SVM	1487
Retrieve NFS protocol historical performance metrics	1513
Manage NFS over TLS interface configuration details	1528
Manage NFS over TLS interface configuration details	1528
Retrieve NFS over TLS interface configurations	1529
Retrieve an NFS over TLS interface configuration	1536
Update the properties of an NFS over TLS interface	1541
View and create Vscan configuration	1546
View and create Vscan configuration	1547
Retrieve the Vscan configuration	1562
Create a Vscan configuration	1577
Manage Vscan configuration	1590
Manage Vscan configuration	1590
Retrieve the Vscan server status	1593
Delete a Vscan configuration	1603
Retrieve the Vscan configuration for an SVM	1605
Update the Vscan configuration for an SVM	1614
Retrieve Vscan events	1621
Manage Vscan On-Access policies	1629

Manage Vscan On-Access policies	1629
Retrieve a Vscan On-Access policy	1636
Create a Vscan On-Access policy	1644
Delete an antivirus On-Access policy configuration	1651
Retrieve the Vscan On-Access policy configuration for an SVM	1653
Update the Vscan On-Access policy configuration for an SVM	1658
Manage Vscan On-Demand policies	1664
Manage Vscan On-Demand policies	1664
Retrieve a Vscan On-Demand policy	1670
Create a Vscan On-Demand policy	1678
Delete a Vscan On-Demand configuration	1686
Retrieve the Vscan On-Demand configuration for an SVM	1687
Update the Vscan On-Demand policy configuration for an SVM	1692
Manage Vscan scanner-pool configuration	1698
Manage Vscan scanner-pool configuration	1698
Retrieve the Vscan scanner-pool configuration for an SVM	1704
Create the Vscan scanner-pool configuration for an SVM	1712
Delete the Vscan scanner-pool configuration	1720
Retrieve the Vscan scanner-pool configuration for an SVM	1722
Update the Vscan scanner-pool configuration for an SVM	1728

NAS

ONTAP REST API NAS endpoints

Overview

These APIs allow you to complete various tasks, including:

- Creating an NFS server for an SVM
- Managing an NFS configuration of an SVM
- Viewing and updating the NFS configuration of an SVM
- Configuring export policies and rules for an SVM
- Managing export policies and rules for an SVM

APIs

NFS

The NFS APIs enable you to create and configure NFS settings for an SVM. You can delete or update NFS configurations, and you can also disable or enable different NFS features as needed. The export APIs allow you to create and manage export policies for an SVM that enable an administrator to restrict access to volumes for clients that match specific IP addresses and specific authentication types. Export APIs are also used to create export rules for an export policy. The APIs allow each rule to specify the number of mask bits in the client IP address that must be matched for that rule to apply to a particular client request. The APIs also allow each export rule to specify the authentication types that are required for both read-only and read-write operations.

Kerberos

Kerberos is a protocol designed to provide strong authentication for users and hosts within a client/server environment. The basis of the protocol is a shared, secret-key cryptology system. (Kerberos uses shared-key encryption to ensure the confidentiality of the data. It also uses hashing techniques to ensure the integrity of the data (so that no one can modify the data unless allowed to do so). With the NetApp multiprotocol storage platform, through which clients based on UNIX or Windows can access data using CIFS or NFS, it is crucial to provide the ability to use standard network services for authentication and for identity storage.

To configure an ONTAP system to use Kerberos for NFS, Kerberos must be enabled on a data LIF in the SVM that owns the NFS server. A Kerberos realm needs to be created before enabling Kerberos on a data LIF. (The Kerberos realm is needed so that the cluster knows how to format Kerberos ticket requests.) The Kerberos APIs allow you to define, create, modify, and delete realms for the SVM. The APIs also allow you to enable/disable Kerberos on a data LIF and update the Kerberos interface configuration for a particular data LIF in the SVM.

Manage Active Directory accounts

Manage Active Directory accounts

Overview

You can use this API to display Active Directory account-related information of all SVMs or create a new Active Directory account.

Examples

Retrieving all Active Directory account details of all SVMs

```
# The API:
GET /api/protocols/active-directory

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/active-directory?fields=*" -H
"accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "9166c7e8-1fcf-11ed-b037-0050568e9b8b",
        "name": "vs1"
      },
      "organizational_unit": "CN=Computers",
      "name": "SERVER1",
      "fqdn": "EXAMPLE.COM",
      "security": {
        "advertised_kdc_encryptions": [
          "des"
        ]
      }
    }
  ],
  "num_records": 1
}
```

Create a new Active Directory account

```
# The API:
POST /api/protocols/active-directory

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/active-directory" -H
"accept: application/json"
-d "{ \"force_account_overwrite\": false, \"fqdn\":
\"example.com\", \"name\": \"account1\", \"password\": \"password\",
\"svm\": { \"_links\": {}, \"name\": \"vs1\", \"uuid\":
\"6fcfe07a-8a93-11ec-927a-0050568e205f\" }, \"username\":
\"administrator\", \"security\": { \"advertised_kdc_encryptions\": [
\"des\" ] } }"
```

Retrieve Active Directory accounts for all SVMs

GET /protocols/active-directory

Introduced In: 9.12

Retrieves Active Directory accounts for all SVMs.

Related ONTAP commands

- `vserver active-directory show`
- `vserver active-directory preferred-dc show`
- `vserver active-directory discovered-servers show`
- `vserver cifs security show`

Parameters

Name	Type	In	Required	Description
preferred_dcs.server_ip	string	query	False	Filter by preferred_dcs.server_ip
preferred_dcs.fqdn	string	query	False	Filter by preferred_dcs.fqdn • maxLength: 254
fqdn	string	query	False	Filter by fqdn • maxLength: 254

Name	Type	In	Required	Description
security.advertised_kdc_encryptions	string	query	False	Filter by security.advertised_kdc_encryptions Introduced in: 9.17
discovered_servers.server.type	string	query	False	Filter by discovered_servers.server.type
discovered_servers.server.name	string	query	False	Filter by discovered_servers.server.name
discovered_servers.server.ip	string	query	False	Filter by discovered_servers.server.ip
discovered_servers.state	string	query	False	Filter by discovered_servers.state
discovered_servers.domain	string	query	False	Filter by discovered_servers.domain
discovered_servers.node.name	string	query	False	Filter by discovered_servers.node.name
discovered_servers.node.uuid	string	query	False	Filter by discovered_servers.node.uuid
discovered_servers.preference	string	query	False	Filter by discovered_servers.preference
organizational_unit	string	query	False	Filter by organizational_unit
name	string	query	False	Filter by name maxLength: 15
svm.name	string	query	False	Filter by svm.name

Name	Type	In	Required	Description
svm.uuid	string	query	False	Filter by svm.uuid
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	

Name	Type	Description
num_records	integer	Number of Active Directory records.
records	array[active_directory]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "discovered_servers": [
        {
          "domain": "server1.com",
          "node": {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            },
            "name": "node1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          },
          "preference": "preferred",
          "server": {
            "ip": "7.4.3.1",
            "name": "scspk0659102001",
            "type": "kerberos"
          },
          "state": "ok"
        }
      ],
      "force_account_overwrite": "",
      "fqdn": "server1.com",
      "name": "account1",
      "organizational_unit": "CN=Test",
      "preferred_dcs": [
        {
          "fqdn": "test.com",
          "server_ip": "4.4.4.4"
        }
      ],
      "security": {
```

```

    "advertised_kdc_encryptions": [
      "string"
    ],
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  ]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```

{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```


Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

active_directory_discovered_server_reference

Name	Type	Description
ip	string	The IP address of the server that was discovered.
name	string	Server Name
type	string	The type of the server that was discovered.

discovered_servers

Name	Type	Description
domain	string	The Active Directory domain that the discovered server is a member of.
node	node	

Name	Type	Description
preference	string	The preference level of the server that was discovered.
server	active_directory_discovered_server_reference	
state	string	The status of the connection to the server that was discovered.

preferred_dcs

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred DC. The address can be either an IPv4 or an IPv6 address.

active_directory_security

Name	Type	Description
advertised_kdc_encryptions	array[string]	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

active_directory

Name	Type	Description
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.

Name	Type	Description
fqdn	string	Fully qualified domain name.
name	string	Active Directory (AD) account NetBIOS name.
organizational_unit	string	Organizational unit under which the Active Directory account will be created.
preferred_dcs	array[preferred_dcs]	Specifies the preferred domain controller (DC) records.
security	active_directory_security	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create an Active Directory account for an SVM

POST /protocols/active-directory

Introduced In: 9.12

Creates an Active Directory account for a given SVM.

Related ONTAP commands

- `vserver active-directory create`

Important notes

- Active Directory account creation is asynchronous. Response contains Task UUID and Link that can be queried to get the status.

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.
force_account_overwrite	boolean	If set to true and a machine account exists with the same name as specified in "name" in Active Directory, it will be overwritten and reused.
fqdn	string	Fully qualified domain name.
name	string	Active Directory (AD) account NetBIOS name.
organizational_unit	string	Organizational unit under which the Active Directory account will be created.
password	string	Administrator password required for Active Directory account creation, modification and deletion.
preferred_dcs	array[preferred_dcs]	Specifies the preferred domain controller (DC) records.
security	active_directory_security	

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
username	string	Administrator username required for Active Directory account creation, modification and deletion.

Example request

```
{
  "discovered_servers": [
    {
      "domain": "server1.com",
      "node": {
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "preference": "preferred",
      "server": {
        "ip": "7.4.3.1",
        "name": "scspk0659102001",
        "type": "kerberos"
      },
      "state": "ok"
    }
  ],
  "force_account_overwrite": "",
  "fqdn": "server1.com",
  "name": "account1",
  "organizational_unit": "CN=Test",
  "password": "testpwd",
  "preferred_dcs": [
    {
      "fqdn": "test.com",
      "server_ip": "4.4.4.4"
    }
  ],
  "security": {
    "advertised_kdc_encryptions": [
      "string"
    ]
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "username": "admin"
}
```

Response

Status: 201, Created

Name	Type	Description
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.
force_account_overwrite	boolean	If set to true and a machine account exists with the same name as specified in "name" in Active Directory, it will be overwritten and reused.
fqdn	string	Fully qualified domain name.
name	string	Active Directory (AD) account NetBIOS name.
organizational_unit	string	Organizational unit under which the Active Directory account will be created.
password	string	Administrator password required for Active Directory account creation, modification and deletion.
preferred_dcs	array[preferred_dcs]	Specifies the preferred domain controller (DC) records.
security	active_directory_security	
svm	svm	SVM, applies only to SVM-scoped objects.
username	string	Administrator username required for Active Directory account creation, modification and deletion.

Example response

```
{
  "discovered_servers": [
    {
      "domain": "server1.com",
      "node": {
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "preference": "preferred",
      "server": {
        "ip": "7.4.3.1",
        "name": "scspk0659102001",
        "type": "kerberos"
      },
      "state": "ok"
    }
  ],
  "force_account_overwrite": "",
  "fqdn": "server1.com",
  "name": "account1",
  "organizational_unit": "CN=Test",
  "password": "testpwd",
  "preferred_dcs": [
    {
      "fqdn": "test.com",
      "server_ip": "4.4.4.4"
    }
  ],
  "security": {
    "advertised_kdc_encryptions": [
      "string"
    ]
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "username": "admin"
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655562	The NetBIOS name cannot be longer than 15 characters.
655915	A CIFS server for this SVM already exists. Having both a CIFS server and an Active Directory account for the same SVM is not supported. Use the \"vserver cifs delete\" command to delete the existing CIFS server and try the command again.
656464	Failed to create the Active Directory machine account. Reason: Invalid Credentials.
656465	Failed to create the Active Directory machine account. Reason: An account with this name already exists.
656466	Failed to create the Active Directory machine account. Reason: Unable to connect to any domain controllers.
656467	Failed to create the Active Directory machine account. Reason: Organizational-Unit not found.
656490	Unable to create the Active Directory account. The Active Directory account name is already used by another SVM.
656491	Failed to create the Active Directory machine account. Reason: This operation is supported only on data SVMs.
656494	The Active Directory was created but was not fully configured.
656495	Failed to update Active Directory security settings for SVM.
656496	Failed to update Active Directory security settings for SVM. Reason: KDC has no support for encryption type.

Also see the table of common errors in the [Response body](#) overview section of this documentation.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

node

Name	Type	Description
name	string	
uuid	string	

active_directory_discovered_server_reference

Name	Type	Description
ip	string	The IP address of the server that was discovered.
name	string	Server Name
type	string	The type of the server that was discovered.

discovered_servers

Name	Type	Description
domain	string	The Active Directory domain that the discovered server is a member of.
node	node	
preference	string	The preference level of the server that was discovered.
server	active_directory_discovered_server_reference	
state	string	The status of the connection to the server that was discovered.

preferred_dcs

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred DC. The address can be either an IPv4 or an IPv6 address.

active_directory_security

Name	Type	Description
advertised_kdc_encryptions	array[string]	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

active_directory

Name	Type	Description
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.
force_account_overwrite	boolean	If set to true and a machine account exists with the same name as specified in "name" in Active Directory, it will be overwritten and reused.
fqdn	string	Fully qualified domain name.
name	string	Active Directory (AD) account NetBIOS name.
organizational_unit	string	Organizational unit under which the Active Directory account will be created.

Name	Type	Description
password	string	Administrator password required for Active Directory account creation, modification and deletion.
preferred_dcs	array[preferred_dcs]	Specifies the preferred domain controller (DC) records.
security	active_directory_security	
svm	svm	SVM, applies only to SVM-scoped objects.
username	string	Administrator username required for Active Directory account creation, modification and deletion.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage Active Directory accounts for an SVM

Manage Active Directory accounts for an SVM

Overview

You can use this API to display or modify Active Directory account details of the specified SVM. It can also be used to delete an Active Directory account for the specified SVM.

Examples

Retrieving all Active Directory account details of a specific SVM

```
# The API:
GET /api/protocols/active-directory/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/active-directory/6dd78167-
c907-11eb-b2bf-0050568e7324" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "6dd78167-c907-11eb-b2bf-0050568e7324",
    "name": "vs1"
  },
  "organizational_unit": "CN=Computers",
  "name": "ACCOUNT1",
  "fqdn": "EXAMPLE.COM",
  "security": {
    "advertised_kdc_encryptions": [
      "des"
    ]
  }
}
```

Update the Active Directory account details of a specific SVM

```
# The API:
PATCH /api/protocols/active-directory/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/active-directory/6dd78167-
c907-11eb-b2bf-0050568e7324" -H "accept: application/json"
      -d "{  \"force_account_overwrite\": true,  \"fqdn\":
\"example.com\",  \"password\": \"password\",  \"username\":
\"administrator\",  \"security\": {  \"advertised_kdc_encryptions\": [
\"des\" ] } }"
```

Delete an Active Directory account of a specific SVM

```
# The API:
DELETE /api/protocols/active-directory/{svm.uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/active-directory/6dd78167-
c907-11eb-b2bf-0050568e7324" -H "accept: application/json" -d "{
  \"password\": \"password\",  \"username\": \"administrator\"}"
```

Delete an Active Directory account for an SVM

```
DELETE /protocols/active-directory/{svm.uuid}
```

Introduced In: 9.12

Deletes the Active Directory account for a given SVM.

Related ONTAP commands

- `vserver active-directory delete`

Important notes

- Active Directory account deletion is asynchronous. Response contains Task UUID and Link that can be queried to get the status.

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
password	string	Administrator password required for Active Directory account creation.
username	string	Administrator username required for Active Directory account creation.

Example request

```
{
  "password": "testpwd",
  "username": "admin"
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655414	Failed to remove Active Directory machine.
655431	Username cannot be empty.
655432	Password cannot be empty.

Also see the table of common errors in the [Response body](#) overview section of this documentation.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

active_directory_delete

Name	Type	Description
password	string	Administrator password required for Active Directory account creation.
username	string	Administrator username required for Active Directory account creation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an Active Directory account for an SVM

GET /protocols/active-directory/{svm.uuid}

Introduced In: 9.12

Retrieves the Active Directory account for a given SVM.

Related ONTAP commands

- `vserver active-directory show`
- `vserver active-directory preferred-dc show`

- `vserver active-directory discovered-servers show`
- `vserver active-directory discovered-servers reset-servers`
- `vserver cifs security show`

Parameters

Name	Type	In	Required	Description
reset_discovered_servers	boolean	query	False	Force a rediscovery. • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.
fqdn	string	Fully qualified domain name.
name	string	Active Directory (AD) account NetBIOS name.
organizational_unit	string	Organizational unit under which the Active Directory account will be created.
preferred_dcs	array[preferred_dcs]	Specifies the preferred domain controller (DC) records.
security	active_directory_security	
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "discovered_servers": [
    {
      "domain": "server1.com",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "preference": "preferred",
      "server": {
        "ip": "7.4.3.1",
        "name": "scspk0659102001",
        "type": "kerberos"
      },
      "state": "ok"
    }
  ],
  "force_account_overwrite": "",
  "fqdn": "server1.com",
  "name": "account1",
  "organizational_unit": "CN=Test",
  "preferred_dcs": [
    {
      "fqdn": "test.com",
      "server_ip": "4.4.4.4"
    }
  ],
  "security": {
    "advertised_kdc_encryptions": [
      "string"
    ]
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
```

```
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

active_directory_discovered_server_reference

Name	Type	Description
ip	string	The IP address of the server that was discovered.
name	string	Server Name
type	string	The type of the server that was discovered.

discovered_servers

Name	Type	Description
domain	string	The Active Directory domain that the discovered server is a member of.
node	node	
preference	string	The preference level of the server that was discovered.
server	active_directory_discovered_server_reference	

Name	Type	Description
state	string	The status of the connection to the server that was discovered.

preferred_dcs

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred DC. The address can be either an IPv4 or an IPv6 address.

active_directory_security

Name	Type	Description
advertised_kdc_encryptions	array[string]	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Modify an Active Directory account for an SVM

PATCH /protocols/active-directory/{svm.uuid}

Introduced In: 9.12

Modifies the Active Directory account for a given SVM.

Related ONTAP commands

- `vserver active-directory modify`
- `vserver cifs security modify`

Important notes

- Patching Active Directory account is asynchronous. Response contains Task UUID and Link that can be queried to get the status.

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.

Name	Type	Description
force_account_overwrite	boolean	If set to true and a machine account exists with the same name as specified in "name" in Active Directory, it will be overwritten and reused.
fqdn	string	Fully qualified domain name.
password	string	Administrator password required for Active Directory account creation, modification and deletion.
preferred_dcs	array[preferred_dcs]	Specifies the preferred domain controller (DC) records.
security	active_directory_security	
username	string	Administrator username required for Active Directory account creation, modification and deletion.

Example request

```
{
  "discovered_servers": [
    {
      "domain": "server1.com",
      "node": {
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "preference": "preferred",
      "server": {
        "ip": "7.4.3.1",
        "name": "scspk0659102001",
        "type": "kerberos"
      },
      "state": "ok"
    }
  ],
  "force_account_overwrite": "",
  "fqdn": "server1.com",
  "password": "testpwd",
  "preferred_dcs": [
    {}
  ],
  "security": {
    "advertised_kdc_encryptions": [
      "string"
    ]
  },
  "username": "admin"
}
```

Response

Status: 200, Ok

Name	Type	Description
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.

Name	Type	Description
force_account_overwrite	boolean	If set to true and a machine account exists with the same name as specified in "name" in Active Directory, it will be overwritten and reused.
fqdn	string	Fully qualified domain name.
password	string	Administrator password required for Active Directory account creation, modification and deletion.
preferred_dcs	array[preferred_dcs]	Specifies the preferred domain controller (DC) records.
security	active_directory_security	
username	string	Administrator username required for Active Directory account creation, modification and deletion.

Example response

```
{
  "discovered_servers": [
    {
      "domain": "server1.com",
      "node": {
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "preference": "preferred",
      "server": {
        "ip": "7.4.3.1",
        "name": "scspk0659102001",
        "type": "kerberos"
      },
      "state": "ok"
    }
  ],
  "force_account_overwrite": "",
  "fqdn": "server1.com",
  "password": "testpwd",
  "preferred_dcs": [
    {}
  ],
  "security": {
    "advertised_kdc_encryptions": [
      "string"
    ]
  },
  "username": "admin"
}
```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
656464	Failed to modify the Active Directory machine account. Reason: Invalid Credentials.

Error Code	Description
656465	Failed to create the Active Directory machine account. Reason: An account with this name already exists.
656466	Failed to create the Active Directory machine account. Reason: Unable to connect to any domain controllers.
656467	Failed to modify the Active Directory machine account. Reason: Organizational-Unit not found.
656478	Failed to create the Active Directory machine account. Reason: KDC has no support for encryption type.
656490	Unable to modify the Active Directory account. The Active Directory account name is already used by another SVM.
656495	Failed to update Active Directory security settings for SVM.
656496	Failed to update Active Directory security settings for SVM. Reason: KDC has no support for encryption type.

Also see the table of common errors in the [Response body](#) overview section of this documentation.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

node

Name	Type	Description
name	string	
uuid	string	

active_directory_discovered_server_reference

Name	Type	Description
ip	string	The IP address of the server that was discovered.
name	string	Server Name
type	string	The type of the server that was discovered.

discovered_servers

Name	Type	Description
domain	string	The Active Directory domain that the discovered server is a member of.
node	node	
preference	string	The preference level of the server that was discovered.
server	active_directory_discovered_server_reference	
state	string	The status of the connection to the server that was discovered.

preferred_dcs

active_directory_security

Name	Type	Description
advertised_kdc_encryptions	array[string]	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

active_directory

Name	Type	Description
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.
force_account_overwrite	boolean	If set to true and a machine account exists with the same name as specified in "name" in Active Directory, it will be overwritten and reused.
fqdn	string	Fully qualified domain name.
password	string	Administrator password required for Active Directory account creation, modification and deletion.
preferred_dcs	array[preferred_dcs]	Specifies the preferred domain controller (DC) records.
security	active_directory_security	
username	string	Administrator username required for Active Directory account creation, modification and deletion.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage Active Directory domain controllers

Manage Active Directory domain controllers

Overview

You can use this API to display the preferred DC configuration of an SVM.

Retrieving all the preferred DC configurations of an SVM

The preferred DC GET endpoint retrieves all the configurations for a specific SVM.

Examples

Retrieving all fields for all the preferred DC configurations of an SVM

```
# The API:
GET /api/protocols/active-directory/{svm.uuid}/preferred-domain-
controllers

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/active-directory/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-controllers/?fields=*" -H
"accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "1226670c-abc9-11eb-8de3-0050568eb0c4",
        "name": "svm1"
      },
      "fqdn": "host1",
      "server_ip": "4.4.4.4"
    },
    {
      "svm": {
        "uuid": "1226670c-abc9-11eb-8de3-0050568eb0c4",
        "name": "svm1"
      },
      "fqdn": "host2",
      "server_ip": "11.11.11.11"
    }
  ],
  "num_records": 2
}
```

Retrieving the preferred DC configuration of a specific SVM, "fqdn" and "server_ip"

```
# The API:
GET /api/protocols/active-directory/{svm.uuid}/preferred-domain-
controllers/{fqdn}/{server_ip}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/active-directory/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-controllers/host1/4.4.4.4" -H
"accept: application/json"

# The response:
{
  "svm": {
    "uuid": "1226670c-abc9-11eb-8de3-0050568eb0c4",
    "name": "svm1"
  },
  "fqdn": "host1",
  "server_ip": "4.4.4.4"
}
```

Creating a new preferred DC configuration

The preferred DC POST endpoint creates a new configuration. Both bulk and instance POST is supported.

Examples

Creating a single preferred DC configuration

```
# The API:
POST /api/protocols/active-directory/{svm.uuid}/preferred-domain-
controllers

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/active-directory/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-
controllers?skip_config_validation=true&return_records=false" -H "accept:
application/json" -H "Content-Type: application/json" -d "{ \"fqdn\":
\"testing.com\", \"server_ip\": \"1.1.1.1\"}"
```

Deleting an existing preferred DC configuration

The preferred DC DELETE endpoint deletes an existing configuration. Both bulk and instance delete is supported.

Examples

Deleting the preferred DC configuration of a specific SVM, "fqdn" and "server_ip"

```
# The API:
DELETE /api/protocols/active-directory/{svm.uuid}/preferred-domain-
controllers/{fqdn}/{server_ip}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/active-directory/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-controllers/sample/4.4.4.4"
```

Deleting the preferred DC configurations of a specific SVM and "fqdn"

```
# The API:
DELETE /api/protocols/active-directory/{svm.uuid}/preferred-domain-
controllers

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/active-directory/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-controllers/?fqdn=sampl"
```

Deleting all preferred DC configurations of a specific SVM

```
# The API:
DELETE /api/protocols/active-directory/{svm.uuid}/preferred-domain-
controllers

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/active-directory/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-controllers/?fqdn="
```

Deleting the preferred DC configurations of a specific SVM, "fqdn" and set of "server_ips"

```
# The API:
DELETE /api/protocols/active-directory/{svm.uuid}/preferred-domain-
controllers

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/active-directory/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-
controllers/?fqdn=sample&server_ip=3.3.3.3&#124;4.4.4.4&#124;1.1.1.1&#124;
2.2.2.2"
```

Deleting the preferred DC configurations of a specific SVM and set of "server_ips"

```
# The API:
DELETE /api/protocols/active-directory/{svm.uuid}/preferred-domain-
controllers

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/active-directory/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-
controllers/?server_ip=3.3.3.3&#124;4.4.4.4&#124;1.1.1.1&#124;2.2.2.2"
```

Retrieve an Active Directory preferred DC configuration for an SVM

GET /protocols/active-directory/{svm.uuid}/preferred-domain-controllers

Introduced In: 9.12

Retrieves the Active Directory preferred DC configuration of an SVM.

Related ONTAP commands

- `vserver active-directory preferred-dc show`

Parameters

Name	Type	In	Required	Description
server_ip	string	query	False	Filter by server_ip

Name	Type	In	Required	Description
fqdn	string	query	False	Filter by fqdn • maxLength: 254
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
max_records	integer	query	False	Limit the number of records returned.
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of Active Directory preferred DC records.
records	array[active_directory_preferred_dc]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "fqdn": "test.com",
      "server_ip": "4.4.4.4"
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

active_directory_preferred_dc

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred DC. The address can be either an IPv4 or an IPv6 address.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create an Active Directory preferred DC configuration for an SVM

POST /protocols/active-directory/{svm.uuid}/preferred-domain-controllers

Introduced In: 9.12

Creates an Active Directory preferred DC configuration for an SVM.

Required properties

- `svm.uuid` - Existing SVM in which to create the preferred DC.
- `fqdn` - Fully Qualified Domain Name.
- `server_ip` - IPv4/IPv6 address of the preferred DC.

The following parameters are optional:

- `skip_config_validation`

Related ONTAP commands

- `vserver active-directory preferred-dc add`

Parameters

Name	Type	In	Required	Description
<code>skip_config_validation</code>	boolean	query	False	Skip the validation of the specified preferred DC configuration. • Default value:
<code>return_records</code>	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
<code>svm.uuid</code>	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
<code>fqdn</code>	string	Fully Qualified Domain Name.

Name	Type	Description
server_ip	string	IP address of the preferred DC. The address can be either an IPv4 or an IPv6 address.

Example request

```
{
  "fqdn": "test.com",
  "server_ip": "4.4.4.4"
}
```

Response

Status: 201, Created

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred DC. The address can be either an IPv4 or an IPv6 address.

Example response

```
{
  "fqdn": "test.com",
  "server_ip": "4.4.4.4"
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655366	Invalid domain controller.
655506	Failed to add preferred-dc.
655918	The fully qualified domain name cannot be longer than 254 bytes.
656407	Failed to validate preferred-dc.
656408	RPC failure occurred during preferred-dc config validation.

Also see the table of common errors in the [Response body](#) overview section of this documentation.

Definitions

See Definitions

active_directory_preferred_dc

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred DC. The address can be either an IPv4 or an IPv6 address.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete an Active Directory preferred DC configuration for an SVM and domain

```
DELETE /protocols/active-directory/{svm.uuid}/preferred-domain-controllers/{fqdn}/{server_ip}
```

Introduced In: 9.12

Deletes the Active Directory preferred DC configuration of the specified SVM and domain.

Related ONTAP commands

- `vserver active-directory preferred-dc delete`

Parameters

Name	Type	In	Required	Description
fqdn	string	path	True	Fully Qualified Domain Name.
server_ip	string	path	True	DC's IP address.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655507	Failed to remove preferred-dc.

Also see the table of common errors in the [Response body](#) overview section of this documentation.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an Active Directory preferred DC configuration for an SVM and domain

GET /protocols/active-directory/{svm.uuid}/preferred-domain-

```
controllers/{fqdn}/{server_ip}
```

Introduced In: 9.12

Retrieves the Active Directory preferred DC configuration of an SVM.

Related ONTAP commands

- `vserver active-directory preferred-dc show`

Parameters

Name	Type	In	Required	Description
fqdn	string	path	True	Fully Qualified Domain Name.
server_ip	string	path	True	DC's IP address.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred DC. The address can be either an IPv4 or an IPv6 address.

Example response

```
{
  "fqdn": "test.com",
  "server_ip": "4.4.4.4"
}
```


Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage NAS audit configurations

Manage NAS audit configurations

Overview

Auditing for NAS events is a security measure that enables you to track and log certain CIFS and NFS events on storage virtual machines (SVMs). This helps you track potential security problems and provides evidence of any security breaches.

Examples

Creating an audit entry with log rotation size and log retention count

To create an audit entry with log rotation size and log retention count, use the following API. Note the *return_records=true* query parameter is used to obtain the newly created entry in the response.

```
# The API:
POST /api/protocols/audit/

# The call:
```

```
curl -X POST "https://<mgmt-ip>/api/protocols/audit" -H "accept:
application/json" -H "Content-Type: application/json" -d "{ \"enabled\":
true, \"events\": { \"async_delete\": false, \"audit_policy_change\":
true, \"authorization_policy\": false, \"cap_staging\": false,
\"cifs_logon_logoff\": true, \"file_operations\": true, \"file_share\":
false, \"security_group\": false, \"user_account\": false },
\"guarantee\": true, \"log\": { \"format\": \"evtx\", \"retention\": {
\"count\": 10 }, \"rotation\": { \"size\": 2048000 }}, \"log_path\":
\"/\", \"svm\": { \"name\": \"vs1\", \"uuid\": \"ec650e97-156e-11e9-abcb-
005056bbd0bf\" }}"
```

The response:

```
{
"records": [
{
  "svm": {
    "uuid": "ec650e97-156e-11e9-abcb-005056bbd0bf",
    "name": "vs1"
  },
  "enabled": true,
  "events": {
    "authorization_policy": false,
    "cap_staging": false,
    "cifs_logon_logoff": true,
    "file_operations": true,
    "file_share": false,
    "security_group": false,
    "user_account": false,
    "audit_policy_change": true,
    "async_delete": false
  },
  "log": {
    "format": "evtx",
    "rotation": {
      "size": 2048000
    },
    "retention": {
      "count": 10,
      "duration": "0s"
    }
  },
  "log_path": "/",
  "guarantee": true
}
],
"num_records": 1
}
```

```
}
```

Creating an audit entry with log rotation schedule and log retention duration

To create an audit entry with log rotation schedule and log retention duration, use the following API. Note that the *return_records=true* query parameter is used to obtain the newly created entry in the response.

```
# The API:
POST /api/protocols/audit/

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/audit" -H "accept:
application/json" -H "Content-Type: application/json" -d "{ \"enabled\":
false, \"events\": { \"async_delete\": false, \"audit_policy_change\":
true, \"authorization_policy\": false, \"cap_staging\": false,
\"cifs_logon_logoff\": true, \"file_operations\": true, \"file_share\":
false, \"security_group\": false, \"user_account\": false },
\"guarantee\": true, \"log\": { \"format\": \"xml\", \"retention\": {
\"duration\": \"P4DT12H30M5S\" }, \"rotation\": { \"schedule\": {
\"days\": [1, 5, 10, 15], \"hours\": [0, 1, 6, 12, 18, 23], \"minutes\":
[10, 15, 30, 45, 59], \"months\": [0], \"weekdays\": [0, 2, 5] } } },
\"log_path\": \"/\", \"svm\": { \"name\": \"vs3\", \"uuid\": \"a8d64674-
13fc-11e9-87b1-005056a7ae7e\" }}"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "a8d64674-13fc-11e9-87b1-005056a7ae7e",
        "name": "vs3"
      },
      "enabled": true,
      "events": {
        "authorization_policy": false,
        "cap_staging": false,
        "cifs_logon_logoff": true,
        "file_operations": true,
        "file_share": false,
        "security_group": false,
        "user_account": false,
        "audit_policy_change": true,
        "async_delete": false
      }
    }
  ]
}
```

```

    },
    "log": {
      "format": "xml",
      "rotation": {
        "schedule": {
          "minutes": [
            10,
            15,
            30,
            45,
            59
          ],
          "hours": [
            0,
            1,
            6,
            12,
            18,
            23
          ],
          "weekdays": [
            0,
            2,
            5
          ],
          "days": [
            1,
            5,
            10,
            15
          ],
          "months": [
            0
          ]
        }
      },
      "retention": {
        "count": 0,
        "duration": "P4DT12H30M5S"
      }
    },
    "log_path": "/",
    "guarantee": true
  }
],
"num_records": 1

```

```
}
```

Retrieving an audit configuration for all SVMs in the cluster

```
# The API:
GET /api/protocols/audit/

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/audit?fields=*&return_records=true&return_timeout=15" -H
"accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "ec650e97-156e-11e9-abcb-005056bbd0bf",
        "name": "vs1"
      },
      "enabled": true,
      "events": {
        "authorization_policy": false,
        "cap_staging": false,
        "cifs_logon_logoff": true,
        "file_operations": true,
        "file_share": false,
        "security_group": false,
        "user_account": false,
        "audit_policy_change": true,
        "async_delete": false
      },
      "log": {
        "format": "evtx",
        "rotation": {
          "size": 2048000
        },
        "retention": {
          "count": 10,
          "duration": "0s"
        }
      }
    },
  ],
}
```

```

    "log_path": "/",
    "guarantee": true,
    "charge_qos": false
  },
  {
    "svm": {
      "uuid": "a8d64674-13fc-11e9-87b1-005056a7ae7e",
      "name": "vs3"
    },
    "enabled": true,
    "events": {
      "authorization_policy": false,
      "cap_staging": false,
      "cifs_logon_logoff": true,
      "file_operations": true,
      "file_share": false,
      "security_group": false,
      "user_account": false,
      "audit_policy_change": true,
      "async_delete": false
    },
    "log": {
      "format": "xml",
      "rotation": {
        "schedule": {
          "minutes": [
            10,
            15,
            30,
            45,
            59
          ],
          "hours": [
            0,
            1,
            6,
            12,
            18,
            23
          ],
          "weekdays": [
            0,
            2,
            5
          ],
          "days": [

```

```
        1,  
        5,  
        10,  
        15  
    ],  
    "months": [  
        0  
    ]  
}  
},  
"retention": {  
    "count": 0,  
    "duration": "P4DT12H30M5S"  
}  
},  
"log_path": "/",  
"guarantee": true,  
"charge_qos": false  
}  
],  
"num_records": 2  
}
```

Retrieving specific entries with event list as cifs-logon-logoff, file-ops = true for an SVM

The configuration returned is identified by the events in the list of audit configurations for an SVM.

```
# The API:
GET /api/protocols/audit/

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/audit?events.file_operations=true&events.cifs_logon_logoff=true&return_records=true&return_timeout=15" -H "accept:
application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "ec650e97-156e-11e9-abcb-005056bbd0bf",
        "name": "vs1"
      },
      "events": {
        "cifs_logon_logoff": true,
        "file_operations": true
      }
    },
    {
      "svm": {
        "uuid": "a8d64674-13fc-11e9-87b1-005056a7ae7e",
        "name": "vs3"
      },
      "events": {
        "cifs_logon_logoff": true,
        "file_operations": true
      }
    }
  ],
  "num_records": 2
}
```

Retrieving a specific audit configuration for an SVM

The configuration returned is identified by the UUID of its SVM.

```
# The API:
GET /api/protocols/audit/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/audit/ec650e97-156e-11e9-
abcb-005056bbd0bf" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "ec650e97-156e-11e9-abcb-005056bbd0bf",
    "name": "vs1"
  },
  "enabled": true,
  "events": {
    "authorization_policy": false,
    "cap_staging": false,
    "cifs_logon_logoff": true,
    "file_operations": true,
    "file_share" : false,
    "security_group": false,
    "user_account": false,
    "audit_policy_change": true,
    "async_delete": false
  },
  "log": {
    "format": "evtx",
    "rotation": {
      "size": 2048000
    },
    "retention": {
      "count": 10,
      "duration": "0s"
    }
  },
  "log_path": "/",
  "guarantee": true,
  "charge_qos": false
}
```

Updating a specific audit configuration of an SVM

The configuration is identified by the UUID of its SVM and the provided information is updated.

```
# The API:
PATCH /api/protocols/audit/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/audit/ec650e97-156e-11e9-
abcb-005056bbd0bf" -H "accept: application/json" -H "Content-Type:
application/json" -d "{\"enabled\": false}"

# The response:
{
  "job": {
    "uuid": "9938d743-d566-11eb-ad60-0050568e5902",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/9938d743-d566-11eb-ad60-0050568e5902"
      }
    }
  }
}
```

Deleting a specific audit configuration for an SVM

The entry to be deleted is identified by the UUID of its SVM.

```
# The API:
DELETE /api/protocols/audit/{svm.uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/audit/ec650e97-156e-11e9-
abcb-005056bbd0bf?force=true" -H "accept: application/json"

# The response:
{
  "job": {
    "uuid": "9938d743-d566-11eb-ad60-0050568e5902",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/9938d743-d566-11eb-ad60-0050568e5902"
      }
    }
  }
}
```

Retrieve audit configurations

GET /protocols/audit

Introduced In: 9.6

Retrieves audit configurations.

Related ONTAP commands

- `vserver audit show`

Learn more

- [DOC /protocols/audit](#)

Parameters

Name	Type	In	Required	Description
log.format	string	query	False	Filter by log.format
log.rotation.size	integer	query	False	Filter by log.rotation.size

Name	Type	In	Required	Description
log.rotation.schedule.weekdays	integer	query	False	Filter by log.rotation.schedule.weekdays • Max value: 6 • Min value: 0
log.rotation.schedule.minutes	integer	query	False	Filter by log.rotation.schedule.minutes • Max value: 59 • Min value: 0
log.rotation.schedule.days	integer	query	False	Filter by log.rotation.schedule.days • Max value: 31 • Min value: 1
log.rotation.schedule.months	integer	query	False	Filter by log.rotation.schedule.months • Max value: 12 • Min value: 1
log.rotation.schedule.hours	integer	query	False	Filter by log.rotation.schedule.hours • Max value: 23 • Min value: 0
log.retention.count	integer	query	False	Filter by log.retention.count
log.retention.duration	string	query	False	Filter by log.retention.duration
guarantee	boolean	query	False	Filter by guarantee • Introduced in: 9.10

Name	Type	In	Required	Description
charge_qos	boolean	query	False	Filter by charge_qos • Introduced in: 9.16
enabled	boolean	query	False	Filter by enabled
log_path	string	query	False	Filter by log_path
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
events.security_group	boolean	query	False	Filter by events.security_group
events.authorization_policy	boolean	query	False	Filter by events.authorization_policy
events.async_delete	boolean	query	False	Filter by events.async_delete • Introduced in: 9.16
events.audit_policy_change	boolean	query	False	Filter by events.audit_policy_change • Introduced in: 9.16
events.cap_staging	boolean	query	False	Filter by events.cap_staging
events.user_account	boolean	query	False	Filter by events.user_account
events.cifs_logon_logoff	boolean	query	False	Filter by events.cifs_logon_logoff
events.file_share	boolean	query	False	Filter by events.file_share

Name	Type	In	Required	Description
events.file_operations	boolean	query	False	Filter by events.file_operations
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Max value: 120 • Min value: 0 • Default value: 15
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	

Name	Type	Description
num_records	integer	Number of records
records	array [audit]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "charge_qos": "",
      "guarantee": "",
      "log": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "format": "string",
        "retention": {
          "duration": "P4DT12H30M5S"
        },
        "rotation": {
          "schedule": {
            "days": [
              "integer"
            ],
            "hours": [
              "integer"
            ],
            "minutes": [
              "integer"
            ],
            "months": [
              "integer"
            ],
            "weekdays": [
              "integer"
            ]
          }
        }
      }
    }
  ],
}
```

```

    "log_path": "string",
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  ]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```

{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

events

Name	Type	Description
async_delete	boolean	Volume file async delete events
audit_policy_change	boolean	Audit policy change events
authorization_policy	boolean	Authorization policy change events
cap_staging	boolean	Central access policy staging events
cifs_logon_logoff	boolean	CIFS logon and logoff events
file_operations	boolean	File operation events
file_share	boolean	File share category events
security_group	boolean	Local security group management events
user_account	boolean	Local user account management events

_links

Name	Type	Description
self	href	

retention

Name	Type	Description
count	integer	Determines how many audit log files to retain before rotating the oldest log file out. This is mutually exclusive with duration.
duration	string	Specifies an ISO-8601 format date and time to retain the audit log file. The audit log files are deleted once they reach the specified date/time. This is mutually exclusive with count.

audit_schedule

Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.

Name	Type	Description
days	array[integer]	Specifies the day of the month schedule to rotate audit log. Leave empty for all.
hours	array[integer]	Specifies the hourly schedule to rotate audit log. Leave empty for all.
minutes	array[integer]	Specifies the minutes schedule to rotate the audit log.
months	array[integer]	Specifies the months schedule to rotate audit log. Leave empty for all.
weekdays	array[integer]	Specifies the weekdays schedule to rotate audit log. Leave empty for all.

rotation

Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

Name	Type	Description
now	boolean	Manually rotates the audit logs. Optional in PATCH only. Not available in POST.
schedule	audit_schedule	Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.
size	integer	Rotates logs based on log size in bytes.

log

Name	Type	Description
_links	_links	
format	string	The format in which the logs are generated by consolidation process. Possible values are: • xml - Data ONTAP-specific XML log format • evtx - Microsoft Windows EVTX log format ◦ Default value: 1 ◦ enum: ["xml", "evtx"] ◦ Introduced in: 9.6 ◦ x-nullable: true
retention	retention	
rotation	rotation	Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

audit

Auditing for NAS events is a security measure that enables you to track and log certain CIFS and NFS events on SVMs.

Name	Type	Description
charge_qos	boolean	Indicates if audit logs generation should incur an extra charge.
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.
events	events	
guarantee	boolean	Indicates whether there is a strict Guarantee of Auditing
log	log	
log_path	string	The audit log destination path where consolidated audit logs are stored.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create an audit configuration

POST /protocols/audit

Introduced In: 9.6

Creates an audit configuration.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM to which audit configuration is to be created.
- `log_path` - Path in the owning SVM namespace that is used to store audit logs.

Default property values

If not specified in POST, the following default property values are assigned:

- `enabled` - *true*
- `events.authorization_policy` - *false*
- `events.cap_staging` - *false*
- `events.file_share` - *false*
- `events.security_group` - *false*
- `events.user_account` - *false*
- `events.cifs_logon_logoff` - *true*
- `events.audit_policy_change` - *true*
- `events.async_delete` - *false*
- `events.file_operations` - *true*
- `log.format` - *evtx*
- `log.retention.count` - *0*
- `log.retention.duration` - *PT0S*
- `log.rotation.size` - *100MB*

- `log.rotation.now` - *false*
- `guarantee` - *true*
- `charge_qos` - *false*

Related ONTAP commands

- `vserver audit create`
- `vserver audit enable`

Learn more

- [DOC /protocols/audit](#)

Parameters

Name	Type	In	Required	Description
<code>return_timeout</code>	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
charge_qos	boolean	Indicates if audit logs generation should incur an extra charge.
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.
events	events	
guarantee	boolean	Indicates whether there is a strict Guarantee of Auditing
log	log	
log_path	string	The audit log destination path where consolidated audit logs are stored.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "charge_qos": "",
  "guarantee": "",
  "log": {
    "format": "string",
    "retention": {
      "duration": "P4DT12H30M5S"
    },
    "rotation": {
      "schedule": {
        "days": [
          "integer"
        ],
        "hours": [
          "integer"
        ],
        "minutes": [
          "integer"
        ],
        "months": [
          "integer"
        ],
        "weekdays": [
          "integer"
        ]
      }
    }
  },
  "log_path": "string",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 202, Accepted

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "uuid": "string"
  }
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Response

Status: 201, Created

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262186	Field "log.retention.duration" cannot be used with field "log.retention.count"
262196	Log_rotation_now is not an allowed operation
2621462	The specified SVM does not exist
9699330	An audit configuration already exists
9699337	Audit system internal update is in progress, audit configuration create failed
9699340	SVM UUID lookup failed
9699358	Audit configuration is absent for enabling
9699359	Audit configuration is already enabled
9699360	Final consolidation is in progress, audit enable failed

Error Code	Description
9699365	Enabling of audit configuration failed
9699370	Auditing was successfully configured, however audit configuration could not be enabled
9699384	The specified log_path does not exist
9699385	The log_path must be a directory
9699386	The log_path must be a canonical path in the SVMs namespace
9699387	The log_path cannot be empty
9699388	Rotate size must be greater than or equal to 1024 KB
9699389	The log_path must not contain a symbolic link
9699398	The log_path exceeds a maximum supported length of characters
9699399	The log_path contains an unsupported read-only (DP/LS) volume
9699400	The specified log_path is not a valid destination for SVM
9699402	The log_path contains an unsupported snaplock volume
9699403	The log_path cannot be accessed for validation
9699406	The log_path validation failed
9699409	Failed to enable multiproto.audit.evtxlog.support support capability
9699428	All nodes need to run ONTAP 8.3.0 release to audit CIFS logon-logoff events
9699429	Failed to enable multiproto.audit.cifslogonlogoff.support support capability
9699431	All nodes need to run ONTAP 8.3.0 release to audit CAP staging events
9699432	Failed to enable multiproto.audit.capstaging.support support capability

Definitions

See Definitions

events

Name	Type	Description
async_delete	boolean	Volume file async delete events
audit_policy_change	boolean	Audit policy change events
authorization_policy	boolean	Authorization policy change events
cap_staging	boolean	Central access policy staging events
cifs_logon_logoff	boolean	CIFS logon and logoff events
file_operations	boolean	File operation events
file_share	boolean	File share category events
security_group	boolean	Local security group management events
user_account	boolean	Local user account management events

href

Name	Type	Description
href	string	

_links

retention

Name	Type	Description
count	integer	Determines how many audit log files to retain before rotating the oldest log file out. This is mutually exclusive with duration.

Name	Type	Description
duration	string	Specifies an ISO-8601 format date and time to retain the audit log file. The audit log files are deleted once they reach the specified date/time. This is mutually exclusive with count.

audit_schedule

Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.

Name	Type	Description
days	array[integer]	Specifies the day of the month schedule to rotate audit log. Leave empty for all.
hours	array[integer]	Specifies the hourly schedule to rotate audit log. Leave empty for all.
minutes	array[integer]	Specifies the minutes schedule to rotate the audit log.
months	array[integer]	Specifies the months schedule to rotate audit log. Leave empty for all.
weekdays	array[integer]	Specifies the weekdays schedule to rotate audit log. Leave empty for all.

rotation

Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

Name	Type	Description
now	boolean	Manually rotates the audit logs. Optional in PATCH only. Not available in POST.

Name	Type	Description
schedule	audit_schedule	Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.
size	integer	Rotates logs based on log size in bytes.

log

Name	Type	Description
format	string	The format in which the logs are generated by consolidation process. Possible values are: • xml - Data ONTAP-specific XML log format • evtx - Microsoft Windows EVTX log format ◦ Default value: 1 ◦ enum: ["xml", "evtx"] ◦ Introduced in: 9.6 ◦ x-nullable: true
retention	retention	
rotation	rotation	Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

audit

Auditing for NAS events is a security measure that enables you to track and log certain CIFS and NFS events on SVMs.

Name	Type	Description
charge_qos	boolean	Indicates if audit logs generation should incur an extra charge.
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.
events	events	
guarantee	boolean	Indicates whether there is a strict Guarantee of Auditing
log	log	
log_path	string	The audit log destination path where consolidated audit logs are stored.
svm	svm	SVM, applies only to SVM-scoped objects.

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete an audit configuration

DELETE /protocols/audit/{svm.uuid}

Introduced In: 9.6

Deletes an audit configuration.

Related ONTAP commands

- `vserver audit disable`
- `vserver audit delete`

Learn more

- [DOC /protocols/audit](#)

Parameters

Name	Type	In	Required	Description
force	boolean	query	False	Indicates to force delete audit configuration. • Introduced in: 9.10

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "string"
  }
}
```

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
9699349	Auditing should be disabled before deleting the audit configuration
9699350	Audit configuration cannot be deleted, final consolidation is in progress
9699410	Failed to disable multiproto.audit.evtxlog.support support capability
9699430	Failed to disable multiproto.audit.cifslogonlogoff.support support capability
9699433	Failed to disable multiproto.audit.capstaging.support support capability

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

job_link

Name	Type	Description
_links	_links	
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve the audit configuration for an SVM

GET /protocols/audit/{svm.uuid}

Introduced In: 9.6

Retrieves an audit configuration for an SVM.

Related ONTAP commands

- `vserver audit show`

Learn more

- [DOC /protocols/audit](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
charge_qos	boolean	Indicates if audit logs generation should incur an extra charge.
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.
events	events	
guarantee	boolean	Indicates whether there is a strict Guarantee of Auditing
log	log	
log_path	string	The audit log destination path where consolidated audit logs are stored.
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```

{
  "charge_qos": "",
  "guarantee": "",
  "log": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "format": "string",
    "retention": {
      "duration": "P4DT12H30M5S"
    },
    "rotation": {
      "schedule": {
        "days": [
          "integer"
        ],
        "hours": [
          "integer"
        ],
        "minutes": [
          "integer"
        ],
        "months": [
          "integer"
        ],
        "weekdays": [
          "integer"
        ]
      }
    }
  },
  "log_path": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}

```


Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

events

Name	Type	Description
async_delete	boolean	Volume file async delete events
audit_policy_change	boolean	Audit policy change events
authorization_policy	boolean	Authorization policy change events
cap_staging	boolean	Central access policy staging events
cifs_logon_logoff	boolean	CIFS logon and logoff events
file_operations	boolean	File operation events
file_share	boolean	File share category events
security_group	boolean	Local security group management events
user_account	boolean	Local user account management events

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

retention

Name	Type	Description
count	integer	Determines how many audit log files to retain before rotating the oldest log file out. This is mutually exclusive with duration.

Name	Type	Description
duration	string	Specifies an ISO-8601 format date and time to retain the audit log file. The audit log files are deleted once they reach the specified date/time. This is mutually exclusive with count.

audit_schedule

Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.

Name	Type	Description
days	array[integer]	Specifies the day of the month schedule to rotate audit log. Leave empty for all.
hours	array[integer]	Specifies the hourly schedule to rotate audit log. Leave empty for all.
minutes	array[integer]	Specifies the minutes schedule to rotate the audit log.
months	array[integer]	Specifies the months schedule to rotate audit log. Leave empty for all.
weekdays	array[integer]	Specifies the weekdays schedule to rotate audit log. Leave empty for all.

rotation

Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

Name	Type	Description
now	boolean	Manually rotates the audit logs. Optional in PATCH only. Not available in POST.

Name	Type	Description
schedule	audit_schedule	Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.
size	integer	Rotates logs based on log size in bytes.

log

Name	Type	Description
_links	_links	
format	string	The format in which the logs are generated by consolidation process. Possible values are: • xml - Data ONTAP-specific XML log format • evtx - Microsoft Windows EVTX log format ◦ Default value: 1 ◦ enum: ["xml", "evtx"] ◦ Introduced in: 9.6 ◦ x-nullable: true
retention	retention	
rotation	rotation	Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
<code>_links</code>	_links	
<code>name</code>	string	The name of the SVM. This field cannot be specified in a PATCH method.
<code>uuid</code>	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
<code>code</code>	string	Argument code
<code>message</code>	string	Message argument

returned_error

Name	Type	Description
<code>arguments</code>	array[error_arguments]	Message arguments
<code>code</code>	string	Error code
<code>message</code>	string	Error message
<code>target</code>	string	The target parameter that caused the error.

Update the audit configuration for an SVM

PATCH /protocols/audit/{svm.uuid}

Introduced In: 9.6

Updates an audit configuration for an SVM.

Related ONTAP commands

- `vserver audit modify`

Learn more

- [DOC /protocols/audit](#)

Parameters

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
charge_qos	boolean	Indicates if audit logs generation should incur an extra charge.
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.

Name	Type	Description
events	events	
guarantee	boolean	Indicates whether there is a strict Guarantee of Auditing
log	log	
log_path	string	The audit log destination path where consolidated audit logs are stored.

Example request

```
{
  "charge_qos": "",
  "guarantee": "",
  "log": {
    "format": "string",
    "retention": {
      "duration": "P4DT12H30M5S"
    },
    "rotation": {
      "schedule": {
        "days": [
          "integer"
        ],
        "hours": [
          "integer"
        ],
        "minutes": [
          "integer"
        ],
        "months": [
          "integer"
        ],
        "weekdays": [
          "integer"
        ]
      }
    }
  },
  "log_path": "string"
}
```

Response

Status: 200, Ok

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "uuid": "string"
  }
}
```

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262186	Field "log.retention.duration" cannot be used with field "log.retention.count"
9699340	SVM UUID lookup failed
9699343	Audit configuration is absent for modification
9699358	Audit configuration is absent for enabling
9699359	Audit configuration is already enabled
9699360	Final consolidation is in progress, audit enable failed
9699365	Enabling of audit configuration failed
9699373	Audit configuration is absent for disabling
9699374	Audit configuration is already disabled
9699375	Disabling of audit configuration failed

Error Code	Description
9699384	The specified log_path does not exist
9699385	The log_path must be a directory
9699386	The log_path must be a canonical path in the SVMs namespace
9699387	The log_path cannot be empty
9699388	Rotate size must be greater than or equal to 1024 KB
9699389	The log_path must not contain a symbolic link
9699398	The log_path exceeds a maximum supported length of characters
9699399	The log_path contains an unsupported read-only (DP/LS) volume
9699400	The specified log_path is not a valid destination for SVM
9699402	The log_path contains an unsupported snaplock volume
9699403	The log_path cannot be accessed for validation
9699406	The log_path validation failed
9699407	Additional fields are provided
9699409	Failed to enable multiproto.audit.evtxlog.support support capability
9699410	Failed to disable multiproto.audit.evtxlog.support support capability
9699418	Audit configuration is absent for rotate
9699419	Failed to rotate audit log
9699420	Cannot rotate audit log, auditing is not enabled for this SVM
9699428	All nodes need to run ONTAP 8.3.0 release to audit CIFS logon-logoff events
9699429	Failed to enable multiproto.audit.cifslogonlogoff.support support capability
9699430	Failed to disable multiproto.audit.cifslogonlogoff.support support capability
9699431	All nodes need to run ONTAP 8.3.0 release to audit CAP staging events
9699432	Failed to enable multiproto.audit.capstaging.support support capability

Error Code	Description
9699433	Failed to disable multiproto.audit.capstaging.support support capability

Definitions

See Definitions

events

Name	Type	Description
async_delete	boolean	Volume file async delete events
audit_policy_change	boolean	Audit policy change events
authorization_policy	boolean	Authorization policy change events
cap_staging	boolean	Central access policy staging events
cifs_logon_logoff	boolean	CIFS logon and logoff events
file_operations	boolean	File operation events
file_share	boolean	File share category events
security_group	boolean	Local security group management events
user_account	boolean	Local user account management events

href

Name	Type	Description
href	string	

_links

retention

Name	Type	Description
count	integer	Determines how many audit log files to retain before rotating the oldest log file out. This is mutually exclusive with duration.

Name	Type	Description
duration	string	Specifies an ISO-8601 format date and time to retain the audit log file. The audit log files are deleted once they reach the specified date/time. This is mutually exclusive with count.

audit_schedule

Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.

Name	Type	Description
days	array[integer]	Specifies the day of the month schedule to rotate audit log. Leave empty for all.
hours	array[integer]	Specifies the hourly schedule to rotate audit log. Leave empty for all.
minutes	array[integer]	Specifies the minutes schedule to rotate the audit log.
months	array[integer]	Specifies the months schedule to rotate audit log. Leave empty for all.
weekdays	array[integer]	Specifies the weekdays schedule to rotate audit log. Leave empty for all.

rotation

Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

Name	Type	Description
now	boolean	Manually rotates the audit logs. Optional in PATCH only. Not available in POST.

Name	Type	Description
schedule	audit_schedule	Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.
size	integer	Rotates logs based on log size in bytes.

log

Name	Type	Description
format	string	The format in which the logs are generated by consolidation process. Possible values are: • xml - Data ONTAP-specific XML log format • evtx - Microsoft Windows EVTX log format ◦ Default value: 1 ◦ enum: ["xml", "evtx"] ◦ Introduced in: 9.6 ◦ x-nullable: true
retention	retention	
rotation	rotation	Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

audit

Auditing for NAS events is a security measure that enables you to track and log certain CIFS and NFS events on SVMs.

Name	Type	Description
charge_qos	boolean	Indicates if audit logs generation should incur an extra charge.
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.
events	events	
guarantee	boolean	Indicates whether there is a strict Guarantee of Auditing
log	log	
log_path	string	The audit log destination path where consolidated audit logs are stored.

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage S3 audit configurations

Manage S3 audit configurations

Overview

S3 events auditing is a security measure that enables you to track and log certain S3 events on storage virtual machines (SVMs). You can track potential security problems and provides evidence of any security breaches.

Examples

Creating an S3 audit entry with log rotation size and log retention count

To create an S3 audit entry with log rotation size and log retention count, use the following API. Note the *return_records=true* query parameter is used to obtain the newly created entry in the response.

```
# The API:
POST /api/protocols/audit/{svm.uuid}/object-store/

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/audit/ec650e97-156e-11e9-
abcb-005056bbd0bf/object-store?return_records=true" -H "accept:
application/json" -H "Content-Type: application/json" -d "{ \"enabled\":
true, \"events\": { \"data\": false, \"management\": false}, \"log\": {
\"format\": \"json\", \"retention\": { \"count\": 10 }, \"rotation\": {
\"size\": 2048000 }}, \"log_path\": \"/\"}"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "ec650e97-156e-11e9-abcb-005056bbd0bf",
        "name": "vs1"
      },
      "enabled": true,
      "events": {
        "data": false,
        "management": false
      },
      "log": {
        "format": "json",
        "rotation": {
          "size": 2048000
        },
        "retention": {
          "count": 10,
          "duration": "0s"
        }
      },
      "log_path": "/"
    }
  ],
  "num_records": 1
}
```

Creating an S3 audit entry with log rotation schedule and log retention duration

To create an S3 audit entry with log rotation schedule and log retention duration, use the following API. Note that the *return_records=true* query parameter is used to obtain the newly created entry in the response.


```
# The API:
POST /api/protocols/audit/{svm.uuid}/object-store/

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/audit/a8d64674-13fc-11e9-87b1-005056a7ae7e/object-store?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"enabled\": false, \"events\": { \"data\": true, \"management\": true }, \"log\": { \"format\": \"json\", \"retention\": { \"duration\": \"P4DT12H30M5S\" }, \"rotation\": { \"schedule\": { \"days\": [1, 5, 10, 15], \"hours\": [0, 1, 6, 12, 18, 23], \"minutes\": [10, 15, 30, 45, 59], \"months\": [0], \"weekdays\": [0, 2, 5] } } }, \"log_path\": \"/\"/>"}"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "a8d64674-13fc-11e9-87b1-005056a7ae7e",
        "name": "vs3"
      },
      "enabled": true,
      "events": {
        "data": true,
        "management": true
      },
      "log": {
        "format": "json",
        "rotation": {
          "schedule": {
            "minutes": [
              10,
              15,
              30,
              45,
              59
            ],
            "hours": [
              0,
              1,
              6,
              12,
              18,
              23
            ]
          }
        }
      }
    }
  ]
}
```

```

        "weekdays": [
            0,
            2,
            5
        ],
        "days": [
            1,
            5,
            10,
            15
        ],
        "months": [
            0
        ]
    },
    "retention": {
        "count": 0,
        "duration": "P4DT12H30M5S"
    },
    "log_path": "/"
}
],
"num_records": 1
}

```

Retrieving an S3 audit configuration for all SVMs in the cluster

```

# The API:
GET /api/protocols/audit/{svm.uuid}/object-store/

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/audit/*/object-store?fields=*&return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {

```

```

    "uuid": "ec650e97-156e-11e9-abcb-005056bbd0bf",
    "name": "vs1"
  },
  "enabled": true,
  "events": {
    "data": false,
    "management": false
  },
  "log": {
    "format": "json",
    "rotation": {
      "size": 2048000
    },
    "retention": {
      "count": 10,
      "duration": "0s"
    }
  },
  "log_path": "/"
},
{
  "svm": {
    "uuid": "a8d64674-13fc-11e9-87b1-005056a7ae7e",
    "name": "vs3"
  },
  "enabled": true,
  "events": {
    "data": true,
    "management": true
  },
  "log": {
    "format": "json",
    "rotation": {
      "schedule": {
        "minutes": [
          10,
          15,
          30,
          45,
          59
        ],
        "hours": [
          0,
          1,
          6,
          12,

```

```
        18,  
        23  
    ],  
    "weekdays": [  
        0,  
        2,  
        5  
    ],  
    "days": [  
        1,  
        5,  
        10,  
        15  
    ],  
    "months": [  
        0  
    ]  
    }  
},  
"retention": {  
    "count": 0,  
    "duration": "P4DT12H30M5S"  
}  
},  
"log_path": "/"  
}  
],  
"num_records": 2  
}
```

Retrieving specific entries with event list as data and management event for an SVM

The configuration returned is identified by the events in the list of S3 audit configurations of an SVM.

```
# The API:
GET /api/protocols/audit/{svm.uuid}/object-store/

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/audit/*/object-store?events.data=true&events.management=true&return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "ec650e97-156e-11e9-abcb-005056bbd0bf",
        "name": "vs1"
      },
      "events": {
        "data": true,
        "management": true
      }
    },
    {
      "svm": {
        "uuid": "a8d64674-13fc-11e9-87b1-005056a7ae7e",
        "name": "vs3"
      },
      "events": {
        "data": true,
        "management": true
      }
    }
  ],
  "num_records": 2
}
```

Retrieving a specific S3 audit configuration of an SVM

The configuration returned is identified by the UUID of its SVM.

```
# The API:
GET /api/protocols/audit/{svm.uuid}/object-store/

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/audit/ec650e97-156e-11e9-
abcb-005056bbd0bf/object-store/" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "ec650e97-156e-11e9-abcb-005056bbd0bf",
    "name": "vs1"
  },
  "enabled": true,
  "events": {
    "data": false,
    "management": false
  },
  "log": {
    "format": "json",
    "rotation": {
      "size": 2048000
    },
    "retention": {
      "count": 10,
      "duration": "0s"
    }
  },
  "log_path": "/"
}
```

Updating a specific S3 audit configuration of an SVM

The configuration is identified by the UUID of its SVM and the provided information is updated.

```
# The API:
PATCH /api/protocols/audit/{svm.uuid}/object-store/

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/audit/ec650e97-156e-11e9-
abcb-005056bbd0bf/object-store/" -H "accept: application/json" -H
"Content-Type: application/json" -d '{"enabled": false}'
```

Deleting a specific S3 audit configuration of an SVM

The entry to be deleted is identified by the UUID of its SVM.

```
# The API:
DELETE /api/protocols/audit/{svm.uuid}/object-store/

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/audit/ec650e97-156e-11e9-
abcb-005056bbd0bf/object-store" -H "accept: application/json"
```

Delete an S3 audit configuration

DELETE /protocols/audit/{svm.uuid}/object-store

Introduced In: 9.10

Deletes an S3 audit configuration.

Related ONTAP commands

- `vserver object-store-server audit disable`
- `vserver object-store-server audit delete`

Learn more

- [DOC /protocols/audit/{svm.uuid}/object-store](#)

Parameters

Name	Type	In	Required	Description
force	boolean	query	False	Indicates whether a force deletion of the audit configuration is enabled.
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "string"
  }
}
```

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
140902420	Failed to delete audit configuration for the SVM.
140902421	Failed to delete audit configuration for the SVM because audit is enabled for the SVM.
140902422	Failed to delete audit configuration for the SVM because final consolidation is in progress. Wait a few minutes, and try the operation again.

Also see the table of common errors in the [Response body](#) overview section of this documentation.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

job_link

Name	Type	Description
_links	_links	
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an S3 audit configurations

GET /protocols/audit/{svm.uuid}/object-store

Introduced In: 9.10

Retrieves S3 audit configurations.

Related ONTAP commands

- `vserver object-store-server audit show`

Learn more

- [DOC /protocols/audit/{svm.uuid}/object-store](#)

Parameters

Name	Type	In	Required	Description
log_path	string	query	False	Filter by log_path
svm.name	string	query	False	Filter by svm.name
events.data	boolean	query	False	Filter by events.data
events.management	boolean	query	False	Filter by events.management
log.format	string	query	False	Filter by log.format
log.retention.duration	string	query	False	Filter by log.retention.duration
log.retention.count	integer	query	False	Filter by log.retention.count
log.rotation.size	integer	query	False	Filter by log.rotation.size
log.rotation.schedule.weekdays	integer	query	False	Filter by log.rotation.schedule.weekdays • Max value: 6 • Min value: 0

Name	Type	In	Required	Description
log.rotation.schedule.minutes	integer	query	False	Filter by log.rotation.schedule.minutes • Max value: 59 • Min value: 0
log.rotation.schedule.days	integer	query	False	Filter by log.rotation.schedule.days • Max value: 31 • Min value: 1
log.rotation.schedule.months	integer	query	False	Filter by log.rotation.schedule.months • Max value: 12 • Min value: 1
log.rotation.schedule.hours	integer	query	False	Filter by log.rotation.schedule.hours • Max value: 23 • Min value: 0
enabled	boolean	query	False	Filter by enabled
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Max value: 120 • Min value: 0 • Default value: 15
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.
events	events	
log	s3_log	
log_path	string	The audit log destination path where consolidated audit logs are stored.
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "log": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "format": "string",
    "retention": {
      "duration": "P4DT12H30M5S"
    },
    "rotation": {
      "schedule": {
        "days": [
          "integer"
        ],
        "hours": [
          "integer"
        ],
        "minutes": [
          "integer"
        ],
        "months": [
          "integer"
        ],
        "weekdays": [
          "integer"
        ]
      }
    }
  },
  "log_path": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

events

Name	Type	Description
data	boolean	Data events
management	boolean	Management events

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

retention

Name	Type	Description
count	integer	Determines how many audit log files to retain before rotating the oldest log file out. This is mutually exclusive with "duration".
duration	string	Specifies an ISO-8601 format date and time to retain the audit log file. The audit log files are deleted once they reach the specified date/time. This is mutually exclusive with "count".

audit_schedule

Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.

Name	Type	Description
days	array[integer]	Specifies the day of the month schedule to rotate audit log. Leave empty for all.

Name	Type	Description
hours	array[integer]	Specifies the hourly schedule to rotate audit log. Leave empty for all.
minutes	array[integer]	Specifies the minutes schedule to rotate the audit log.
months	array[integer]	Specifies the months schedule to rotate audit log. Leave empty for all.
weekdays	array[integer]	Specifies the weekdays schedule to rotate audit log. Leave empty for all.

rotation

Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

Name	Type	Description
now	boolean	Manually rotates the audit logs. Optional in PATCH only. Not available in POST.
schedule	audit_schedule	Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.
size	integer	Rotates logs based on log size in bytes.

s3_log

Name	Type	Description
_links	_links	

Name	Type	Description
format	string	Format in which the logs are generated by the consolidation process. Possible values are: • json - ONTAP-specific Json log format. ◦ Default value: 1 ◦ enum: ["json"] ◦ Introduced in: 9.10 ◦ x-nullable: true
retention	retention	
rotation	rotation	Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update an S3 audit configuration for an SVM

PATCH /protocols/audit/{svm.uuid}/object-store

Introduced In: 9.10

Updates an S3 audit configuration for an SVM.

Important notes

- `events` - Not specifying either data or management is equivalent to setting it to false.

Related ONTAP commands

- `vserver object-store-server audit modify`

Learn more

- [DOC /protocols/audit/{svm.uuid}/object-store](#)

Parameters

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.
events	events	
log	s3_log	

Name	Type	Description
log_path	string	The audit log destination path where consolidated audit logs are stored.

Example request

```
{
  "log": {
    "format": "string",
    "retention": {
      "duration": "P4DT12H30M5S"
    },
    "rotation": {
      "schedule": {
        "days": [
          "integer"
        ],
        "hours": [
          "integer"
        ],
        "minutes": [
          "integer"
        ],
        "months": [
          "integer"
        ],
        "weekdays": [
          "integer"
        ]
      }
    }
  },
  "log_path": "string"
}
```

Response

Status: 200, Ok

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "uuid": "string"
  }
}
```

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
140902401	Failed to create an audit configuration for the SVM.
140902402	Audit configuration is already present.
140902402	Audit configuration is already enabled.
140902403	Failed to create staging volume.
140902415	Failed to modify an audit configuration because no audit configuration exists for SVM.
140902416	Failed to modify audit configuration for SVM.
140902422	Final consolidation is in progress, audit delete failed.
140902423	Failed to delete the audit configuration for the SVM.
140902425	Audit configuration is not available for disabling.
140902430	Audit configuration is not available for enabling.
140902431	Audit enable failed, audit configuration already enabled for the SVM.
140902432	Final consolidation is in progress, audit enable failed.
140902445	Audit disable failed, audit configuration does not exist for the SVM.
140902446	Audit configuration is already disabled.
140902446	Audit disable failed, audit configuration does not exist for the SVM.

Error Code	Description
140902456	The specified log_path does not exist.
140902457	The log_path must be a directory.
140902458	The log_path must be a canonical path in the SVM's namespace.
140902459	The log_path cannot be empty.
140902460	Rotate size must be greater than or equal to 1024 KB.
140902461	The destination path must not contain a symbolic link.
140902470	The log_path exceeds a maximum supported length of characters.
140902471	The log_path contains an unsupported read-only (DP/LS) volume.
140902472	The log_path is not a valid destination for the SVM.
140902474	The log_path contains an unsupported Snaplock volume.
140902478	The log_path validation failed.
140902478	The log_path cannot be accessed for validation.
140902479	No other fields can be specified when "enabled" is specified.
140902490	Audit configuration is absent for rotate.
140902491	Failed to rotate audit log.
140902492	Cannot rotate audit log, auditing is not enabled for this SVM.

Also see the table of common errors in the [Response body](#) overview section of this documentation. ONTAP Error Response Codes

Error Code	Description
262186	Field "log.retention.duration" cannot be used with field "log.retention.count"
9699340	SVM UUID lookup failed
9699407	Additional fields are provided

Definitions

See Definitions

events

Name	Type	Description
data	boolean	Data events
management	boolean	Management events

href

Name	Type	Description
href	string	

_links

retention

Name	Type	Description
count	integer	Determines how many audit log files to retain before rotating the oldest log file out. This is mutually exclusive with "duration".
duration	string	Specifies an ISO-8601 format date and time to retain the audit log file. The audit log files are deleted once they reach the specified date/time. This is mutually exclusive with "count".

audit_schedule

Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.

Name	Type	Description
days	array[integer]	Specifies the day of the month schedule to rotate audit log. Leave empty for all.
hours	array[integer]	Specifies the hourly schedule to rotate audit log. Leave empty for all.

Name	Type	Description
minutes	array[integer]	Specifies the minutes schedule to rotate the audit log.
months	array[integer]	Specifies the months schedule to rotate audit log. Leave empty for all.
weekdays	array[integer]	Specifies the weekdays schedule to rotate audit log. Leave empty for all.

rotation

Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

Name	Type	Description
now	boolean	Manually rotates the audit logs. Optional in PATCH only. Not available in POST.
schedule	audit_schedule	Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.
size	integer	Rotates logs based on log size in bytes.

s3_log

Name	Type	Description
format	string	Format in which the logs are generated by the consolidation process. Possible values are: • json - ONTAP-specific Json log format. ◦ Default value: 1 ◦ enum: ["json"] ◦ Introduced in: 9.10 ◦ x-nullable: true
retention	retention	
rotation	rotation	Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

s3_audit

Auditing for NAS events is a security measure that enables you to track and log certain S3 events on SVMs.

Name	Type	Description
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.

Name	Type	Description
events	events	
log	s3_log	
log_path	string	The audit log destination path where consolidated audit logs are stored.

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create an S3 audit configuration

POST /protocols/audit/{svm.uuid}/object-store

Introduced In: 9.10

Creates an S3 audit configuration.

Required properties

- `log_path` - Path in the owning SVM namespace that is used to store audit logs.

Default property values

If not specified in POST, the following default property values are assigned:

- `enabled` - *true*
- `events.data` - *true*
- `events.management` - *false*
- `log.format` - *json*
- `log.retention.count` - *0*
- `log.retention.duration` - *PT0S*
- `log.rotation.size` - *100MB*
- `log.rotation.now` - *false*

Related ONTAP commands

- `vserver object-store-server audit create`
- `vserver object-store-server audit enable`

Learn more

- [DOC /protocols/audit/{svm.uuid}/object-store](#)

Parameters

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.
events	events	
log	s3_log	

Name	Type	Description
log_path	string	The audit log destination path where consolidated audit logs are stored.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "log": {
    "format": "string",
    "retention": {
      "duration": "P4DT12H30M5S"
    },
    "rotation": {
      "schedule": {
        "days": [
          "integer"
        ],
        "hours": [
          "integer"
        ],
        "minutes": [
          "integer"
        ],
        "months": [
          "integer"
        ],
        "weekdays": [
          "integer"
        ]
      }
    }
  },
  "log_path": "string",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 202, Accepted

Name	Type	Description
num_records	integer	Number of records
records	array[s3_audit]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "log": {
        "format": "string",
        "retention": {
          "duration": "P4DT12H30M5S"
        },
        "rotation": {
          "schedule": {
            "days": [
              "integer"
            ],
            "hours": [
              "integer"
            ],
            "minutes": [
              "integer"
            ],
            "months": [
              "integer"
            ],
            "weekdays": [
              "integer"
            ]
          }
        }
      },
      "log_path": "string",
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Response

Status: 201, Created

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
140902401	Failed to create an audit configuration for the SVM.
140902402	Audit configuration is already present.
140902402	Audit configuration is already enabled.
140902403	Failed to create staging volume.
140902415	Failed to modify an audit configuration because no audit configuration exists for the SVM.
140902416	Failed to modify audit configuration for SVM.
140902422	Final consolidation is in progress, audit delete failed.
140902423	Failed to delete the audit configuration for the SVM.
140902425	Audit configuration is not available for disabling.
140902430	Audit configuration is not available for enabling.
140902431	Audit enable failed, audit configuration already enabled for the SVM.
140902432	Final consolidation is in progress, audit enable failed.
140902445	Audit disable failed, audit configuration does not exist for the SVM.
140902446	Audit disable failed, audit configuration does not exist for the SVM.
140902447	Audit disable failed.
140902456	The specified log_path does not exist.
140902457	The log_path must be a directory.
140902458	The log_path must be a canonical path in the SVM's namespace.

Error Code	Description
140902459	The log_path cannot be empty.
140902460	Rotate size must be greater than or equal to 1024 KB.
140902461	The destination path must not contain a symbolic link.
140902470	The log_path exceeds a maximum supported length of characters.
140902471	The log_path contains an unsupported read-only (DP/LS) volume.
140902472	The log_path is not a valid destination for the SVM.
140902474	The log_path contains an unsupported Snaplock volume.
140902478	The log_path validation failed.
140902478	The log_path cannot be accessed for validation.
140902490	Audit configuration is absent for rotate.
140902491	Failed to rotate audit log.
140902492	Cannot rotate audit log, auditing is not enabled for this SVM.

Also see the table of common errors in the [Response body](#) overview section of this documentation. ONTAP Error Response Codes

Error Code	Description
262186	Field "log.retention.duration" cannot be used with field "log.retention.count"
9699340	SVM UUID lookup failed
9699407	Additional fields are provided

Definitions

See Definitions

events

Name	Type	Description
data	boolean	Data events
management	boolean	Management events

href

Name	Type	Description
href	string	

_links

retention

Name	Type	Description
count	integer	Determines how many audit log files to retain before rotating the oldest log file out. This is mutually exclusive with "duration".
duration	string	Specifies an ISO-8601 format date and time to retain the audit log file. The audit log files are deleted once they reach the specified date/time. This is mutually exclusive with "count".

audit_schedule

Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.

Name	Type	Description
days	array[integer]	Specifies the day of the month schedule to rotate audit log. Leave empty for all.
hours	array[integer]	Specifies the hourly schedule to rotate audit log. Leave empty for all.

Name	Type	Description
minutes	array[integer]	Specifies the minutes schedule to rotate the audit log.
months	array[integer]	Specifies the months schedule to rotate audit log. Leave empty for all.
weekdays	array[integer]	Specifies the weekdays schedule to rotate audit log. Leave empty for all.

rotation

Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

Name	Type	Description
now	boolean	Manually rotates the audit logs. Optional in PATCH only. Not available in POST.
schedule	audit_schedule	Rotates the audit logs based on a schedule by using the time-based rotation parameters in any combination. The rotation schedule is calculated by using all the time-related values.
size	integer	Rotates logs based on log size in bytes.

s3_log

Name	Type	Description
format	string	Format in which the logs are generated by the consolidation process. Possible values are: • json - ONTAP-specific Json log format. ◦ Default value: 1 ◦ enum: ["json"] ◦ Introduced in: 9.10 ◦ x-nullable: true
retention	retention	
rotation	rotation	Audit event log files are rotated when they reach a configured threshold log size or are on a configured schedule. When an event log file is rotated, the scheduled consolidation task first renames the active converted file to a time-stamped archive file, and then creates a new active converted event log file.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

s3_audit

Auditing for NAS events is a security measure that enables you to track and log certain S3 events on SVMs.

Name	Type	Description
enabled	boolean	Specifies whether or not auditing is enabled on the SVM.

Name	Type	Description
events	events	
log	s3_log	
log_path	string	The audit log destination path where consolidated audit logs are stored.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View CIFS connection information

View CIFS connection information

Overview

ONTAP CIFS connections show functionality is used to display currently established CIFS connections.

Information on the CIFS connection

- Retrieve the list of the established CIFS connections

Example

Retrieving established connection information

To retrieve the list of CIFS connections, use the following API.

```
# The API:
GET /protocols/cifs/connections

# The call:
curl -X GET "https://<cluster-mgmt-
ip>/api/protocols/cifs/connections?return_timeout=15&return_records=true"
-H "accept: application/json"

# The response:
{
  "records": [
    {
      "node": {
        "uuid": "85d46998-4e5d-11ea-afb1-0050568ec4e4",
        "name": "example_node_name"
      },
      "svm": {
        "uuid": "fc824aa8-4e60-11ea-afb1-0050568ec4e4",
        "name": "vs1"
      },
      "sessions": [
        {
          identifier: 625718873227788312
        }
      ],
      "identifier": 91842,
      "server_ip": "10.140.70.197",
      "client_ip": "10.74.7.182",
      "client_port": 12345,
      "network_context_id": 3
    },
    {
      "node": {
        "uuid": "85d46998-4e5d-11ea-afb1-0050568ec4e4",
        "name": "example_node_name"
      },
      "svm": {
        "uuid": "fc824aa8-4e60-11ea-afb1-0050568ec4e4",
        "name": "vs1"
      }
    }
  ]
}
```



```

    },
    "sessions": [
      {
        identifier: 625718873227788579
      },
      {
        identifier: 625718873227788577
      }
    ],
    "identifier": 92080,
    "server_ip": "10.140.70.197",
    "client_ip": "10.140.133.97",
    "client_port": 23413,
    "network_context_id": 5
  }
],
"num_records": 2
}

```

Retrieve the CIFS connection information for all SVMs

GET /protocols/cifs/connections

Introduced In: 9.11

Retrieves the CIFS connection information for all SVMs.

Related ONTAP commands

- `vserver cifs connection show`

Learn more

- [DOC /protocols/cifs/connections](#)

Parameters

Name	Type	In	Required	Description
sessions.identifier	integer	query	False	Filter by sessions.identifier
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid

Name	Type	In	Required	Description
server_ip	string	query	False	Filter by server_ip
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
identifier	integer	query	False	Filter by identifier
network_context_id	integer	query	False	Filter by network_context_id
client_ip	string	query	False	Filter by client_ip
client_port	integer	query	False	Filter by client_port
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[cifs_connection]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "client_ip": "10.74.7.182",
      "client_port": 12345,
      "identifier": 22802,
      "network_context_id": 22802,
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-aelc-123478563412"
      },
      "server_ip": "10.140.78.248",
      "sessions": [
        {
          "identifier": 4622663542519103507
        }
      ],
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

sessions

Name	Type	Description
identifier	integer	A unique 64-bit unsigned number represented as string used to represent each SMB session's identifier.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_connection

Name	Type	Description
client_ip	string	Specifies IP of the client.
client_port	integer	"A unique 32-bit unsigned number used to represent the port number of the connection".
identifier	integer	A unique 32-bit unsigned number used to represent each SMB session's connection ID.
network_context_id	integer	A unique 32-bit unsigned number used to represent each SMB session's network context ID.
node	node	
server_ip	string	Specifies the IP address of the SVM.
sessions	array[sessions]	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Type	Description
message	string	Error message
target	string	The target parameter that caused the error.

View CIFS domain-related information

View CIFS domain-related information

Overview

Displays CIFS domain-related information of all SVMs.

Examples

Retrieving all the fields of CIFS domain configurations of all SVMs

```
# The API:
GET /api/protocols/cifs/domains

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/domains/?fields=*" -H
"accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "09cc9c9a-c7df-11eb-af15-0050568e403e",
        "name": "vs1"
      },
      "name_mapping": {
        "trusted_domains": [
          "SERVER02.COM",
          "SERVER03.COM"
        ]
      },
      "trust_relationships": [
        {
          "node": {
            "name": "vsNode1",
```



```

        "uuid": "a64c0906-c7dd-11eb-af15-0050568e403e"
    },
    "home_domain": "SERVER02.COM",
    "trusted_domains": [
        "SERVER02.COM"
    ]
},
{
    "node": {
        "name": "vsNode2",
        "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
    },
    "home_domain": "SERVER02.COM",
    "trusted_domains": [
        "SERVER02.COM"
    ]
}
],
"discovered_servers": [
    {
        "node": {
            "name": "vsNode2",
            "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
        },
        "domain": "server02.com",
        "server_type": "kerberos",
        "server_name": "scspb0659002001",
        "server_ip": "192.168.20.1",
        "preference": "preferred",
        "state": "undetermined"
    },
    {
        "node": {
            "name": "vsNode2",
            "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
        },
        "domain": "server02.com",
        "server_type": "ms_ldap",
        "server_name": "scspb0659002001",
        "server_ip": "192.168.20.1",
        "preference": "preferred",
        "state": "undetermined"
    },
    {
        "node": {
            "name": "vsNode2",

```

```

        "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
    },
    "domain": "server02.com",
    "server_type": "ms_dc",
    "server_name": "scspb0659002001",
    "server_ip": "192.168.20.1",
    "preference": "preferred",
    "state": "undetermined"
}
],
"preferred_dcs": [
{
    "fqdn": "server02.com",
    "server_ip": "192.168.20.1"
}
],
"password_schedule": {
    "schedule_enabled": false,
    "schedule_weekly_interval": 6,
    "schedule_randomized_minute": 120,
    "schedule_description": "Sun@1:00"
}
},
{
    "svm": {
        "uuid": "6dd78167-c907-11eb-b2bf-0050568e7324",
        "name": "vs2"
    },
    "name_mapping": {
        "trusted_domains": [
            "SERVER03.COM",
            "SERVER04.COM"
        ]
    },
    "trust_relationships": [
        {
            "node": {
                "name": "vsNode1",
                "uuid": "a64c0906-c7dd-11eb-af15-0050568e403e"
            },
            "home_domain": "SERVER02.COM",
            "trusted_domains": [
                "SERVER02.COM"
            ]
        }
    ],
    {

```

```

    "node": {
      "name": "vsNode2",
      "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
    },
    "home_domain": "SERVER02.COM",
    "trusted_domains": [
      "SERVER02.COM"
    ]
  }
],
"discovered_servers": [
  {
    "node": {
      "name": "vsNode2",
      "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
    },
    "domain": "server02.com",
    "server_type": "kerberos",
    "server_name": "scspb0659002001",
    "server_ip": "192.168.20.1",
    "preference": "preferred",
    "state": "undetermined"
  },
  {
    "node": {
      "name": "vsNode2",
      "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
    },
    "domain": "server02.com",
    "server_type": "ms_ldap",
    "server_name": "scspb0659002001",
    "server_ip": "192.168.20.1",
    "preference": "preferred",
    "state": "undetermined"
  },
  {
    "node": {
      "name": "vsNode2",
      "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
    },
    "domain": "server02.com",
    "server_type": "ms_dc",
    "server_name": "scspb0659002001",
    "server_ip": "192.168.20.1",
    "preference": "preferred",
    "state": "undetermined"
  }
]

```

```

    }
  ],
  "preferred_dcs": [
    {
      "fqdn": "server02.com",
      "server_ip": "192.168.20.1"
    }
  ],
  "password_schedule": {
    "schedule_enabled": false,
    "schedule_weekly_interval": 4,
    "schedule_randomized_minute": 120,
    "schedule_description": "Tue@1:00"
  }
}
],
"num_records": 2
}

```

Retrieve the CIFS domain-related information of all SVMs

GET /protocols/cifs/domains

Introduced In: 9.10

Retrieves the CIFS domain-related information of all SVMs.

Related ONTAP commands

- `vserver cifs domain preferred-dc show`
- `vserver cifs domain trusts show`
- `vserver cifs domain discovered-servers show`
- `vserver cifs domain name-mapping-search show`
- `vserver cifs domain schedule show`

Learn more

- [DOC /protocols/cifs/domains](#)

Parameters

Name	Type	In	Required	Description
password_schedule.schedule_warn_message	string	query	False	Filter by password_schedule.schedule_warn_message
password_schedule.schedule_last_changed_time	string	query	False	Filter by password_schedule.schedule_last_changed_time
password_schedule.schedule_randomized_minute	integer	query	False	Filter by password_schedule.schedule_randomized_minute • Max value: 180 • Min value: 1
password_schedule.schedule_description	string	query	False	Filter by password_schedule.schedule_description
password_schedule.schedule_enabled	boolean	query	False	Filter by password_schedule.schedule_enabled
password_schedule.schedule_weekly_interval	integer	query	False	Filter by password_schedule.schedule_weekly_interval • Max value: 52 • Min value: 1
tenant_id	string	query	False	Filter by tenant_id • Introduced in: 9.16
trust_relationships.node.name	string	query	False	Filter by trust_relationships.node.name
trust_relationships.node.uuid	string	query	False	Filter by trust_relationships.node.uuid

Name	Type	In	Required	Description
trust_relationships.trusted_domains	string	query	False	Filter by trust_relationships.trusted_domains
trust_relationships.home_domain	string	query	False	Filter by trust_relationships.home_domain
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
server_discovery_mode	string	query	False	Filter by server_discovery_mode Introduced in: 9.13
name_mapping.trusted_domains	string	query	False	Filter by name_mapping.trusted_domains
client_id	string	query	False	Filter by client_id Introduced in: 9.16
preferred_dcs.server_ip	string	query	False	Filter by preferred_dcs.server_ip
preferred_dcs.fqdn	string	query	False	Filter by preferred_dcs.fqdn
discovered_servers.node.name	string	query	False	Filter by discovered_servers.node.name
discovered_servers.node.uuid	string	query	False	Filter by discovered_servers.node.uuid
discovered_servers.preference	string	query	False	Filter by discovered_servers.preference

Name	Type	In	Required	Description
discovered_servers. server_name	string	query	False	Filter by discovered_servers. server_name
discovered_servers. server_type	string	query	False	Filter by discovered_servers. server_type
discovered_servers. server_ip	string	query	False	Filter by discovered_servers. server_ip
discovered_servers. domain	string	query	False	Filter by discovered_servers. domain
discovered_servers. state	string	query	False	Filter by discovered_servers. state
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Max value: 120 • Min value: 0 • Default value: 15
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of CIFS domain records.
records	array[cifs_domain]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "client_id": "e959d1b5-5a63-4284-9268-851e30e3eceb",
      "discovered_servers": [
        {
          "domain": "test.com",
          "node": {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            }
          },
          "name": "node1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        {
          "preference": "string",
          "server_ip": "string",
          "server_name": "string",
          "server_type": "string",
          "state": "string"
        }
      ],
      "name_mapping": {
        "trusted_domains": [
          "domain.com"
        ]
      },
      "password_schedule": {
        "schedule_day_of_week": "Sunday",
        "schedule_description": "string",
        "schedule_last_changed_time": "string",
        "schedule_time_of_day": 36900,
        "schedule_warn_message": "string"
      }
    }
  ],
}
```

```

"preferred_dcs": [
  {
    "fqdn": "test.com",
    "server_ip": "4.4.4.4"
  }
],
"server_discovery_mode": "string",
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
"trust_relationships": [
  {
    "home_domain": "string",
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "trusted_domains": [
      "string"
    ]
  }
]
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

ad_domain

Specifies the credentials of a user with permissions to reset the password in the organizational unit for the machine account.

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

discovered_servers

Name	Type	Description
domain	string	Fully Qualified Domain Name.
node	node	
preference	string	Server Preference
server_ip	string	Server IP address
server_name	string	Server Name
server_type	string	Server Type

Name	Type	Description
state	string	Server status

name_mapping

Specifies the name mapping search records.

Name	Type	Description
trusted_domains	array[string]	

password_schedule

Specifies the password schedule records.

Name	Type	Description
schedule_day_of_week	string	Day of the week for password change schedule.
schedule_description	string	Schedule description.
schedule_enabled	boolean	Is password schedule enabled.
schedule_last_changed_time	string	Last successful password change time.
schedule_randomized_minute	integer	Minutes within which schedule start can be randomized.
schedule_time_of_day	string	Start time for password change schedule.
schedule_warn_message	string	Warning message in case job is deleted.
schedule_weekly_interval	integer	Interval in weeks for password change schedule.

preferred_dcs

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.

Name	Type	Description
server_ip	string	IP address of the preferred domain controller (DC). The address can be either an IPv4 or an IPv6 address.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

trust_relationships

Name	Type	Description
home_domain	string	Home Domain Name
node	node	
trusted_domains	array[string]	Trusted Domain Name

cifs_domain

Name	Type	Description
ad_domain	ad_domain	Specifies the credentials of a user with permissions to reset the password in the organizational unit for the machine account.
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.

Name	Type	Description
name_mapping	name_mapping	Specifies the name mapping search records.
password_schedule	password_schedule	Specifies the password schedule records.
preferred_dcs	array[preferred_dcs]	Specifies the preferred DC records.
server_discovery_mode	string	Specifies the mode of server discovery.
svm	svm	SVM, applies only to SVM-scoped objects.
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
trust_relationships	array[trust_relationships]	Specifies the trusted domain records.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage CIFS domain-related information

Manage CIFS domain-related information

Overview

Displays CIFS domain-related information of the specified SVM.

Examples

Retrieving all the fields of CIFS domain configurations of a specific SVM

```
# The API:
GET /api/protocols/cifs/domains/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/domains/6dd78167-c907-11eb-b2bf-0050568e7324" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "6dd78167-c907-11eb-b2bf-0050568e7324",
    "name": "vs2"
  },
  "name_mapping": {
    "trusted_domains": [
      "SERVER03.COM",
      "SERVER04.COM"
    ]
  },
  "server_discovery_mode": "all",
  "trust_relationships": [
    {
      "node": {
        "name": "vsNode2",
        "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
      },
      "home_domain": "SERVER02.COM",
      "trusted_domains": [
        "SERVER02.COM"
      ]
    }
  ],
  "discovered_servers": [
```



```

{
  "node": {
    "name": "vsNode2",
    "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
  },
  "domain": "server02.com",
  "server_type": "kerberos",
  "server_name": "scspb0659002001",
  "server_ip": "192.168.20.1",
  "preference": "preferred",
  "state": "undetermined"
},
{
  "node": {
    "name": "vsNode2",
    "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
  },
  "domain": "server02.com",
  "server_type": "ms_ldap",
  "server_name": "scspb0659002001",
  "server_ip": "192.168.20.1",
  "preference": "preferred",
  "state": "undetermined"
},
{
  "node": {
    "name": "vsNode2",
    "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
  },
  "domain": "server02.com",
  "server_type": "ms_dc",
  "server_name": "scspb0659002001",
  "server_ip": "192.168.20.1",
  "preference": "preferred",
  "state": "undetermined"
}
],
"preferred_dcs": [
  {
    "fqdn": "server02.com",
    "server_ip": "192.168.20.1"
  }
],
"password_schedule": {
  "schedule_enabled": false,
  "schedule_weekly_interval": 4,

```

```
"schedule_randomized_minute": 120,  
"schedule_description": "Tue@1:00"  
}  
}
```

Applying rediscover_trusts query parameter and retrieving all the fields of CIFS domain configurations

```
# The API:  
GET /api/protocols/cifs/domains/{svm.uuid}?rediscover_trusts=true  
  
# The call:  
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/domains/6dd78167-c907-  
11eb-b2bf-0050568e7324?rediscover_trusts=true" -H "accept:  
application/json"  
  
# The response:  
{  
  "svm": {  
    "uuid": "6dd78167-c907-11eb-b2bf-0050568e7324",  
    "name": "vs2"  
  },  
  "name_mapping": {  
    "trusted_domains": [  
      "SERVER03.COM",  
      "SERVER04.COM"  
    ]  
  },  
  "server_discovery_mode": "all",  
  "trust_relationships": [  
    {  
      "node": {  
        "name": "vsNode1",  
        "uuid": "a64c0906-c7dd-11eb-af15-0050568e403e"  
      },  
      "home_domain": "SERVER02.COM",  
      "trusted_domains": [  
        "SERVER02.COM"  
      ]  
    },  
    {  
      "node": {  
        "name": "vsNode2",
```

```

        "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
    },
    "home_domain": "SERVER02.COM",
    "trusted_domains": [
        "SERVER02.COM"
    ]
}
],
"discovered_servers": [
    {
        "node": {
            "name": "vsNode2",
            "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
        },
        "domain": "server02.com",
        "server_type": "kerberos",
        "server_name": "scspb0659002001",
        "server_ip": "192.168.20.1",
        "preference": "preferred",
        "state": "undetermined"
    },
    {
        "node": {
            "name": "vsNode2",
            "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
        },
        "domain": "server02.com",
        "server_type": "ms_ldap",
        "server_name": "scspb0659002001",
        "server_ip": "192.168.20.1",
        "preference": "preferred",
        "state": "undetermined"
    },
    {
        "node": {
            "name": "vsNode2",
            "uuid": "4d9400f0-c84b-11eb-90ab-0050568e7324"
        },
        "domain": "server02.com",
        "server_type": "ms_dc",
        "server_name": "scspb0659002001",
        "server_ip": "192.168.20.1",
        "preference": "preferred",
        "state": "undetermined"
    }
]

```

```

"preferred_dcs": [
  {
    "fqdn": "server02.com",
    "server_ip": "192.168.20.1"
  }
],
"password_schedule": {
  "schedule_enabled": false,
  "schedule_weekly_interval": 4,
  "schedule_randomized_minute": 120,
  "schedule_description": "Tue@1:00"
}
}

```

Modifying the Password Schedule of CIFS domain configurations of a specific SVM

```

# The API:
PATCH /api/protocols/cifs/domains/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/domains/a83f816a-c873-11ed-a3b2-0050568e278e" -H "accept: application/json" -d "{
  \"password_schedule\": { \"schedule_enabled\": \"true\" } }"

```

Modifying the discovery-mode of CIFS domain configurations of a specific SVM

```

# The API:
PATCH /api/protocols/cifs/domains/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/domains/a83f816a-c873-11ed-a3b2-0050568e278e" -H "accept: application/json" -d "{
  \"server_discovery_mode\": \"site\" }"

```

Reset the CIFS domain password for a specific SVM

```
# The API:
PATCH /api/protocols/cifs/domains/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/domains/a12f816a-c873-11ed-a3b2-0050568e278e?cifs_password_operation=reset" -H "accept: application/json" -d "{ \"ad_domain\":{ \"user\": \"administrator\" , \"password\": \"admin_password\" } }"
```

Reset the CIFS domain password for a specific SVM with hybrid auth user type

```
# The API:
PATCH /api/protocols/cifs/domains/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/domains/a12f816a-c873-11ed-a3b2-0050568e278e?cifs_password_operation=reset" -H "accept: application/json" -d "{ \"tenant_id\": \"ffffffff-ffff-ffff-ffff-fffffffffffff\" , \"client_id\": \"ffffffff-zzzz-zzzz-zzzz-fffffffffffff\" , \"client_certificate\": \"certificate added to the azure application\" }"
```

Change the CIFS domain password for a specific SVM

```
# The API:
PATCH /api/protocols/cifs/domains/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/domains/a12f816a-c873-11ed-a3b2-0050568e278e?cifs_password_operation=reset" -H "accept: application/json" -d "{ }"
```

Retrieve the CIFS domain-related information for an SVM

GET /protocols/cifs/domains/{svm.uuid}

Introduced In: 9.10

Retrieves the CIFS domain-related information of the specified SVM.

Important notes

GET operation with query parameter `rediscover_trusts` and `reset_discovered_servers` returns available CIFS domain configurations and also triggers trusts rediscovery and discovered servers reset asynchronously for that SVM.

Related ONTAP commands

- `vserver cifs domain preferred-dc show`
- `vserver cifs domain trusts show`
- `vserver cifs domain discovered-servers show`
- `vserver cifs domain name-mapping-search show`
- `vserver cifs domain password schedule show`
- `vserver cifs domain discovered-servers discovery-mode show`

Learn more

- [DOC /protocols/cifs/domains/{svm.uuid}](#)

Parameters

Name	Type	In	Required	Description
<code>rediscover_trusts</code>	boolean	query	False	Force the discovery of trusted domains. • Default value:
<code>reset_discovered_servers</code>	boolean	query	False	Force a rediscovery. • Default value:
<code>svm.uuid</code>	string	path	True	UUID of the SVM to which this object belongs.
<code>fields</code>	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
ad_domain	ad_domain	Specifies the credentials of a user with permissions to reset the password in the organizational unit for the machine account.
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.
name_mapping	name_mapping	Specifies the name mapping search records.
password_schedule	password_schedule	Specifies the password schedule records.
preferred_dcs	array[preferred_dcs]	Specifies the preferred DC records.
server_discovery_mode	string	Specifies the mode of server discovery.
svm	svm	SVM, applies only to SVM-scoped objects.
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
trust_relationships	array[trust_relationships]	Specifies the trusted domain records.

Example response

```
{
  "client_id": "e959d1b5-5a63-4284-9268-851e30e3eceb",
  "discovered_servers": [
    {
      "domain": "test.com",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "preference": "string",
      "server_ip": "string",
      "server_name": "string",
      "server_type": "string",
      "state": "string"
    }
  ],
  "name_mapping": {
    "trusted_domains": [
      "domain.com"
    ]
  },
  "password_schedule": {
    "schedule_day_of_week": "Sunday",
    "schedule_description": "string",
    "schedule_last_changed_time": "string",
    "schedule_time_of_day": 36900,
    "schedule_warn_message": "string"
  },
  "preferred_dcs": [
    {
      "fqdn": "test.com",
      "server_ip": "4.4.4.4"
    }
  ],
  "server_discovery_mode": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  }
}
```



```

    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
"trust_relationships": [
  {
    "home_domain": "string",
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "trusted_domains": [
      "string"
    ]
  }
]
}

```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
656463	SVM UUID must be provided for a query on the field rediscover_trusts and reset_discovered_servers.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

ad_domain

Specifies the credentials of a user with permissions to reset the password in the organizational unit for the machine account.

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

discovered_servers

Name	Type	Description
domain	string	Fully Qualified Domain Name.
node	node	
preference	string	Server Preference
server_ip	string	Server IP address
server_name	string	Server Name
server_type	string	Server Type
state	string	Server status

name_mapping

Specifies the name mapping search records.

Name	Type	Description
trusted_domains	array[string]	

password_schedule

Specifies the password schedule records.

Name	Type	Description
schedule_day_of_week	string	Day of the week for password change schedule.
schedule_description	string	Schedule description.
schedule_enabled	boolean	Is password schedule enabled.
schedule_last_changed_time	string	Last successful password change time.
schedule_randomized_minute	integer	Minutes within which schedule start can be randomized.
schedule_time_of_day	string	Start time for password change schedule.
schedule_warn_message	string	Warning message in case job is deleted.
schedule_weekly_interval	integer	Interval in weeks for password change schedule.

preferred_dcs

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred domain controller (DC). The address can be either an IPv4 or an IPv6 address.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

trust_relationships

Name	Type	Description
home_domain	string	Home Domain Name
node	node	
trusted_domains	array[string]	Trusted Domain Name

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Modify the CIFS domain-related information for an SVM

PATCH /protocols/cifs/domains/{svm.uuid}

Introduced In: 9.13

Modifies the CIFS domain-related information of the specified SVM.

Related ONTAP commands

- `vserver cifs domain password schedule modify`
- `vserver cifs domain discovered-servers discovery-mode modify`
- `vserver cifs domain password reset`
- `vserver cifs domain password change`

Important notes

- If the query is set to `cifs_password_operation=reset` and `ad_domain_user` and `ad_domain_password` is included in the body, a CIFS password reset is executed.
- If the query is set to `cifs_password_operation=reset` and `tenant_id`, `client_id` and `client_certificate` is included in the body, a CIFS password reset is executed in Azure EntraID for hybrid user.
- If the body is empty when the query is set to `cifs_password_operation=reset`, a CIFS password change is executed.

Learn more

- [DOC /protocols/cifs/domains/{svm.uuid}](#)

Parameters

Name	Type	In	Required	Description
<code>cifs_password_operation</code>	string	query	False	Specifies the operation to be performed on the domain password. • enum: ["reset"] • Introduced in: 9.14
<code>svm.uuid</code>	string	path	True	UUID of the SVM to which this object belongs. • Introduced in: 9.14

Request Body

Name	Type	Description
ad_domain	ad_domain	Specifies the credentials of a user with permissions to reset the password in the organizational unit for the machine account.
client_certificate	string	PKCS12 certificate used by the application to prove its identity to AKV.
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.
name_mapping	name_mapping	Specifies the name mapping search records.
password_schedule	password_schedule	Specifies the password schedule records.
preferred_dcs	array[preferred_dcs]	Specifies the preferred DC records.
server_discovery_mode	string	Specifies the mode of server discovery.
svm	svm	SVM, applies only to SVM-scoped objects.
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
trust_relationships	array[trust_relationships]	Specifies the trusted domain records.

Example request

```
{
  "ad_domain": {
    "password": "string",
    "user": "string"
  },
  "client_certificate": "PEM Cert",
  "client_id": "e959d1b5-5a63-4284-9268-851e30e3eceb",
  "discovered_servers": [
    {
      "domain": "test.com",
      "node": {
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "preference": "string",
      "server_ip": "string",
      "server_name": "string",
      "server_type": "string",
      "state": "string"
    }
  ],
  "name_mapping": {
    "trusted_domains": [
      "domain.com"
    ]
  },
  "password_schedule": {
    "schedule_day_of_week": "Sunday",
    "schedule_description": "string",
    "schedule_last_changed_time": "string",
    "schedule_time_of_day": 36900,
    "schedule_warn_message": "string"
  },
  "preferred_dcs": [
    {
      "fqdn": "test.com",
      "server_ip": "4.4.4.4"
    }
  ],
  "server_discovery_mode": "string",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
}
```



```

"tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
"trust_relationships": [
  {
    "home_domain": "string",
    "node": {
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "trusted_domains": [
      "string"
    ]
  }
]
}

```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262278	Domain user and password are required fields.
655513	Password update failed due to invalid credentials.
656392	Preferred DC's need to be configured if CIFS discovery mode is set to none.
656393	Default site needs to be configured if CIFS discovery mode is set to site.
656487	Missing fields when doing CIFS operation with hybrid auth user type.

Definitions

See Definitions

ad_domain

Specifies the credentials of a user with permissions to reset the password in the organizational unit for the machine account.

Name	Type	Description
password	string	The account password of the user with permissions to reset the password in the organizational unit for the machine account.
user	string	The username of a user with permissions to reset the password in the organizational unit for the machine account.

href

Name	Type	Description
href	string	

_links

node

Name	Type	Description
name	string	
uuid	string	

discovered_servers

Name	Type	Description
domain	string	Fully Qualified Domain Name.
node	node	
preference	string	Server Preference
server_ip	string	Server IP address
server_name	string	Server Name
server_type	string	Server Type

Name	Type	Description
state	string	Server status

name_mapping

Specifies the name mapping search records.

Name	Type	Description
trusted_domains	array[string]	

password_schedule

Specifies the password schedule records.

Name	Type	Description
schedule_day_of_week	string	Day of the week for password change schedule.
schedule_description	string	Schedule description.
schedule_enabled	boolean	Is password schedule enabled.
schedule_last_changed_time	string	Last successful password change time.
schedule_randomized_minute	integer	Minutes within which schedule start can be randomized.
schedule_time_of_day	string	Start time for password change schedule.
schedule_warn_message	string	Warning message in case job is deleted.
schedule_weekly_interval	integer	Interval in weeks for password change schedule.

preferred_dcs

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.

Name	Type	Description
server_ip	string	IP address of the preferred domain controller (DC). The address can be either an IPv4 or an IPv6 address.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

trust_relationships

Name	Type	Description
home_domain	string	Home Domain Name
node	node	
trusted_domains	array[string]	Trusted Domain Name

cifs_domain

Name	Type	Description
ad_domain	ad_domain	Specifies the credentials of a user with permissions to reset the password in the organizational unit for the machine account.
client_certificate	string	PKCS12 certificate used by the application to prove its identity to AKV.
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.

Name	Type	Description
discovered_servers	array[discovered_servers]	Specifies the discovered servers records.
name_mapping	name_mapping	Specifies the name mapping search records.
password_schedule	password_schedule	Specifies the password schedule records.
preferred_dcs	array[preferred_dcs]	Specifies the preferred DC records.
server_discovery_mode	string	Specifies the mode of server discovery.
svm	svm	SVM, applies only to SVM-scoped objects.
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
trust_relationships	array[trust_relationships]	Specifies the trusted domain records.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

Manage CIFS DC configuration

Manage CIFS DC configuration

Overview

You can use this API to display a CIFS domain preferred DC configuration of an SVM.

Retrieving all CIFS domain preferred DC configurations of an SVM

The CIFS domain preferred DC GET endpoint retrieves all the configurations for a specific SVM.

Examples

Retrieving all the fields of all CIFS domain preferred DC configurations of an SVM

```
# The API:
GET /api/protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/domains/1226670c-abc9-11eb-8de3-0050568eb0c4/preferred-domain-controllers/?fields=*" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "1226670c-abc9-11eb-8de3-0050568eb0c4",
        "name": "svm1"
      },
      "fqdn": "host1",
      "server_ip": "4.4.4.4"
    },
    {
      "svm": {
        "uuid": "1226670c-abc9-11eb-8de3-0050568eb0c4",
        "name": "svm1"
      },
      "fqdn": "host2",
      "server_ip": "11.11.11.11"
    }
  ],
  "num_records": 2
}
```

Retrieving the CIFS domain preferred DC configuration of a specific SVM, "fqdn" and "server_ip"

```
# The API:
GET /api/protocols/cifs/domains/{svm.uuid}/preferred-domain-
controllers/{fqdn}/{server_ip}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/domains/1226670c-abc9-
11eb-8de3-0050568eb0c4/preferred-domain-controllers/host1/4.4.4.4" -H
"accept: application/json"

# The response:
{
  "svm": {
    "uuid": "1226670c-abc9-11eb-8de3-0050568eb0c4",
    "name": "svm1"
  },
  "fqdn": "host1",
  "server_ip": "4.4.4.4"
}
```

Creating a new CIFS domain preferred DC configuration

The CIFS domain preferred DC POST endpoint creates a new configuration. Both bulk and instance POST is supported.

Examples

Creating a single CIFS domain preferred DC configuration

```
# The API:
POST /api/protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/domains/1226670c-abc9-
11eb-8de3-0050568eb0c4/preferred-domain-
controllers?skip_config_validation=true&return_records=false" -H "accept:
application/json" -H "Content-Type: application/json" -d "{ \"fqdn\":
\"testing.com\", \"server_ip\": \"1.1.1.1\"}"
```


Deleting an existing CIFS domain preferred DC configuration

The CIFS domain preferred DC DELETE endpoint deletes an existing configuration. Both bulk and instance delete is supported.

Examples

Deleting the CIFS domain preferred DC configuration of a specific SVM, "fqdn" and "server_ip"

```
# The API:
DELETE /api/protocols/cifs/domains/{svm.uuid}/preferred-domain-
controllers/{fqdn}/{server_ip}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/domains/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-controllers/sample/4.4.4.4"
```

```
### Deleting the CIFS domain preferred DC configurations of a specific SVM
and "fqdn"
```

```
# The API:
DELETE /api/protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/domains/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-controllers/?fqdn=sampl"
```

Deleting all CIFS domain preferred DC configurations of a specific SVM

```
# The API:
DELETE /api/protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/domains/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-controllers/?fqdn=*"
```

Deleting the CIFS domain preferred DC configurations of a specific SVM, "fqdn" and set of "server_ips"

```
# The API:
DELETE /api/protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/domains/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-
controllers/?fqdn=sample&server_ip=3.3.3.3&#124;4.4.4.4&#124;1.1.1.1&#124;
2.2.2.2"
```

Deleting the CIFS domain preferred DC configurations of a specific SVM and set of "server_ips"

```
# The API:
DELETE /api/protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/domains/1226670c-
abc9-11eb-8de3-0050568eb0c4/preferred-domain-
controllers/?server_ip=3.3.3.3&#124;4.4.4.4&#124;1.1.1.1&#124;2.2.2.2"
```

Retrieve the CIFS domain preferred DC configuration for an SVM

GET /protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers

Introduced In: 9.10

Retrieves the CIFS domain preferred DC configuration of an SVM.

Related ONTAP commands

- `vserver cifs domain preferred-dc show`
- `vserver cifs domain preferred-dc check`

Learn more

- [DOC /protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers](#)

Parameters

Name	Type	In	Required	Description
need_status	boolean	query	False	Retrieves the status of the preferred DCs. • Default value: • Introduced in: 9.12
svm.name	string	query	False	Filter by svm.name • Introduced in: 9.16
server_ip	string	query	False	Filter by server_ip
status.details	string	query	False	Filter by status.details • Introduced in: 9.12
status.reachable	boolean	query	False	Filter by status.reachable • Introduced in: 9.12
fqdn	string	query	False	Filter by fqdn
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
max_records	integer	query	False	Limit the number of records returned.
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of CIFS preferred domain controller records.
records	array[cifs_domain_preferred_dc]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "fqdn": "test.com",
      "server_ip": "4.4.4.4",
      "status": {
        "details": "Response time (msec): 111",
        "reachable": 1
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

status

Status of CIFS preferred domain controller.

Name	Type	Description
details	string	Provides a detailed description of the state if the state is 'down' or the response time of the DNS server if the state is 'up'.
reachable	boolean	Indicates whether or not the domain controller is reachable.

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_domain_preferred_dc

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred domain controller (DC). The address can be either an IPv4 or an IPv6 address.
status	status	Status of CIFS preferred domain controller.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create the CIFS domain preferred DC configuration for an SVM

POST /protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers

Introduced In: 9.10

Creates a CIFS preferred DC configuration for an SVM.

Important notes

- In the case of bulk POST requests, the create operation should be performed serially since there can be interdependence between records. In order to avoid issues, it is advisable to always use the query

parameter "serial_records=true".

Required properties

- `svm.uuid` - Existing SVM in which to create the preferred-dc.
- `domain` - Fully Qualified Domain Name.
- `server_ip` - IPv4/IPv6 address of the Preferred Domain Controller.

The following parameters are optional:

- `skip_config_validation`

Related ONTAP commands

- `vserver cifs domain preferred-dc add`

Learn more

- [DOC /protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers](#)

Parameters

Name	Type	In	Required	Description
<code>skip_config_validation</code>	boolean	query	False	Skip the validation of the specified preferred DC configuration. • Default value:
<code>return_records</code>	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
<code>svm.uuid</code>	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
<code>fqdn</code>	string	Fully Qualified Domain Name.

Name	Type	Description
server_ip	string	IP address of the preferred domain controller (DC). The address can be either an IPv4 or an IPv6 address.
status	status	Status of CIFS preferred domain controller.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "fqdn": "test.com",
  "server_ip": "4.4.4.4",
  "status": {
    "details": "Response time (msec): 111",
    "reachable": 1
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred domain controller (DC). The address can be either an IPv4 or an IPv6 address.
status	status	Status of CIFS preferred domain controller.

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "fqdn": "test.com",
  "server_ip": "4.4.4.4",
  "status": {
    "details": "Response time (msec): 111",
    "reachable": 1
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
2621516	Only data SVMs allowed.
655918	The fully qualified domain name cannot be longer than 254 bytes.
656408	RPC failure occurred during the CIFS preferred-dc configuration validation.
656407	Failed to validate CIFS preferred-dc for domain. Reason: Configuration not found at SecD. Contact technical support for assistance.
655366	Invalid domain controller.

Error Code	Description
655506	Failed to add preferred-dc.

Definitions

See Definitions

status

Status of CIFS preferred domain controller.

Name	Type	Description
details	string	Provides a detailed description of the state if the state is 'down' or the response time of the DNS server if the state is 'up'.
reachable	boolean	Indicates whether or not the domain controller is reachable.

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_domain_preferred_dc

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.
server_ip	string	IP address of the preferred domain controller (DC). The address can be either an IPv4 or an IPv6 address.

Name	Type	Description
status	status	Status of CIFS preferred domain controller.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete the CIFS domain preferred DC configuration for an SVM and domain

```
DELETE /protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers/{fqdn}/{server_ip}
```

Introduced In: 9.10

Deletes the CIFS domain preferred DC configuration of the specified SVM and domain.

Related ONTAP commands

- `vserver cifs domain preferred-dc delete`

Learn more

- [DOC /protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers](#)

Parameters

Name	Type	In	Required	Description
fqdn	string	path	True	Fully Qualified Domain Name
server_ip	string	path	True	Domain Controller IP address
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655507	Failed to remove preferred-dc.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve the CIFS domain preferred DC configuration for an SVM and domain

GET /protocols/cifs/domains/{svm.uuid}/preferred-domain-


```
controllers/{fqdn}/{server_ip}
```

Introduced In: 9.10

Retrieves the CIFS domain preferred DC configuration of an SVM.

Related ONTAP commands

- `vserver cifs domain preferred-dc show`
- `vserver cifs domain preferred-dc check`

Learn more

- [DOC /protocols/cifs/domains/{svm.uuid}/preferred-domain-controllers](#)

Parameters

Name	Type	In	Required	Description
fqdn	string	path	True	Fully Qualified Domain Name
server_ip	string	path	True	Domain Controller IP address
need_status	boolean	query	False	Retrieves the status of the specified preferred DC. • Introduced in: 9.12 • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
fqdn	string	Fully Qualified Domain Name.

Name	Type	Description
server_ip	string	IP address of the preferred domain controller (DC). The address can be either an IPv4 or an IPv6 address.
status	status	Status of CIFS preferred domain controller.
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "fqdn": "test.com",
  "server_ip": "4.4.4.4",
  "status": {
    "details": "Response time (msec): 111",
    "reachable": 1
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

status

Status of CIFS preferred domain controller.

Name	Type	Description
details	string	Provides a detailed description of the state if the state is 'down' or the response time of the DNS server if the state is 'up'.
reachable	boolean	Indicates whether or not the domain controller is reachable.

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve unapplied group policy objects for all SVMs

GET /protocols/cifs/group-policies

Introduced In: 9.12

Retrieves group policy objects that are yet to be applied for all SVMs.

Related ONTAP commands

- `vserver cifs group-policy show-defined`

Parameters

Name	Type	In	Required	Description
registry_settings.branchcache.supported_hash_version	string	query	False	Filter by registry_settings.branchcache.supported_hash_version
registry_settings.branchcache.hash_publication_mode	string	query	False	Filter by registry_settings.branchcache.hash_publication_mode
registry_settings.refresh_time_random_offset	string	query	False	Filter by registry_settings.refresh_time_random_offset
registry_settings.refresh_time_interval	string	query	False	Filter by registry_settings.refresh_time_interval

Name	Type	In	Required	Description
name	string	query	False	Filter by name • minLength: 1
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
central_access_policy_settings	string	query	False	Filter by central_access_policy_settings
file_system_path	string	query	False	Filter by file_system_path
enabled	boolean	query	False	Filter by enabled
central_access_policy_staging_audit_type	string	query	False	Filter by central_access_policy_staging_audit_type
ldap_path	string	query	False	Filter by ldap_path
extensions	string	query	False	Filter by extensions
security_settings.event_audit_settings.object_access_type	string	query	False	Filter by security_settings.event_audit_settings.object_access_type
security_settings.event_audit_settings.logon_type	string	query	False	Filter by security_settings.event_audit_settings.logon_type
security_settings.restrict_anonymous.no_enumeration_of_sam_accounts	boolean	query	False	Filter by security_settings.restrict_anonymous.no_enumeration_of_sam_accounts
security_settings.restrict_anonymous.combined_restriction_for_anonymous_user	string	query	False	Filter by security_settings.restrict_anonymous.combined_restriction_for_anonymous_user

Name	Type	In	Required	Description
security_settings.restrict_anonymous.no_enumeration_of_sam_accounts_and_shares	boolean	query	False	Filter by security_settings.restrict_anonymous.no_enumeration_of_sam_accounts_and_shares
security_settings.restrict_anonymous.anonymous_access_to_shares_and_named_pipes_restricted	boolean	query	False	Filter by security_settings.restrict_anonymous.anonymous_access_to_shares_and_named_pipes_restricted
security_settings.files_or_folders	string	query	False	Filter by security_settings.files_or_folders
security_settings.registry_values.signing_required	boolean	query	False	Filter by security_settings.registry_values.signing_required
security_settings.privilege_rights.change_notify_users	string	query	False	Filter by security_settings.privilege_rights.change_notify_users
security_settings.privilege_rights.security_privilege_users	string	query	False	Filter by security_settings.privilege_rights.security_privilege_users
security_settings.privilege_rights.take_ownership_users	string	query	False	Filter by security_settings.privilege_rights.take_ownership_users
security_settings.restricted_groups	string	query	False	Filter by security_settings.restricted_groups
security_settings.kerberos.max_ticket_age	string	query	False	Filter by security_settings.kerberos.max_ticket_age

Name	Type	In	Required	Description
security_settings.kerberos.max_renew_age	string	query	False	Filter by security_settings.kerberos.max_renew_age
security_settings.kerberos.max_clock_skew	string	query	False	Filter by security_settings.kerberos.max_clock_skew
security_settings.event_log_settings.max_size	integer	query	False	Filter by security_settings.event_log_settings.max_size
security_settings.event_log_settings.retention_method	string	query	False	Filter by security_settings.event_log_settings.retention_method
link	string	query	False	Filter by link
version	integer	query	False	Filter by version
index	integer	query	False	Filter by index
uuid	string	query	False	Filter by uuid
fields	array[string]	query	False	Specify the fields to return.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
max_records	integer	query	False	Limit the number of records returned.
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of central access rules.
records	array[policies_and_rules_to_be_applied]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "to_be_applied": {
        "access_policies": [
          {
            "create_time": "2018-01-01 12:00:00 -0400",
            "description": "policy #1",
            "member_rules": [
              "r1",
              "r2"
            ],
            "name": "p1",
            "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
            "svm": {
              "_links": {
                "self": {
                  "href": "/api/resourcelink"
                }
              },
              "name": "svm1",
              "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
            },
            "update_time": "2018-01-01 12:00:00 -0400"
          }
        ]
      }
    }
  ],
}
```

```

"access_rules": [
  {
    "create_time": "2018-01-01 12:00:00 -0400",
    "current_permission": "O:SYG:SYD:AR(A;;FA;;;WD)",
    "description": "rule #1",
    "name": "p1",
    "proposed_permission":
    "O:SYG:SYD:(A;;FA;;;OW)(A;;FA;;;BA)(A;;FA;;;SY)",
    "resource_criteria": "department",
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "update_time": "2018-01-01 12:00:00 -0400"
  }
],
"objects": [
  {
    "central_access_policy_settings": [
      "p1",
      "p2"
    ],
    "central_access_policy_staging_audit_type": "none",
    "extensions": [
      "audit",
      "security"
    ],
    "file_system_path": "\\test.com\\SysVol\\test.com\\policies\\{42474212-3f9d-4489-ae01-6fcf4f805d4c}",
    "index": 1,
    "ldap_path": "cn={42474212-3f9d-4489-ae01-6fcf4f805d4c},cn=policies,cn=system,DC=TEST,DC=COM",
    "link": "domain",
    "name": "test_policy",
    "registry_settings": {
      "branchcache": {
        "hash_publication_mode": "disabled",
        "supported_hash_version": "version1"
      },
      "refresh_time_interval": "P15M",
      "refresh_time_random_offset": "P1D"
    }
  }
]

```

```

    },
    "security_settings": {
      "event_audit_settings": {
        "logon_type": "failure",
        "object_access_type": "failure"
      },
      "event_log_settings": {
        "max_size": 2048,
        "retention_method": "do_not_overwrite"
      },
      "files_or_folders": [
        "/vol1/home",
        "/vol1/dir1"
      ],
      "kerberos": {
        "max_clock_skew": "P15M",
        "max_renew_age": "P2D",
        "max_ticket_age": "P24H"
      },
      "privilege_rights": {
        "change_notify_users": [
          "usr1",
          "usr2"
        ],
        "security_privilege_users": [
          "usr1",
          "usr2"
        ],
        "take_ownership_users": [
          "usr1",
          "usr2"
        ]
      },
      "restrict_anonymous": {
        "combined_restriction_for_anonymous_user": "no_access"
      },
      "restricted_groups": [
        "test_grp1",
        "test_grp2"
      ]
    },
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    }
  }
}

```

```

        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "uuid": "42474212-3f9d-4489-ae01-6fcf4f805d4c",
    "version": 7
}
],
"restricted_groups": [
    {
        "group_name": "test_group",
        "link": "domain",
        "members": [
            "DOMAIN/test_user",
            "DOMAIN/user2"
        ],
        "memberships": [
            "DOMAIN/AdministratorGrp",
            "DOMAIN/deptMark"
        ],
        "policy_name": "test_policy",
        "svm": {
            "_links": {
                "self": {
                    "href": "/api/resourcelink"
                }
            },
            "name": "svm1",
            "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
        },
        "version": 7
    }
]
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

svm

Will not be populated for objects that are yet to be applied.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

group_policy_object_central_access_policy

Name	Type	Description
create_time	string	Policy creation timestamp.
description	string	Description about the policy.
member_rules	array[string]	Names of all central access rules applied to members.
name	string	
sid	string	Security ID, unique identifier of the central policy.
svm	svm	Will not be populated for objects that are yet to be applied.
update_time	string	Last policy modification timestamp.

group_policy_object_central_access_rule

Name	Type	Description
create_time	string	Policy creation timestamp.
current_permission	string	Effective security policy in security descriptor definition language format.
description	string	Description about the policy.
name	string	
proposed_permission	string	Proposed security policy in security descriptor definition language format.
resource_criteria	string	Criteria to scope resources for which access rules apply.
svm	svm	Will not be populated for objects that are yet to be applied.
update_time	string	Last policy modification timestamp.

group_policy_object_branchcache

Name	Type	Description
hash_publication_mode	string	Hash publication mode.
supported_hash_version	string	Hash version.

group_policy_object_registry_setting

Name	Type	Description
branchcache	group_policy_object_branchcache	
refresh_time_interval	string	Refresh time interval in ISO-8601 format.
refresh_time_random_offset	string	Random offset in ISO-8601 format.

group_policy_object_event_audit

Name	Type	Description
logon_type	string	Type of logon event to be audited.
object_access_type	string	Type of object access to be audited.

group_policy_object_event_log

Name	Type	Description
max_size	integer	Maximum size of security log, in kilobytes.
retention_method	string	Audit log retention method.

group_policy_object_kerberos

Name	Type	Description
max_clock_skew	string	Kerberos clock skew in ISO-8601 format.
max_renew_age	string	Kerberos max renew age in ISO-8601 format.

Name	Type	Description
max_ticket_age	string	Kerberos max ticket age in ISO-8601 format.

group_policy_object_privilege_right

Name	Type	Description
change_notify_users	array[string]	Users with traversing bypass privileges.
security_privilege_users	array[string]	Users with security privileges.
take_ownership_users	array[string]	Users who can take ownership of securable objects.

group_policy_object_registry_value

Name	Type	Description
signing_required	boolean	SMB signing required.

group_policy_object_restrict_anonymous

Name	Type	Description
anonymous_access_to_shares_and_named_pipes_restricted	boolean	Restrict anonymous access to shares and named pipes.
combined_restriction_for_anonymous_user	string	Combined restriction for anonymous user.
no_enumeration_of_sam_accounts	boolean	No enumeration of SAM accounts.
no_enumeration_of_sam_accounts_and_shares	boolean	No enumeration of SAM accounts and shares.

group_policy_object_security_setting

Name	Type	Description
event_audit_settings	group_policy_object_event_audit	
event_log_settings	group_policy_object_event_log	
files_or_folders	array[string]	Files/Directories for file security.

Name	Type	Description
kerberos	group_policy_object_kerberos	
privilege_rights	group_policy_object_privilege_right	
registry_values	group_policy_object_registry_value	
restrict_anonymous	group_policy_object_restrict_anonymous	
restricted_groups	array[string]	List of restricted groups.

group_policy_object

Name	Type	Description
central_access_policy_settings	array[string]	List of central access policies.
central_access_policy_staging_audit_type	string	Types of events to be audited.
enabled	boolean	Specifies whether group policies are enabled for the SVM.
extensions	array[string]	List of extensions.
file_system_path	string	File system path.
index	integer	Group policy object index.
ldap_path	string	LDAP path to the GPO.
link	string	Link info.
name	string	
registry_settings	group_policy_object_registry_setting	
security_settings	group_policy_object_security_setting	
svm	svm	Will not be populated for objects that are yet to be applied.
uuid	string	Policy UUID.
version	integer	Group policy object version.

group_policy_object_restricted_group

Name	Type	Description
group_name	string	
link	string	Link info.
members	array[string]	Members of the group.
memberships	array[string]	Group is member of Group/OU.
policy_name	string	
svm	svm	Will not be populated for objects that are yet to be applied.
version	integer	Group policy object version.

to_be_applied

Name	Type	Description
access_policies	array[group_policy_object_central_access_policy]	
access_rules	array[group_policy_object_central_access_rule]	
objects	array[group_policy_object]	
restricted_groups	array[group_policy_object_restricted_group]	

policies_and_rules_to_be_applied

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
to_be_applied	to_be_applied	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve unapplied group policy objects for an SVM

GET /protocols/cifs/group-policies/{svm.uuid}

Introduced In: 9.12

Retrieves group policy objects that are yet to be applied for specified SVM.

Related ONTAP commands

- `vserver cifs group-policy show-defined`

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
to_be_applied	to_be_applied	

Example response

```
{
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "to_be_applied": {
    "access_policies": [
      {
        "create_time": "2018-01-01 12:00:00 -0400",
        "description": "policy #1",
        "member_rules": [
          "r1",
          "r2"
        ],
        "name": "p1",
        "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
        "svm": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "svm1",
          "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
        },
        "update_time": "2018-01-01 12:00:00 -0400"
      }
    ],
    "access_rules": [
      {
        "create_time": "2018-01-01 12:00:00 -0400",
        "current_permission": "O:SYG:SYD:AR(A;;FA;;;WD)",
        "description": "rule #1",
        "name": "p1",
        "proposed_permission":
"O:SYG:SYD:(A;;FA;;;OW)(A;;FA;;;BA)(A;;FA;;;SY)",
        "resource_criteria": "department",
        "svm": {
          "_links": {
```

```

        "self": {
            "href": "/api/resourcelink"
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "update_time": "2018-01-01 12:00:00 -0400"
}
],
"objects": [
{
    "central_access_policy_settings": [
        "p1",
        "p2"
    ],
    "central_access_policy_staging_audit_type": "none",
    "extensions": [
        "audit",
        "security"
    ],
    "file_system_path": "\\test.com\\SysVol\\test.com\\policies\\{42474212-3f9d-4489-ae01-6fcf4f805d4c}",
    "index": 1,
    "ldap_path": "cn={42474212-3f9d-4489-ae01-6fcf4f805d4c},cn=policies,cn=system,DC=TEST,DC=COM",
    "link": "domain",
    "name": "test_policy",
    "registry_settings": {
        "branchcache": {
            "hash_publication_mode": "disabled",
            "supported_hash_version": "version1"
        },
        "refresh_time_interval": "P15M",
        "refresh_time_random_offset": "P1D"
    },
    "security_settings": {
        "event_audit_settings": {
            "logon_type": "failure",
            "object_access_type": "failure"
        },
        "event_log_settings": {
            "max_size": 2048,
            "retention_method": "do_not_overwrite"
        },
        "files_or_folders": [

```

```

        "/vol1/home",
        "/vol1/dir1"
    ],
    "kerberos": {
        "max_clock_skew": "P15M",
        "max_renew_age": "P2D",
        "max_ticket_age": "P24H"
    },
    "privilege_rights": {
        "change_notify_users": [
            "usr1",
            "usr2"
        ],
        "security_privilege_users": [
            "usr1",
            "usr2"
        ],
        "take_ownership_users": [
            "usr1",
            "usr2"
        ]
    },
    "restrict_anonymous": {
        "combined_restriction_for_anonymous_user": "no_access"
    },
    "restricted_groups": [
        "test_grp1",
        "test_grp2"
    ]
},
"svm": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "42474212-3f9d-4489-ae01-6fcf4f805d4c",
"version": 7
}
],
"restricted_groups": [
    {
        "group_name": "test_group",

```



```

    "link": "domain",
    "members": [
      "DOMAIN/test_user",
      "DOMAIN/user2"
    ],
    "memberships": [
      "DOMAIN/AdministratorGrp",
      "DOMAIN/deptMark"
    ],
    "policy_name": "test_policy",
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "version": 7
  }
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

svm

Will not be populated for objects that are yet to be applied.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

group_policy_object_central_access_policy

Name	Type	Description
create_time	string	Policy creation timestamp.

Name	Type	Description
description	string	Description about the policy.
member_rules	array[string]	Names of all central access rules applied to members.
name	string	
sid	string	Security ID, unique identifier of the central policy.
svm	svm	Will not be populated for objects that are yet to be applied.
update_time	string	Last policy modification timestamp.

group_policy_object_central_access_rule

Name	Type	Description
create_time	string	Policy creation timestamp.
current_permission	string	Effective security policy in security descriptor definition language format.
description	string	Description about the policy.
name	string	
proposed_permission	string	Proposed security policy in security descriptor definition language format.
resource_criteria	string	Criteria to scope resources for which access rules apply.
svm	svm	Will not be populated for objects that are yet to be applied.
update_time	string	Last policy modification timestamp.

group_policy_object_branchcache

Name	Type	Description
hash_publication_mode	string	Hash publication mode.
supported_hash_version	string	Hash version.

group_policy_object_registry_setting

Name	Type	Description
branchcache	group_policy_object_branchcache	
refresh_time_interval	string	Refresh time interval in ISO-8601 format.
refresh_time_random_offset	string	Random offset in ISO-8601 format.

group_policy_object_event_audit

Name	Type	Description
logon_type	string	Type of logon event to be audited.
object_access_type	string	Type of object access to be audited.

group_policy_object_event_log

Name	Type	Description
max_size	integer	Maximum size of security log, in kilobytes.
retention_method	string	Audit log retention method.

group_policy_object_kerberos

Name	Type	Description
max_clock_skew	string	Kerberos clock skew in ISO-8601 format.
max_renew_age	string	Kerberos max renew age in ISO-8601 format.

Name	Type	Description
max_ticket_age	string	Kerberos max ticket age in ISO-8601 format.

group_policy_object_privilege_right

Name	Type	Description
change_notify_users	array[string]	Users with traversing bypass privileges.
security_privilege_users	array[string]	Users with security privileges.
take_ownership_users	array[string]	Users who can take ownership of securable objects.

group_policy_object_registry_value

Name	Type	Description
signing_required	boolean	SMB signing required.

group_policy_object_restrict_anonymous

Name	Type	Description
anonymous_access_to_shares_and_named_pipes_restricted	boolean	Restrict anonymous access to shares and named pipes.
combined_restriction_for_anonymous_user	string	Combined restriction for anonymous user.
no_enumeration_of_sam_accounts	boolean	No enumeration of SAM accounts.
no_enumeration_of_sam_accounts_and_shares	boolean	No enumeration of SAM accounts and shares.

group_policy_object_security_setting

Name	Type	Description
event_audit_settings	group_policy_object_event_audit	
event_log_settings	group_policy_object_event_log	
files_or_folders	array[string]	Files/Directories for file security.

Name	Type	Description
kerberos	group_policy_object_kerberos	
privilege_rights	group_policy_object_privilege_right	
registry_values	group_policy_object_registry_value	
restrict_anonymous	group_policy_object_restrict_anonymous	
restricted_groups	array[string]	List of restricted groups.

group_policy_object

Name	Type	Description
central_access_policy_settings	array[string]	List of central access policies.
central_access_policy_staging_audit_type	string	Types of events to be audited.
enabled	boolean	Specifies whether group policies are enabled for the SVM.
extensions	array[string]	List of extensions.
file_system_path	string	File system path.
index	integer	Group policy object index.
ldap_path	string	LDAP path to the GPO.
link	string	Link info.
name	string	
registry_settings	group_policy_object_registry_setting	
security_settings	group_policy_object_security_setting	
svm	svm	Will not be populated for objects that are yet to be applied.
uuid	string	Policy UUID.
version	integer	Group policy object version.

group_policy_object_restricted_group

Name	Type	Description
group_name	string	
link	string	Link info.
members	array[string]	Members of the group.
memberships	array[string]	Group is member of Group/OU.
policy_name	string	
svm	svm	Will not be populated for objects that are yet to be applied.
version	integer	Group policy object version.

to_be_applied

Name	Type	Description
access_policies	array[group_policy_object_central_access_policy]	
access_rules	array[group_policy_object_central_access_rule]	
objects	array[group_policy_object]	
restricted_groups	array[group_policy_object_restricted_group]	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

Create a background task to update the GPO settings for an SVM

PATCH /protocols/cifs/group-policies/{svm.uuid}

Introduced In: 9.12

Creates a background task to update the GPO settings for the specified SVM. Note: The group policy can be enabled or disabled using "group_policy_object_enabled" field in PATCH "/protocols/cifs/services/{svm.uuid}" API.

Related ONTAP commands

- `vserver cifs group-policy update`

Parameters

Name	Type	In	Required	Description
apply_updates	boolean	query	False	Indicates whether to apply updates or not. • Default value: 1
force_reapply_all_settings	boolean	query	False	Indicates whether or not a re-applying of all settings is enforced. • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
4456649	Unable to get Group Policy information for SVM.
4456650	Group Policy is disabled for SVM.
4456651	Unable to get CIFS server information for SVM.
4456652	CIFS server is down for SVM.
4456851	An update is already in progress for specified SVM. Wait a few minutes, then try the command again.
4456852	Failed to set forced update for specified SVM. Reason: Internal error. Starting normal update.

Also see the table of common errors in the [Response body](#) overview section of this documentation.

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve applied central access policies for an SVM

GET /protocols/cifs/group-policies/{svm.uuid}/central-access-policies

Introduced In: 9.12

Retrieves applied central access policies for specified SVM.

Related ONTAP commands

- `vserver cifs group-policy central-access-policy show-applied`

Parameters

Name	Type	In	Required	Description
name	string	query	False	Filter by name • minLength: 1
update_time	string	query	False	Filter by update_time
svm.name	string	query	False	Filter by svm.name
description	string	query	False	Filter by description
create_time	string	query	False	Filter by create_time
sid	string	query	False	Filter by sid
member_rules	string	query	False	Filter by member_rules
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
max_records	integer	query	False	Limit the number of records returned.
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of central access policies.
records	array[group_policy_object_central_access_policy]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "create_time": "2018-01-01 12:00:00 -0400",
      "description": "policy #1",
      "member_rules": [
        "r1",
        "r2"
      ],
      "name": "p1",
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "update_time": "2018-01-01 12:00:00 -0400"
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

Will not be populated for objects that are yet to be applied.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

group_policy_object_central_access_policy

Name	Type	Description
create_time	string	Policy creation timestamp.
description	string	Description about the policy.
member_rules	array[string]	Names of all central access rules applied to members.
name	string	

Name	Type	Description
sid	string	Security ID, unique identifier of the central policy.
svm	svm	Will not be populated for objects that are yet to be applied.
update_time	string	Last policy modification timestamp.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an applied central access policy for an SVM

GET /protocols/cifs/group-policies/{svm.uuid}/central-access-policies/{name}

Introduced In: 9.12

Retrieves applied central access policy for specified SVM.

Related ONTAP commands

- `vserver cifs group-policy central-access-policy show-applied`

Parameters

Name	Type	In	Required	Description
name	string	path	True	Central access policy name.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
create_time	string	Policy creation timestamp.
description	string	Description about the policy.
member_rules	array[string]	Names of all central access rules applied to members.
name	string	
sid	string	Security ID, unique identifier of the central policy.
svm	svm	Will not be populated for objects that are yet to be applied.
update_time	string	Last policy modification timestamp.

Example response

```
{
  "create_time": "2018-01-01 12:00:00 -0400",
  "description": "policy #1",
  "member_rules": [
    "r1",
    "r2"
  ],
  "name": "p1",
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "update_time": "2018-01-01 12:00:00 -0400"
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

Will not be populated for objects that are yet to be applied.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve applied central access rules for an SVM

GET /protocols/cifs/group-policies/{svm.uuid}/central-access-rules

Introduced In: 9.12

Retrieves applied central access rules for specified SVM.

Related ONTAP commands

- `vserver cifs group-policy central-access-rule show-applied`

Parameters

Name	Type	In	Required	Description
description	string	query	False	Filter by description
update_time	string	query	False	Filter by update_time
svm.name	string	query	False	Filter by svm.name
name	string	query	False	Filter by name • minLength: 1
proposed_permission	string	query	False	Filter by proposed_permission
resource_criteria	string	query	False	Filter by resource_criteria
create_time	string	query	False	Filter by create_time
current_permission	string	query	False	Filter by current_permission
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
max_records	integer	query	False	Limit the number of records returned.
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of central access rules.
records	array[group_policy_object_central_access_rule]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "create_time": "2018-01-01 12:00:00 -0400",
      "current_permission": "O:SYG:SYD:AR(A;;FA;;;WD) ",
      "description": "rule #1",
      "name": "p1",
      "proposed_permission":
      "O:SYG:SYD:(A;;FA;;;OW)(A;;FA;;;BA)(A;;FA;;;SY) ",
      "resource_criteria": "department",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "update_time": "2018-01-01 12:00:00 -0400"
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

Will not be populated for objects that are yet to be applied.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

group_policy_object_central_access_rule

Name	Type	Description
create_time	string	Policy creation timestamp.
current_permission	string	Effective security policy in security descriptor definition language format.
description	string	Description about the policy.
name	string	

Name	Type	Description
proposed_permission	string	Proposed security policy in security descriptor definition language format.
resource_criteria	string	Criteria to scope resources for which access rules apply.
svm	svm	Will not be populated for objects that are yet to be applied.
update_time	string	Last policy modification timestamp.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an applied central access rule for an SVM

GET /protocols/cifs/group-policies/{svm.uuid}/central-access-rules/{name}

Introduced In: 9.12

Retrieves applied central access rule for specified SVM.

Related ONTAP commands

- `vserver cifs group-policy central-access-rule show-applied`

Parameters

Name	Type	In	Required	Description
name	string	path	True	Central access rule name.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
create_time	string	Policy creation timestamp.
current_permission	string	Effective security policy in security descriptor definition language format.
description	string	Description about the policy.
name	string	
proposed_permission	string	Proposed security policy in security descriptor definition language format.
resource_criteria	string	Criteria to scope resources for which access rules apply.
svm	svm	Will not be populated for objects that are yet to be applied.
update_time	string	Last policy modification timestamp.

Example response

```
{
  "create_time": "2018-01-01 12:00:00 -0400",
  "current_permission": "O:SYG:SYD:AR(A;;FA;;;WD) ",
  "description": "rule #1",
  "name": "p1",
  "proposed_permission":
  "O:SYG:SYD:(A;;FA;;;OW)(A;;FA;;;BA)(A;;FA;;;SY) ",
  "resource_criteria": "department",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "update_time": "2018-01-01 12:00:00 -0400"
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

Will not be populated for objects that are yet to be applied.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View group policy objects

View group policy objects

Overview

When group policy objects (GPO) are enabled on your SMB server, ONTAP sends LDAP queries to the Active Directory server requesting GPO information. If there are GPO definitions that are applicable to your SMB server, the Active Directory server returns the following GPO information: • GPO name • Current GPO version • Location of the GPO definition • Lists of UUIDs (universally unique identifiers) for GPO policy sets

Retrieve applied group policy objects for an SVM

GET /protocols/cifs/group-policies/{svm.uuid}/objects

Introduced In: 9.12

Retrieves applied group policy objects for specified SVM.

Related ONTAP commands

- `vserver cifs group-policy show-applied`

Parameters

Name	Type	In	Required	Description
registry_settings.branchcache.supported_hash_version	string	query	False	Filter by registry_settings.branchcache.supported_hash_version
registry_settings.branchcache.hash_publication_mode	string	query	False	Filter by registry_settings.branchcache.hash_publication_mode
registry_settings.refresh_time_random_offset	string	query	False	Filter by registry_settings.refresh_time_random_offset
registry_settings.refresh_time_interval	string	query	False	Filter by registry_settings.refresh_time_interval
name	string	query	False	Filter by name • minLength: 1

Name	Type	In	Required	Description
svm.name	string	query	False	Filter by svm.name
central_access_policy_settings	string	query	False	Filter by central_access_policy_settings
file_system_path	string	query	False	Filter by file_system_path
enabled	boolean	query	False	Filter by enabled
central_access_policy_staging_audit_type	string	query	False	Filter by central_access_policy_staging_audit_type
ldap_path	string	query	False	Filter by ldap_path
extensions	string	query	False	Filter by extensions
security_settings.event_audit_settings.object_access_type	string	query	False	Filter by security_settings.event_audit_settings.object_access_type
security_settings.event_audit_settings.logon_type	string	query	False	Filter by security_settings.event_audit_settings.logon_type
security_settings.restrict_anonymous.no_enumeration_of_sam_accounts	boolean	query	False	Filter by security_settings.restrict_anonymous.no_enumeration_of_sam_accounts
security_settings.restrict_anonymous.combined_restriction_for_anonymous_user	string	query	False	Filter by security_settings.restrict_anonymous.combined_restriction_for_anonymous_user

Name	Type	In	Required	Description
security_settings.restrict_anonymous.no_enumeration_of_sam_accounts_and_shares	boolean	query	False	Filter by security_settings.restrict_anonymous.no_enumeration_of_sam_accounts_and_shares
security_settings.restrict_anonymous.anonymous_access_to_shares_and_named_pipes_restricted	boolean	query	False	Filter by security_settings.restrict_anonymous.anonymous_access_to_shares_and_named_pipes_restricted
security_settings.files_or_folders	string	query	False	Filter by security_settings.files_or_folders
security_settings.registry_values.signing_required	boolean	query	False	Filter by security_settings.registry_values.signing_required
security_settings.privilege_rights.change_notify_users	string	query	False	Filter by security_settings.privilege_rights.change_notify_users
security_settings.privilege_rights.security_privilege_users	string	query	False	Filter by security_settings.privilege_rights.security_privilege_users
security_settings.privilege_rights.take_ownership_users	string	query	False	Filter by security_settings.privilege_rights.take_ownership_users
security_settings.restricted_groups	string	query	False	Filter by security_settings.restricted_groups
security_settings.kerberos.max_ticket_age	string	query	False	Filter by security_settings.kerberos.max_ticket_age

Name	Type	In	Required	Description
security_settings.kerberos.max_renew_age	string	query	False	Filter by security_settings.kerberos.max_renew_age
security_settings.kerberos.max_clock_skew	string	query	False	Filter by security_settings.kerberos.max_clock_skew
security_settings.event_log_settings.max_size	integer	query	False	Filter by security_settings.event_log_settings.max_size
security_settings.event_log_settings.retention_method	string	query	False	Filter by security_settings.event_log_settings.retention_method
link	string	query	False	Filter by link
version	integer	query	False	Filter by version
index	integer	query	False	Filter by index
uuid	string	query	False	Filter by uuid
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
max_records	integer	query	False	Limit the number of records returned.
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of group policy objects.
records	array[group_policy_object]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "central_access_policy_settings": [
        "p1",
        "p2"
      ],
      "central_access_policy_staging_audit_type": "none",
      "extensions": [
        "audit",
        "security"
      ],
      "file_system_path": "\\test.com\\SysVol\\test.com\\policies\\{42474212-3f9d-4489-ae01-6fcf4f805d4c}",
      "index": 1,
      "ldap_path": "cn={42474212-3f9d-4489-ae01-6fcf4f805d4c},cn=policies,cn=system,DC=TEST,DC=COM",
      "link": "domain",
      "name": "test_policy",
      "registry_settings": {
        "branchcache": {
          "hash_publication_mode": "disabled",
          "supported_hash_version": "version1"
        },
        "refresh_time_interval": "P15M",
        "refresh_time_random_offset": "P1D"
      },
      "security_settings": {
        "event_audit_settings": {
          "logon_type": "failure",
          "object_access_type": "failure"
        },
        "event_log_settings": {
          "max_size": 2048,
          "retention_method": "do_not_overwrite"
        }
      }
    }
  ]
}
```

```

    },
    "files_or_folders": [
        "/voll/home",
        "/voll/dir1"
    ],
    "kerberos": {
        "max_clock_skew": "P15M",
        "max_renew_age": "P2D",
        "max_ticket_age": "P24H"
    },
    "privilege_rights": {
        "change_notify_users": [
            "usr1",
            "usr2"
        ],
        "security_privilege_users": [
            "usr1",
            "usr2"
        ],
        "take_ownership_users": [
            "usr1",
            "usr2"
        ]
    },
    "restrict_anonymous": {
        "combined_restriction_for_anonymous_user": "no_access"
    },
    "restricted_groups": [
        "test_grp1",
        "test_grp2"
    ]
},
"svm": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "42474212-3f9d-4489-ae01-6fcf4f805d4c",
"version": 7
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

group_policy_object_branchcache

Name	Type	Description
hash_publication_mode	string	Hash publication mode.
supported_hash_version	string	Hash version.

group_policy_object_registry_setting

Name	Type	Description
branchcache	group_policy_object_branchcache	
refresh_time_interval	string	Refresh time interval in ISO-8601 format.
refresh_time_random_offset	string	Random offset in ISO-8601 format.

group_policy_object_event_audit

Name	Type	Description
logon_type	string	Type of logon event to be audited.
object_access_type	string	Type of object access to be audited.

group_policy_object_event_log

Name	Type	Description
max_size	integer	Maximum size of security log, in kilobytes.
retention_method	string	Audit log retention method.

group_policy_object_kerberos

Name	Type	Description
max_clock_skew	string	Kerberos clock skew in ISO-8601 format.
max_renew_age	string	Kerberos max renew age in ISO-8601 format.
max_ticket_age	string	Kerberos max ticket age in ISO-8601 format.

group_policy_object_privilege_right

Name	Type	Description
change_notify_users	array[string]	Users with traversing bypass privileges.
security_privilege_users	array[string]	Users with security privileges.
take_ownership_users	array[string]	Users who can take ownership of securable objects.

group_policy_object_registry_value

Name	Type	Description
signing_required	boolean	SMB signing required.

group_policy_object_restrict_anonymous

Name	Type	Description
anonymous_access_to_shares_and_named_pipes_restricted	boolean	Restrict anonymous access to shares and named pipes.
combined_restriction_for_anonymous_user	string	Combined restriction for anonymous user.

Name	Type	Description
no_enumeration_of_sam_accounts	boolean	No enumeration of SAM accounts.
no_enumeration_of_sam_accounts_and_shares	boolean	No enumeration of SAM accounts and shares.

group_policy_object_security_setting

Name	Type	Description
event_audit_settings	group_policy_object_event_audit	
event_log_settings	group_policy_object_event_log	
files_or_folders	array[string]	Files/Directories for file security.
kerberos	group_policy_object_kerberos	
privilege_rights	group_policy_object_privilege_right	
registry_values	group_policy_object_registry_value	
restrict_anonymous	group_policy_object_restrict_anonymous	
restricted_groups	array[string]	List of restricted groups.

_links

Name	Type	Description
self	href	

svm

Will not be populated for objects that are yet to be applied.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

group_policy_object

Name	Type	Description
central_access_policy_settings	array[string]	List of central access policies.
central_access_policy_staging_audit_type	string	Types of events to be audited.
enabled	boolean	Specifies whether group policies are enabled for the SVM.
extensions	array[string]	List of extensions.
file_system_path	string	File system path.
index	integer	Group policy object index.
ldap_path	string	LDAP path to the GPO.
link	string	Link info.
name	string	
registry_settings	group_policy_object_registry_setting	
security_settings	group_policy_object_security_setting	
svm	svm	Will not be populated for objects that are yet to be applied.
uuid	string	Policy UUID.
version	integer	Group policy object version.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments

Name	Type	Description
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an applied group policy object for an SVM

GET /protocols/cifs/group-policies/{svm.uuid}/objects/{index}

Introduced In: 9.12

Retrieves applied group policy object for specified SVM.

Related ONTAP commands

- `vserver cifs group-policy show-applied`

Parameters

Name	Type	In	Required	Description
index	integer	path	True	Restricted group index.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
central_access_policy_settings	array[string]	List of central access policies.
central_access_policy_staging_audit_type	string	Types of events to be audited.

Name	Type	Description
enabled	boolean	Specifies whether group policies are enabled for the SVM.
extensions	array[string]	List of extensions.
file_system_path	string	File system path.
index	integer	Group policy object index.
ldap_path	string	LDAP path to the GPO.
link	string	Link info.
name	string	
registry_settings	group_policy_object_registry_setting	
security_settings	group_policy_object_security_setting	
svm	svm	Will not be populated for objects that are yet to be applied.
uuid	string	Policy UUID.
version	integer	Group policy object version.

Example response

```
{
  "central_access_policy_settings": [
    "p1",
    "p2"
  ],
  "central_access_policy_staging_audit_type": "none",
  "extensions": [
    "audit",
    "security"
  ],
  "file_system_path": "\\test.com\\SysVol\\test.com\\policies\\{42474212-3f9d-4489-ae01-6fcf4f805d4c}",
  "index": 1,
  "ldap_path": "cn={42474212-3f9d-4489-ae01-6fcf4f805d4c},cn=policies,cn=system,DC=TEST,DC=COM",
  "link": "domain",
  "name": "test_policy",
  "registry_settings": {
    "branchcache": {
      "hash_publication_mode": "disabled",
      "supported_hash_version": "version1"
    },
    "refresh_time_interval": "P15M",
    "refresh_time_random_offset": "P1D"
  },
  "security_settings": {
    "event_audit_settings": {
      "logon_type": "failure",
      "object_access_type": "failure"
    },
    "event_log_settings": {
      "max_size": 2048,
      "retention_method": "do_not_overwrite"
    },
    "files_or_folders": [
      "/vol1/home",
      "/vol1/dir1"
    ],
    "kerberos": {
      "max_clock_skew": "P15M",
      "max_renew_age": "P2D",
      "max_ticket_age": "P24H"
    },
    "privilege_rights": {
```

```

    "change_notify_users": [
      "usr1",
      "usr2"
    ],
    "security_privilege_users": [
      "usr1",
      "usr2"
    ],
    "take_ownership_users": [
      "usr1",
      "usr2"
    ]
  },
  "restrict_anonymous": {
    "combined_restriction_for_anonymous_user": "no_access"
  },
  "restricted_groups": [
    "test_grp1",
    "test_grp2"
  ]
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "42474212-3f9d-4489-ae01-6fcf4f805d4c",
"version": 7
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

group_policy_object_branchcache

Name	Type	Description
hash_publication_mode	string	Hash publication mode.
supported_hash_version	string	Hash version.

group_policy_object_registry_setting

Name	Type	Description
branchcache	group_policy_object_branchcache	
refresh_time_interval	string	Refresh time interval in ISO-8601 format.
refresh_time_random_offset	string	Random offset in ISO-8601 format.

group_policy_object_event_audit

Name	Type	Description
logon_type	string	Type of logon event to be audited.
object_access_type	string	Type of object access to be audited.

group_policy_object_event_log

Name	Type	Description
max_size	integer	Maximum size of security log, in kilobytes.
retention_method	string	Audit log retention method.

group_policy_object_kerberos

Name	Type	Description
max_clock_skew	string	Kerberos clock skew in ISO-8601 format.

Name	Type	Description
max_renew_age	string	Kerberos max renew age in ISO-8601 format.
max_ticket_age	string	Kerberos max ticket age in ISO-8601 format.

group_policy_object_privilege_right

Name	Type	Description
change_notify_users	array[string]	Users with traversing bypass privileges.
security_privilege_users	array[string]	Users with security privileges.
take_ownership_users	array[string]	Users who can take ownership of securable objects.

group_policy_object_registry_value

Name	Type	Description
signing_required	boolean	SMB signing required.

group_policy_object_restrict_anonymous

Name	Type	Description
anonymous_access_to_shares_and_named_pipes_restricted	boolean	Restrict anonymous access to shares and named pipes.
combined_restriction_for_anonymous_user	string	Combined restriction for anonymous user.
no_enumeration_of_sam_accounts	boolean	No enumeration of SAM accounts.
no_enumeration_of_sam_accounts_and_shares	boolean	No enumeration of SAM accounts and shares.

group_policy_object_security_setting

Name	Type	Description
event_audit_settings	group_policy_object_event_audit	
event_log_settings	group_policy_object_event_log	

Name	Type	Description
files_or_folders	array[string]	Files/Directories for file security.
kerberos	group_policy_object_kerberos	
privilege_rights	group_policy_object_privilege_right	
registry_values	group_policy_object_registry_value	
restrict_anonymous	group_policy_object_restrict_anonymous	
restricted_groups	array[string]	List of restricted groups.

[href](#)

Name	Type	Description
href	string	

[_links](#)

Name	Type	Description
self	href	

svm

Will not be populated for objects that are yet to be applied.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve applied restricted group policies for an SVM

GET /protocols/cifs/group-policies/{svm.uuid}/restricted-groups

Introduced In: 9.12

Retrieves applied policies of restricted groups for specified SVM.

Related ONTAP commands

- `vserver cifs group-policy restricted-group show-applied`

Parameters

Name	Type	In	Required	Description
version	integer	query	False	Filter by version
link	string	query	False	Filter by link
policy_name	string	query	False	Filter by policy_name • minLength: 1
memberships	string	query	False	Filter by memberships
group_name	string	query	False	Filter by group_name • minLength: 1
members	string	query	False	Filter by members

Name	Type	In	Required	Description
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
max_records	integer	query	False	Limit the number of records returned.
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of restricted group info.
records	array[group_policy_object_restricted_group]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "group_name": "test_group",
      "link": "domain",
      "members": [
        "DOMAIN/test_user",
        "DOMAIN/user2"
      ],
      "memberships": [
        "DOMAIN/AdministratorGrp",
        "DOMAIN/deptMark"
      ],
      "policy_name": "test_policy",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "version": 7
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

Will not be populated for objects that are yet to be applied.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

group_policy_object_restricted_group

Name	Type	Description
group_name	string	
link	string	Link info.
members	array[string]	Members of the group.
memberships	array[string]	Group is member of Group/OU.
policy_name	string	

Name	Type	Description
svm	svm	Will not be populated for objects that are yet to be applied.
version	integer	Group policy object version.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an applied restricted group policy for an SVM

GET /protocols/cifs/group-policies/{svm.uuid}/restricted-groups/{policy_index}/{group_name}

Introduced In: 9.12

Retrieves applied policy of restricted group for specified SVM.

Related ONTAP commands

- `vserver cifs group-policy restricted-group show-applied`

Parameters

Name	Type	In	Required	Description
policy_index	integer	path	True	Group policy index.

Name	Type	In	Required	Description
group_name	string	path	True	Group name.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
group_name	string	
link	string	Link info.
members	array[string]	Members of the group.
memberships	array[string]	Group is member of Group/OU.
policy_name	string	
svm	svm	Will not be populated for objects that are yet to be applied.
version	integer	Group policy object version.

Example response

```
{
  "group_name": "test_group",
  "link": "domain",
  "members": [
    "DOMAIN/test_user",
    "DOMAIN/user2"
  ],
  "memberships": [
    "DOMAIN/AdministratorGrp",
    "DOMAIN/deptMark"
  ],
  "policy_name": "test_policy",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "version": 7
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

Will not be populated for objects that are yet to be applied.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage home directory search paths

Manage home directory search paths

Overview

ONTAP home directory functionality can be used to create home directories for SMB users on the CIFS server and automatically offer each user a dynamic share to their home directory without creating an individual SMB share for each user.

The home directory search path is a set of absolute paths from the root of an SVM that directs ONTAP to search for home directories. If there are multiple search paths, ONTAP tries them in the order specified until it finds a valid path. To use the CIFS home directories feature, at least one home directory search path must be added for an SVM.

Examples

Creating a home directory search path

To create a home directory search path, use the following API. Note the *return_records=true* query parameter used to obtain the newly created entry in the response.

```
# The API:
POST /api/protocols/cifs/home-directory/search-paths

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/home-directory/search-paths?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"path\": \"/\", \"svm\": { \"name\": \"vs1\", \"uuid\": \"a41fd873-ecf8-11e8-899d-0050568e9333\" } }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "a41fd873-ecf8-11e8-899d-0050568e9333",
        "name": "vs1"
      },
      "path": "/"
    }
  ]
}
```

Retrieving the CIFS home directory search paths configuration for all SVMs in the cluster

```
# The API:
GET /protocols/cifs/home-directory/search-paths

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/home-directory/search-paths?fields=*&return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "2d96f9aa-f4ce-11e8-b075-0050568e278e",
        "name": "vs1"
      },
      "index": 1,
      "path": "/"
    },
    {
      "svm": {
        "uuid": "2d96f9aa-f4ce-11e8-b075-0050568e278e",
        "name": "vs1"
      },
      "index": 2,
      "path": "/a"
    },
    {
      "svm": {
        "uuid": "4f23449b-f4ce-11e8-b075-0050568e278e",
        "name": "vs2"
      },
      "index": 1,
      "path": "/"
    },
    {
      "svm": {
        "uuid": "4f23449b-f4ce-11e8-b075-0050568e278e",
        "name": "vs2"
      },
      "index": 2,
      "path": "/1"
    }
  ],
}
```

```
"num_records": 4
}
```

Retrieving a specific home directory searchpath configuration for an SVM

The configuration returned is identified by the UUID of its SVM and the index (position) in the list of search paths that is searched to find a home directory of a user.

```
# The API:
GET /api/protocols/home-directory/search-paths/{svm.uuid}/{index}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/home-directory/search-paths/2d96f9aa-f4ce-11e8-b075-0050568e278e/2" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "2d96f9aa-f4ce-11e8-b075-0050568e278e",
    "name": "vs1"
  },
  "index": 2,
  "path": "/a"
}
```

Reordering a specific home directory search path in the list

An entry in the home directory search path list can be reordered to a new position by specifying the 'new_index' field. The reordered configuration is identified by the UUID of its SVM and the index.

```
# The API:
PATCH /api/protocols/cifs/home-directory/search-paths/{svm.uuid}/{index}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/home-directory/search-paths/2d96f9aa-f4ce-11e8-b075-0050568e278e/2?new_index=1" -H "accept: application/json"
```

Removing a specific home directory search path for an SVM

The entry being removed is identified by the UUID of its SVM and the index.


```
# The API:
DELETE /api/protocols/cifs/home-directory/search-paths/{svm.uuid}/{index}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/home-
directory/search-paths/2d96f9aa-f4ce-11e8-b075-0050568e278e/2" -H "accept:
application/json"
```

Retrieve CIFS home directory search paths

GET /protocols/cifs/home-directory/search-paths

Introduced In: 9.6

Retrieves CIFS home directory search paths.

Related ONTAP commands

- `cifs server home-directory search-path show`

Learn more

- [DOC /protocols/cifs/home-directory/search-paths](#)

Parameters

Name	Type	In	Required	Description
path	string	query	False	Filter by path
index	integer	query	False	Filter by index
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[cifs_search_path]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "index": 0,
      "path": "/HomeDirectory/EngDomain",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_search_path

This is a list of CIFS home directory search paths. When a CIFS client connects to a home directory share, these paths are searched in the order indicated by the position field to find the home directory of the connected CIFS client.

Name	Type	Description
index	integer	The position in the list of paths that is searched to find the home directory of the CIFS client. Not available in POST.

Name	Type	Description
path	string	The file system path that is searched to find the home directory of the CIFS client.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create a home directory search path

POST /protocols/cifs/home-directory/search-paths

Introduced In: 9.6

Creates a home directory search path.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the home directory search path.
- `path` - Path in the owning SVM namespace that is used to search for home directories.

Related ONTAP commands

- `cifs server home-directory search-path add`

Learn more

- [DOC /protocols/cifs/home-directory/search-paths](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
index	integer	The position in the list of paths that is searched to find the home directory of the CIFS client. Not available in POST.
path	string	The file system path that is searched to find the home directory of the CIFS client.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "index": 0,
  "path": "/HomeDirectory/EngDomain",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of records
records	array[cifs_search_path]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "index": 0,
      "path": "/HomeDirectory/EngDomain",
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655551	Invalid home-directory search-path path
655462	The specified path is an invalid file-type

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_search_path

This is a list of CIFS home directory search paths. When a CIFS client connects to a home directory share, these paths are searched in the order indicated by the position field to find the home directory of the connected CIFS client.

Name	Type	Description
index	integer	The position in the list of paths that is searched to find the home directory of the CIFS client. Not available in POST.
path	string	The file system path that is searched to find the home directory of the CIFS client.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a CIFS home directory search path

DELETE /protocols/cifs/home-directory/search-paths/{svm.uuid}/{index}

Introduced In: 9.6

Deletes a CIFS home directory search path.

Related ONTAP commands

- `cifs server home-directory search-path remove`

Learn more

- [DOC /protocols/cifs/home-directory/search-paths](#)

Parameters

Name	Type	In	Required	Description
index	integer	path	True	Home directory search path index
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a CIFS home directory search path for an SVM

GET /protocols/cifs/home-directory/search-paths/{svm.uuid}/{index}

Introduced In: 9.6

Retrieves a CIFS home directory search path of an SVM.

Related ONTAP commands

- `cifs server home-directory search-path show`

Learn more

- [DOC /protocols/cifs/home-directory/search-paths](#)

Parameters

Name	Type	In	Required	Description
index	integer	path	True	Home directory search path index

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
index	integer	The position in the list of paths that is searched to find the home directory of the CIFS client. Not available in POST.
path	string	The file system path that is searched to find the home directory of the CIFS client.
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "index": 0,
  "path": "/HomeDirectory/EngDomain",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Re-order a CIFS home directory search path

PATCH /protocols/cifs/home-directory/search-paths/{svm.uuid}/{index}

Introduced In: 9.6

Reorders a CIFS home directory search path.

Related ONTAP commands

- `cifs server home-directory search-path reorder`

Learn more

- [DOC /protocols/cifs/home-directory/search-paths](#)

Parameters

Name	Type	In	Required	Description
index	integer	path	True	Home directory search path index
new_index	integer	query	False	New position for the home directory search path
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655463	Failed to reorder the search-path because the new-index is invalid. It cannot be '0' and it cannot go beyond the current entries

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage local groups

Manage local groups

Overview

The CIFS server can use local groups for authorization when determining share, file and directory access rights. You can use this API to display local group information and to control local group configurations.

Retrieving local group information

The local group GET endpoint retrieves all of the local groups configurations for data SVMs.

Examples

Retrieving all of the fields for all of the local group configurations

The local group GET endpoint retrieves all of the local groups configurations for data SVMs.

```
# The API:
/api/protocols/cifs/local-groups

# The call:
```

```

curl -X GET "https://<mgmt-ip>/api/protocols/cifs/local-groups?fields=**"
-H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "b009a9e7-4081-b576-7575-ada21efcaf16",
        "name": "vs1"
      },
      "sid": "S-1-5-32-544",
      "name": "BUILTIN\\Administrators",
      "description": "Built-in Administrators group",
      "members": [
        {
          "name": "CIFS_SERVER\\Administrator"
        },
        {
          "name": "AD_DOMAIN\\Domain Admins"
        }
      ]
    },
    {
      "svm": {
        "uuid": "b009a9e7-4081-b576-7575-ada21efcaf16",
        "name": "vs1"
      },
      "sid": "S-1-5-32-545",
      "name": "BUILTIN\\Users",
      "description": "All users",
      "members": [
        {
          "name": "AD_DOMAIN\\Domain Users"
        }
      ]
    },
    {
      "svm": {
        "uuid": "b009a9e7-4081-b576-7575-ada21efcaf16",
        "name": "vs1"
      },
      "sid": "S-1-5-32-546",
      "name": "BUILTIN\\Guests",
      "description": "Built-in Guests Group",
      "members": [

```

```

    {
      "name": "SACHILDAP02\\Domain Guests"
    }
  ]
},
{
  "svm": {
    "uuid": "b009a9e7-4081-b576-7575-ada21efcaf16",
    "name": "vs1"
  },
  "sid": "S-1-5-32-547",
  "name": "BUILTIN\\Power Users",
  "description": "Restricted administrative privileges"
},
{
  "svm": {
    "uuid": "b009a9e7-4081-b576-7575-ada21efcaf16",
    "name": "vs1"
  },
  "sid": "S-1-5-32-551",
  "name": "BUILTIN\\Backup Operators",
  "description": "Backup Operators group"
},
{
  "svm": {
    "uuid": "b009a9e7-4081-b576-7575-ada21efcaf16",
    "name": "vs1"
  },
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "name": "CIFS_SERVER\\group2",
  "description": "local group2"
},
{
  "svm": {
    "uuid": "5060077c-5be6-11eb-90b7-0050568e5169",
    "name": "vs2"
  },
  "sid": "S-1-5-32-544",
  "name": "BUILTIN\\Administrators",
  "description": "Built-in Administrators group",
  "members": [
    {
      "name": "VS2.CIFS\\Administrator"
    },
    {
      "name": "VS2.CIFS\\user3"
    }
  ]
}

```

```

    },
    {
      "name": "SACHILDAP02\\Domain Admins"
    }
  ]
},
{
  "svm": {
    "uuid": "5060077c-5be6-11eb-90b7-0050568e5169",
    "name": "vs2"
  },
  "sid": "S-1-5-32-545",
  "name": "BUILTIN\\Users",
  "description": "All users",
  "members": [
    {
      "name": "SACHILDAP02\\Domain Users"
    }
  ]
},
{
  "svm": {
    "uuid": "5060077c-5be6-11eb-90b7-0050568e5169",
    "name": "vs2"
  },
  "sid": "S-1-5-32-546",
  "name": "BUILTIN\\Guests",
  "description": "Built-in Guests Group",
  "members": [
    {
      "name": "SACHILDAP02\\Domain Guests"
    }
  ]
},
{
  "svm": {
    "uuid": "5060077c-5be6-11eb-90b7-0050568e5169",
    "name": "vs2"
  },
  "sid": "S-1-5-32-547",
  "name": "BUILTIN\\Power Users",
  "description": "Restricted administrative privileges"
},
{
  "svm": {
    "uuid": "5060077c-5be6-11eb-90b7-0050568e5169",

```

```

    "name": "vs2"
  },
  "sid": "S-1-5-32-551",
  "name": "BUILTIN\\Backup Operators",
  "description": "Backup Operators group"
},
{
  "svm": {
    "uuid": "5060077c-5be6-11eb-90b7-0050568e5169",
    "name": "vs2"
  },
  "sid": "S-1-5-21-1625922807-3304708894-3529444428-1001",
  "name": "CIFS_SERVER\\group1",
  "description": "local group1"
}
],
"num_records": 12
}

```

Retrieving a local group configuration of a specific SVM and group

```

# The API:
/api/protocols/cifs/local-groups/{svm.uuid}/{sid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/local-groups/25b363a6-2971-11eb-88e1-0050568eefd4/S-1-5-21-256008430-3394229847-3930036330-1001"
-H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
    "name": "vs1"
  },
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "name": "CIFS_SERVER\\group1",
  "description": "local group"
}

```

Creating a local group configuration

The local group POST endpoint creates a local group configuration for the specified SVM.

Example

```
# The API:
/api/protocols/cifs/local-groups

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/local-groups" -H
"accept: application/json" -H "Content-Type: application/json" -d '{
"svm": {"uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1"}, "name":
"group1"}'
```

Updating a local group configuration

The local group PATCH endpoint updates the name and description of the specified local group and the specified SVM.

Example

Update the local group name from 'group1' to 'group2'

```
# The API:
/api/protocols/local-groups/{svm.uuid}/{sid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/local-groups/179d3c85-
7053-11e8-b9b8-005056b41bd1/S-1-5-21-256008430-3394229847-3930036330-1257"
-H "accept: application/json" -H "Content-Type: application/json" -d '{
"name": "group2", "description": "local group"}'
```

Deleting a local group configuration

The local group DELETE endpoint deletes the specified local group of the specified SVM.

Example

Delete the local group 'group1'

```
# The API:
/api/protocols/cifs/local-groups/{svm.uuid}/{sid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/local-
groups/179d3c85-7053-11e8-b9b8-005056b41bd1/S-1-5-21-256008430-3394229847-
3930036330-1001" -H "accept: application/json"
```

Retrieve local groups for all SVMs

GET /protocols/cifs/local-groups

Introduced In: 9.9

Retrieves the local groups for all of the SVMs.

Advanced properties

- members

Related ONTAP commands

- `vserver cifs users-and-groups local-group show`
- `vserver cifs users-and-groups local-group show-members`

Learn more

- [DOC /protocols/cifs/local-groups](#)

Parameters

Name	Type	In	Required	Description
sid	string	query	False	Filter by sid Introduced in: 9.10
members.name	string	query	False	Filter by members.name
name	string	query	False	Filter by name minLength: 1
description	string	query	False	Filter by description maxLength: 256
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of local group records.
records	array[local_cifs_group]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "description": "This is a local group",
      "members": [
        {
          "name": "string"
        }
      ],
      "name": "SMB_SERVER01\\group",
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

members

Name	Type	Description
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_group

Name	Type	Description
_links	_links	

Name	Type	Description
description	string	Description for the local group.
members	array[members]	
name	string	Local group name. The maximum supported length of a group name is 256 characters.
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create the local group configuration for an SVM

POST /protocols/cifs/local-groups

Introduced In: 9.9

Creates the local group configuration for the specified SVM.

Important notes

- The group name can contain up to 256 characters.
- The group name cannot be terminated by a period.
- The group name does not support any of the following characters: " / ? [] , : \ | < > + = ; ? * @ or ASCII characters in the range 1-31.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the local group.
- `name` - Name of the local group.

Related ONTAP commands

- `vserver cifs users-and-groups local-group create`

Learn more

- [DOC /protocols/cifs/local-groups](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
description	string	Description for the local group.
members	array[members]	
name	string	Local group name. The maximum supported length of a group name is 256 characters.
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "description": "This is a local group",
  "members": [
    {
      "name": "string"
    }
  ],
  "name": "SMB_SERVER01\\group",
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262278	Name is a required field.
655399	CIFS server must exist to create a local group.

Error Code	Description
655660	The operation is allowed only on data SVMs.
655661	The group name and description should not exceed 256 characters.
655668	The specified group name contains illegal characters.
655675	The local domain name specified in the group name does not exist.
655677	This operation does not allow for the creation of a group in the BUILTIN domain.
655682	The group name cannot be blank.
655717	The specified group name already exists.
2621706	The specified SVM UUID is incorrect for the specified SVM name.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

members

Name	Type	Description
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_group

Name	Type	Description
description	string	Description for the local group.
members	array[members]	
name	string	Local group name. The maximum supported length of a group name is 256 characters.
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a local group configuration for an SVM

```
DELETE /protocols/cifs/local-groups/{svm.uuid}/{sid}
```

Introduced In: 9.10

Deletes a local group configuration for the specified SVM.

Related ONTAP commands

- `vserver cifs users-and-groups local-group delete`

Learn more

- [DOC /protocols/cifs/local-groups](#)

Parameters

Name	Type	In	Required	Description
sid	string	path	True	Local group SID

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve local group information for a group and SVM

GET /protocols/cifs/local-groups/{svm.uuid}/{sid}

Introduced In: 9.10

Retrieves local group information for the specified group and SVM.

Advanced properties

- members

Related ONTAP commands

- `vserver cifs users-and-groups local-group show`
- `vserver cifs users-and-groups local-group show-members`

Learn more

- [DOC /protocols/cifs/local-groups](#)

Parameters

Name	Type	In	Required	Description
sid	string	path	True	Local group SID
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
description	string	Description for the local group.
members	array[members]	
name	string	Local group name. The maximum supported length of a group name is 256 characters.
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "description": "This is a local group",
  "members": [
    {
      "name": "string"
    }
  ],
  "name": "SMB_SERVER01\\group",
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

members

Name	Type	Description
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update local group information for a group in an SVM

PATCH /protocols/cifs/local-groups/{svm.uuid}/{sid}

Introduced In: 9.10

Updates the local group information of the specified group in the specified SVM. This API can also be used to rename a local group.

Related ONTAP commands

- `vserver cifs users-and-groups local-group modify`
- `vserver cifs users-and-groups local-group rename`

Learn more

- [DOC /protocols/cifs/local-groups](#)

Parameters

Name	Type	In	Required	Description
sid	string	path	True	Local group SID
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
description	string	Description for the local group.
members	array[members]	

Name	Type	Description
name	string	Local group name. The maximum supported length of a group name is 256 characters.
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "description": "This is a local group",
  "members": [
    {}
  ],
  "name": "SMB_SERVER01\\group",
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655661	The group name and description should not exceed 256 characters.

Error Code	Description
655668	The specified group name contains illegal characters.
655675	The local domain name specified in the group name does not exist.
655682	The group name cannot be blank.
655712	To rename an existing group, the local domain specified in name must match the local domain of the group to be renamed.
655713	Failed to rename a group. The error code returned details the failure along with the reason for the failure. Take corrective actions as per the specified reason.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

members

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_group

Name	Type	Description
description	string	Description for the local group.
members	array[members]	
name	string	Local group name. The maximum supported length of a group name is 256 characters.
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage local group members

Manage local group members

Overview

You can use this API to display local group members and to add or delete local users, Active Directory users and/or Active Directory groups to a local group of an SVM.

Examples

Retrieving the members of a specific local group

```
# The API:
/api/protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/local-groups/2ebec9c7-28be-11eb-95f4-0050568ed0a2/S-1-5-21-256008430-3394229847-3930036330-1257/members" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "name": "CIFS_SERVER1\\user1"
    },
    {
      "name": "CIFS_SERVER1\\user2"
    }
  ],
  "num_records": 2
}
```

Adding members to a local group

The local group members POST endpoint adds local users, Active Directory users and/or Active Directory groups to the specified local group and the SVM.

Adding local users to a group

```
# The API:
/api/protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/local-groups/179d3c85-7053-11e8-b9b8-005056b41bd1/S-1-5-21-256008430-3394229847-3930036330-1001/members" -H "accept: application/json" -H "Content-Type: application/json" -d '{ "records": [ { "name": "user1" }, { "name": "user2" } ] }'
```

Deleting local users from the local group of a specific SVM

Example

Delete the local users 'user1' and 'user2' from the specified local group

```
# The API:
/api/protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/local-
groups/179d3c85-7053-11e8-b9b8-005056b41bd1/S-1-5-21-256008430-3394229847-
3930036330-1001/members" -H "accept: application/json" -d '{ "records": [
{ "name": "user1"}, { "name": "user2"} ] }'
```

Delete local users or Active Directory users and groups from a local group and SVM

DELETE /protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members

Introduced In: 9.10

Deletes the local users, Active Directory users and/or Active Directory groups from the specified local group and SVM.

Related ONTAP commands

- `vserver cifs users-and-groups local-group remove-members`

Learn more

- [DOC /protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members](#)

Parameters

Name	Type	In	Required	Description
local_cifs_group.sid	string	path	True	Local group SID
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
local_cifs_group	local_cifs_group	

Name	Type	Description
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.
records	array[records]	An array of local users, Active Directory users, and Active Directory groups specified to add or delete multiple members to or from a local group in a single API call. Not allowed when the name property is used.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "local_cifs_group": {
    "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
  },
  "name": "string",
  "records": [
    {
      "name": "string"
    }
  ],
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default, Error ontap error response codes | error code | description | | ----- | ----- | | 655673 | failed to resolve the member to be deleted from the specified group. | | 655719 | failed to delete a member from the specified group. the error code returned details the failure along with the reason for the failure. take corrective actions as per the specified reason. | | 655742 | records must not be specified when member name is specified. | | 655743 | svm uuid and cifs local group sid are invalid fields for the "records" parameter. |

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

local_cifs_group

Name	Type	Description
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.

records

Name	Type	Description
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_group_members

Name	Type	Description
local_cifs_group	local_cifs_group	
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.
records	array[records]	An array of local users, Active Directory users, and Active Directory groups specified to add or delete multiple members to or from a local group in a single API call. Not allowed when the <code>name</code> property is used.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve local users and Active Directory users and groups that belong to a local group and SVM

GET /protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members

Introduced In: 9.10

Retrieves local users, Active Directory users and Active Directory groups which are members of the specified local group and SVM.

Related ONTAP commands

- `vserver cifs users-and-groups local-group show-members`

Learn more

- [DOC /protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members](#)

Parameters

Name	Type	In	Required	Description
local_cifs_group.sid	string	path	True	Local group SID
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Name	Type	In	Required	Description
desc] direction. Default direction is 'asc' for ascending.	svm.uuid	string	path	True
UUID of the SVM to which this object belongs.	fields	array[string]	query	False

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of local group records.
records	array[local_cifs_group_members]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "local_cifs_group": {
        "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
      },
      "name": "string",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

local_cifs_group

Name	Type	Description
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.

records

Name	Type	Description
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_group_members

Name	Type	Description
local_cifs_group	local_cifs_group	
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Add local users and Active Directory users and groups to a local group and SVM

POST /protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members

Introduced In: 9.10

Adds local users, Active Directory users and Active Directory groups to the specified local group and SVM.

Important note

- Specified members are appended to the existing list of members.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM for which members are added to local group.
- `local_cifs_group.sid` - Security ID of the local group to which members are added.
- `name` or `records` - Local users, Active Directory users, or Active Directory groups to be added to a particular local group.

Related ONTAP commands

- `vserver cifs users-and-groups local-group add-members`

Learn more

- [DOC /protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members](#)

Parameters

Name	Type	In	Required	Description
<code>local_cifs_group.sid</code>	string	path	True	Local group SID
<code>return_records</code>	boolean	query	False	The default is false. If set to true, the records are returned. Default value:
<code>svm.uuid</code>	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
<code>local_cifs_group</code>	local_cifs_group	

Name	Type	Description
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.
records	array[records]	An array of local users, Active Directory users, and Active Directory groups specified to add or delete multiple members to or from a local group in a single API call. Not allowed when the name property is used.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "local_cifs_group": {
    "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
  },
  "name": "string",
  "records": [
    {
      "name": "string"
    }
  ],
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655673	Failed to resolve the member to be added to the specified group.
655718	Failed to add a member to the specified group. The error code returned details the failure along with the reason for the failure. Take corrective actions as per the specified reason.
655742	Records must not be specified when member name is specified.
655743	SVM UUID and CIFS local group SID are invalid fields for the "records" parameter.
655744	Either name or records must be specified.

Definitions

See Definitions

local_cifs_group

Name	Type	Description
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.

records

Name	Type	Description
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_group_members

Name	Type	Description
local_cifs_group	local_cifs_group	

Name	Type	Description
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.
records	array[records]	An array of local users, Active Directory users, and Active Directory groups specified to add or delete multiple members to or from a local group in a single API call. Not allowed when the name property is used.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a local user, or Active Directory user or group from a local group and SVM

```
DELETE /protocols/cifs/local-
groups/{svm.uuid}/{local_cifs_group.sid}/members/{name}
```

Introduced In: 9.10

Deletes the local user, Active Directory user and/or Active Directory group from the specified local group and SVM.

Related ONTAP commands

- `vserver cifs users-and-groups local-group remove-members`

Learn more

- [DOC /protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members](#)

Parameters

Name	Type	In	Required	Description
local_cifs_group.sid	string	path	True	Local group SID
name	string	path	True	Member name
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default, Error ontap error response codes | error code | description | | ----- | ----- | | 655673 | failed to resolve the member to be deleted from the specified group. | | 655719 | failed to delete a member from the specified group. the error code returned details the failure along with the reason for the failure. take corrective actions as per the specified reason. |

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a local user, Active Directory user or group belonging to a local group and SVM

GET /protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members/{name}

Introduced In: 9.10

Retrieves local user, Active Directory user and Active Directory group which is member of the specified local group and SVM.

Related ONTAP commands

- `vserver cifs users-and-groups local-group show-members`

Learn more

- [DOC /protocols/cifs/local-groups/{svm.uuid}/{local_cifs_group.sid}/members](#)

Parameters

Name	Type	In	Required	Description
local_cifs_group.sid	string	path	True	Local group SID
name	string	path	True	Member name
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
local_cifs_group	local_cifs_group	
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "local_cifs_group": {
    "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
  },
  "name": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```


See Definitions

local_cifs_group

Name	Type	Description
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.

records

Name	Type	Description
name	string	Local user, Active Directory user, or Active Directory group which is a member of the specified local group.

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage local users

Manage local users

Overview

The CIFS server can use local users for CIFS authentication. The local users can also be used for authorization when determining both share and file/directory access rights to data residing on the storage virtual machine (SVM). You can use this API to display local user information and to control local user configurations.

Retrieving local user information

You can use the local user GET endpoint to retrieve all of the local user configurations for data SVMs.

Examples

Retrieving all of the fields for local user configurations for all SVMs

```
# The API:
/api/protocols/cifs/local-users

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/local-users?fields=*"
-H "accept: application/json"
```

```
# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
        "name": "vs1"
      },
      "sid": "S-1-5-21-256008430-3394229847-3930036330-500",
      "name": "CIFS_SERVER1\\Administrator",
      "full_name": "",
      "description": "Built-in administrator account",
      "account_disabled": false,
      "membership": [
        {
          "name": "BUILTIN\\Administrators",
          "sid": "S-1-5-32-544"
        }
      ]
    },
    {
      "svm": {
        "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
        "name": "vs1"
      },
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
      "name": "CIFS_SERVER1\\user1",
      "full_name": "local user1",
      "description": "This is CIFS local user",
      "account_disabled": false
    },
    {
      "svm": {
        "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
        "name": "vs1"
      },
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1002",
      "name": "CIFS_SERVER1\\user2",
      "full_name": "local user2",
      "description": "This is CIFS local user",
      "account_disabled": false,
      "membership": [
        {
          "name": "CIFS_SERVER1\\grp1",
          "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
        }
      ],
    }
  ]
}
```

```

    {
      "name": "CIFS_SERVER1\\grp2",
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1002"
    }
  ],
  {
    "svm": {
      "uuid": "3f479a01-2971-11eb-88e1-0050568eefd4",
      "name": "vs2"
    },
    "sid": "S-1-5-21-1625922807-3304708894-3529444428-500",
    "name": "CIFS_SERVER2\\Administrator",
    "full_name": "",
    "description": "Built-in administrator account",
    "account_disabled": false,
    "membership": [
      {
        "name": "BUILTIN\\Administrators",
        "sid": "S-1-5-32-544"
      }
    ]
  },
  {
    "svm": {
      "uuid": "3f479a01-2971-11eb-88e1-0050568eefd4",
      "name": "vs2"
    },
    "sid": "S-1-5-21-1625922807-3304708894-3529444428-1001",
    "name": "CIFS_SERVER2\\user1",
    "full_name": "local user1",
    "description": "This is CIFS local user",
    "account_disabled": false
  }
],
"num_records": 5
}

```

Retrieving the local user configuration of a specific SVM

```

# The API:
/api/protocols/cifs/local-users

```

```
# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/local-
users?svm.uuid=25b363a6-2971-11eb-88e1-0050568eefd4&fields=*" -H "accept:
application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
        "name": "vs1"
      },
      "sid": "S-1-5-21-256008430-3394229847-3930036330-500",
      "name": "CIFS_SERVER1\\Administrator",
      "full_name": "",
      "description": "Built-in administrator account",
      "account_disabled": false,
      "membership": [
        {
          "name": "BUILTIN\\Administrators",
          "sid": "S-1-5-32-544"
        }
      ]
    },
    {
      "svm": {
        "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
        "name": "vs1"
      },
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
      "name": "CIFS_SERVER1\\user1",
      "full_name": "local user1",
      "description": "This is CIFS local user",
      "account_disabled": false
    },
    {
      "svm": {
        "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
        "name": "vs1"
      },
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1002",
      "name": "CIFS_SERVER1\\user2",
      "full_name": "local user2",
      "description": "This is CIFS local user",

```

```

    "account_disabled": false,
    "membership": [
      {
        "name": "CIFS_SERVER1\\grp1",
        "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
      },
      {
        "name": "CIFS_SERVER1\\grp2",
        "sid": "S-1-5-21-256008430-3394229847-3930036330-1002"
      }
    ]
  },
],
"num_records": 3
}

```

Retrieving a local user configuration of a specific SVM and user

```

# The API:
/api/protocols/cifs/local-users/{svm.uuid}/{sid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/local-users/25b363a6-2971-11eb-88e1-0050568eefd4/S-1-5-21-1625922807-3304708894-3529444428-1001" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
    "name": "vs1"
  },
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "name": "CIFS_SERVER1\\user1",
  "full_name": "local user1",
  "description": "This is CIFS local user",
  "account_disabled": false
}

```


Creating a local user configuration

The local user POST endpoint creates a local user configuration for the specified SVM.

Examples

Creating a local user configuration with all fields specified

```
# The API:
/api/protocols/cifs/local-users

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/local-users" -H
"accept: application/json" -H "Content-Type: application/json" -d "{
\"account_disabled\": false, \"description\": \"This is local user.\",
\"full_name\": \"user name\", \"name\": \"SMB_SERVER01\\\\\\\\user\",
\"password\": \"netapp1N\", \"svm\": { \"name\": \"vs1\", \"uuid\":
\"25b363a6-2971-11eb-88e1-0050568eefd4\" }}"
```

Creating a local user configuration with only mandatory fields specified

```
# The API:
/api/protocols/cifs/local-users

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/local-users" -H
"accept: application/json" -d "{ \"name\": \"user1\", \"password\":
\"netapp1N\", \"svm\": { \"uuid\": \"25b363a6-2971-11eb-88e1-
0050568eefd4\" }}"
```

Updating a local user configuration

The local user PATCH endpoint updates the local user configuration for the specified user and SVM.

Updating a local user name and password

```
# The API:
/api/protocols/cifs/local-users/{svm.uuid}/{sid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/local-users/25b363a6-2971-11eb-88e1-0050568eefd4/S-1-5-21-1625922807-3304708894-3529444428-1001" -H "accept: application/json" -d "{ \"name\": \"new_user1\", \"password\": \"netapplNet\" }"
```

Deleting a local user configuration

The local user DELETE endpoint deletes the specified local user for the specified SVM. The following example shows a DELETE operation:

```
# The API:
/api/protocols/cifs/local-users/{svm.uuid}/{sid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/local-users/25b363a6-2971-11eb-88e1-0050568eefd4/S-1-5-21-1625922807-3304708894-3529444428-1001" -H "accept: application/json"
```

Retrieve local users for all SVMs

GET /protocols/cifs/local-users

Introduced In: 9.9

Retrieves local users for all of the SVMs. Local groups to which this user belongs to are also displayed.

Advanced properties

- membership

Related ONTAP commands

- vserver cifs users-and-groups local-user show
- vserver cifs users-and-groups local-user show-membership

Learn more

- [DOC /protocols/cifs/local-users](#)

Parameters

Name	Type	In	Required	Description
name	string	query	False	Filter by name • minLength: 1
description	string	query	False	Filter by description • maxLength: 256
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
sid	string	query	False	Filter by sid • Introduced in: 9.10
full_name	string	query	False	Filter by full_name • maxLength: 256
account_disabled	boolean	query	False	Filter by account_disabled
membership.sid	string	query	False	Filter by membership.sid • Introduced in: 9.10
membership.name	string	query	False	Filter by membership.name • minLength: 1
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of local user records.
records	array[local_cifs_user]	

Example response

```

{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "description": "This is local user.",
      "full_name": "user name",
      "membership": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "SMB_SERVER01\\group",
          "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
        }
      ],
      "name": "SMB_SERVER01\\user",
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

membership

Name	Type	Description
_links	_links	
name	string	Local group name. The maximum supported length of a group name is 256 characters.
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_user

Name	Type	Description
_links	_links	
account_disabled	boolean	Indicates whether the user account is enabled or disabled.
description	string	Description for the local user.
full_name	string	User's full name.
membership	array[membership]	Specifies local groups of which this local user is a member.
name	string	Local user name. The maximum supported length of an user name is 20 characters.
sid	string	The security ID of the local user which uniquely identifies the user. The user SID is automatically generated in POST and it is retrieved using the GET method.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments

Name	Type	Description
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create the local user configuration for an SVM

POST /protocols/cifs/local-users

Introduced In: 9.9

Creates the local user configuration for an SVM.

Important notes

- The user name can contain up to 20 characters.
- The user name cannot be terminated by a period.
- The user name does not support any of the following characters: " / ? [] , : \ | < > + = ; ? * @ or ASCII characters in the range 1-31.
- The password must be at least six characters in length and must not contain the user account name.
- The password must contain characters from three of the following four categories:
 - English uppercase characters (A through Z)
 - English lowercase characters (a through z)
 - Base 10 digits (0 through 9)
 - Special characters: ~ ! @ # 0 ^ & * _ - + = ` ? \ | () [] ; ; " ' < > , . ? /

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the local user.
- `name` - Name of the local user.
- `password` - Password for the local user.

Default property values

If not specified in POST, the following default property value is assigned:

- `account_disabled` - false

Related ONTAP commands

- `vserver cifs users-and-groups local-user create`

Learn more

- [DOC /protocols/cifs/local-users](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
account_disabled	boolean	Indicates whether the user account is enabled or disabled.
description	string	Description for the local user.
full_name	string	User's full name.
membership	array[membership]	Specifies local groups of which this local user is a member.
name	string	Local user name. The maximum supported length of an user name is 20 characters.
password	string	Password for the local user.
sid	string	The security ID of the local user which uniquely identifies the user. The user SID is automatically generated in POST and it is retrieved using the GET method.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "description": "This is local user.",
  "full_name": "user name",
  "membership": [
    {
      "name": "SMB_SERVER01\\group",
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
    }
  ],
  "name": "SMB_SERVER01\\user",
  "password": "string",
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of local user records.
records	array[local_cifs_user]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "description": "This is local user.",
      "full_name": "user name",
      "membership": [
        {
          "name": "SMB_SERVER01\\group",
          "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
        }
      ],
      "name": "SMB_SERVER01\\user",
      "password": "string",
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262278	Name and password are required fields.
655399	CIFS server must exist to create a local user.
655660	The operation is allowed only on data SVMs.

Error Code	Description
655661	The user name should not exceed 20 characters. Also full_name and description should not exceed 256 characters.
655665	The user name must not match the CIFS server name of the specified SVM.
655668	The specified user name contains illegal characters.
655675	The local domain name specified in user name doesn't exist.
655682	The user name cannot be blank.
655733	The password does not meet the password complexity requirements.
655736	The specified user name already exists.
2621706	The specified SVM UUID is incorrect for the specified SVM name.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

membership

Name	Type	Description
name	string	Local group name. The maximum supported length of a group name is 256 characters.
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_user

Name	Type	Description
account_disabled	boolean	Indicates whether the user account is enabled or disabled.
description	string	Description for the local user.
full_name	string	User's full name.

Name	Type	Description
membership	array[membership]	Specifies local groups of which this local user is a member.
name	string	Local user name. The maximum supported length of an user name is 20 characters.
password	string	Password for the local user.
sid	string	The security ID of the local user which uniquely identifies the user. The user SID is automatically generated in POST and it is retrieved using the GET method.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete the local user configuration for an SVM

```
DELETE /protocols/cifs/local-users/{svm.uuid}/{sid}
```

Introduced In: 9.10

Deletes a local user configuration for the specified SVM.

Related ONTAP commands

- `vserver cifs users-and-groups local-user delete`

Learn more

- [DOC /protocols/cifs/local-users](#)

Parameters

Name	Type	In	Required	Description
sid	string	path	True	Local user SID
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655735	The local Administrator account cannot be deleted.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve the local user information for a user and SVM

GET /protocols/cifs/local-users/{svm.uuid}/{sid}

Introduced In: 9.10

Retrieves local user information for the specified user and SVM.

Advanced properties

- `membership`

Related ONTAP commands

- `vserver cifs users-and-groups local-user show`
- `vserver cifs users-and-groups local-user show-membership`

Learn more

- [DOC /protocols/cifs/local-users](#)

Parameters

Name	Type	In	Required	Description
<code>sid</code>	<code>string</code>	<code>path</code>	True	Local user SID
<code>svm.uuid</code>	<code>string</code>	<code>path</code>	True	UUID of the SVM to which this object belongs.
<code>fields</code>	<code>array[string]</code>	<code>query</code>	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
<code>_links</code>	_links	
<code>account_disabled</code>	<code>boolean</code>	Indicates whether the user account is enabled or disabled.
<code>description</code>	<code>string</code>	Description for the local user.
<code>full_name</code>	<code>string</code>	User's full name.
<code>membership</code>	<code>array[membership]</code>	Specifies local groups of which this local user is a member.

Name	Type	Description
name	string	Local user name. The maximum supported length of an user name is 20 characters.
sid	string	The security ID of the local user which uniquely identifies the user. The user SID is automatically generated in POST and it is retrieved using the GET method.
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "description": "This is local user.",
  "full_name": "user name",
  "membership": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "SMB_SERVER01\\group",
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
    },
    {
      "name": "SMB_SERVER01\\user",
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

membership

Name	Type	Description
_links	_links	
name	string	Local group name. The maximum supported length of a group name is 256 characters.
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update the local user information for a user and SVM

PATCH /protocols/cifs/local-users/{svm.uuid}/{sid}

Introduced In: 9.10

Updates local user information for the specified user and SVM. The PATCH endpoint is also used to rename a user and to set the password for the user.

Related ONTAP commands

- `vserver cifs users-and-groups local-user modify`
- `vserver cifs users-and-groups local-user rename`
- `vserver cifs users-and-groups local-user set-password`

Learn more

- [DOC /protocols/cifs/local-users](#)

Parameters

Name	Type	In	Required	Description
sid	string	path	True	Local user SID
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
account_disabled	boolean	Indicates whether the user account is enabled or disabled.
description	string	Description for the local user.
full_name	string	User's full name.
membership	array[membership]	Specifies local groups of which this local user is a member.
name	string	Local user name. The maximum supported length of an user name is 20 characters.
password	string	Password for the local user.
sid	string	The security ID of the local user which uniquely identifies the user. The user SID is automatically generated in POST and it is retrieved using the GET method.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "description": "This is local user.",
  "full_name": "user name",
  "membership": [
    {
      "name": "SMB_SERVER01\\group",
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001"
    }
  ],
  "name": "SMB_SERVER01\\user",
  "password": "string",
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655661	The user name should not exceed 20 characters. Also full_name and description should not exceed 256 characters.
655668	The specified user name contains illegal characters.
655675	The local domain name specified in the user name does not exist.
655682	The user name cannot be blank.
655732	Failed to rename a user. The error code returned details the failure along with the reason for the failure. Take corrective actions as per the specified reason.

Error Code	Description
655733	The specified password does not meet the password complexity requirements.
655737	To rename an existing user, the local domain specified in name must match the local domain of the user to be renamed.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

membership

Name	Type	Description
name	string	Local group name. The maximum supported length of a group name is 256 characters.
sid	string	The security ID of the local group which uniquely identifies the group. The group SID is automatically generated in POST and it is retrieved using the GET method.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_user

Name	Type	Description
account_disabled	boolean	Indicates whether the user account is enabled or disabled.
description	string	Description for the local user.
full_name	string	User's full name.

Name	Type	Description
membership	array[membership]	Specifies local groups of which this local user is a member.
name	string	Local user name. The maximum supported length of an user name is 20 characters.
password	string	Password for the local user.
sid	string	The security ID of the local user which uniquely identifies the user. The user SID is automatically generated in POST and it is retrieved using the GET method.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View NetBIOS information

View NetBIOS information

Displays information about NBT connections for the cluster. Displays the IP address associated with the interfaces, the IP addresses of the WINS servers in use, and information about the registered NetBIOS names

for the cluster. You can use this command to troubleshoot NetBIOS name resolution problems.

Examples

Retrieving full CIFS NetBIOS information for all SVMs in the cluster

```
# The API:
GET /api/protocols/cifs/netbios

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/cifs/netbios?return_timeout=15&fields=*&return_records=t
rue" -H "accept: application/json" -H "authorization: Basic
<CREDENTIALS>"

# The response:
{
  "records": [
    {
      "node": {
        "uuid": "c2179c2c-777f-11ec-95a1-1315568ef5fd",
        "name": "vsim2"
      },
      "svm": {
        "name": "vs1",
        "uuid": "99a3bd71-777f-11ec-95a1-1315568ef5fd"
      },
      "name": "CIFSERVER2",
      "interfaces": [
        "172.10.144.44"
      ],
      "wins_servers": [
        {
          "ip": "10.10.10.10",
          "state": "inactive"
        }
      ],
      "scope": "group",
      "mode": "h",
      "state": "broadcast",
      "time_left": 0,
      "name_registration_type": "",
      "suffix": "00"
    },
    {
```

```
"node": {
  "uuid": "c2179c2c-777f-11ec-95a1-1315568ef5fd",
  "name": "vsim2"
},
"svm": {
  "name": "vs1",
  "uuid": "99a3bd71-777f-11ec-95a1-1315568ef5fd"
},
"name": "CIFSERVER2",
"interfaces": [
  "172.10.144.44"
],
"wins_servers": [
  {
    "ip": "10.10.10.10",
    "state": "inactive"
  }
],
"scope": "",
"mode": "h",
"state": "broadcast",
"time_left": 0,
"name_registration_type": "group",
"suffix": "20"
}
],
"num_records": 2
}
```

Retrieving CIFS NetBIOS Information for a particular SVM

```
# The API:
GET /api/protocols/cifs/netbios

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/cifs/netbios?svm.uuid=45a3bd71-777f-11ec-95a1-
1315568ef5fd&return_timeout=15&fields=*&return_records=true" -H "accept:
application/json" -H "authorization: Basic <CREDENTIALS>"

# The response:
{
  "records": [
    {
      "node": {
        "uuid": "c2179c2c-777f-11ec-95a1-1315568ef5fd",
        "name": "vsim2"
      },
      "svm": {
        "name": "vs1",
        "uuid": "45a3bd71-777f-11ec-95a1-1315568ef5fd"
      },
      "name": "CIFSERVER2",
      "interfaces": [
        "172.10.144.44"
      ],
      "wins_servers": [
        {
          "ip": "10.10.10.10",
          "state": "inactive"
        }
      ],
      "scope": "group",
      "mode": "h",
      "state": "broadcast",
      "time_left": 0,
      "name_registration_type": "",
      "suffix": "00"
    }
  ],
  "num_records": 1
}
```


Retrieve NetBIOS information

GET /protocols/cifs/netbios

Introduced In: 9.11

Retrieves NetBIOS information.

Related ONTAP commands

- `vserver cifs nbtstat`

Learn more

- [DOC /protocols/cifs/netbios](#)

Parameters

Name	Type	In	Required	Description
mode	string	query	False	Filter by mode
name_registration_type	string	query	False	Filter by name_registration_type
time_left	integer	query	False	Filter by time_left
scope	string	query	False	Filter by scope
wins_servers.state	string	query	False	Filter by wins_servers.state
wins_servers.ip	string	query	False	Filter by wins_servers.ip
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
name	string	query	False	Filter by name
state	string	query	False	Filter by state
suffix	string	query	False	Filter by suffix
node.name	string	query	False	Filter by node.name

Name	Type	In	Required	Description
node.uuid	string	query	False	Filter by node.uuid
interfaces	string	query	False	Filter by interfaces
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of Records.
records	array[netbios]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "interfaces": [
        [
          "10.10.10.35"
        ]
      ],
      "mode": "string",
      "name": "CLUSTER_1",
      "name_registration_type": "string",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "scope": "string",
      "state": "string",
      "suffix": "string",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "time_left": 0,
      "wins_servers": [
        {
```

```
        "ip": "10.224.65.20",
        "state": "string"
      }
    ]
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

server

Name	Type	Description
ip	string	Windows Internet Name Server (WINS) address which manages and maps the NetBIOS name of the CIFS server to their network IP addresses. The IP addresses are IPv4 addresses.
state	string	Specifies the state of the WINS server.

netbios

Name	Type	Description
interfaces	array[string]	
mode	string	Specifies the mode in which the NetBIOS name service is configured. The supported values are: • p - Point to Point • h - Hybrid • m - Mixed • b - Broadcast
name	string	Specifies the NetBIOS name.
name_registration_type	string	Specifies the name registration type.
node	node	
scope	string	Specifies the NetBIOS name scope. Scope is used as a name for the set of NetBIOS nodes that participate in a NetBIOS over TCP (NBT) virtual LAN.
state	string	Specifies the registration state of the NetBIOS Name.

Name	Type	Description
suffix	string	Specifies the NetBIOS suffix. A NetBIOS suffix is the 16th character of the 16-character NetBIOS name. The NetBIOS suffix is used by Microsoft Networking software to identify functionality installed on the registered device.
svm	svm	SVM, applies only to SVM-scoped objects.
time_left	integer	Specifies the registration time left with WINS, in minutes.
wins_servers	array[server]	List of WINS

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage CIFS services

Manage CIFS services

Overview

A CIFS server is necessary to provide SMB clients with access to the Storage Virtual Machine (SVM). Before

you begin, the following prerequisites must be in place:

- At least one SVM LIF must exist on the SVM.
- The LIFs must be able to connect to the DNS servers configured on the SVM and to an Active Directory domain controller of the domain to which you want to join the CIFS server.
- The DNS servers must contain the service location records that are needed to locate the Active Directory domain services.
- The cluster time must be synchronized to within five minutes of the Active Directory domain controller.

Performance monitoring

Performance of the SVM can be monitored by the `metric.*` and `statistics.*` properties. These show the performance of the SVM in terms of IOPS, latency and throughput. The `metric.*` properties denote an average whereas `statistics.*` properties denote a real-time monotonically increasing value aggregated across all nodes.

Information on the CIFS server

You must keep the following in mind when creating the CIFS server:

- The CIFS server name might or might not be the same as the SVM name.
- The CIFS server name can be up to 15 characters in length.
- The following characters are not allowed: @ # * () = + [] \ | ; : " , < > \ / ?
- You must use the FQDN when specifying the domain.
- The default is to add the CIFS server machine account to the Active Directory "CN=Computer" object.
- You can choose to add the CIFS server to a different organizational unit (OU) by specifying the "organizational_unit" parameter. When specifying the OU, do not specify the domain portion of the distinguished name; only specify the OU or CN portion of the distinguished name. ONTAP appends the value provided for the required "-domain" parameter onto the value provided for the "-ou" parameter to create the Active Directory distinguished name, which is used when joining the Active Directory domain.
- You can optionally choose to add a text comment of up to 256 characters about the CIFS server. If there is a space in the comment text, you must enclose the entire string in quotation marks.
- You can optionally choose to add a comma-delimited list of one or more NetBIOS aliases for the CIFS server.
- The initial administrative status of the CIFS server is "up".
- The `<i>large-mtu</i>` feature is enabled for the new CIFS server.
- The `<i>multichannel</i>` feature is disabled for the new CIFS server.
- If LDAP is configured with the `use_start_tls` and `session_security` features, the new CIFS server will also have this property set.
- The `security.kdc_encryption` and `security.advertised_kdc_encryptions` fields are mutually exclusive. Use the `advertised_kdc_encryptions` field to specify the encryption types to be advertised to the Key Distribution Center (KDC) server in the Active Directory domain.

Examples

Creating a CIFS server

To create a CIFS server, use the following API. Note the *return_records=true* query parameter used to obtain the newly created entry in the response.

```
# The API:
POST /api/protocols/cifs/services

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/services?return_timeout=10&return_records=true" -H
"accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H
"Content-Type: application/json" -d "{ \"ad_domain\": { \"fqdn\":
\"ontapavc.com\", \"organizational_unit\": \"CN=Computers\", \"password\":
\"<PASSWORD-FOR-USER>\", \"user\": \"administrator\" }, \"comment\":
\"This CIFS Server Belongs to CS Department\", \"default_unix_user\":
\"string\", \"enabled\": true, \"name\": \"CIFS1\", \"netbios\": {
\"aliases\": [ \"ALIAS_1\", \"ALIAS_2\", \"ALIAS_3\" ], \"enabled\":
false, \"wins_servers\": [ \"10.224.65.20\", \"10.224.65.21\" ] },
\"options\": { \"admin_to_root_mapping\": true, \"advanced_sparse_file\":
true, \"copy_offload\": true, \"fake_open\": true, \"fsctl_trim\": true,
\"junction_reparse\": true, \"large_mtu\": true, \"multichannel\": true,
\"null_user_windows_name\": \"string\", \"path_component_cache\": true,
\"referral\": false, \"smb_credits\": 128, \"widelink_reparse_versions\":
[ \"smb1\" ] }, \"security\": { \"encrypt_dc_connection\": false,
\"kdc_encryption\": false, \"restrict_anonymous\": \"no_enumeration\",
\"session_security\": \"none\", \"smb_encryption\": false,
\"smb_signing\": false, \"use_ldaps\": false, \"use_start_tls\": false },
\"svm\": { \"name\": \"vs1\", \"uuid\": \"e0c20d9c-96cd-11eb-97da-
0050568e684d\" } }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "e0c20d9c-96cd-11eb-97da-0050568e684d",
        "name": "vs1"
      },
      "name": "CIFS1",
      "ad_domain": {
        "fqdn": "ONTAPAVC.COM",
        "organizational_unit": "CN=Computers"
      },
    },
  ],
}
```

```

"enabled": true,
"comment": "This CIFS Server Belongs to CS Department",
"security": {
  "restrict_anonymous": "no_enumeration",
  "smb_signing": false,
  "smb_encryption": false,
  "kdc_encryption": false,
  "aes_netlogon_enabled": false,
  "try_ldap_channel_binding": false,
  "referral_enabled": false,
  "lm_compatibility_level": "lm_ntlm_ntlmv2_krb",
  "encrypt_dc_connection": false,
  "use_start_tls": false,
  "session_security": "none",
  "use_ldaps": false
},
"netbios": {
  "aliases": [
    "ALIAS_1",
    "ALIAS_2",
    "ALIAS_3"
  ],
  "wins_servers": [
    "10.224.65.20",
    "10.224.65.21"
  ],
  "enabled": false
},
"default_unix_user": "string",
"options": {
  "advanced_sparse_file": true,
  "referral": false,
  "widelink_reparse_versions": [
    "smb1"
  ],
  "multichannel": true,
  "path_component_cache": true,
  "null_user_windows_name": "string",
  "junction_reparse": true,
  "fsctl_trim": true,
  "large_mtu": true,
  "fake_open": true,
  "smb_credits": 128,
  "admin_to_root_mapping": true,
  "copy_offload": true
}

```

```

    }
  ],
  "job": {
    "uuid": "825a0b4b-9703-11eb-8cc1-0050568e684d",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/825a0b4b-9703-11eb-8cc1-0050568e684d"
      }
    }
  }
}

```

Creating a CIFS server when using AKV

```

# The API:
POST /api/protocols/cifs/services

# The call:
curl -X POST "https://<mgmt-
ip>/api/protocols/cifs/services?return_timeout=10&return_records=true" -H
"accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H
"Content-Type: application/json" -d "{ \"key_vault_uri\":
\"https://testkv.vault.azure.net\", \"client_secret\": \"<CLIENT-SECRET-
ACCESS-KEY>\", \"authentication_method\": \"client_secret\",
\"tenant_id\": \"c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe\", \"client_id\":
\"e959dlb5-5a63-4284-9268-851e30e3eceb\", \"ad_domain\": { \"fqdn\":
\"ontapavc.com\", \"organizational_unit\": \"CN=Computers\", \"user\":
\"administrator\" }, \"comment\": \"This CIFS Server Belongs to CS
Department\", \"default_unix_user\": \"string\", \"enabled\": true,
\"name\": \"CIFS1\", \"netbios\": { \"aliases\": [ \"ALIAS_1\",
\"ALIAS_2\", \"ALIAS_3\" ], \"enabled\": false, \"wins_servers\": [
\"10.224.65.20\", \"10.224.65.21\" ] }, \"options\": {
\"admin_to_root_mapping\": true, \"advanced_sparse_file\": true,
\"copy_offload\": true, \"fake_open\": true, \"fsctl_trim\": true,
\"junction_reparse\": true, \"large_mtu\": true, \"multichannel\": true,
\"null_user_windows_name\": \"string\", \"path_component_cache\": true,
\"referral\": false, \"smb_credits\": 128, \"widelink_reparse_versions\":
[ \"smb1\" ] }, \"security\": { \"encrypt_dc_connection\": false,
\"kdc_encryption\": false, \"restrict_anonymous\": \"no_enumeration\",
\"session_security\": \"none\", \"smb_encryption\": false,
\"smb_signing\": false, \"use_ldaps\": false, \"use_start_tls\": false },
\"svm\": { \"name\": \"vs1\", \"uuid\": \"e0c20d9c-96cd-11eb-97da-

```

```

0050568e684d\" } }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "e0c20d9c-96cd-11eb-97da-0050568e684d",
        "name": "vs1"
      },
      "name": "CIFS1",
      "ad_domain": {
        "fqdn": "ONTAPAVC.COM",
        "organizational_unit": "CN=Computers"
      },
      "enabled": true,
      "comment": "This CIFS Server Belongs to CS Department",
      "security": {
        "restrict_anonymous": "no_enumeration",
        "smb_signing": false,
        "smb_encryption": false,
        "kdc_encryption": false,
        "aes_netlogon_enabled": false,
        "try_ldap_channel_binding": false,
        "referral_enabled": false,
        "lm_compatibility_level": "lm_ntlm_ntlmv2_krb",
        "encrypt_dc_connection": false,
        "use_start_tls": false,
        "session_security": "none",
        "use_ldaps": false
      },
      "netbios": {
        "aliases": [
          "ALIAS_1",
          "ALIAS_2",
          "ALIAS_3"
        ],
        "wins_servers": [
          "10.224.65.20",
          "10.224.65.21"
        ],
        "enabled": false
      },
      "default_unix_user": "string",
      "options": {

```

```
    "advanced_sparse_file": true,
    "referral": false,
    "widelink_reparse_versions": [
      "smb1"
    ],
    "multichannel": true,
    "path_component_cache": true,
    "null_user_windows_name": "string",
    "junction_reparse": true,
    "fsctl_trim": true,
    "large_mtu": true,
    "fake_open": true,
    "smb_credits": 128,
    "admin_to_root_mapping": true,
    "copy_offload": true
  }
}
],
"job": {
  "uuid": "825a0b4b-9703-11eb-8cc1-0050568e684d",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/825a0b4b-9703-11eb-8cc1-0050568e684d"
    }
  }
}
}
```

Creating a CIFS server for Hybrid user

```
# The API:
POST /api/protocols/cifs/services

# The call:
curl -X POST "https://<mgmt-
ip>/api/protocols/cifs/services?return_timeout=10&return_records=true" -H
"accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H
"Content-Type: application/json" -d "{ \"auth_user_type\":
\"hybrid_user\", \"client_certificate\": \"certificate added to azure
application\", \"authentication_method\": \"certificate\", \"tenant_id\":
\"c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe\", \"client_id\": \"e959dlb5-5a63-
4284-9268-851e30e3eceb\", \"ad_domain\": { \"fqdn\": \"ontapavc.com\",
\"organizational_unit\": \"CN=Computers\" }, \"comment\": \"This CIFS
Server Belongs to CS Department\", \"enabled\": true, \"name\": \"CIFS1\",
\"svm\": { \"name\": \"vs1\", \"uuid\": \"e0c20d9c-96cd-11eb-97da-
0050568e684d\" } }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "e0c20d9c-96cd-11eb-97da-0050568e684d",
        "name": "vs1"
      },
      "name": "CIFS1",
      "ad_domain": {
        "fqdn": "ONTAPAVC.COM",
        "organizational_unit": "CN=Computers"
      },
      "enabled": true,
      "comment": "This CIFS Server Belongs to CS Department",
    }
  ],
  "job": {
    "uuid": "825a0b4b-9703-11eb-8cc1-0050568e684d",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/825a0b4b-9703-11eb-8cc1-0050568e684d"
      }
    }
  }
}
```

```
# The API:
POST /api/protocols/cifs/services

# The call:
curl -X POST "https://<mgmt-
ip>/api/protocols/cifs/services?return_timeout=120&return_records=true&for
ce=true" -H "accept: application/json" -H "authorization: Basic
<CREDENTIALS>" -H "Content-Type: application/json" -d "{ \"ad_domain\": {
\"fqdn\": \"testdomain.com\", \"organizational_unit\": \"CN=Computers\",
\"password\": \"<PASSWORD-FOR-USER>\", \"user\": \"administrator\" },
\"enabled\": true, \"name\": \"CIFS_server1\", \"security\": {
\"advertised_kdc_encryptions\": [ \"aes-128\" ] }, \"svm\": { \"name\":
\"testvs\", \"uuid\": \"508375d4-fb16-11ee-a792-005056a75b5c\" }}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "508375d4-fb16-11ee-a792-005056a75b5c",
        "name": "testvs"
      },
      "name": "CIFS_SERVER1",
      "domain_workgroup": "TESTDOMAIN",
      "ad_domain": {
        "fqdn": "TESTDOMAIN.COM",
        "organizational_unit": "CN=Computers",
        "default_site": ""
      },
      "enabled": true,
      "comment": "",
      "security": {
        "restrict_anonymous": "no_enumeration",
        "smb_signing": false,
        "smb_encryption": false,
        "kdc_encryption": true,
        "lm_compatibility_level": "lm_ntlm_ntlmv2_krb",
        "aes_netlogon_enabled": false,
        "try_ldap_channel_binding": true,
        "ldap_referral_enabled": false,
        "advertised_kdc_encryptions": [
          "aes_128"
        ]
      }
    }
  ]
}
```



```

    ],
    "encrypt_dc_connection": false,
    "use_start_tls": false,
    "session_security": "none",
    "use_ldaps": false
  },
  "netbios": {
    "wins_servers": [],
    "enabled": false
  },
  "default_unix_user": "pcuser",
  "statistics": {
    "timestamp": "2024-04-16T15:17:41Z",
    "status": "ok",
    "throughput_raw": {
      "read": 0,
      "write": 0,
      "total": 0
    },
    "iops_raw": {
      "read": 0,
      "write": 0,
      "other": 0,
      "total": 0
    },
    "latency_raw": {
      "read": 0,
      "write": 0,
      "other": 0,
      "total": 0
    }
  },
  "options": {
    "advanced_sparse_file": true,
    "referral": false,
    "widelink_reparse_versions": [
      "smb1"
    ],
    "multichannel": false,
    "path_component_cache": true,
    "junction_reparse": true,
    "fsctl_trim": true,
    "large_mtu": true,
    "fake_open": true,
    "smb_credits": 512,
    "admin_to_root_mapping": true,

```

```

        "copy_offload": true,
        "shadowcopy": true,
        "shadowcopy_dir_depth": 5,
        "export_policy_enabled": false
    },
    "group_policy_object_enabled": false
}
],
"job": {
    "uuid": "73eec230-fc04-11ee-a792-005056a75b5c",
    "_links": {
        "self": {
            "href": "/api/cluster/jobs/73eec230-fc04-11ee-a792-005056a75b5c"
        }
    }
}
}
}

```

Retrieving the full CIFS server configuration for all SVMs in the cluster

```

# The API:
GET /api/protocols/cifs/services

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/cifs/services?fields=&return_records=true&return_timeou
t=15" -H "accept: application/json" -H "authorization: Basic
<CREDENTIALS>"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "e0c20d9c-96cd-11eb-97da-0050568e684d",
        "name": "vs1"
      },
      "name": "CIFS1",
      "ad_domain": {
        "fqdn": "ONTAPAVC.COM",
        "organizational_unit": "CN=Computers"
      }
    },

```

```

"enabled": true,
"comment": "This CIFS Server Belongs to CS Department",
"security": {
  "restrict_anonymous": "no_enumeration",
  "smb_signing": false,
  "smb_encryption": false,
  "kdc_encryption": false,
  "aes_netlogon_enabled": false,
  "try_ldap_channel_binding": false,
  "referral_enabled": false,
  "lm_compatibility_level": "lm_ntlm_ntlmv2_krb",
  "encrypt_dc_connection": false,
  "use_start_tls": false,
  "session_security": "none",
  "use_ldaps": false
},
"netbios": {
  "aliases": [
    "ALIAS_1",
    "ALIAS_2",
    "ALIAS_3"
  ],
  "wins_servers": [
    "10.224.65.20",
    "10.224.65.21"
  ],
  "enabled": false
},
"default_unix_user": "string",
"options": {
  "advanced_sparse_file": true,
  "referral": false,
  "widelink_reparse_versions": [
    "smb1"
  ],
  "multichannel": true,
  "path_component_cache": true,
  "null_user_windows_name": "string",
  "junction_reparse": true,
  "fsctl_trim": true,
  "large_mtu": true,
  "fake_open": true,
  "smb_credits": 128,
  "admin_to_root_mapping": true,
  "copy_offload": true
}

```

```
}  
],  
"num_records": 1  
}
```

Retrieving CIFS server configuration details for a specific SVM

```
# The API:  
GET /api/protocols/cifs/services/{svm.uuid}  
  
# The call:  
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/services/e0c20d9c-96cd-11eb-97da-0050568e684d" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>"  
  
# The response:  
{  
  "svm": {  
    "uuid": "e0c20d9c-96cd-11eb-97da-0050568e684d",  
    "name": "vs1"  
  },  
  "name": "CIFS1",  
  "ad_domain": {  
    "fqdn": "ONTAPAVC.COM",  
    "organizational_unit": "CN=Computers"  
  },  
  "enabled": true,  
  "comment": "This CIFS Server Belongs to CS Department",  
  "security": {  
    "restrict_anonymous": "no_enumeration",  
    "smb_signing": false,  
    "smb_encryption": false,  
    "kdc_encryption": false,  
    "aes_netlogon_enabled": false,  
    "try_ldap_channel_binding": false,  
    "referral_enabled": false,  
    "lm_compatibility_level": "lm_ntlm_ntlmv2_krb",  
    "encrypt_dc_connection": false,  
    "use_start_tls": false,  
    "session_security": "none",  
    "use_ldaps": false  
  },  
}
```

```
"netbios": {
  "aliases": [
    "ALIAS_1",
    "ALIAS_2",
    "ALIAS_3"
  ],
  "wins_servers": [
    "10.224.65.20",
    "10.224.65.21"
  ],
  "enabled": false
},
"default_unix_user": "string",
"options": {
  "advanced_sparse_file": true,
  "referral": false,
  "widelink_reparse_versions": [
    "smb1"
  ],
  "multichannel": true,
  "path_component_cache": true,
  "null_user_windows_name": "string",
  "junction_reparse": true,
  "fsctl_trim": true,
  "large_mtu": true,
  "fake_open": true,
  "smb_credits": 128,
  "admin_to_root_mapping": true,
  "copy_offload": true
}
}
```

Updating CIFS server properties for the specified SVM

```
# The API:
PATCH /api/protocols/cifs/services/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/services/e0c20d9c-
96cd-11eb-97da-0050568e684d" -H "accept: application/json" -H
"authorization: Basic <CREDENTIALS>" -H "Content-Type: application/json"
-d "{ \"comment\": \"CIFS SERVER MODIFICATION\"}"
```

Removing a CIFS server for a specific SVM

To delete a CIFS server, use the following API. This will delete the CIFS server along with other CIFS configurations such as CIFS share, share ACLs, homedir search-path, and so on.

```
# The API:
DELETE /api/protocols/cifs/services/{svm.uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/services/e0c20d9c-96cd-11eb-97da-0050568e684d" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H "Content-Type: application/json" -d "{ \"ad_domain\": { \"fqdn\": \"ontapavc.com\", \"organizational_unit\": \"CN=Computers\", \"password\": \"<PASSWORD-FOR-USER>\", \"user\": \"administrator\" }, \"force\": true}"

# The call when using AKV:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/services/e0c20d9c-96cd-11eb-97da-0050568e684d" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H "Content-Type: application/json" -d "{ \"key_vault_uri\": \"https://testkv.vault.azure.net\", \"client_secret\": \"<AWS-SECRET-ACCESS-KEY>\", \"authentication_method\": \"client_secret\", \"tenant_id\": \"c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe\", \"client_id\": \"e959d1b5-5a63-4284-9268-851e30e3eceb\", \"ad_domain\": { \"fqdn\": \"ontapavc.com\", \"organizational_unit\": \"CN=Computers\" , \"user\": \"administrator\" }, \"force\": true}"

# The call when using EntraId:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/services/e0c20d9c-96cd-11eb-97da-0050568e684d" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H "Content-Type: application/json" -d "{ \"auth_user_type\": \"hybrid-user\", \"client_certificate\": \"client_certificate_added_to_azure_application\", \"authentication_method\": \"certificate\", \"tenant_id\": \"c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe\", \"client_id\": \"e959d1b5-5a63-4284-9268-851e30e3eceb\", \"ad_domain\": { \"fqdn\": \"ontapavc.com\", \"organizational_unit\": \"CN=Computers\"}, \"force\": true}"
```

Retrieve CIFS servers

GET /protocols/cifs/services

Introduced In: 9.6

Retrieves CIFS servers.

Expensive properties

There is an added computational cost to retrieving values for these properties. They are not included by default in GET results and must be explicitly requested using the `fields` query parameter. See [Requesting specific](#)

[fields](#) to learn more.

- `statistics.*`
- `metric.*`

Related ONTAP commands

- `vserver cifs server show`
- `vserver cifs server options show`
- `vserver cifs server security show`

Learn more

- [DOC /protocols/cifs/services](#)

Parameters

Name	Type	In	Required	Description
proxy_username	string	query	False	Filter by proxy_username • Introduced in: 9.15
auth_user_type	string	query	False	Filter by auth_user_type • Introduced in: 9.16
security.restrict_anonymous	string	query	False	Filter by security.restrict_anonymous
security.use_ldaps	boolean	query	False	Filter by security.use_ldaps • Introduced in: 9.10
security.smb_signing	boolean	query	False	Filter by security.smb_signing

Name	Type	In	Required	Description
security.ldap_referral_enabled	boolean	query	False	Filter by security.ldap_referral_enabled • Introduced in: 9.10
security.kdc_encryption	boolean	query	False	Filter by security.kdc_encryption
security.aes_netlogon_enabled	boolean	query	False	Filter by security.aes_netlogon_enabled • Introduced in: 9.10
security.session_security	string	query	False	Filter by security.session_security • Introduced in: 9.10
security.try_ldap_channel_binding	boolean	query	False	Filter by security.try_ldap_channel_binding • Introduced in: 9.10
security.use_start_tls	boolean	query	False	Filter by security.use_start_tls • Introduced in: 9.10
security.lm_compatibility_level	string	query	False	Filter by security.lm_compatibility_level • Introduced in: 9.8

Name	Type	In	Required	Description
security.encrypt_dc_connection	boolean	query	False	Filter by security.encrypt_dc_connection • Introduced in: 9.8
security.smb_encryption	boolean	query	False	Filter by security.smb_encryption
security.advertised_kdc_encryptions	string	query	False	Filter by security.advertised_kdc_encryptions • Introduced in: 9.12
proxy_host	string	query	False	Filter by proxy_host • Introduced in: 9.15
client_id	string	query	False	Filter by client_id • Introduced in: 9.15
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
ad_domain.default_site	string	query	False	Filter by ad_domain.default_site • Introduced in: 9.13
ad_domain.fqdn	string	query	False	Filter by ad_domain.fqdn
ad_domain.organizational_unit	string	query	False	Filter by ad_domain.organizational_unit

Name	Type	In	Required	Description
workgroup	string	query	False	Filter by workgroup • Introduced in: 9.15 • maxLength: 15 • minLength: 1
tenant_id	string	query	False	Filter by tenant_id • Introduced in: 9.15
verify_host	boolean	query	False	Filter by verify_host • Introduced in: 9.15
oauth_host	string	query	False	Filter by oauth_host • Introduced in: 9.15
options.widelink_rep arse_versions	string	query	False	Filter by options.widelink_rep arse_versions • Introduced in: 9.10
options.shadowcopy	boolean	query	False	Filter by options.shadowcopy • Introduced in: 9.11
options.max_same_ user_sessions_per_ connection	integer	query	False	Filter by options.max_same_ user_sessions_per_ connection • Introduced in: 9.16

Name	Type	In	Required	Description
options.max_watchers_set_per_tree	integer	query	False	Filter by options.max_watchers_set_per_tree Introduced in: 9.16
options.max_opens_same_file_per_tree	integer	query	False	Filter by options.max_opens_same_file_per_tree Introduced in: 9.16
options.copy_offload	boolean	query	False	Filter by options.copy_offload Introduced in: 9.10
options.fake_open	boolean	query	False	Filter by options.fake_open Introduced in: 9.10
options.referral	boolean	query	False	Filter by options.referral Introduced in: 9.10
options.max_same_tree_connect_per_session	integer	query	False	Filter by options.max_same_tree_connect_per_session Introduced in: 9.16
options.smb_credits	integer	query	False	Filter by options.smb_credits - Introduced in: 9.10 - Max value: 8192 - Min value: 2

Name	Type	In	Required	Description
options.advanced_s parse_file	boolean	query	False	Filter by options.advanced_s parse_file • Introduced in: 9.10
options.dac_enabled	boolean	query	False	Filter by options.dac_enabled • Introduced in: 9.15
options.junction_rep arse	boolean	query	False	Filter by options.junction_rep arse • Introduced in: 9.10
options.shadowcopy _dir_depth	integer	query	False	Filter by options.shadowcopy _dir_depth • Introduced in: 9.11
options.multichannel	boolean	query	False	Filter by options.multichannel • Introduced in: 9.10
options.fsctl_trim	boolean	query	False	Filter by options.fsctl_trim • Introduced in: 9.10
options.trusted_dom ain_enum_search_e nabled	boolean	query	False	Filter by options.trusted_dom ain_enum_search_e nabled • Introduced in: 9.16

Name	Type	In	Required	Description
options.max_lifs_per_session	integer	query	False	Filter by options.max_lifs_per_session • Introduced in: 9.16 • Max value: 256 • Min value: 1
options.client_dup_detection_enabled	boolean	query	False	Filter by options.client_dup_detection_enabled • Introduced in: 9.16
options.path_component_cache	boolean	query	False	Filter by options.path_component_cache • Introduced in: 9.10
options.admin_to_root_mapping	boolean	query	False	Filter by options.admin_to_root_mapping • Introduced in: 9.10
options.client_version_reporting_enabled	boolean	query	False	Filter by options.client_version_reporting_enabled • Introduced in: 9.16
options.null_user_windows_name	string	query	False	Filter by options.null_user_windows_name • Introduced in: 9.10
options.large_mtu	boolean	query	False	Filter by options.large_mtu • Introduced in: 9.10

Name	Type	In	Required	Description
options.max_connections_per_session	integer	query	False	Filter by options.max_connections_per_session • Introduced in: 9.16 • Max value: 1024 • Min value: 2
options.backup_symlink_enabled	boolean	query	False	Filter by options.backup_symlink_enabled • Introduced in: 9.15
options.export_policy_enabled	boolean	query	False	Filter by options.export_policy_enabled • Introduced in: 9.13
proxy_type	string	query	False	Filter by proxy_type • Introduced in: 9.15
comment	string	query	False	Filter by comment • maxLength: 256 • minLength: 0
default_unix_user	string	query	False	Filter by default_unix_user
metric.iops.other	integer	query	False	Filter by metric.iops.other • Introduced in: 9.7
metric.iops.total	integer	query	False	Filter by metric.iops.total • Introduced in: 9.7

Name	Type	In	Required	Description
metric.iops.write	integer	query	False	Filter by metric.iops.write • Introduced in: 9.7
metric.iops.read	integer	query	False	Filter by metric.iops.read • Introduced in: 9.7
metric.latency.other	integer	query	False	Filter by metric.latency.other • Introduced in: 9.7
metric.latency.total	integer	query	False	Filter by metric.latency.total • Introduced in: 9.7
metric.latency.write	integer	query	False	Filter by metric.latency.write • Introduced in: 9.7
metric.latency.read	integer	query	False	Filter by metric.latency.read • Introduced in: 9.7
metric.timestamp	string	query	False	Filter by metric.timestamp • Introduced in: 9.7
metric.throughput.write	integer	query	False	Filter by metric.throughput.write • Introduced in: 9.7

Name	Type	In	Required	Description
metric.throughput.read	integer	query	False	Filter by metric.throughput.read • Introduced in: 9.7
metric.throughput.total	integer	query	False	Filter by metric.throughput.total • Introduced in: 9.7
metric.status	string	query	False	Filter by metric.status • Introduced in: 9.7
metric.duration	string	query	False	Filter by metric.duration • Introduced in: 9.7
authentication_method	string	query	False	Filter by authentication_method • Introduced in: 9.15
timeout	integer	query	False	Filter by timeout • Introduced in: 9.15
group_policy_object_enabled	boolean	query	False	Filter by group_policy_object_enabled • Introduced in: 9.12
netbios.enabled	boolean	query	False	Filter by netbios.enabled

Name	Type	In	Required	Description
netbios.wins_servers	string	query	False	Filter by netbios.wins_servers
netbios.aliases	string	query	False	Filter by netbios.aliases • maxLength: 15 • minLength: 1
auth-style	string	query	False	Filter by auth-style • Introduced in: 9.15
name	string	query	False	Filter by name • maxLength: 15 • minLength: 1
statistics.latency_raw.other	integer	query	False	Filter by statistics.latency_raw.other • Introduced in: 9.7
statistics.latency_raw.total	integer	query	False	Filter by statistics.latency_raw.total • Introduced in: 9.7
statistics.latency_raw.write	integer	query	False	Filter by statistics.latency_raw.write • Introduced in: 9.7
statistics.latency_raw.read	integer	query	False	Filter by statistics.latency_raw.read • Introduced in: 9.7

Name	Type	In	Required	Description
statistics.iops_raw.other	integer	query	False	Filter by statistics.iops_raw.other • Introduced in: 9.7
statistics.iops_raw.total	integer	query	False	Filter by statistics.iops_raw.total • Introduced in: 9.7
statistics.iops_raw.write	integer	query	False	Filter by statistics.iops_raw.write • Introduced in: 9.7
statistics.iops_raw.read	integer	query	False	Filter by statistics.iops_raw.read • Introduced in: 9.7
statistics.status	string	query	False	Filter by statistics.status • Introduced in: 9.7
statistics.throughput_raw.write	integer	query	False	Filter by statistics.throughput_raw.write • Introduced in: 9.7
statistics.throughput_raw.read	integer	query	False	Filter by statistics.throughput_raw.read • Introduced in: 9.7

Name	Type	In	Required	Description
statistics.throughput_raw.total	integer	query	False	Filter by statistics.throughput_raw.total • Introduced in: 9.7
statistics.timestamp	string	query	False	Filter by statistics.timestamp • Introduced in: 9.7
proxy_port	integer	query	False	Filter by proxy_port • Introduced in: 9.15
enabled	boolean	query	False	Filter by enabled
key_vault_uri	string	query	False	Filter by key_vault_uri • Introduced in: 9.15
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Max value: 120 • Min value: 0 • Default value: 15
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[cifs_service]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ad_domain": {
        "default_site": "string",
        "fqdn": "example.com",
        "organizational_unit": "string"
      },
      "auth-style": "domain",
      "auth_user_type": "string",
      "authentication_method": "string",
      "client_id": "e959dlb5-5a63-4284-9268-851e30e3eceb",
      "comment": "This CIFS Server Belongs to CS Department",
      "default_unix_user": "string",
      "key_vault_uri": "https://kmip-akv-keyvault.vault.azure.net/",
      "metric": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      },
      "duration": "PT15S",
      "iops": {
        "read": 200,
        "total": 1000,
        "write": 100
      },
      "latency": {
        "read": 200,
        "total": 1000,
```

```

        "write": 100
    },
    "status": "ok",
    "throughput": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
},
"name": "CIFS1",
"netbios": {
    "aliases": [
        "ALIAS_1",
        "ALIAS_2",
        "ALIAS_3"
    ],
    "wins_servers": [
        "10.224.65.20",
        "10.224.65.21"
    ]
},
"oauth_host": "login.microsoftonline.com",
"options": {
    "max_connections_per_session": 32,
    "max_lifs_per_session": 256,
    "max_opens_same_file_per_tree": 1000,
    "max_same_tree_connect_per_session": 5000,
    "max_same_user_sessions_per_connection": 2500,
    "max_watches_set_per_tree": 500,
    "null_user_windows_name": "string",
    "smb_credits": 128,
    "widelink_reparse_versions": [
        "smb1"
    ]
},
"proxy_host": "proxy.eng.com",
"proxy_port": 1234,
"proxy_type": "string",
"proxy_username": "proxyuser",
"security": {
    "advertised_kdc_encryptions": [
        "string"
    ],
    "lm_compatibility_level": "string",
    "restrict_anonymous": "string",

```

```

    "session_security": "string"
  },
  "statistics": {
    "iops_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "throughput_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
  "timeout": 25,
  "workgroup": "workgrp1"
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

ad_domain

Name	Type	Description
default_site	string	The default site used by LIFs that do not have a site membership.
fqdn	string	The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. POST and PATCH only.
organizational_unit	string	Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. POST and PATCH only.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.

Name	Type	Description
write	integer	Performance metric for write I/O operations.

metric

Performance numbers, such as IOPS latency and throughput, for SVM protocols.

Name	Type	Description
_links	_links	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.

Name	Type	Description
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

cifs_netbios

Name	Type	Description
aliases	array[string]	
enabled	boolean	Specifies whether NetBios name service (NBNS) is enabled for the CIFS. If this service is enabled, the CIFS server will start sending the broadcast for name registration.
wins_servers	array[string]	

cifs_service_options

Name	Type	Description
admin_to_root_mapping	boolean	Specifies whether or not Administrator can be mapped to the UNIX user "root".
advanced_sparse_file	boolean	Specifies whether or not the CIFS server supports the advanced sparse file capabilities. This allows CIFS clients to query the allocated ranges of a file and to write zeroes or free data blocks for ranges of a file.
backup_symlink_enabled	boolean	Specifies whether or not to preserve UNIX symlinks during backup through SMB.
client_dup_detection_enabled	boolean	Specifies whether or not client duplicate session detection is enabled for CIFS.
client_version_reporting_enabled	boolean	Specifies whether or not client version reporting is enabled for CIFS.

Name	Type	Description
copy_offload	boolean	Specifies whether or not to enable the Copy Offload feature. This feature enables direct data transfers within or between compatible storage devices without transferring the data through the host computer. Note that this will also enable/disable the direct copy feature accordingly.
dac_enabled	boolean	Specifies whether or not the Dynamic Access Control (DAC) feature is enabled for the CIFS server.
export_policy_enabled	boolean	Specifies whether or not export policies are enabled for CIFS.
fake_open	boolean	Specifies whether or not fake open support is enabled. This parameter allows you to optimize the open and close requests coming from SMB 2 clients.
fsctl_trim	boolean	Specifies whether or not the trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the CIFS server.
junction_reparse	boolean	Specifies whether or not the reparse point support is enabled. When enabled the CIFS server exposes junction points to Windows clients as reparse points. This parameter is only active if the client has negotiated use of the SMB 2 or SMB 3 protocol. This parameter is not supported for SVMs with Infinite Volume.
large_mtu	boolean	Specifies whether or not SMB clients can send reads up to 1 MB in size.

Name	Type	Description
max_connections_per_session	integer	Specifies the maximum number of connections allowed per multichannel session.
max_lifs_per_session	integer	Specifies the maximum number of LIFs advertised per multichannel session.
max_opens_same_file_per_tree	integer	Specifies the maximum number of opens on the same file per tree.
max_same_tree_connect_per_session	integer	Specifies the maximum number of same tree connections per session.
max_same_user_sessions_per_connection	integer	Specifies the maximum number of same user sessions per connection.
max_watches_set_per_tree	integer	Specifies the maximum number of watches set per tree.
multichannel	boolean	Specifies whether or not the CIFS server supports Multichannel.
null_user_windows_name	string	Specifies a Windows User or Group name that should be mapped in case of a NULL user value.
path_component_cache	boolean	Specifies whether or not the path component cache is enabled on the CIFS server.
referral	boolean	Specifies whether or not to refer clients to more optimal LIFs. When enabled, it automatically refers clients to a data LIF local to the node which hosts the root of the requested share.

Name	Type	Description
shadowcopy	boolean	Specifies whether or not to enable the Shadowcopy Feature. This feature enables to take share-based backup copies of data that is in a data-consistent state at a specific point in time where the data is accessed over SMB 3.0 shares.
shadowcopy_dir_depth	integer	Specifies the maximum level of subdirectories on which ONTAP should create shadow copies. • Default value: 5 • Introduced in: 9.11 • x-nullable: true
smb_credits	integer	Specifies the maximum number of outstanding requests on a CIFS connection.
trusted_domain_enum_search_enabled	boolean	Specifies whether or not to enable trusted domain search. • If this parameter is set to true, it displays CIFS options only for CIFS servers that support enumeration of bidirectional trusted domains and that support searching in all bidirectional trusted domains when performing Windows user lookups for UNIX user to Windows user name mapping. • If set to false, it displays CIFS options for CIFS servers that do not support enumeration of bidirectional trusted domains.
widelink_reparse_versions	array[string]	Specifies the CIFS protocol versions for which the widelink is reported as reparse point.

cifs_service_security

Name	Type	Description
advertised_kdc_encryptions	array[string]	
aes_netlogon_enabled	boolean	Specifies whether or not an AES session key is enabled for the Netlogon channel.
encrypt_dc_connection	boolean	Specifies whether encryption is required for domain controller connections.

Name	Type	Description
kdc_encryption	boolean	This attribute has been deprecated. Use "security.advertised_kdc_encryptions" to specify the encryption type to use. Specifies whether AES-128 and AES-256 encryption is enabled for all Kerberos-based communication with the Active Directory KDC. To take advantage of the strongest security with Kerberos-based communication, AES-256 and AES-128 encryption can be enabled on the CIFS server. Kerberos-related communication for CIFS is used during CIFS server creation on the SVM, as well as during the SMB session setup phase. The CIFS server supports the following encryption types for Kerberos communication: • RC4-HMAC • DES • AES When the CIFS server is created, the domain controller creates a computer machine account in Active Directory. After a newly created machine account authenticates, the KDC and the CIFS server negotiates encryption types. At this time, the KDC becomes aware of the encryption capabilities of the particular machine account and uses those 

Name	Type	Description
ldap_referral_enabled	boolean	Specifies whether or not LDAP referral chasing is enabled for AD LDAP connections.
lm_compatibility_level	string	It is CIFS server minimum security level, also known as the LMCompatibilityLevel. The minimum security level is the minimum level of the security tokens that the CIFS server accepts from SMB clients. The available values are: • lm_ntlm_ntlmv2_krb Accepts LM, NTLM, NTLMv2 and Kerberos • ntlm_ntlmv2_krb Accepts NTLM, NTLMv2 and Kerberos • ntlmv2_krb Accepts NTLMv2 and Kerberos • krb Accepts Kerberos only
restrict_anonymous	string	Specifies what level of access an anonymous user is granted. An anonymous user (also known as a "null user") can list or enumerate certain types of system information from Windows hosts on the network, including user names and details, account policies, and share names. Access for the anonymous user can be controlled by specifying one of three access restriction settings. The available values are: • no_restriction - No access restriction for an anonymous user. • no_enumeration - Enumeration is restricted for an anonymous user. • no_access - All access is restricted for an anonymous user.

Name	Type	Description
session_security	string	Specifies client session security for AD LDAP connections. The available values are: • none - No Signing or Sealing. • sign - Sign LDAP traffic. • seal - Seal and Sign LDAP traffic
smb_encryption	boolean	Specifies whether encryption is required for incoming CIFS traffic.
smb_signing	boolean	Specifies whether signing is required for incoming CIFS traffic. SMB signing helps to ensure that network traffic between the CIFS server and the client is not compromised.
try_ldap_channel_binding	boolean	Specifies whether or not channel binding is attempted in the case of TLS/LDAPS.
use_ldaps	boolean	Specifies whether or not to use use LDAPS for secure Active Directory LDAP connections by using the TLS/SSL protocols.
use_start_tls	boolean	Specifies whether or not to use SSL/TLS for allowing secure LDAP communication with Active Directory LDAP servers.

iops_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

statistics

These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
timestamp	string	The timestamp of the performance data.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_service

Name	Type	Description
_links	_links	
ad_domain	ad_domain	
auth-style	string	Authentication type.
auth_user_type	string	Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS. - enum: ["domain_user", "hybrid_user"] - Introduced in: 9.16 - x-nullable: true
authentication_method	string	Specifies the authentication method. The available values are: - client_secret - certificate

Name	Type	Description
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraID.
comment	string	A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.
default_unix_user	string	Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.
enabled	boolean	Specifies if the CIFS service is administratively enabled.
group_policy_object_enabled	boolean	If set to true, group policies will be applied to the SVM.
key_vault_uri	string	URI of the deployed AKV that is used by ONTAP for storing keys. • example: https://kmip-akv-keyvault.vault.azure.net/ • format: uri • Introduced in: 9.15 • x-nullable: true
metric	metric	Performance numbers, such as IOPS latency and throughput, for SVM protocols.
name	string	The name of the CIFS server.
netbios	cifs_netbios	
oauth_host	string	Open authorization server host name.
options	cifs_service_options	
proxy_host	string	Proxy host.

Name	Type	Description
proxy_port	integer	Proxy port.
proxy_type	string	Proxy type.
proxy_username	string	Proxy username.
security	cifs_service_security	
statistics	statistics	These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.
svm	svm	SVM, applies only to SVM-scoped objects.
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
timeout	integer	AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.
verify_host	boolean	Verify the identity of the AKV host name. By default, verify_host is set to true.
workgroup	string	The workgroup name.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments

Name	Type	Description
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create a CIFS server

POST /protocols/cifs/services

Introduced In: 9.6

Creates a CIFS server. Each SVM can have one CIFS server.

Important notes

- The CIFS server name might or might not be the same as the SVM name.
- The CIFS server name can contain up to 15 characters.
- The CIFS server name does not support the following characters: @ # * () = + [] \ | ; : " , < > / ?

Required properties when creating CIFS server with Windows Active Directory domain

- `svm.uuid` or `svm.name` - Existing SVM in which to create the CIFS server.
- `name` - Name of the CIFS server.
- `ad_domain.fqdn` - Fully qualified domain name of the Windows Active Directory to which this CIFS server belongs.
- `ad_domain.user` - User account with the access to add the CIFS server to the Active Directory.
- `ad_domain.password` - Account password used to add this CIFS server to the Active Directory.

Required properties when creating CIFS server in Workgroup mode

- `svm.uuid` or `svm.name` - Existing SVM in which to create the CIFS server.
- `name` - Name of the CIFS server.
- `workgroup` - Name of the workgroup to which this CIFS server belongs.

Required properties when using AKV for authentication (ANF platform)

- `svm.uuid` or `svm.name` - Existing SVM in which to create the CIFS server.
- `name` - Name of the CIFS server.
- `ad_domain.user` - User account with the access to add the CIFS server to the Active Directory.
- `ad_domain.fqdn` - Fully qualified domain name of the Windows Active Directory to which this CIFS

server belongs.

- `client_id` - Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
- `tenant_id` - Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
- `key_vault_uri` - URI of the deployed AKV that is used by ONTAP for storing keys.
- `authentication_method` - Authentication method used by the application to prove its identity to AKV or EntraId. It can be either "client_secret" or "certificate".
- `auth_user_type` - Type of user who can access the SMB Volume. It can be either "domain_user" or "hybrid_user". The default is domain_user. In the case of a hybrid-user, ONTAP cannot access on-premise ADDS.
- `client_secret` - Secret used by the application to prove its identity to AKV.
- `client_certificate` - Base64 encoded PKCS12 certificate used by the application to prove its identity to AKV.

Recommended optional properties

- `comment` - Add a text comment of up to 256 characters about the CIFS server.
- `netbios.aliases` - Add a comma-delimited list of one or more NetBIOS aliases for the CIFS server.
- `netbios.wins_servers` - Add a list of Windows Internet Name Server (WINS) addresses that manage and map the NetBIOS name of the CIFS server to their network IP addresses. The IP addresses must be IPv4 addresses.

Default property values

If not specified in POST, the following default property values are assigned:

- `ad_domain.organizational_unit` - *CN=Computers*
- `enabled` - *true*
- `security.restrict_anonymous` - *no_enumeration*
- `security.smb_signing` - *false*
- `security.smb_encryption` - *false*
- `security.encrypt_dc_connection` - *false*
- `default_unix_user` - *pcuser*
- `netbios.enabled` - *false* However, if either "netbios.wins-server" or "netbios.aliases" is set during POST and if `netbios.enabled` is not specified then `netbios.enabled` is set to true.
- `security.aes_netlogon_enabled` - *false*
- `security.try_ldap_channel_binding` - *true*
- `security.ldap_referral_enabled` - *false*

Related ONTAP commands

- `vserver cifs server create`
- `vserver cifs server options modify`
- `vserver cifs security modify`
- `vserver cifs server add-netbios-aliases`

Learn more

- [DOC /protocols/cifs/services](#)

Parameters

Name	Type	In	Required	Description
force	boolean	query	False	If this is set and a machine account with the same name as specified in 'cifs-server name' exists in the Active Directory, existing machine account will be overwritten and reused. • Introduced in: 9.11

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
ad_domain	ad_domain	
auth-style	string	Authentication type.

Name	Type	Description
auth_user_type	string	Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS. - enum: ["domain_user", "hybrid_user"] - Introduced in: 9.16 - x-nullable: true
authentication_method	string	Specifies the authentication method. The available values are: - client_secret - certificate
client_certificate	string	PKCS12 certificate used by the application to prove its identity to AKV.
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
client_secret	string	Secret used by the application to prove its identity to AKV.
comment	string	A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.
default_unix_user	string	Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.
enabled	boolean	Specifies if the CIFS service is administratively enabled.

Name	Type	Description
key_vault_uri	string	URI of the deployed AKV that is used by ONTAP for storing keys. • example: https://kmip-akv-keyvault.vault.azure.net/ • format: uri • Introduced in: 9.15 • x-nullable: true
name	string	The name of the CIFS server.
netbios	cifs_netbios	
oauth_host	string	Open authorization server host name.
options	cifs_service_options	
proxy_host	string	Proxy host.
proxy_password	string	Proxy password. Password is not audited.
proxy_port	integer	Proxy port.
proxy_type	string	Proxy type.
proxy_username	string	Proxy username.
security	cifs_service_security	
svm	svm	SVM, applies only to SVM-scoped objects.
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
timeout	integer	AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.
verify_host	boolean	Verify the identity of the AKV host name. By default, verify_host is set to true.

Name	Type	Description
workgroup	string	The workgroup name.

Example request

```
{
  "ad_domain": {
    "default_site": "string",
    "fqdn": "example.com",
    "organizational_unit": "string",
    "password": "string",
    "user": "string"
  },
  "auth-style": "domain",
  "auth_user_type": "string",
  "authentication_method": "string",
  "client_certificate": "PEM Cert",
  "client_id": "e959d1b5-5a63-4284-9268-851e30e3eceb",
  "client_secret": "<APPLICATION-CLIENT-SECRET-FOR-AKV>",
  "comment": "This CIFS Server Belongs to CS Department",
  "default_unix_user": "string",
  "group_policy_object_enabled": true,
  "key_vault_uri": "https://kmip-akv-keyvault.vault.azure.net/",
  "name": "CIFS1",
  "netbios": {
    "aliases": [
      "ALIAS_1",
      "ALIAS_2",
      "ALIAS_3"
    ],
    "wins_servers": [
      "10.224.65.20",
      "10.224.65.21"
    ]
  },
  "oauth_host": "login.microsoftonline.com",
  "options": {
    "max_connections_per_session": 32,
    "max_lifs_per_session": 256,
    "max_opens_same_file_per_tree": 1000,
    "max_same_tree_connect_per_session": 5000,
    "max_same_user_sessions_per_connection": 2500,
    "max_watches_set_per_tree": 500,
    "null_user_windows_name": "string",
    "smb_credits": 128,
    "widelink_reparse_versions": [
      "smb1"
    ]
  }
},
```

```

"proxy_host": "proxy.eng.com",
"proxy_password": "proxypassword",
"proxy_port": 1234,
"proxy_type": "string",
"proxy_username": "proxyuser",
"security": {
  "advertised_kdc_encryptions": [
    "string"
  ],
  "restrict_anonymous": "string",
  "session_security": "string"
},
"svm": {
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
"timeout": 25,
"workgroup": "workgrp1"
}

```

Response

Status: 202, Accepted

Name	Type	Description
job	job_link	

Example response

```

{
  "job": {
    "uuid": "string"
  }
}

```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Response

Status: 201, Created

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1115127	The cluster lacks a valid CIFS license.
3735751	Failed to authenticate and retrieve the access token from the Azure OAuth host.
3735752	Failed to extract the private key from the Azure Key Vault certificate.
3735753	Unsupported content_type in the Azure secrets response.
3735754	Failed to parse the JSON response from Azure Key Vault.
3735755	REST API call to Azure failed.
3735756	Invalid client certificate.
3735757	Failed to generate client assertion.
3735762	The provided Azure Key Vault configuration is incorrect.
3735763	The provided Azure Key Vault configuration is incomplete.
3735764	Request to Azure failed. Reason - Azure error code and Azure error message.
655388	Failed to create the CIFS server. Failure can occur due to multiple reasons. For example: STARTTLS and LDAPS cannot be used together or a password update failed or error from LDAP server or Kerberos Error: KDC has no support for encryption type.
655524	CIFS server creation failed.
655538	CIFS server creation failed because a server with the same name already exists.
655562	NetBIOS name is longer than 15 characters.
655563	NetBIOS name contains characters that are not allowed.

Error Code	Description
655771	The number of NetBIOS aliases cannot exceed the maximum supported number of '200'.
655914	Failed to create the Active Directory machine account.
655923	Retrieving credentials from AKV is not supported because the effective cluster version is not ONTAP 9.15.0 or later.
656464	Failed to create the Active Directory machine account. Reason: Invalid Credentials.
656465	Failed to create the Active Directory machine account. Reason: Account with same name already exists.
656466	Failed to create the Active Directory machine account. Reason: Domain Controller is not reachable or does not exist.
656467	Failed to create the Active Directory machine account. Reason: Organizational-Unit not found.
656473	Fields security.kdc_encryption and security.advertised_kdc_encryptions are mutually exclusive. Specify only one of the two.
655477	Only one CIFS server is supported per SVM.
656487	Missing fields when doing CIFS operation with hybrid auth user type.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

ad_domain

Name	Type	Description
default_site	string	The default site used by LIFs that do not have a site membership.
fqdn	string	The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. POST and PATCH only.
organizational_unit	string	Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. POST and PATCH only.
password	string	The account password used to add this CIFS server to the Active Directory. This is not audited.
user	string	The user account used to add this CIFS server to the Active Directory.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

metric

Performance numbers, such as IOPS latency and throughput, for SVM protocols.

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

cifs_netbios

Name	Type	Description
aliases	array[string]	
enabled	boolean	Specifies whether NetBios name service (NBNS) is enabled for the CIFS. If this service is enabled, the CIFS server will start sending the broadcast for name registration.
wins_servers	array[string]	

cifs_service_options

Name	Type	Description
admin_to_root_mapping	boolean	Specifies whether or not Administrator can be mapped to the UNIX user "root".
advanced_sparse_file	boolean	Specifies whether or not the CIFS server supports the advanced sparse file capabilities. This allows CIFS clients to query the allocated ranges of a file and to write zeroes or free data blocks for ranges of a file.
backup_symlink_enabled	boolean	Specifies whether or not to preserve UNIX symlinks during backup through SMB.
client_dup_detection_enabled	boolean	Specifies whether or not client duplicate session detection is enabled for CIFS.
client_version_reporting_enabled	boolean	Specifies whether or not client version reporting is enabled for CIFS.

Name	Type	Description
copy_offload	boolean	Specifies whether or not to enable the Copy Offload feature. This feature enables direct data transfers within or between compatible storage devices without transferring the data through the host computer. Note that this will also enable/disable the direct copy feature accordingly.
dac_enabled	boolean	Specifies whether or not the Dynamic Access Control (DAC) feature is enabled for the CIFS server.
export_policy_enabled	boolean	Specifies whether or not export policies are enabled for CIFS.
fake_open	boolean	Specifies whether or not fake open support is enabled. This parameter allows you to optimize the open and close requests coming from SMB 2 clients.
fsctl_trim	boolean	Specifies whether or not the trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the CIFS server.
junction_reparse	boolean	Specifies whether or not the reparse point support is enabled. When enabled the CIFS server exposes junction points to Windows clients as reparse points. This parameter is only active if the client has negotiated use of the SMB 2 or SMB 3 protocol. This parameter is not supported for SVMs with Infinite Volume.
large_mtu	boolean	Specifies whether or not SMB clients can send reads up to 1 MB in size.

Name	Type	Description
max_connections_per_session	integer	Specifies the maximum number of connections allowed per multichannel session.
max_lifs_per_session	integer	Specifies the maximum number of LIFs advertised per multichannel session.
max_opens_same_file_per_tree	integer	Specifies the maximum number of opens on the same file per tree.
max_same_tree_connect_per_session	integer	Specifies the maximum number of same tree connections per session.
max_same_user_sessions_per_connection	integer	Specifies the maximum number of same user sessions per connection.
max_watches_set_per_tree	integer	Specifies the maximum number of watches set per tree.
multichannel	boolean	Specifies whether or not the CIFS server supports Multichannel.
null_user_windows_name	string	Specifies a Windows User or Group name that should be mapped in case of a NULL user value.
path_component_cache	boolean	Specifies whether or not the path component cache is enabled on the CIFS server.
referral	boolean	Specifies whether or not to refer clients to more optimal LIFs. When enabled, it automatically refers clients to a data LIF local to the node which hosts the root of the requested share.

Name	Type	Description
shadowcopy	boolean	Specifies whether or not to enable the Shadowcopy Feature. This feature enables to take share-based backup copies of data that is in a data-consistent state at a specific point in time where the data is accessed over SMB 3.0 shares.
shadowcopy_dir_depth	integer	Specifies the maximum level of subdirectories on which ONTAP should create shadow copies. • Default value: 5 • Introduced in: 9.11 • x-nullable: true
smb_credits	integer	Specifies the maximum number of outstanding requests on a CIFS connection.
trusted_domain_enum_search_enabled	boolean	Specifies whether or not to enable trusted domain search. • If this parameter is set to true, it displays CIFS options only for CIFS servers that support enumeration of bidirectional trusted domains and that support searching in all bidirectional trusted domains when performing Windows user lookups for UNIX user to Windows user name mapping. • If set to false, it displays CIFS options for CIFS servers that do not support enumeration of bidirectional trusted domains.
widelink_reparse_versions	array[string]	Specifies the CIFS protocol versions for which the widelink is reported as reparse point.

cifs_service_security

Name	Type	Description
advertised_kdc_encryptions	array[string]	
aes_netlogon_enabled	boolean	Specifies whether or not an AES session key is enabled for the Netlogon channel.
encrypt_dc_connection	boolean	Specifies whether encryption is required for domain controller connections.

Name	Type	Description
kdc_encryption	boolean	This attribute has been deprecated. Use "security.advertised_kdc_encryptions" to specify the encryption type to use. Specifies whether AES-128 and AES-256 encryption is enabled for all Kerberos-based communication with the Active Directory KDC. To take advantage of the strongest security with Kerberos-based communication, AES-256 and AES-128 encryption can be enabled on the CIFS server. Kerberos-related communication for CIFS is used during CIFS server creation on the SVM, as well as during the SMB session setup phase. The CIFS server supports the following encryption types for Kerberos communication: • RC4-HMAC • DES • AES When the CIFS server is created, the domain controller creates a computer machine account in Active Directory. After a newly created machine account authenticates, the KDC and the CIFS server negotiates encryption types. At this time, the KDC becomes aware of the encryption capabilities of the particular machine account and uses those 

Name	Type	Description
ldap_referral_enabled	boolean	Specifies whether or not LDAP referral chasing is enabled for AD LDAP connections.
restrict_anonymous	string	Specifies what level of access an anonymous user is granted. An anonymous user (also known as a "null user") can list or enumerate certain types of system information from Windows hosts on the network, including user names and details, account policies, and share names. Access for the anonymous user can be controlled by specifying one of three access restriction settings. The available values are: • no_restriction - No access restriction for an anonymous user. • no_enumeration - Enumeration is restricted for an anonymous user. • no_access - All access is restricted for an anonymous user.
session_security	string	Specifies client session security for AD LDAP connections. The available values are: • none - No Signing or Sealing. • sign - Sign LDAP traffic. • seal - Seal and Sign LDAP traffic
smb_encryption	boolean	Specifies whether encryption is required for incoming CIFS traffic.
smb_signing	boolean	Specifies whether signing is required for incoming CIFS traffic. SMB signing helps to ensure that network traffic between the CIFS server and the client is not compromised.

Name	Type	Description
try_ldap_channel_binding	boolean	Specifies whether or not channel binding is attempted in the case of TLS/LDAPS.
use_ldaps	boolean	Specifies whether or not to use use LDAPS for secure Active Directory LDAP connections by using the TLS/SSL protocols.
use_start_tls	boolean	Specifies whether or not to use SSL/TLS for allowing secure LDAP communication with Active Directory LDAP servers.

iops_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

statistics

These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_service

Name	Type	Description
ad_domain	ad_domain	
auth-style	string	Authentication type.
auth_user_type	string	Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS. - enum: ["domain_user", "hybrid_user"] - Introduced in: 9.16 - x-nullable: true
authentication_method	string	Specifies the authentication method. The available values are: - client_secret - certificate
client_certificate	string	PKCS12 certificate used by the application to prove its identity to AKV.
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
client_secret	string	Secret used by the application to prove its identity to AKV.
comment	string	A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.
default_unix_user	string	Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.

Name	Type	Description
enabled	boolean	Specifies if the CIFS service is administratively enabled.
key_vault_uri	string	URI of the deployed AKV that is used by ONTAP for storing keys. • example: https://kmip-akv-keyvault.vault.azure.net/ • format: uri • Introduced in: 9.15 • x-nullable: true
name	string	The name of the CIFS server.
netbios	cifs_netbios	
oauth_host	string	Open authorization server host name.
options	cifs_service_options	
proxy_host	string	Proxy host.
proxy_password	string	Proxy password. Password is not audited.
proxy_port	integer	Proxy port.
proxy_type	string	Proxy type.
proxy_username	string	Proxy username.
security	cifs_service_security	
svm	svm	SVM, applies only to SVM-scoped objects.
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
timeout	integer	AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.

Name	Type	Description
verify_host	boolean	Verify the identity of the AKV host name. By default, verify_host is set to true.
workgroup	string	The workgroup name.

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a CIFS server and related configurations

DELETE /protocols/cifs/services/{svm.uuid}

Introduced In: 9.6

Deletes a CIFS server and related CIFS configurations.

Important notes:

- The default value for the "force" field is false.

- If the "force" field is set along with user login credentials, the local CIFS configuration will be deleted irrespective of any communication errors.
- If the "force" field alone is set without passing the user login credentials, the local CIFS configuration will be deleted by not making any request to Active Directory.

Related ONTAP commands

- `vserver cifs server delete`
- `vserver cifs remove-netbios-aliases`

Learn more

- [DOC /protocols/cifs/services](#)

Parameters

Name	Type	In	Required	Description
force	boolean	query	False	When set, the local CIFS configuration is deleted irrespective of any communication errors. Default value for this field is false. • Introduced in: 9.11

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
ad_domain	ad_domain_delete	

Name	Type	Description
auth_user_type	string	Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS. - enum: ["domain_user", "hybrid_user"] - Introduced in: 9.16 - x-nullable: true
authentication_method	string	Specifies the authentication method. The available values are: - client_secret - certificate
client_certificate	string	PKCS12 certificate used by the application to prove its identity to AKV.
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
client_secret	string	Secret used by the application to prove its identity to AKV.
key_vault_uri	string	URI of the deployed AKV that is used by ONTAP for storing keys. - example: https://kmip-akv-keyvault.vault.azure.net/ - format: uri - Introduced in: 9.15 - x-nullable: true
oauth_host	string	Open authorization server host name.
proxy_host	string	Proxy host.
proxy_password	string	Proxy password. Password is not audited.

Name	Type	Description
proxy_port	integer	Proxy port.
proxy_type	string	Proxy type.
proxy_username	string	Proxy username.
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
timeout	integer	AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.
verify_host	boolean	Verify the identity of the AKV host name. By default, verify_host is set to true.
workgroup	string	The workgroup name.

Example request

```
{
  "ad_domain": {
    "fqdn": "example.com",
    "organizational_unit": "string",
    "password": "string",
    "user": "string"
  },
  "auth_user_type": "string",
  "authentication_method": "string",
  "client_certificate": "PEM Cert",
  "client_id": "e959d1b5-5a63-4284-9268-851e30e3eceb",
  "client_secret": "<APPLICATION-CLIENT-SECRET-FOR-AKV>",
  "key_vault_uri": "https://kmip-akv-keyvault.vault.azure.net/",
  "oauth_host": "login.microsoftonline.com",
  "proxy_host": "proxy.eng.com",
  "proxy_password": "proxypassword",
  "proxy_port": 1234,
  "proxy_type": "string",
  "proxy_username": "proxyuser",
  "tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
  "timeout": 25,
  "workgroup": "workgrp1"
}
```

Response

Status: 200, Ok

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "string"
  }
}
```

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655525	In order to delete an Active Directory machine account for the CIFS server, you must supply the name and password of a Windows account with sufficient privileges.
3735751	Failed to authenticate and retrieve the access token from the Azure OAuth host.
3735752	Failed to extract the private key from the Azure Key Vault certificate.
3735753	Unsupported content_type in the Azure secrets response.
3735754	Failed to parse the JSON response from Azure Key Vault.
3735755	REST API call to Azure failed.
3735756	Invalid client certificate.
3735757	Failed to generate client assertion.

Error Code	Description
3735762	The provided Azure Key Vault configuration is incorrect.
3735763	The provided Azure Key Vault configuration is incomplete.
3735764	Request to Azure failed. Reason - Azure error code and Azure error message.
655563	NetBIOS name contains characters that are not allowed.
655562	NetBIOS name is longer than 15 characters.
655923	Retrieving credentials from AKV is not supported because the effective cluster version is not ONTAP 9.15.0 or later.
656487	Missing fields when doing CIFS operation with hybrid auth user type.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

ad_domain_delete

Name	Type	Description
fqdn	string	The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. POST and PATCH only.
organizational_unit	string	Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. POST and PATCH only.
password	string	The account password used to add this CIFS server to the Active Directory. This is not audited.
user	string	The user account used to add this CIFS server to the Active Directory.

cifs_service_delete

Name	Type	Description
ad_domain	ad_domain_delete	
auth_user_type	string	Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS. - enum: ["domain_user", "hybrid_user"] - Introduced in: 9.16 - x-nullable: true
authentication_method	string	Specifies the authentication method. The available values are: - client_secret - certificate

Name	Type	Description
client_certificate	string	PKCS12 certificate used by the application to prove its identity to AKV.
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
client_secret	string	Secret used by the application to prove its identity to AKV.
key_vault_uri	string	URI of the deployed AKV that is used by ONTAP for storing keys. • example: https://kmip-akv-keyvault.vault.azure.net/ • format: uri • Introduced in: 9.15 • x-nullable: true
oauth_host	string	Open authorization server host name.
proxy_host	string	Proxy host.
proxy_password	string	Proxy password. Password is not audited.
proxy_port	integer	Proxy port.
proxy_type	string	Proxy type.
proxy_username	string	Proxy username.
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
timeout	integer	AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.

Name	Type	Description
verify_host	boolean	Verify the identity of the AKV host name. By default, verify_host is set to true.
workgroup	string	The workgroup name.

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

job_link

Name	Type	Description
_links	_links	
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

Retrieve a CIFS server

GET /protocols/cifs/services/{svm.uuid}

Introduced In: 9.6

Retrieves a CIFS server.

Related ONTAP commands

- `vserver cifs server show`
- `vserver cifs server options show`
- `vserver cifs server security show`

Learn more

- [DOC /protocols/cifs/services](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
ad_domain	ad_domain	
auth-style	string	Authentication type.

Name	Type	Description
auth_user_type	string	Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS. - enum: ["domain_user", "hybrid_user"] - Introduced in: 9.16 - x-nullable: true
authentication_method	string	Specifies the authentication method. The available values are: - client_secret - certificate
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
comment	string	A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.
default_unix_user	string	Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.
enabled	boolean	Specifies if the CIFS service is administratively enabled.
group_policy_object_enabled	boolean	If set to true, group policies will be applied to the SVM.

Name	Type	Description
key_vault_uri	string	URI of the deployed AKV that is used by ONTAP for storing keys. • example: https://kmip-akv-keyvault.vault.azure.net/ • format: uri • Introduced in: 9.15 • x-nullable: true
metric	metric	Performance numbers, such as IOPS latency and throughput, for SVM protocols.
name	string	The name of the CIFS server.
netbios	cifs_netbios	
oauth_host	string	Open authorization server host name.
options	cifs_service_options	
proxy_host	string	Proxy host.
proxy_port	integer	Proxy port.
proxy_type	string	Proxy type.
proxy_username	string	Proxy username.
security	cifs_service_security	
statistics	statistics	These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.
svm	svm	SVM, applies only to SVM-scoped objects.
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.

Name	Type	Description
timeout	integer	AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.
verify_host	boolean	Verify the identity of the AKV host name. By default, verify_host is set to true.
workgroup	string	The workgroup name.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ad_domain": {
    "default_site": "string",
    "fqdn": "example.com",
    "organizational_unit": "string"
  },
  "auth-style": "domain",
  "auth_user_type": "string",
  "authentication_method": "string",
  "client_id": "e959d1b5-5a63-4284-9268-851e30e3eceb",
  "comment": "This CIFS Server Belongs to CS Department",
  "default_unix_user": "string",
  "key_vault_uri": "https://kmip-akv-keyvault.vault.azure.net/",
  "metric": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "duration": "PT15S",
  "iops": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25 11:20:13 +0000"
},
"name": "CIFS1",
```

```

"netbios": {
  "aliases": [
    "ALIAS_1",
    "ALIAS_2",
    "ALIAS_3"
  ],
  "wins_servers": [
    "10.224.65.20",
    "10.224.65.21"
  ]
},
"oauth_host": "login.microsoftonline.com",
"options": {
  "max_connections_per_session": 32,
  "max_lifs_per_session": 256,
  "max_opens_same_file_per_tree": 1000,
  "max_same_tree_connect_per_session": 5000,
  "max_same_user_sessions_per_connection": 2500,
  "max_watches_set_per_tree": 500,
  "null_user_windows_name": "string",
  "smb_credits": 128,
  "widelink_reparse_versions": [
    "smb1"
  ]
},
"proxy_host": "proxy.eng.com",
"proxy_port": 1234,
"proxy_type": "string",
"proxy_username": "proxyuser",
"security": {
  "advertised_kdc_encryptions": [
    "string"
  ],
  "lm_compatibility_level": "string",
  "restrict_anonymous": "string",
  "session_security": "string"
},
"statistics": {
  "iops_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency_raw": {
    "read": 200,
    "total": 1000,

```

```

    "write": 100
  },
  "status": "ok",
  "throughput_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25 11:20:13 +0000"
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
"timeout": 25,
"workgroup": "workgrp1"
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

ad_domain

Name	Type	Description
default_site	string	The default site used by LIFs that do not have a site membership.
fqdn	string	The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. POST and PATCH only.
organizational_unit	string	Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. POST and PATCH only.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

metric

Performance numbers, such as IOPS latency and throughput, for SVM protocols.

Name	Type	Description
_links	_links	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

cifs_netbios

Name	Type	Description
aliases	array[string]	
enabled	boolean	Specifies whether NetBios name service (NBNS) is enabled for the CIFS. If this service is enabled, the CIFS server will start sending the broadcast for name registration.
wins_servers	array[string]	

cifs_service_options

Name	Type	Description
admin_to_root_mapping	boolean	Specifies whether or not Administrator can be mapped to the UNIX user "root".
advanced_sparse_file	boolean	Specifies whether or not the CIFS server supports the advanced sparse file capabilities. This allows CIFS clients to query the allocated ranges of a file and to write zeroes or free data blocks for ranges of a file.
backup_symlink_enabled	boolean	Specifies whether or not to preserve UNIX symlinks during backup through SMB.
client_dup_detection_enabled	boolean	Specifies whether or not client duplicate session detection is enabled for CIFS.
client_version_reporting_enabled	boolean	Specifies whether or not client version reporting is enabled for CIFS.

Name	Type	Description
copy_offload	boolean	Specifies whether or not to enable the Copy Offload feature. This feature enables direct data transfers within or between compatible storage devices without transferring the data through the host computer. Note that this will also enable/disable the direct copy feature accordingly.
dac_enabled	boolean	Specifies whether or not the Dynamic Access Control (DAC) feature is enabled for the CIFS server.
export_policy_enabled	boolean	Specifies whether or not export policies are enabled for CIFS.
fake_open	boolean	Specifies whether or not fake open support is enabled. This parameter allows you to optimize the open and close requests coming from SMB 2 clients.
fsctl_trim	boolean	Specifies whether or not the trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the CIFS server.
junction_reparse	boolean	Specifies whether or not the reparse point support is enabled. When enabled the CIFS server exposes junction points to Windows clients as reparse points. This parameter is only active if the client has negotiated use of the SMB 2 or SMB 3 protocol. This parameter is not supported for SVMs with Infinite Volume.
large_mtu	boolean	Specifies whether or not SMB clients can send reads up to 1 MB in size.

Name	Type	Description
max_connections_per_session	integer	Specifies the maximum number of connections allowed per multichannel session.
max_lifs_per_session	integer	Specifies the maximum number of LIFs advertised per multichannel session.
max_opens_same_file_per_tree	integer	Specifies the maximum number of opens on the same file per tree.
max_same_tree_connect_per_session	integer	Specifies the maximum number of same tree connections per session.
max_same_user_sessions_per_connection	integer	Specifies the maximum number of same user sessions per connection.
max_watches_set_per_tree	integer	Specifies the maximum number of watches set per tree.
multichannel	boolean	Specifies whether or not the CIFS server supports Multichannel.
null_user_windows_name	string	Specifies a Windows User or Group name that should be mapped in case of a NULL user value.
path_component_cache	boolean	Specifies whether or not the path component cache is enabled on the CIFS server.
referral	boolean	Specifies whether or not to refer clients to more optimal LIFs. When enabled, it automatically refers clients to a data LIF local to the node which hosts the root of the requested share.

Name	Type	Description
shadowcopy	boolean	Specifies whether or not to enable the Shadowcopy Feature. This feature enables to take share-based backup copies of data that is in a data-consistent state at a specific point in time where the data is accessed over SMB 3.0 shares.
shadowcopy_dir_depth	integer	Specifies the maximum level of subdirectories on which ONTAP should create shadow copies. • Default value: 5 • Introduced in: 9.11 • x-nullable: true
smb_credits	integer	Specifies the maximum number of outstanding requests on a CIFS connection.
trusted_domain_enum_search_enabled	boolean	Specifies whether or not to enable trusted domain search. • If this parameter is set to true, it displays CIFS options only for CIFS servers that support enumeration of bidirectional trusted domains and that support searching in all bidirectional trusted domains when performing Windows user lookups for UNIX user to Windows user name mapping. • If set to false, it displays CIFS options for CIFS servers that do not support enumeration of bidirectional trusted domains.
widelink_reparse_versions	array[string]	Specifies the CIFS protocol versions for which the widelink is reported as reparse point.

cifs_service_security

Name	Type	Description
advertised_kdc_encryptions	array[string]	
aes_netlogon_enabled	boolean	Specifies whether or not an AES session key is enabled for the Netlogon channel.
encrypt_dc_connection	boolean	Specifies whether encryption is required for domain controller connections.

Name	Type	Description
kdc_encryption	boolean	This attribute has been deprecated. Use "security.advertised_kdc_encryptions" to specify the encryption type to use. Specifies whether AES-128 and AES-256 encryption is enabled for all Kerberos-based communication with the Active Directory KDC. To take advantage of the strongest security with Kerberos-based communication, AES-256 and AES-128 encryption can be enabled on the CIFS server. Kerberos-related communication for CIFS is used during CIFS server creation on the SVM, as well as during the SMB session setup phase. The CIFS server supports the following encryption types for Kerberos communication: • RC4-HMAC • DES • AES When the CIFS server is created, the domain controller creates a computer machine account in Active Directory. After a newly created machine account authenticates, the KDC and the CIFS server negotiates encryption types. At this time, the KDC becomes aware of the encryption capabilities of the particular machine account and uses those

Name	Type	Description
ldap_referral_enabled	boolean	Specifies whether or not LDAP referral chasing is enabled for AD LDAP connections.
lm_compatibility_level	string	It is CIFS server minimum security level, also known as the LMCompatibilityLevel. The minimum security level is the minimum level of the security tokens that the CIFS server accepts from SMB clients. The available values are: • lm_ntlm_ntlmv2_krb Accepts LM, NTLM, NTLMv2 and Kerberos • ntlm_ntlmv2_krb Accepts NTLM, NTLMv2 and Kerberos • ntlmv2_krb Accepts NTLMv2 and Kerberos • krb Accepts Kerberos only
restrict_anonymous	string	Specifies what level of access an anonymous user is granted. An anonymous user (also known as a "null user") can list or enumerate certain types of system information from Windows hosts on the network, including user names and details, account policies, and share names. Access for the anonymous user can be controlled by specifying one of three access restriction settings. The available values are: • no_restriction - No access restriction for an anonymous user. • no_enumeration - Enumeration is restricted for an anonymous user. • no_access - All access is restricted for an anonymous user.

Name	Type	Description
session_security	string	Specifies client session security for AD LDAP connections. The available values are: • none - No Signing or Sealing. • sign - Sign LDAP traffic. • seal - Seal and Sign LDAP traffic
smb_encryption	boolean	Specifies whether encryption is required for incoming CIFS traffic.
smb_signing	boolean	Specifies whether signing is required for incoming CIFS traffic. SMB signing helps to ensure that network traffic between the CIFS server and the client is not compromised.
try_ldap_channel_binding	boolean	Specifies whether or not channel binding is attempted in the case of TLS/LDAPS.
use_ldaps	boolean	Specifies whether or not to use use LDAPS for secure Active Directory LDAP connections by using the TLS/SSL protocols.
use_start_tls	boolean	Specifies whether or not to use SSL/TLS for allowing secure LDAP communication with Active Directory LDAP servers.

iops_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

statistics

These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
timestamp	string	The timestamp of the performance data.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array [error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update CIFS mandatory and optional parameters

PATCH /protocols/cifs/services/{svm.uuid}

Introduced In: 9.6

Updates both the mandatory and optional parameters of the CIFS configuration. Ensure the CIFS server is administratively disabled when renaming the CIFS server or modifying the *ad_domain* properties.

Related ONTAP commands

- `vserver cifs server modify`
- `vserver cifs server options modify`
- `vserver cifs security modify`
- `vserver cifs server add-netbios-aliases`
- `vserver cifs server remove-netbios-aliases`
- `vserver cifs group-policy modify`

Learn more

- [DOC /protocols/cifs/services](#)

Parameters

Name	Type	In	Required	Description
force	boolean	query	False	If this is set and a machine account with the same name as specified in 'cifs-server name' exists in the Active Directory, existing machine account will be overwritten and reused. The default value for this field is false. • Introduced in: 9.11

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
ad_domain	ad_domain	
auth-style	string	Authentication type.

Name	Type	Description
auth_user_type	string	Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS. - enum: ["domain_user", "hybrid_user"] - Introduced in: 9.16 - x-nullable: true
authentication_method	string	Specifies the authentication method. The available values are: - client_secret - certificate
client_certificate	string	PKCS12 certificate used by the application to prove its identity to AKV.
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
client_secret	string	Secret used by the application to prove its identity to AKV.
comment	string	A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.
default_unix_user	string	Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.
enabled	boolean	Specifies if the CIFS service is administratively enabled.
group_policy_object_enabled	boolean	If set to true, group policies will be applied to the SVM.

Name	Type	Description
key_vault_uri	string	URI of the deployed AKV that is used by ONTAP for storing keys. • example: https://kmip-akv-keyvault.vault.azure.net/ • format: uri • Introduced in: 9.15 • x-nullable: true
name	string	The name of the CIFS server.
netbios	cifs_netbios	
oauth_host	string	Open authorization server host name.
options	cifs_service_options	
proxy_host	string	Proxy host.
proxy_password	string	Proxy password. Password is not audited.
proxy_port	integer	Proxy port.
proxy_type	string	Proxy type.
proxy_username	string	Proxy username.
security	cifs_service_security	
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
timeout	integer	AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.
verify_host	boolean	Verify the identity of the AKV host name. By default, verify_host is set to true.
workgroup	string	The workgroup name.

Example request

```
{
  "ad_domain": {
    "default_site": "string",
    "fqdn": "example.com",
    "organizational_unit": "string",
    "password": "string",
    "user": "string"
  },
  "auth-style": "domain",
  "auth_user_type": "string",
  "authentication_method": "string",
  "client_certificate": "PEM Cert",
  "client_id": "e959d1b5-5a63-4284-9268-851e30e3eceb",
  "client_secret": "<APPLICATION-CLIENT-SECRET-FOR-AKV>",
  "comment": "This CIFS Server Belongs to CS Department",
  "default_unix_user": "string",
  "key_vault_uri": "https://kmip-akv-keyvault.vault.azure.net/",
  "name": "CIFS1",
  "netbios": {
    "aliases": [
      "ALIAS_1",
      "ALIAS_2",
      "ALIAS_3"
    ],
    "wins_servers": [
      "10.224.65.20",
      "10.224.65.21"
    ]
  },
  "oauth_host": "login.microsoftonline.com",
  "options": {
    "max_connections_per_session": 32,
    "max_lifs_per_session": 256,
    "max_opens_same_file_per_tree": 1000,
    "max_same_tree_connect_per_session": 5000,
    "max_same_user_sessions_per_connection": 2500,
    "max_watches_set_per_tree": 500,
    "null_user_windows_name": "string",
    "smb_credits": 128,
    "widelink_reparse_versions": [
      "smb1"
    ]
  },
  "proxy_host": "proxy.eng.com",
}
```

```

"proxy_password": "proxypassword",
"proxy_port": 1234,
"proxy_type": "string",
"proxy_username": "proxyuser",
"security": {
  "advertised_kdc_encryptions": [
    "string"
  ],
  "lm_compatibility_level": "string",
  "restrict_anonymous": "string",
  "session_security": "string"
},
"tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
"timeout": 25,
"workgroup": "workgrp1"
}

```

Response

Status: 200, Ok

Name	Type	Description
job	job_link	

Example response

```

{
  "job": {
    "uuid": "string"
  }
}

```

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
3735751	Failed to authenticate and retrieve the access token from the Azure OAuth host.
3735752	Failed to extract the private key from the Azure Key Vault certificate.
3735753	Unsupported content_type in the Azure secrets response.
3735754	Failed to parse the JSON response from Azure Key Vault.
3735755	REST API call to Azure failed.
3735756	Invalid client certificate.
3735757	Failed to generate client assertion.
3735762	The provided Azure Key Vault configuration is incorrect.
3735763	The provided Azure Key Vault configuration is incomplete.
3735764	Request to Azure failed. Reason - Azure error code and Azure error message.
655390	Failed to modify the CIFS server. Failure can occur due to multiple reasons. For example: STARTTLS and LDAPS cannot be used together or the group policy is already enabled for the SVM.
655562	NetBIOS name is longer than 15 characters.
655538	Unable to modify the CIFS server. The server name is already used by another SVM.
655563	NetBIOS name contains characters that are not allowed.
655771	The number of NetBIOS aliases cannot exceed the maximum supported number of '200'.
655923	Retrieving credentials from AKV is not supported because the effective cluster version is not ONTAP 9.15.0 or later.
656473	Fields security.kdc_encryption and security.advertised_kdc_encryptions are mutually exclusive. Specify only one of the two.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

ad_domain

Name	Type	Description
default_site	string	The default site used by LIFs that do not have a site membership.
fqdn	string	The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. POST and PATCH only.
organizational_unit	string	Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. POST and PATCH only.
password	string	The account password used to add this CIFS server to the Active Directory. This is not audited.
user	string	The user account used to add this CIFS server to the Active Directory.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

metric

Performance numbers, such as IOPS latency and throughput, for SVM protocols.

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

cifs_netbios

Name	Type	Description
aliases	array[string]	
enabled	boolean	Specifies whether NetBios name service (NBNS) is enabled for the CIFS. If this service is enabled, the CIFS server will start sending the broadcast for name registration.
wins_servers	array[string]	

cifs_service_options

Name	Type	Description
admin_to_root_mapping	boolean	Specifies whether or not Administrator can be mapped to the UNIX user "root".
advanced_sparse_file	boolean	Specifies whether or not the CIFS server supports the advanced sparse file capabilities. This allows CIFS clients to query the allocated ranges of a file and to write zeroes or free data blocks for ranges of a file.
backup_symlink_enabled	boolean	Specifies whether or not to preserve UNIX symlinks during backup through SMB.
client_dup_detection_enabled	boolean	Specifies whether or not client duplicate session detection is enabled for CIFS.
client_version_reporting_enabled	boolean	Specifies whether or not client version reporting is enabled for CIFS.

Name	Type	Description
copy_offload	boolean	Specifies whether or not to enable the Copy Offload feature. This feature enables direct data transfers within or between compatible storage devices without transferring the data through the host computer. Note that this will also enable/disable the direct copy feature accordingly.
dac_enabled	boolean	Specifies whether or not the Dynamic Access Control (DAC) feature is enabled for the CIFS server.
export_policy_enabled	boolean	Specifies whether or not export policies are enabled for CIFS.
fake_open	boolean	Specifies whether or not fake open support is enabled. This parameter allows you to optimize the open and close requests coming from SMB 2 clients.
fsctl_trim	boolean	Specifies whether or not the trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the CIFS server.
junction_reparse	boolean	Specifies whether or not the reparse point support is enabled. When enabled the CIFS server exposes junction points to Windows clients as reparse points. This parameter is only active if the client has negotiated use of the SMB 2 or SMB 3 protocol. This parameter is not supported for SVMs with Infinite Volume.
large_mtu	boolean	Specifies whether or not SMB clients can send reads up to 1 MB in size.

Name	Type	Description
max_connections_per_session	integer	Specifies the maximum number of connections allowed per multichannel session.
max_lifs_per_session	integer	Specifies the maximum number of LIFs advertised per multichannel session.
max_opens_same_file_per_tree	integer	Specifies the maximum number of opens on the same file per tree.
max_same_tree_connect_per_session	integer	Specifies the maximum number of same tree connections per session.
max_same_user_sessions_per_connection	integer	Specifies the maximum number of same user sessions per connection.
max_watches_set_per_tree	integer	Specifies the maximum number of watches set per tree.
multichannel	boolean	Specifies whether or not the CIFS server supports Multichannel.
null_user_windows_name	string	Specifies a Windows User or Group name that should be mapped in case of a NULL user value.
path_component_cache	boolean	Specifies whether or not the path component cache is enabled on the CIFS server.
referral	boolean	Specifies whether or not to refer clients to more optimal LIFs. When enabled, it automatically refers clients to a data LIF local to the node which hosts the root of the requested share.

Name	Type	Description
shadowcopy	boolean	Specifies whether or not to enable the Shadowcopy Feature. This feature enables to take share-based backup copies of data that is in a data-consistent state at a specific point in time where the data is accessed over SMB 3.0 shares.
shadowcopy_dir_depth	integer	Specifies the maximum level of subdirectories on which ONTAP should create shadow copies. • Default value: 5 • Introduced in: 9.11 • x-nullable: true
smb_credits	integer	Specifies the maximum number of outstanding requests on a CIFS connection.
trusted_domain_enum_search_enabled	boolean	Specifies whether or not to enable trusted domain search. • If this parameter is set to true, it displays CIFS options only for CIFS servers that support enumeration of bidirectional trusted domains and that support searching in all bidirectional trusted domains when performing Windows user lookups for UNIX user to Windows user name mapping. • If set to false, it displays CIFS options for CIFS servers that do not support enumeration of bidirectional trusted domains.
widelink_reparse_versions	array[string]	Specifies the CIFS protocol versions for which the widelink is reported as reparse point.

cifs_service_security

Name	Type	Description
advertised_kdc_encryptions	array[string]	
aes_netlogon_enabled	boolean	Specifies whether or not an AES session key is enabled for the Netlogon channel.
encrypt_dc_connection	boolean	Specifies whether encryption is required for domain controller connections.

Name	Type	Description
kdc_encryption	boolean	This attribute has been deprecated. Use "security.advertised_kdc_encryptions" to specify the encryption type to use. Specifies whether AES-128 and AES-256 encryption is enabled for all Kerberos-based communication with the Active Directory KDC. To take advantage of the strongest security with Kerberos-based communication, AES-256 and AES-128 encryption can be enabled on the CIFS server. Kerberos-related communication for CIFS is used during CIFS server creation on the SVM, as well as during the SMB session setup phase. The CIFS server supports the following encryption types for Kerberos communication: • RC4-HMAC • DES • AES When the CIFS server is created, the domain controller creates a computer machine account in Active Directory. After a newly created machine account authenticates, the KDC and the CIFS server negotiates encryption types. At this time, the KDC becomes aware of the encryption capabilities of the particular machine account and uses those

Name	Type	Description
ldap_referral_enabled	boolean	Specifies whether or not LDAP referral chasing is enabled for AD LDAP connections.
lm_compatibility_level	string	It is CIFS server minimum security level, also known as the LMCompatibilityLevel. The minimum security level is the minimum level of the security tokens that the CIFS server accepts from SMB clients. The available values are: • lm_ntlm_ntlmv2_krb Accepts LM, NTLM, NTLMv2 and Kerberos • ntlm_ntlmv2_krb Accepts NTLM, NTLMv2 and Kerberos • ntlmv2_krb Accepts NTLMv2 and Kerberos • krb Accepts Kerberos only
restrict_anonymous	string	Specifies what level of access an anonymous user is granted. An anonymous user (also known as a "null user") can list or enumerate certain types of system information from Windows hosts on the network, including user names and details, account policies, and share names. Access for the anonymous user can be controlled by specifying one of three access restriction settings. The available values are: • no_restriction - No access restriction for an anonymous user. • no_enumeration - Enumeration is restricted for an anonymous user. • no_access - All access is restricted for an anonymous user.

Name	Type	Description
session_security	string	Specifies client session security for AD LDAP connections. The available values are: • none - No Signing or Sealing. • sign - Sign LDAP traffic. • seal - Seal and Sign LDAP traffic
smb_encryption	boolean	Specifies whether encryption is required for incoming CIFS traffic.
smb_signing	boolean	Specifies whether signing is required for incoming CIFS traffic. SMB signing helps to ensure that network traffic between the CIFS server and the client is not compromised.
try_ldap_channel_binding	boolean	Specifies whether or not channel binding is attempted in the case of TLS/LDAPS.
use_ldaps	boolean	Specifies whether or not to use use LDAPS for secure Active Directory LDAP connections by using the TLS/SSL protocols.
use_start_tls	boolean	Specifies whether or not to use SSL/TLS for allowing secure LDAP communication with Active Directory LDAP servers.

iops_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

statistics

These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
timestamp	string	The timestamp of the performance data.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_service

Name	Type	Description
ad_domain	ad_domain	
auth-style	string	Authentication type.
auth_user_type	string	Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS. - enum: ["domain_user", "hybrid_user"] - Introduced in: 9.16 - x-nullable: true
authentication_method	string	Specifies the authentication method. The available values are: - client_secret - certificate
client_certificate	string	PKCS12 certificate used by the application to prove its identity to AKV.

Name	Type	Description
client_id	string	Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
client_secret	string	Secret used by the application to prove its identity to AKV.
comment	string	A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.
default_unix_user	string	Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.
enabled	boolean	Specifies if the CIFS service is administratively enabled.
group_policy_object_enabled	boolean	If set to true, group policies will be applied to the SVM.
key_vault_uri	string	URI of the deployed AKV that is used by ONTAP for storing keys. • example: https://kmip-akv-keyvault.vault.azure.net/ • format: uri • Introduced in: 9.15 • x-nullable: true
name	string	The name of the CIFS server.
netbios	cifs_netbios	
oauth_host	string	Open authorization server host name.
options	cifs_service_options	
proxy_host	string	Proxy host.

Name	Type	Description
proxy_password	string	Proxy password. Password is not audited.
proxy_port	integer	Proxy port.
proxy_type	string	Proxy type.
proxy_username	string	Proxy username.
security	cifs_service_security	
tenant_id	string	Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
timeout	integer	AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.
verify_host	boolean	Verify the identity of the AKV host name. By default, verify_host is set to true.
workgroup	string	The workgroup name.

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve CIFS protocol historical performance metrics for an SVM

GET /protocols/cifs/services/{svm.uuid}/metrics

Introduced In: 9.7

Retrieves historical performance metrics for the CIFS protocol of an SVM.

Parameters

Name	Type	In	Required	Description
duration	string	query	False	Filter by duration
status	string	query	False	Filter by status
latency.other	integer	query	False	Filter by latency.other
latency.total	integer	query	False	Filter by latency.total
latency.write	integer	query	False	Filter by latency.write
latency.read	integer	query	False	Filter by latency.read
iops.other	integer	query	False	Filter by iops.other
iops.total	integer	query	False	Filter by iops.total
iops.write	integer	query	False	Filter by iops.write
iops.read	integer	query	False	Filter by iops.read

Name	Type	In	Required	Description
throughput.other	integer	query	False	Filter by throughput.other
throughput.total	integer	query	False	Filter by throughput.total
throughput.write	integer	query	False	Filter by throughput.write
throughput.read	integer	query	False	Filter by throughput.read
timestamp	string	query	False	Filter by timestamp
svm.uuid	string	path	True	Unique identifier of the SVM.

Name	Type	In	Required	Description
interval	string	query	False	The time range for the data. Examples can be 1h, 1d, 1m, 1w, 1y. The period for each time range is as follows: • 1h: Metrics over the most recent hour sampled over 15 seconds. • 1d: Metrics over the most recent day sampled over 5 minutes. • 1w: Metrics over the most recent week sampled over 30 minutes. • 1m: Metrics over the most recent month sampled over 2 hours. • 1y: Metrics over the most recent year sampled over a day. • Default value: 1 • enum: ["1h", "1d", "1w", "1m", "1y"]

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
order_by	array[string]	query	False	Order results by specified fields and optional [asc
desc] direction. Default direction is 'asc' for ascending.	return_records	boolean	query	False

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[records]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "duration": "PT15S",
      "iops": {
        "read": 200,
        "total": 1000,
        "write": 100
      },
      "latency": {
        "read": 200,
        "total": 1000,
        "write": 100
      },
      "status": "ok",
      "throughput": {
        "read": 200,
        "total": 1000,
        "write": 100
      },
      "timestamp": "2017-01-25 11:20:13 +0000"
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

records

Performance numbers, such as IOPS latency and throughput.

Name	Type	Description
_links	_links	

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View CIFS active file sessions

View CIFS active file sessions

Overview

ONTAP `cifs sessions file show` functionality is used to provide a list of currently opened files.<h2/>

Information on the open files

- Lists all files opened in current session.

Example

Retrieving established open file information

To retrieve the list of open files, use the following API. Note that *return_records=true*.

```
# The API:
GET /protocols/cifs/session/files

# The call:
curl -X GET "https://<cluster-mgmt-ip>/api/protocols/cifs/session/files?fields=*&return_timeout=15&return_records=true" -H "accept: application/json"
```

```
# The response:
{
  "records": [
    {
      "node": {
        "uuid": "a5f65ec0-3550-11ee-93c5-005056ae78de",
        "name": "sti220-vsim-sr050u"
      },
      "svm": {
        "name": "vs0",
        "uuid": "80e795f4-3553-11ee-9f97-005056ae78de"
      },
      "identifier": 109,
      "connection": {
        "identifier": 103985,
        "count": 1
      },
      "session": {
        "identifier": 10878444899913433090
      },
      "type": "regular",
      "open_mode": "r",
      "volume": {
        "uuid": "8384f6ae-3553-11ee-a3c3-005056ae0dd5",
        "name": "root_vs0"
      },
      "share": {
        "name": "sh1",
        "mode": "r"
      },
      "path": "first_file.txt",
      "continuously_available": "no",
      "range_locks_count": 0
    },
    {
      "node": {
        "uuid": "a5f65ec0-3550-11ee-93c5-005056ae78de",
        "name": "sti220-vsim-sr050u"
      },
      "svm": {
        "name": "vs0",
        "uuid": "80e795f4-3553-11ee-9f97-"
      }
    }
  ]
}
```

```

005056ae78de"
    },
    "identifier": 110,
    "connection": {
        "identifier": 103985,
        "count": 1
    },
    "session": {
        "identifier": 10878444899913433090
    },
    "type": "regular",
    "open_mode": "r",
    "volume": {
        "uuid": "8384f6ae-3553-11ee-a3c3-
005056ae0dd5",
        "name": "root_vs0"
    },
    "share": {
        "name": "sh1",
        "mode": "r"
    },
    "path": "second_file.txt",
    "continuously_available": "no",
    "range_locks_count": 0
    }
    ],
    "num_records": 2
}

```

Retrieving specific open file Information

```
# The API:
GET
/protocols/cifs/session/files/{node.uuid}/{svm.uuid}/{file.identifier}/{connection.identifier}/{session_id}

# The call:
curl -X GET "https://<cluster-mgmt-
ip>/api/protocols/cifs/session/files/a5f65ec0-3550-11ee-93c5-
005056ae78de/80e795f4-3553-11ee-9f97-
005056ae78de/109/103985/10878444899913433090"

# The response:
{
  "node": {
    "uuid": "a5f65ec0-3550-11ee-93c5-005056ae78de",
    "name": "sti220-vsrm-sr050u"
  },
  "svm": {
    "uuid": "80e795f4-3553-11ee-9f97-005056ae78de",
    "name": "vs0"
  },
  "identifier": 109,
  "connection": {
    "identifier": 103985,
    "count": 1
  },
  "session": {
    "identifier": 10878444899913433000
  },
  "type": "regular",
  "open_mode": "r",
  "volume": {
    "uuid": "8384f6ae-3553-11ee-a3c3-005056ae0dd5",
    "name": "root_vs0"
  },
  "share": {
    "name": "sh1",
    "mode": "r"
  },
  "path": "first_file.txt",
  "continuously_available": "no",
  "range_locks_count": 0
}
```


Closing a specific file based on `file.identifier`, `connection.identifier` **and** `session_id`

The file being closed is identified by the UUID of its SVM, the corresponding `file.identifier`, `connection.identifier` and `session_id`.

```
# The API:
DELETE
/protocols/cifs/session/files/{node.uuid}/{svm.uuid}/{file.identifier}/{connection.identifier}/{session_id}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/session/files/a5f65ec0-3550-11ee-93c5-005056ae78de/80e795f4-3553-11ee-9f97-005056ae78de/109/103985/10878444899913433090" -H "accept: application/json"
```

Retrieve CIFS open files

GET `/protocols/cifs/session/files`

Introduced In: 9.11

Retrieves the CIFS sessions Open Files information for all SVMs.

Related ONTAP commands

- `vserver cifs session file show`

Learn more

- [DOC /protocols/cifs/session/files](#)

Parameters

Name	Type	In	Required	Description
<code>continuously_available</code>	string	query	False	Filter by <code>continuously_available</code>
<code>volume.name</code>	string	query	False	Filter by <code>volume.name</code>
<code>volume.uuid</code>	string	query	False	Filter by <code>volume.uuid</code>

Name	Type	In	Required	Description
share.name	string	query	False	Filter by share.name
share.mode	string	query	False	Filter by share.mode
path	string	query	False	Filter by path
identifier	integer	query	False	Filter by identifier
type	string	query	False	Filter by type
open_mode	string	query	False	Filter by open_mode
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
connection.identifier	integer	query	False	Filter by connection.identifier
connection.count	integer	query	False	Filter by connection.count
range_locks_count	integer	query	False	Filter by range_locks_count
session.identifier	integer	query	False	Filter by session.identifier
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	collection_links	
num_records	integer	Number of records
records	array[cifs_open_file]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "connection": {
        "count": 3,
        "identifier": 356756
      },
      "continuously_available": "no",
      "identifier": 17,
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "open_mode": "r",
      "path": "sub1\\sub2\\f4",
      "range_locks_count": 4,
      "session": {
        "identifier": 8966666858094657537
      },
      "share": {
        "mode": "r",
        "name": "share1"
      },
      "svm": {
        "_links": {
```

```

        "self": {
            "href": "/api/resourcelink"
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "type": "regular",
    "volume": {
        "_links": {
            "self": {
                "href": "/api/resourcelink"
            }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    }
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

collection_links

Name	Type	Description
next	href	
self	href	

self_link

Name	Type	Description
self	href	

connection

Name	Type	Description
count	integer	The number of CIFS connections associated with the CIFS session.
identifier	integer	The connection that is used to open the file.

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

session

Name	Type	Description
identifier	integer	Session under which file is opened.

share

Name	Type	Description
mode	string	The share mode used to open the file. The share mode can be a combination of: • r: read mode • w: write mode • d: delete • rw: read and write modes • rwd: read, write, and delete modes
name	string	CIFS share name where the file resides.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

cifs_open_file

Manage opened files over CIFS.

Name	Type	Description
_links	self_link	
connection	connection	
continuously_available	string	The type of continuous availability protection provided to the file. Opened files are continuously available if there are opened through a SMB3 client through a share with "continuously_available" set to yes. These open files are capable of non-disruptively recovering from take over and giveback as well as general aggregate relocation. • no: the open file is not continuously available. • yes: the open file is continuously available.
identifier	integer	The unique identifier for the opened file.
node	node	

Name	Type	Description
open_mode	string	Open mode corresponding to the opened file • r: Opened for read • w: Opened for write • d: Opened for delete • rw: Opened for read and write
path	string	Path from CIFS share.
range_locks_count	integer	The number of range locks granted on the file.
session	session	
share	share	
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	The type of opened file. The file can be a regular file, directory, a symbolic link to an existing file/directory, or an alternate data stream.
volume	volume	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

Close open files identified by SVM

DELETE

/protocols/cifs/session/files/{node.uuid}/{svm.uuid}/{identifier}/{connection.identifier}/{session.identifier}

Introduced In: 9.11

Closes open files identified by svm.uuid, file.identifier, connection.identifier and session_id.

Related ONTAP commands

- `vserver cifs session file close`

Learn more

- [DOC /protocols/cifs/session/files](#)

Parameters

Name	Type	In	Required	Description
node.uuid	string	path	True	Node UUID.
identifier	integer	path	True	File ID • format: int64
connection.identifier	integer	path	True	Connection ID
session.identifier	integer	path	True	Session ID • format: int64
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a CIFS open file

GET

/protocols/cifs/session/files/{node.uuid}/{svm.uuid}/{identifier}/{connection.identifier}/{session.identifier}

Introduced In: 9.11

Retrieves specific CIFS session Open Files information.

Learn more

- [DOC /protocols/cifs/session/files](#)

Parameters

Name	Type	In	Required	Description
node.uuid	string	path	True	Node UUID.
identifier	integer	path	True	File ID • format: int64
connection.identifier	integer	path	True	Connection ID

Name	Type	In	Required	Description
session.identifier	integer	path	True	Session ID • format: int64
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	self_link	
connection	connection	
continuously_available	string	The type of continuous availability protection provided to the file. Opened files are continuously available if there are opened through a SMB3 client through a share with "continuously_available" set to yes. These open files are capable of non-disruptively recovering from take over and giveback as well as general aggregate relocation. • no: the open file is not continuously available. • yes: the open file is continuously available.
identifier	integer	The unique identifier for the opened file.
node	node	

Name	Type	Description
open_mode	string	Open mode corresponding to the opened file • r: Opened for read • w: Opened for write • d: Opened for delete • rw: Opened for read and write
path	string	Path from CIFS share.
range_locks_count	integer	The number of range locks granted on the file.
session	session	
share	share	
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	The type of opened file. The file can be a regular file, directory, a symbolic link to an existing file/directory, or an alternate data stream.
volume	volume	

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "connection": {
    "count": 3,
    "identifier": 356756
  },
  "continuously_available": "no",
  "identifier": 17,
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "open_mode": "r",
  "path": "sub1\\sub2\\f4",
  "range_locks_count": 4,
  "session": {
    "identifier": 8966666858094657537
  },
  "share": {
    "mode": "r",
    "name": "share1"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "regular",
  "volume": {
    "_links": {
      "self": {
```



```
        "href": "/api/resourcelink"
      },
    ],
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

self_link

Name	Type	Description
self	href	

connection

Name	Type	Description
count	integer	The number of CIFS connections associated with the CIFS session.
identifier	integer	The connection that is used to open the file.

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

session

Name	Type	Description
identifier	integer	Session under which file is opened.

share

Name	Type	Description
mode	string	The share mode used to open the file. The share mode can be a combination of: • r: read mode • w: write mode • d: delete • rw: read and write modes • rwd: read, write, and delete modes
name	string	CIFS share name where the file resides.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View CIFS active sessions

View CIFS active sessions

Overview

ONTAP CIFS sessions `show` functionality is used to provide a list of currently established CIFS sessions with SMB Clients.

Information on the CIFS session

- List all the SMB sessions for SVM and the clients along with volume information on which the clients are using.

Example

Retrieves established sessions information

To retrieve the list of CIFS sessions, use the following API. Note that *return_records=true*.

```
# The API:
GET /protocols/cifs/sessions

# The call:
curl -X GET "https://<cluster-mgmt-
ip>/api/protocols/cifs/sessions?fields=*&return_timeout=15&return_records=
true" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "node": {
        "uuid": "a5f65ec0-3550-11ee-93c5-005056ae78de",
        "name": "sti220-vsim-sr050u"
      },
      "svm": {
        "name": "vs0",
        "uuid": "80e795f4-3553-11ee-9f97-005056ae78de"
      },
      "identifier": 10878444899913433000,
      "connection_id": 103985,
      "server_ip": "172.29.212.166",
      "client_ip": "10.249.30.206",
      "authentication": "ntlmv2",
      "user": "example_user",
      "mapped_unix_user": "example_user",
      "open_shares": 1,
      "open_files": 5,
      "open_other": 0,
      "connected_duration": "PT37M53S",
      "idle_duration": "PT3M15S",
      "protocol": "smb3_1",
      "continuous_availability": "unavailable",
      "smb_signing": true,
      "smb_encryption": "unencrypted",
      "connection_count": 1,
      "large_mtu": true,
      "volumes": [
```

```

    {
      "name": "root_vs0",
      "uuid": "5015c99b-3554-11ee-9f97-005056ae78de"
    },
    {
      "name": "vol_test",
      "uuid": "84b94bb8-3553-11ee-a3c3-005056ae0dd5"
    }
  ]
},
{
  "node": {
    "uuid": "a5f65ec0-3550-11ee-93c5-005056ae78de",
    "name": "sti220-vsim-sr050u"
  },
  "svm": {
    "name": "vs0",
    "uuid": "80e795f4-3553-11ee-9f97-005056ae78de"
  },
  "identifier": 10878444899913433000,
  "connection_id": 103986,
  "server_ip": "172.29.212.166",
  "client_ip": "10.234.157.109",
  "authentication": "ntlmv2",
  "user": "example_user",
  "mapped_unix_user": "example_user",
  "open_shares": 1,
  "open_files": 1,
  "open_other": 0,
  "connected_duration": "PT15S",
  "idle_duration": "PT5S",
  "protocol": "smb3_1",
  "continuous_availability": "unavailable",
  "smb_signing": false,
  "smb_encryption": "unencrypted",
  "connection_count": 1,
  "large_mtu": true,
  "volumes": [
    {
      "name": "root_vs0",
      "uuid": "84b94bb8-3553-11ee-a3c3-005056ae0dd5"
    }
  ]
}
],
"num_records": 2

```

```
}
```

Retrieving CIFS server configuration details for a specific SVM

```
# The API:
GET
/protocols/cifs/sessions/{node.uuid}/{svm.uuid}/{identifier}/{connection_id}

# The call:
curl -X GET "https://<cluster-mgmt-ip>/api/protocols/cifs/sessions/a5f65ec0-3550-11ee-93c5-005056ae78de/80e795f4-3553-11ee-9f97-005056ae78de/10878444899913433090/103985" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>"

# The response:
{
  "node": {
    "uuid": "a5f65ec0-3550-11ee-93c5-005056ae78de",
    "name": "sti220-vsim-sr050u"
  },
  "svm": {
    "uuid": "80e795f4-3553-11ee-9f97-005056ae78de",
    "name": "vs0"
  },
  "identifier": 10878444899913433000,
  "connection_id": 103985,
  "server_ip": "172.29.212.166",
  "client_ip": "10.249.30.206",
  "authentication": "ntlmv2",
  "user": "example_user",
  "mapped_unix_user": "example_user",
  "open_shares": 1,
  "open_files": 5,
  "open_other": 0,
  "connected_duration": "PT50M20S",
  "idle_duration": "PT5M41S",
  "protocol": "smb3_1",
  "continuous_availability": "unavailable",
  "smb_signing": true,
  "smb_encryption": "unencrypted",
```

```
"connection_count": 1,
"large_mtu": true,
"volumes": [
  {
    "name": "root_vs0",
    "uuid": "5015c99b-3554-11ee-9f97-005056ae78de"
  },
  {
    "name": "vol_test",
    "uuid": "84b94bb8-3553-11ee-a3c3-005056ae0dd5"
  }
]
}
```

Removing all existing CIFS sessions for a specific node on a specific SVM

To delete all the existing CIFS session, pass the identifier and connection ID as zero (0) in the following API. This will delete all of the CIFS sessions for the given SVM on the node.

```
# The API:
DELETE
/protocols/cifs/sessions/{node.uuid}/{svm.uuid}/{identifier}/{connection_id}

# The call:
curl -X DELETE "https://<cluster-mgmt-ip>/api/protocols/cifs/sessions/a5f65ec0-3550-11ee-93c5-005056ae78de/80e795f4-3553-11ee-9f97-005056ae78de/0/0" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>"
```

Removing all CIFS sessions for a specific connection on a specific node on a specific SVM

To delete a CIFS session, use the following API. This will delete the CIFS sessions for a given SVM on the node.

```
# The API:
DELETE
/protocols/cifs/sessions/{node.uuid}/{svm.uuid}/{identifier}/{connection_id}

# The call:
curl -X DELETE "https://<cluster-mgmt-ip>/api/protocols/cifs/sessions/a5f65ec0-3550-11ee-93c5-005056ae78de/80e795f4-3553-11ee-9f97-005056ae78de/0/103985" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>"
```

Removing a specific CIFS session for a specific Node on a specific SVM

To delete a specific CIFS session, use the following API. This will delete the specific CIFS session for the given SVM on the node.

```
# The API:
DELETE
/protocols/cifs/sessions/{node.uuid}/{svm.uuid}/{identifier}/{connection_id}

# The call:
curl -X DELETE "https://<cluster-mgmt-ip>/api/protocols/cifs/sessions/a5f65ec0-3550-11ee-93c5-005056ae78de/80e795f4-3553-11ee-9f97-005056ae78de/10878444899913433090/103985" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>"
```

Retrieve CIFS session information for all SVMs

GET /protocols/cifs/sessions

Introduced In: 9.8

Retrieves the CIFS sessions information for all SVMs.

Related ONTAP commands

- `vserver cifs session show -active-volumes`

Learn more

- [DOC /protocols/cifs/sessions](#)

Parameters

Name	Type	In	Required	Description
smb_signing	boolean	query	False	Filter by smb_signing
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
mapped_unix_user	string	query	False	Filter by mapped_unix_user
open_shares	integer	query	False	Filter by open_shares
continuous_availability	string	query	False	Filter by continuous_availability
open_other	integer	query	False	Filter by open_other
protocol	string	query	False	Filter by protocol
open_files	integer	query	False	Filter by open_files
user	string	query	False	Filter by user
identifier	integer	query	False	Filter by identifier
large_mtu	boolean	query	False	Filter by large_mtu
server_ip	string	query	False	Filter by server_ip
connected_duration	string	query	False	Filter by connected_duration
authentication	string	query	False	Filter by authentication
idle_duration	string	query	False	Filter by idle_duration

Name	Type	In	Required	Description
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
smb_encryption	string	query	False	Filter by smb_encryption
client_ip	string	query	False	Filter by client_ip
connection_id	integer	query	False	Filter by connection_id
connection_count	integer	query	False	Filter by connection_count
volumes.name	string	query	False	Filter by volumes.name
volumes.uuid	string	query	False	Filter by volumes.uuid
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[cifs_session]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "authentication": "ntlmv2",
      "client_ip": "10.74.7.182",
      "connected_duration": "P4DT84H30M5S",
      "connection_count": 0,
      "connection_id": 22802,
      "continuous_availability": "unavailable",
      "identifier": 4622663542519103507,
      "idle_duration": "P4DT84H30M5S",
      "large_mtu": true,
      "mapped_unix_user": "root",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "open_files": 0,
      "open_other": 0,
      "open_shares": 0,
      "protocol": "smb3_1",
      "server_ip": "10.140.78.248",
      "smb_encryption": "unencrypted",
      "smb_signing": "",
      "svm": {
```

```

    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "user": "NBCIFSQA2\\administrator",
  "volumes": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "volume1",
      "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    }
  ]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volumes

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	The name of the volume. This field cannot be specified in a PATCH method.
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.8 • x-nullable: true

cifs_session

Name	Type	Description
_links	_links	
authentication	string	SMB authentication over which the client accesses the share. The following values are supported: • none - No authentication • ntlmv1 - Ntlm version 1 mechanism • ntlmv2 - Ntlm version 2 mechanism • kerberos - Kerberos authentication • anonymous - Anonymous mechanism
client_ip	string	Specifies IP address of the client.
connected_duration	string	Specifies an ISO-8601 format of date and time used to retrieve the connected time duration in hours, minutes, and seconds format.
connection_count	integer	A counter used to track requests that are sent to the volumes to the node.

Name	Type	Description
connection_id	integer	A unique 32-bit unsigned number used to represent each SMB session's connection ID.
continuous_availability	string	The level of continuous availability protection provided to the SMB sessions and/or files. • unavailable - Open file is not continuously available. For sessions, it contains one or more open files but none of them are continuously available. • available - open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available. • partial - Sessions only. Contains at least one continuously available open file with other files open but not continuously available.
identifier	integer	A unique 64-bit unsigned number used to represent each SMB session's identifier.
idle_duration	string	Specifies an ISO-8601 format of date and time used to retrieve the idle time duration in hours, minutes, and seconds format.
large_mtu	boolean	Specifies whether the large MTU is enabled or not for an SMB session.
mapped_unix_user	string	Indicated that a mapped UNIX user has logged in.
node	node	
open_files	integer	Number of files the SMB session has opened.

Name	Type	Description
open_other	integer	Number of other files the SMB session has opened.
open_shares	integer	Number of shares the SMB session has opened.
protocol	string	The SMB protocol version over which the client accesses the volumes. The following values are supported: • smb1 - SMB version 1 • smb2 - SMB version 2 • smb2_1 - SMB version 2 minor version 1 • smb3 - SMB version 3 • smb3_1 - SMB version 3 minor version 1
server_ip	string	Specifies the IP address of the SVM.
smb_encryption	string	Indicates an SMB encryption state. The following values are supported: • unencrypted - SMB session is not encrypted • encrypted - SMB session is fully encrypted. SVM level encryption is enabled and encryption occurs for the entire session. • partially_encrypted - SMB session is partially encrypted. Share level encryption is enabled and encryption is initiated when the tree-connect occurs.
smb_signing	boolean	Specifies whether or not SMB signing is enabled.
svm	svm	SVM, applies only to SVM-scoped objects.

Name	Type	Description
user	string	Indicates that a Windows user has logged in.
volumes	array[volumes]	A group of volumes, the client is accessing.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete SMB session information for an SVM node

DELETE

/protocols/cifs/sessions/{node.uuid}/{svm.uuid}/{identifier}/{connection_id}

Introduced In: 9.9

Deletes SMB session information on a node for an SVM.

- To delete the specific SMB session information, pass the relevant SMB session's identifier and connection Id.
- To delete all the SMB session information on specific node and SVM, pass the both SMB session's identifier and connection Id as zero(0)
- To delete all the SMB session information on specific connection, pass the specific SMB session's Identifier value as zero(0).
- To delete all the SMB session information on specific Identifier alone is not allowed.

Related ONTAP commands

- `vserver cifs session close`

Learn more

- [DOC /protocols/cifs/sessions](#)

Parameters

Name	Type	In	Required	Description
node.uuid	string	path	True	Node UUID.
identifier	integer	path	True	Unique identifier for the SMB session.
connection_id	integer	path	True	Unique identifier for the SMB connection.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
655503	The SMB session delete does not allow a connection ID of zero (0).

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve SMB session information for an SMB connection in an SVM node

GET /protocols/cifs/sessions/{node.uuid}/{svm.uuid}/{identifier}/{connection_id}

Introduced In: 9.8

Retrieves specific SMB session information for a specific SMB connection in a node on an SVM.

Learn more

- [DOC /protocols/cifs/sessions](#)

Parameters

Name	Type	In	Required	Description
node.uuid	string	path	True	Node UUID.
identifier	integer	path	True	Unique identifier for the SMB session.
connection_id	integer	path	True	Unique identifier for the SMB connection.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
authentication	string	SMB authentication over which the client accesses the share. The following values are supported: • none - No authentication • ntlmv1 - Ntlm version 1 mechanism • ntlmv2 - Ntlm version 2 mechanism • kerberos - Kerberos authentication • anonymous - Anonymous mechanism

Name	Type	Description
client_ip	string	Specifies IP address of the client.
connected_duration	string	Specifies an ISO-8601 format of date and time used to retrieve the connected time duration in hours, minutes, and seconds format.
connection_count	integer	A counter used to track requests that are sent to the volumes to the node.
connection_id	integer	A unique 32-bit unsigned number used to represent each SMB session's connection ID.
continuous_availability	string	The level of continuous availability protection provided to the SMB sessions and/or files. • unavailable - Open file is not continuously available. For sessions, it contains one or more open files but none of them are continuously available. • available - open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available. • partial - Sessions only. Contains at least one continuously available open file with other files open but not continuously available.
identifier	integer	A unique 64-bit unsigned number used to represent each SMB session's identifier.
idle_duration	string	Specifies an ISO-8601 format of date and time used to retrieve the idle time duration in hours, minutes, and seconds format.
large_mtu	boolean	Specifies whether the large MTU is enabled or not for an SMB session.

Name	Type	Description
mapped_unix_user	string	Indicated that a mapped UNIX user has logged in.
node	node	
open_files	integer	Number of files the SMB session has opened.
open_other	integer	Number of other files the SMB session has opened.
open_shares	integer	Number of shares the SMB session has opened.
protocol	string	The SMB protocol version over which the client accesses the volumes. The following values are supported: • smb1 - SMB version 1 • smb2 - SMB version 2 • smb2_1 - SMB version 2 minor version 1 • smb3 - SMB version 3 • smb3_1 - SMB version 3 minor version 1
server_ip	string	Specifies the IP address of the SVM.
smb_encryption	string	Indicates an SMB encryption state. The following values are supported: • unencrypted - SMB session is not encrypted • encrypted - SMB session is fully encrypted. SVM level encryption is enabled and encryption occurs for the entire session. • partially_encrypted - SMB session is partially encrypted. Share level encryption is enabled and encryption is initiated when the tree-connect occurs.

Name	Type	Description
smb_signing	boolean	Specifies whether or not SMB signing is enabled.
svm	svm	SVM, applies only to SVM-scoped objects.
user	string	Indicates that a Windows user has logged in.
volumes	array[volumes]	A group of volumes, the client is accessing.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "authentication": "ntlmv2",
  "client_ip": "10.74.7.182",
  "connected_duration": "P4DT84H30M5S",
  "connection_count": 0,
  "connection_id": 22802,
  "continuous_availability": "unavailable",
  "identifier": 4622663542519103507,
  "idle_duration": "P4DT84H30M5S",
  "large_mtu": true,
  "mapped_unix_user": "root",
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "open_files": 0,
  "open_other": 0,
  "open_shares": 0,
  "protocol": "smb3_1",
  "server_ip": "10.140.78.248",
  "smb_encryption": "unencrypted",
  "smb_signing": "",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "user": "NBCIFSQA2\\administrator",
  "volumes": [
    {
```

```

    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  }
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```

{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volumes

Name	Type	Description
_links	_links	
name	string	The name of the volume. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.8 • x-nullable: true

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View and update shadow copy information

View and update shadow copy information

Microsoft Remote Volume Shadow Copy Services (VSS) is an extension of the existing Microsoft VSS infrastructure. Previously, VSS could be used for backup services only for data stored on the local disk. This limited the use of VSS to applications that stored data either on a local disk or on SAN-based storage. With Remote VSS, Microsoft has extended the VSS infrastructure to support the shadow copying of SMB shares. Server applications, such as, Hyper-V are now storing VHD files on SMB file shares. With these new extensions, it is possible to take application consistent shadow copies for virtual machines that store data and configuration files on shares.

```
# The API:
GET /api/protocols/cifs/shadowcopy-sets

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/shadowcopy-sets?fields=*&return_records=true&return_timeout=15" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>"

# The Response:
{
  "records": [
    {
      "uuid": "27ed1b79-97f6-11ec-8ad1-0050568e57be",
      "svm": {
        "uuid": "dfb8e00d-9498-11ec-9f9d-0050568e57be",
        "name": "vs1"
      },
      "keep_snapshots": true
    },
    {
      "uuid": "388be551-97f6-11ec-8ad1-0050568e57be",
      "svm": {
        "uuid": "dfb8e00d-9498-11ec-9f9d-0050568e57be",
        "name": "vs1"
      },
      "keep_snapshots": false
    },
    {
      "uuid": "525104ef-9f96-11ec-82fd-0050568e57be",
      "svm": {
        "uuid": "fdb5bd8b-9498-11ec-9f9d-0050568e57be",
        "name": "vs2"
      },
      "keep_snapshots": false
    },
    {
      "uuid": "66f8f723-9f96-11ec-82fd-0050568e57be",
      "svm": {
        "uuid": "fdb5bd8b-9498-11ec-9f9d-0050568e57be",
        "name": "vs2"
      },
      "keep_snapshots": true
    }
  ]
}
```

```
],  
"num_records": 4  
}
```

Retrieving information for a specific shadow copy set

```
# The API:  
GET /api/protocols/cifs/shadowcopy-sets/{uuid}  
  
# The call:  
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/shadowcopy-  
sets/525104ef-9f96-11ec-82fd-0050568e57be?fields=*" -H "accept:  
application/json"  
  
# The Response:  
{  
  "uuid": "525104ef-9f96-11ec-82fd-0050568e57be",  
  "svm": {  
    "uuid": "fdb5bd8b-9498-11ec-9f9d-0050568e57be",  
    "name": "vs2"  
  },  
  "keep_snapshots": false  
}
```

Updating the keep-snapshot property of a specific shadow copy set

```
# The API:  
GET /api/protocols/cifs/shadowcopy-sets/{uuid}  
  
# The call:  
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/shadowcopy-  
sets/525104ef-9f96-11ec-82fd-0050568e57be" -H "accept: application/json"  
-H "Content-Type: application/json" -d '{"keep_snapshots": true}'
```



```
# The API:
GET /api/protocols/cifs/shadow-copies

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/shadow-copies?fields=*&return_records=true&return_timeout=15" -H "accept: application/json"

# The Response:
{
  "records": [
    {
      "svm": {
        "uuid": "dfb8e00d-9498-11ec-9f9d-0050568e57be",
        "name": "vs1"
      },
      "shadowcopy_set": {
        "uuid": "9169cd4a-a421-11ec-b82e-0050568e57be"
      },
      "uuid": "919fbc80-a421-11ec-b82e-0050568e57be",
      "share": {
        "name": "sh1"
      },
      "client_uuid": "918536b7-a421-11ec-b82e-0050568e57be",
      "volume": {
        "uuid": "e117c8f6-9498-11ec-9f9d-0050568e57be",
        "name": "vol1"
      }
    },
    {
      "svm": {
        "uuid": "dfb8e00d-9498-11ec-9f9d-0050568e57be",
        "name": "vs1"
      },
      "shadowcopy_set": {
        "uuid": "9169cd4a-a421-11ec-b82e-0050568e57be"
      },
      "uuid": "91ac5a5f-a421-11ec-b82e-0050568e57be",
      "share": {
        "name": "sh2"
      },
      "client_uuid": "91a9252b-a421-11ec-b82e-0050568e57be",
      "volume": {
```

```

        "uuid": "e117c8f6-9498-11ec-9f9d-0050568e57be",
        "name": "vol1"
    }
},
{
    "svm": {
        "uuid": "dfb8e00d-9498-11ec-9f9d-0050568e57be",
        "name": "vs1"
    },
    "shadowcopy_set": {
        "uuid": "9169cd4a-a421-11ec-b82e-0050568e57be"
    },
    "uuid": "91b14098-a421-11ec-b82e-0050568e57be",
    "share": {
        "name": "sh3"
    },
    "client_uuid": "91adfc85-a421-11ec-b82e-0050568e57be",
    "volume": {
        "uuid": "e117c8f6-9498-11ec-9f9d-0050568e57be",
        "name": "vol1"
    }
},
{
    "svm": {
        "uuid": "dfb8e00d-9498-11ec-9f9d-0050568e57be",
        "name": "vs1"
    },
    "shadowcopy_set": {
        "uuid": "9169cd4a-a421-11ec-b82e-0050568e57be"
    },
    "uuid": "91b63309-a421-11ec-b82e-0050568e57be",
    "share": {
        "name": "sh4"
    },
    "client_uuid": "91b2f817-a421-11ec-b82e-0050568e57be",
    "volume": {
        "uuid": "e117c8f6-9498-11ec-9f9d-0050568e57be",
        "name": "vol1"
    }
}
],
"num_records": 4
}

```

Retrieving information for a specific shadow copy

```
# The API:
GET /api/protocols/cifs/shadow-copies/{client_uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/shadow-copies/91adfc85-a421-11ec-b82e-0050568e57be?fields=*" -H "accept: application/json"

# The Response:
{
  "svm": {
    "uuid": "dfb8e00d-9498-11ec-9f9d-0050568e57be",
    "name": "vs1"
  },
  "shadowcopy_set": {
    "uuid": "9169cd4a-a421-11ec-b82e-0050568e57be"
  },
  "uuid": "91b14098-a421-11ec-b82e-0050568e57be",
  "share": {
    "name": "sh3"
  },
  "client_uuid": "91adfc85-a421-11ec-b82e-0050568e57be",
  "volume": {
    "uuid": "e117c8f6-9498-11ec-9f9d-0050568e57be",
    "name": "vol1"
  }
}
```

Updating the list of files to be shadowcopied in a particular share

Use this endpoint to update the list of files to be shadow copied in a particular share. Set "restore" field as false to perform this operation.

```
# The API:
PATCH /protocols/cifs/shadow-copies/{client_uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/shadow-copies/91adfc85-a421-11ec-b82e-0050568e57be?restore=false" -H "accept: application/json" -d "{  \"files\": [    \"/vhd1\",    \"/vhd2\"  ]}"
```

Requesting the storage system to restore a directory

You set restore field to true to perform this operation. Only users with the security login role "vsadmin" can perform the operation.

```
# The API:
PATCH /protocols/cifs/shadow-copies?restore=true

# The call:
PATCH "api/protocols/cifs/shadow-copies?restore=true" -d "{
  \"destination_dir\": \"/dir2\",  \"source_dir\": \"/src_dir\",
  \"volume\": {    \"name\": \"test_vol\"  },  \"with_content\": false}"
```

Retrieve shadow copies

GET /protocols/cifs/shadow-copies

Introduced In: 9.11

Retrieves Shadowcopies

Related ONTAP commands

- `vserver cifs shadowcopy show-shares`

Learn more

- [DOC /protocols/cifs/shadow-copies](#)

Parameters

Name	Type	In	Required	Description
share.name	string	query	False	Filter by share.name

Name	Type	In	Required	Description
files	string	query	False	Filter by files
client_uuid	string	query	False	Filter by client_uuid
uuid	string	query	False	Filter by uuid
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
shadowcopy_set.uuid	string	query	False	Filter by shadowcopy_set.uuid
order_by	array[string]	query	False	Order results by specified fields and optional [asc
desc] direction. Default direction is 'asc' for ascending.	fields	array[string]	query	False
Specify the fields to return.	max_records	integer	query	False
Limit the number of records returned.	return_records	boolean	query	False
The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1	return_timeout	integer	query	False

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records

Name	Type	Description
records	array[shadowcopy]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "client_uuid": "abc13450-1f19-40ba-9b82-ebf277517e7e",
      "destination_dir": "/dir2",
      "files": [
        "/vhd1",
        "/vhd2"
      ],
      "shadowcopy_set": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "uuid": "5f4e19f3-5e2d-11ec-8766-005056a7c134"
      },
      "share": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "sh1"
      },
      "source_dir": "/dir1",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    }
  ]
}
```

```

    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "fef32805-1f19-40ba-9b82-ebf277517e7e",
"volume": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "volume1",
  "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
}
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```

{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```


See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

self_link

Name	Type	Description
self	href	

shadowcopy_set

Name	Type	Description
_links	self_link	
uuid	string	

share

Name	Type	Description
_links	_links	
name	string	Share name

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

The name of the volume where the source and destination directories reside.

Name	Type	Description
_links	_links	
name	string	The name of the volume. This field cannot be specified in a PATCH method.
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

shadowcopy

Name	Type	Description
_links	_links	
client_uuid	string	The universally-unique identifier of the client's shadow copy.
destination_dir	string	The path of the destination directory. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the volume.

Name	Type	Description
files	array[string]	The list of files to shadow copy in the share. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the share.
shadowcopy_set	shadowcopy_set	
share	share	
source_dir	string	The path of the source directory. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the volume.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The universally-unique identifier of the storage's shadow copy.
volume	volume	The name of the volume where the source and destination directories reside.
with_content	boolean	Specifies what needs to be restored. False specifies the directory only. True indicates the directory and its content.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Type	Description
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a shadow copy

GET /protocols/cifs/shadow-copies/{client_uuid}

Introduced In: 9.11

Retrieves a Shadowcopy

Related ONTAP commands

- `vserver cifs shadowcopy show-shares`

Learn more

- [DOC /protocols/cifs/shadow-copies](#)

Parameters

Name	Type	In	Required	Description
client_uuid	string	path	True	client shadowcopy ID
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
client_uuid	string	The universally-unique identifier of the client's shadow copy.

Name	Type	Description
destination_dir	string	The path of the destination directory. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the volume.
files	array[string]	The list of files to shadow copy in the share. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the share.
shadowcopy_set	shadowcopy_set	
share	share	
source_dir	string	The path of the source directory. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the volume.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The universally-unique identifier of the storage's shadow copy.
volume	volume	The name of the volume where the source and destination directories reside.
with_content	boolean	Specifies what needs to be restored. False specifies the directory only. True indicates the directory and its content.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "client_uuid": "abc13450-1f19-40ba-9b82-ebf277517e7e",
  "destination_dir": "/dir2",
  "files": [
    "/vhd1",
    "/vhd2"
  ],
  "shadowcopy_set": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "uuid": "5f4e19f3-5e2d-11ec-8766-005056a7c134"
},
"share": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "sh1"
},
"source_dir": "/dir1",
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "fef32805-1f19-40ba-9b82-ebf277517e7e",
"volume": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
}
```

```
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

self_link

Name	Type	Description
self	href	

shadowcopy_set

Name	Type	Description
_links	self_link	
uuid	string	

share

Name	Type	Description
_links	_links	
name	string	Share name

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

The name of the volume where the source and destination directories reside.

Name	Type	Description
_links	_links	
name	string	The name of the volume. This field cannot be specified in a PATCH method.
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update a shadow copy

PATCH /protocols/cifs/shadow-copies/{client_uuid}

Introduced In: 9.11

Specify list Files to be added as a part of Shadowcopy creation

Learn more

- [DOC /protocols/cifs/shadow-copies](#)

Parameters

Name	Type	In	Required	Description
client_uuid	string	path	True	client shadowcopy ID
restore	boolean	query	False	Indicates whether to restore a directory

Request Body

Name	Type	Description
client_uuid	string	The universally-unique identifier of the client's shadow copy.
destination_dir	string	The path of the destination directory. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the volume.
files	array[string]	The list of files to shadow copy in the share. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the share.
shadowcopy_set	shadowcopy_set	
share	share	
source_dir	string	The path of the source directory. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the volume.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The universally-unique identifier of the storage's shadow copy.

Name	Type	Description
volume	volume	The name of the volume where the source and destination directories reside.
with_content	boolean	Specifies what needs to be restored. False specifies the directory only. True indicates the directory and its content.

Example request

```
{
  "client_uuid": "abc13450-1f19-40ba-9b82-ebf277517e7e",
  "destination_dir": "/dir2",
  "files": [
    "/vhd1",
    "/vhd2"
  ],
  "shadowcopy_set": {
    "uuid": "5f4e19f3-5e2d-11ec-8766-005056a7c134"
  },
  "share": {
    "name": "sh1"
  },
  "source_dir": "/dir1",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "fef32805-1f19-40ba-9b82-ebf277517e7e",
  "volume": {
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Name	Type	Description
storage_shadowcopy_set_uuid	string	The universally-unique identifier of the storage's shadow copy set.
storage_shadowcopy_uuid	string	The universally-unique identifier of the storage's shadow copy.

Example response

```
{
  "storage_shadowcopy_set_uuid": "f8328660-00e6-11e6-80d9-005056bd65a9",
  "storage_shadowcopy_uuid": "fef32805-1f19-40ba-9b82-ebf277517e7e"
}
```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262196	The 'svm' field is not supported in the body of a PATCH request.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

self_link

shadowcopy_set

Name	Type	Description
uuid	string	

share

Name	Type	Description
name	string	Share name

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

The name of the volume where the source and destination directories reside.

Name	Type	Description
name	string	The name of the volume. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

shadowcopy

Name	Type	Description
client_uuid	string	The universally-unique identifier of the client's shadow copy.
destination_dir	string	The path of the destination directory. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the volume.
files	array[string]	The list of files to shadow copy in the share. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the share.
shadowcopy_set	shadowcopy_set	
share	share	
source_dir	string	The path of the source directory. The path is in UTF8 and uses forward slash as a directory separator. The path is relative to the root of the volume.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The universally-unique identifier of the storage's shadow copy.

Name	Type	Description
volume	volume	The name of the volume where the source and destination directories reside.
with_content	boolean	Specifies what needs to be restored. False specifies the directory only. True indicates the directory and its content.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve shadow copy sets

GET /protocols/cifs/shadowcopy-sets

Introduced In: 9.11

Retrieves Shadowcopy Sets.

Related ONTAP commands

- `vserver cifs shadowcopy show-sets`

Learn more

- [DOC /protocols/cifs/shadow-copies](#)

Parameters

Name	Type	In	Required	Description
uuid	string	query	False	Filter by uuid
keep_snapshots	boolean	query	False	Filter by keep_snapshots
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
order_by	array[string]	query	False	Order results by specified fields and optional [asc
desc] direction. Default direction is 'asc' for ascending.	fields	array[string]	query	False
Specify the fields to return.	max_records	integer	query	False
Limit the number of records returned.	return_records	boolean	query	False
The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1	return_timeout	integer	query	False

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[shadowcopy_set]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "keep_snapshots": 1,
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "uuid": "f8328660-00e6-11e6-80d9-005056bd65a9"
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

shadowcopy_set

Name	Type	Description
keep_snapshots	boolean	Request the storage system to keep the snapshot copies taken as a part of the shadow copy set creation.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The universally-unique identifier of the storage's shadow copy set.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a shadow copy set

GET /protocols/cifs/shadowcopy-sets/{uuid}

Introduced In: 9.11

Retrieves a Shadowcopy set

Related ONTAP commands

- `vserver cifs shadowcopy show-sets`

Learn more

- [DOC /protocols/cifs/shadow-copies](#)

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Storage shadowcopy set ID.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
keep_snapshots	boolean	Request the storage system to keep the snapshot copies taken as a part of the shadow copy set creation.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The universally-unique identifier of the storage's shadow copy set.

Example response

```
{
  "keep_snapshots": 1,
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "f8328660-00e6-11e6-80d9-005056bd65a9"
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update a shadow copy set

PATCH /protocols/cifs/shadowcopy-sets/{uuid}

Introduced In: 9.11

Updates a Shadowcopy set

Learn more

- [DOC /protocols/cifs/shadowcopy](#)

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Storage shadowcopy set ID.

Request Body

Name	Type	Description
keep_snapshots	boolean	Request the storage system to keep the snapshot copies taken as a part of the shadow copy set creation.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The universally-unique identifier of the storage's shadow copy set.

Example request

```
{
  "keep_snapshots": 1,
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "f8328660-00e6-11e6-80d9-005056bd65a9"
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262196	The 'svm' field is not supported in the body of a PATCH request.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

shadowcopy_set

Name	Type	Description
keep_snapshots	boolean	Request the storage system to keep the snapshot copies taken as a part of the shadow copy set creation.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The universally-unique identifier of the storage's shadow copy set.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage CIFS shares

Manage CIFS shares

Overview

Before any users or applications can access data on the CIFS server over SMB, a CIFS share must be created with sufficient share permissions. CIFS share is a named access point in a volume which is tied to the CIFS server on the SVM. Before creating a CIFS share make sure that the path is valid within the scope of the SVM and that it is reachable.

Permissions can be assigned to this newly created share by specifying the 'acls' field. When a CIFS share is created, ONTAP creates a default ACL for this share with 'Full-Control' permissions for an 'Everyone' user.

Examples

Creating a CIFS share

To create a CIFS share for a CIFS server, use the following API. Note the *return_records=true* query parameter used to obtain the newly created entry in the response.

```
# The API:
POST /api/protocols/cifs/shares

# The call:
curl -X POST "https://<mgmt-
ip>/api/protocols/cifs/shares?return_records=true" -H "accept:
application/json" -H "Content-Type: application/json" -d "{
  \"access_based_enumeration\": false, \"acls\": [ { \"permission\":
  \"no_access\", \"type\": \"unix_user\", \"user_or_group\": \"root\" } ],
  \"change_notify\": true, \"comment\": \"HR Department Share\",
  \"encryption\": false, \"home_directory\": false, \"name\": \"TEST\",
  \"oplocks\": true, \"no_strict_security\": true, \"path\": \"/\", \"svm\":
  { \"name\": \"vs1\", \"uuid\": \"6d8e8870-8753-11eb-8d86-0050568ea61a\" },
```

```
\\"unix_symlink\\": \\"local\\", \\"show_snapshot\\": \\"true\\",  
\\"continuously_available\\": \\"false\\", \\"namespace_caching\\": \\"true\\",  
\\"allow_unencrypted_access\\": \\"false\\", \\"file_umask\\": \\"025\\",  
\\"dir_umask\\": \\"026\\", \\"offline_files\\": \\"documents\\",  
\\"vscan_profile\\": \\"standard\\", \\"force_group_for_create\\": \\"root\\"}"
```

The response:

```
{  
  "num_records": 1,  
  "records": [  
    {  
      "svm": {  
        "uuid": "6d8e8870-8753-11eb-8d86-0050568ea61a",  
        "name": "vs1"  
      },  
      "name": "TEST",  
      "path": "/",  
      "comment": "HR Department Share",  
      "home_directory": false,  
      "oplocks": true,  
      "access_based_enumeration": false,  
      "change_notify": true,  
      "encryption": false,  
      "unix_symlink": "local",  
      "acls": [  
        {  
          "user_or_group": "root",  
          "type": "unix_user",  
          "permission": "no_access",  
          "win_sid_unix_id": "0"  
        }  
      ],  
      "no_strict_security": true,  
      "show_snapshot": true,  
      "continuously_available": false,  
      "namespace_caching": true,  
      "allow_unencrypted_access": false,  
      "file_umask": "25",  
      "dir_umask": "26",  
      "offline_files": "documents",  
      "vscan_profile": "standard",  
      "force_group_for_create": "root"  
    }  
  ]  
}
```

```
# The API:
GET /api/protocols/cifs/shares

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/cifs/shares?fields=*&return_records=true&return_timeout=
15" -H "accept application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "6d8e8870-8753-11eb-8d86-0050568ea61a",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/6d8e8870-8753-11eb-8d86-0050568ea61a"
          }
        }
      },
      "name": "c$",
      "path": "/",
      "home_directory": false,
      "oplocks": true,
      "access_based_enumeration": false,
      "change_notify": true,
      "encryption": false,
      "unix_symlink": "local",
      "acls": [
        {
          "user_or_group": "BUILTIN\\Administrators",
          "type": "windows",
          "permission": "full_control",
          "win_sid_unix_id": "S-1-1-0"
        }
      ],
      "volume": {
        "name": "vol1",
        "uuid": "6f4fb33a-8753-11eb-8d86-0050568ea61a"
      },
      "show_snapshot": false,
      "cache_attribute": false,
    }
  ]
}
```

```

    "continuously_available": false,
    "namespace_caching": false,
    "allow_unencrypted_access": true,
    "vscan_profile": "standard",
    "_links": {
      "self": {
        "href": "/api/protocols/cifs/shares/6d8e8870-8753-11eb-8d86-0050568ea61a/c%24"
      }
    }
  },
  {
    "svm": {
      "uuid": "6d8e8870-8753-11eb-8d86-0050568ea61a",
      "name": "vs1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/6d8e8870-8753-11eb-8d86-0050568ea61a"
        }
      }
    },
    "name": "ipc$",
    "path": "/",
    "home_directory": false,
    "oplocks": false,
    "access_based_enumeration": false,
    "change_notify": false,
    "encryption": false,
    "volume": {
      "name": "vol1",
      "uuid": "6f4fb33a-8753-11eb-8d86-0050568ea61a"
    },
    "show_snapshot": false,
    "cache_attribute": false,
    "continuously_available": false,
    "namespace_caching": false,
    "allow_unencrypted_access": false,
    "vscan_profile": "standard",
    "_links": {
      "self": {
        "href": "/api/protocols/cifs/shares/6d8e8870-8753-11eb-8d86-0050568ea61a/ipc%24"
      }
    }
  },
  {

```

```

"svm": {
  "uuid": "6d8e8870-8753-11eb-8d86-0050568ea61a",
  "name": "vs1",
  "_links": {
    "self": {
      "href": "/api/svm/svms/6d8e8870-8753-11eb-8d86-0050568ea61a"
    }
  }
},
"name": "TEST",
"path": "/",
"comment": "HR Department Share",
"home_directory": false,
"oplocks": true,
"access_based_enumeration": false,
"change_notify": true,
"encryption": false,
"unix_symlink": "local",
"acls": [
  {
    "user_or_group": "Everyone",
    "type": "windows",
    "permission": "full_control",
    "win_sid_unix_id": "S-1-1-0"
  },
  {
    "user_or_group": "root",
    "type": "unix_user",
    "permission": "no_access",
    "win_sid_unix_id": "0"
  }
],
"volume": {
  "name": "vol1",
  "uuid": "6f4fb33a-8753-11eb-8d86-0050568ea61a"
},
"no_strict_security": true,
"show_snapshot": true,
"cache_attribute": true,
"continuously_available": false,
"namespace_caching": true,
"allow_unencrypted_access": true,
"file_umask": "25",
"dir_umask": "26",
"offline_files": "documents",
"vscan_profile": "standard",

```



```

    "force_group_for_create": "root",
    "_links": {
      "self": {
        "href": "/api/protocols/cifs/shares/6d8e8870-8753-11eb-8d86-0050568ea61a/TEST"
      }
    }
  },
  "num_records": 3,
  "_links": {
    "self": {
      "href":
"/api/protocols/cifs/shares?fields=*&return_records=true&return_timeout=15"
    }
  }
}

```

Retrieving all CIFS Shares for all SVMs in the cluster for which the acls are configured for a "root" user

```

# The API:
GET /api/protocols/cifs/shares

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/cifs/shares?acls.user_or_group=root&fields=*&return_reco
rds=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "6d8e8870-8753-11eb-8d86-0050568ea61a",
        "name": "vs1"
      },
      "name": "TEST",
      "path": "/",
      "comment": "HR Department Share",
      "home_directory": false,
      "oplocks": true,

```

```

"access_based_enumeration": false,
"change_notify": true,
"encryption": false,
"unix_symlink": "local",
"acls": [
  {
    "user_or_group": "Everyone",
    "type": "windows",
    "permission": "full_control",
    "win_sid_unix_id": "S-1-1-0"
  },
  {
    "user_or_group": "root",
    "type": "unix_user",
    "permission": "no_access",
    "win_sid_unix_id": "0"
  }
],
"volume": {
  "name": "vol1",
  "uuid": "6f4fb33a-8753-11eb-8d86-0050568ea61a"
},
"no_strict_security": true,
"show_snapshot": true,
"cache_attribute": true,
"continuously_available": false,
"namespace_caching": true,
"allow_unencrypted_access": true,
"file_umask": "25",
"dir_umask": "26",
"offline_files": "documents",
"vscan_profile": "standard",
"force_group_for_create": "root"
}
],
"num_records": 1
}

```

Retrieving a specific CIFS share configuration for an SVM

The configuration being returned is identified by the UUID of its SVM and the name of the share.

```

# The API:
GET /api/protocols/cifs/shares/{svm.uuid}/{name}

# The call:

```

```
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/shares/6d8e8870-8753-11eb-8d86-0050568ea61a/TEST" -H "accept: application/json"
```

The response:

```
{
  "svm": {
    "uuid": "6d8e8870-8753-11eb-8d86-0050568ea61a",
    "name": "vs1"
  },
  "name": "TEST",
  "path": "/",
  "comment": "HR Department Share",
  "home_directory": false,
  "oplocks": true,
  "access_based_enumeration": false,
  "change_notify": true,
  "encryption": false,
  "unix_symlink": "local",
  "acls": [
    {
      "user_or_group": "Everyone",
      "type": "windows",
      "permission": "full_control",
      "win_sid_unix_id": "S-1-1-0"
    },
    {
      "user_or_group": "root",
      "type": "unix_user",
      "permission": "no_access",
      "win_sid_unix_id": "0"
    }
  ],
  "volume": {
    "name": "vol1",
    "uuid": "6f4fb33a-8753-11eb-8d86-0050568ea61a"
  },
  "no_strict_security": true,
  "show_snapshot": true,
  "cache_attribute": true,
  "continuously_available": false,
  "namespace_caching": true,
  "allow_unencrypted_access": true,
  "file_umask": "25",
  "dir_umask": "26",
  "offline_files": "documents",
  "vscan_profile": "standard",
```

```
"force_group_for_create": "root"
}
```

Updating a specific CIFS share for an SVM

The CIFS share being modified is identified by the UUID of its SVM and the CIFS share name. The CIFS share ACLs cannot be modified with this API.

```
# The API:
PATCH /api/protocols/cifs/shares/{svm.uuid}/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/shares/6d8e8870-8753-11eb-8d86-0050568ea61a/TEST" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"access_based_enumeration\": true, \"change_notify\": true, \"comment\": \"HR Department Share\", \"encryption\": false, \"oplocks\": true, \"no_strict_security\": true, \"path\": \"/\", \"unix_symlink\": \"widelink\", \"show_snapshot\": \"false\", \"continuously_available\": \"true\", \"namespace_caching\": \"false\", \"allow_unencrypted_access\": \"true\", \"file_umask\": \"022\", \"dir_umask\": \"022\", \"offline_files\": \"programs\", \"vscan_profile\": \"no_scan\", \"force_group_for_create\": \"root\"}"
```

Removing a specific CIFS share for an SVM

The CIFS share being removed is identified by the UUID of its SVM and the CIFS share name.

```
# The API:
DELETE /api/protocols/cifs/shares/{svm.uuid}/{name}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/shares/6d8e8870-8753-11eb-8d86-0050568ea61a/test" -H "accept: application/json"
```

Retrieve CIFS shares

GET /protocols/cifs/shares

Introduced In: 9.6

Retrieves CIFS shares.

Related ONTAP commands

- `vserver cifs share show`
- `vserver cifs share properties show`

Learn more

- [DOC /protocols/cifs/shares](#)

Parameters

Name	Type	In	Required	Description
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
offline_files	string	query	False	Filter by offline_files • Introduced in: 9.10
browsable	boolean	query	False	Filter by browsable • Introduced in: 9.13
allow_unencrypted_access	boolean	query	False	Filter by allow_unencrypted_access • Introduced in: 9.11
encryption	boolean	query	False	Filter by encryption
max_connections_per_share	integer	query	False	Filter by max_connections_per_share • Introduced in: 9.14
home_directory	boolean	query	False	Filter by home_directory

Name	Type	In	Required	Description
namespace_caching	boolean	query	False	Filter by namespace_caching • Introduced in: 9.10
acls.type	string	query	False	Filter by acls.type
acls.user_or_group	string	query	False	Filter by acls.user_or_group
acls.permission	string	query	False	Filter by acls.permission
acls.win_sid_unix_id	string	query	False	Filter by acls.win_sid_unix_id • Introduced in: 9.16
vscan_profile	string	query	False	Filter by vscan_profile • Introduced in: 9.10
continuously_available	boolean	query	False	Filter by continuously_available • Introduced in: 9.10
show_snapshot	boolean	query	False	Filter by show_snapshot • Introduced in: 9.10
oplocks	boolean	query	False	Filter by oplocks
access_based_enumeration	boolean	query	False	Filter by access_based_enumeration
change_notify	boolean	query	False	Filter by change_notify

Name	Type	In	Required	Description
name	string	query	False	Filter by name • maxLength: 80 • minLength: 1
show_previous_versions	boolean	query	False	Filter by show_previous_versions • Introduced in: 9.13
dir_umask	string	query	False	Filter by dir_umask • Introduced in: 9.10
attribute_cache	boolean	query	False	Filter by attribute_cache • Introduced in: 9.14
path	string	query	False	Filter by path • maxLength: 256 • minLength: 1
unix_symlink	string	query	False	Filter by unix_symlink
file_umask	string	query	False	Filter by file_umask • Introduced in: 9.10
no_strict_security	boolean	query	False	Filter by no_strict_security • Introduced in: 9.9
volume.name	string	query	False	Filter by volume.name
volume.uuid	string	query	False	Filter by volume.uuid

Name	Type	In	Required	Description
comment	string	query	False	Filter by comment • maxLength: 256 • minLength: 1
force_group_for_create	string	query	False	Filter by force_group_for_create • Introduced in: 9.10
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[cifs_share]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "acls": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "permission": "string",
          "type": "string",
          "user_or_group": "ENGDOMAIN\\ad_user",
          "win_sid_unix_id": "string"
        }
      ],
      "comment": "HR Department Share",
      "dir_umask": "21",
      "file_umask": "21",
      "force_group_for_create": "string",
      "name": "HR_SHARE",
      "offline_files": "string",
      "path": "/volume_1/eng_vol/",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
```

```

        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "unix_symlink": "string",
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      },
      "vscan_profile": "string"
    }
  ]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```

{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```


See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

acls

The permissions that users and groups have on a CIFS share.

Name	Type	Description
_links	_links	
permission	string	Specifies the access rights that a user or group has on the defined CIFS Share. The following values are allowed: • no_access - User does not have CIFS share access • read - User has only read access • change - User has change access • full_control - User has full_control access

Name	Type	Description
type	string	Specifies the type of the user or group to add to the access control list of a CIFS share. The following values are allowed: • windows - Windows user or group • unix_user - UNIX user • unix_group - UNIX group
user_or_group	string	Specifies the user or group name to add to the access control list of a CIFS share.
win_sid_unix_id	string	Windows SID/UNIX ID depending on access-control type.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

cifs_share

CIFS share is a named access point in a volume. Before users and applications can access data on the CIFS server over SMB, a CIFS share must be created with sufficient share permission. CIFS shares are tied to the CIFS server on the SVM. When a CIFS share is created, ONTAP creates a default ACL for the share with Full Control permissions for Everyone.

Name	Type	Description
_links	_links	
access_based_enumeration	boolean	If enabled, all folders inside this share are visible to a user based on that individual user access right; prevents the display of folders or other shared resources that the user does not have access to.
acls	array[acls]	
allow_unencrypted_access	boolean	Specifies whether or not the SMB2 clients are allowed to access the encrypted share.
attribute_cache	boolean	Specifies that connections through this share cache attributes for a short time to improve performance.
browsable	boolean	Specifies whether or not the Windows clients can browse the share.
change_notify	boolean	Specifies whether CIFS clients can request for change notifications for directories on this share.

Name	Type	Description
comment	string	Specify the CIFS share descriptions.
continuously_available	boolean	Specifies whether or not the clients connecting to this share can open files in a persistent manner. Files opened in this way are protected from disruptive events, such as, failover and giveback. If the Vscan ONTAP feature is used, it is not supported in continuous availability (CA) shares. • Default value: • Introduced in: 9.10 • x-nullable: true
dir_umask	string	Directory Mode Creation Mask to be viewed as an octal number.
encryption	boolean	Specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption are not able to access this share.
file_umask	string	File Mode Creation Mask to be viewed as an octal number.
force_group_for_create	string	Specifies that all files that CIFS users create in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style.

Name	Type	Description
home_directory	boolean	Specifies whether or not the share is a home directory share, where the share and path names are dynamic. ONTAP home directory functionality automatically offer each user a dynamic share to their home directory without creating an individual SMB share for each user. The ONTAP CIFS home directory feature enable us to configure a share that maps to different directories based on the user that connects to it. Instead of creating a separate shares for each user, a single share with a home directory parameters can be created. In a home directory share, ONTAP dynamically generates the share-name and share-path by substituting %w, %u, and %d variables with the corresponding Windows user name, UNIX user name, and domain name, respectively. • Default value: • Introduced in: 9.6 • readCreate: 1 • x-nullable: true
max_connections_per_share	integer	Maximum number of tree connections on share.
name	string	Specifies the name of the CIFS share that you want to create. If this is a home directory share then the share name includes the pattern as %w (Windows user name), %u (UNIX user name) and %d (Windows domain name) variables in any combination with this parameter to generate shares dynamically.

Name	Type	Description
namespace_caching	boolean	Specifies whether or not the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.
no_strict_security	boolean	Specifies whether or not CIFS clients can follow a unix symlinks outside the share boundaries.
offline_files	string	Offline Files The supported values are: • none - Clients are not permitted to cache files for offline access. • manual - Clients may cache files that are explicitly selected by the user for offline access. • documents - Clients may automatically cache files that are used by the user for offline access. • programs - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
oplocks	boolean	Specify whether opportunistic locks are enabled on this share. "Oplocks" allow clients to lock files and cache content locally, which can increase performance for file operations.

Name	Type	Description
path	string	The fully-qualified pathname in the owning SVM namespace that is shared through this share. If this is a home directory share then the path should be dynamic by specifying the pattern %w (Windows user name), %u (UNIX user name), or %d (domain name) variables in any combination. ONTAP generates the path dynamically for the connected user and this path is appended to each search path to find the full Home Directory path. • example: /volume_1/eng_vol/ • maxLength: 256 • minLength: 1 • Introduced in: 9.6 • x-nullable: true
show_previous_versions	boolean	Specifies that the previous version can be viewed and restored from the client.
show_snapshot	boolean	Specifies whether or not the snapshots can be viewed and traversed by clients.
svm	svm	SVM, applies only to SVM-scoped objects.
unix_symlink	string	Controls the access of UNIX symbolic links to CIFS clients. The supported values are: • local - Enables only local symbolic links which is within the same CIFS share. • widelink - Enables both local symlinks and widelinks. • disable - Disables local symlinks and widelinks.
volume	volume	

Name	Type	Description
vscan_profile	string	Vscan File-Operations Profile The supported values are: • no_scan - Virus scans are never triggered for accesses to this share. • standard - Virus scans can be triggered by open, close, and rename operations. • strict - Virus scans can be triggered by open, read, close, and rename operations. • writes_only - Virus scans can be triggered only when a file that has been modified is closed.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create a CIFS share

POST /protocols/cifs/shares

Introduced In: 9.6

Creates a CIFS share.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the CIFS share.
- `name` - Name of the CIFS share.
- `path` - Path in the owning SVM namespace that is shared through this share.

Recommended optional properties

- `comment` - Optionally choose to add a text comment of up to 256 characters about the CIFS share.
- `acls` - Optionally choose to add share permissions that users and groups have on the CIFS share.

Default property values

If not specified in POST, the following default property values are assigned:

- `home_directory` - *false*
- `oplocks` - *true*
- `access_based_enumeration` - *false*
- `change_notify` - *true*
- `encryption` - *false*
- `unix_symlink` - *local*

Related ONTAP commands

- `vserver cifs share create`
- `vserver cifs share properties add`
- `vserver cifs share access-control create`

Learn more

- [DOC /protocols/cifs/shares](#)

Parameters

Name	Type	In	Required	Description
<code>return_records</code>	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
access_based_enumeration	boolean	If enabled, all folders inside this share are visible to a user based on that individual user access right; prevents the display of folders or other shared resources that the user does not have access to.
acls	array [acls]	
allow_unencrypted_access	boolean	Specifies whether or not the SMB2 clients are allowed to access the encrypted share.
attribute_cache	boolean	Specifies that connections through this share cache attributes for a short time to improve performance.
browsable	boolean	Specifies whether or not the Windows clients can browse the share.
change_notify	boolean	Specifies whether CIFS clients can request for change notifications for directories on this share.
comment	string	Specify the CIFS share descriptions.
continuously_available	boolean	Specifies whether or not the clients connecting to this share can open files in a persistent manner. Files opened in this way are protected from disruptive events, such as, failover and giveback. If the Vscan ONTAP feature is used, it is not supported in continuous availability (CA) shares. • Default value: 1 • Introduced in: 9.10 • x-nullable: true
dir_umask	string	Directory Mode Creation Mask to be viewed as an octal number.

Name	Type	Description
encryption	boolean	Specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption are not able to access this share.
file_umask	string	File Mode Creation Mask to be viewed as an octal number.
force_group_for_create	string	Specifies that all files that CIFS users create in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style.
home_directory	boolean	Specifies whether or not the share is a home directory share, where the share and path names are dynamic. ONTAP home directory functionality automatically offer each user a dynamic share to their home directory without creating an individual SMB share for each user. The ONTAP CIFS home directory feature enable us to configure a share that maps to different directories based on the user that connects to it. Instead of creating a separate shares for each user, a single share with a home directory parameters can be created. In a home directory share, ONTAP dynamically generates the share-name and share-path by substituting %w, %u, and %d variables with the corresponding Windows user name, UNIX user name, and domain name, respectively. • Default value: 1 • Introduced in: 9.6 • readCreate: 1 • x-nullable: true

Name	Type	Description
max_connections_per_share	integer	Maximum number of tree connections on share.
name	string	Specifies the name of the CIFS share that you want to create. If this is a home directory share then the share name includes the pattern as %w (Windows user name), %u (UNIX user name) and %d (Windows domain name) variables in any combination with this parameter to generate shares dynamically.
namespace_caching	boolean	Specifies whether or not the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.
no_strict_security	boolean	Specifies whether or not CIFS clients can follow a unix symlinks outside the share boundaries.
offline_files	string	Offline Files The supported values are: • none - Clients are not permitted to cache files for offline access. • manual - Clients may cache files that are explicitly selected by the user for offline access. • documents - Clients may automatically cache files that are used by the user for offline access. • programs - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.

Name	Type	Description
oplocks	boolean	Specify whether opportunistic locks are enabled on this share. "Oplocks" allow clients to lock files and cache content locally, which can increase performance for file operations.
path	string	The fully-qualified pathname in the owning SVM namespace that is shared through this share. If this is a home directory share then the path should be dynamic by specifying the pattern %w (Windows user name), %u (UNIX user name), or %d (domain name) variables in any combination. ONTAP generates the path dynamically for the connected user and this path is appended to each search path to find the full Home Directory path. • example: /volume_1/eng_vol/ • maxLength: 256 • minLength: 1 • Introduced in: 9.6 • x-nullable: true
show_previous_versions	boolean	Specifies that the previous version can be viewed and restored from the client.
show_snapshot	boolean	Specifies whether or not the snapshots can be viewed and traversed by clients.
svm	svm	SVM, applies only to SVM-scoped objects.

Name	Type	Description
unix_symlink	string	Controls the access of UNIX symbolic links to CIFS clients. The supported values are: • local - Enables only local symbolic links which is within the same CIFS share. • widelink - Enables both local symlinks and widelinks. • disable - Disables local symlinks and widelinks.
volume	volume	
vscan_profile	string	Vscan File-Operations Profile The supported values are: • no_scan - Virus scans are never triggered for accesses to this share. • standard - Virus scans can be triggered by open, close, and rename operations. • strict - Virus scans can be triggered by open, read, close, and rename operations. • writes_only - Virus scans can be triggered only when a file that has been modified is closed.

Example request

```
{
  "acls": [
    {
      "permission": "string",
      "type": "string",
      "user_or_group": "ENGDOMAIN\\ad_user"
    }
  ],
  "comment": "HR Department Share",
  "dir_umask": "21",
  "file_umask": "21",
  "force_group_for_create": "string",
  "name": "HR_SHARE",
  "offline_files": "string",
  "path": "/volume_1/eng_vol/",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "unix_symlink": "string",
  "volume": {
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  },
  "vscan_profile": "string"
}
```

Response

Status: 201, Created

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655628	CIFS Share Creation with property 'SMB_ENCRYPTION' failed because the CIFS server does not support SMB3.0
655551	CIFS Share Creation failed because the specified path does not exist
655577	The CIFS share name cannot be more than 80 characters long
655399	Failed to create CIFS share. The CIFS server does not exist for specified SVM
656422	Failed to create the home directory share because the directory shares must specify a path relative to one or more home directory search paths
656423	Failed to create CIFS share. The Shares must define an absolute share path
656424	Failed to create CIFS the administrator share 'c\$' because you are not permitted to created any admin shares
656486	Failed to create CIFS share because the share cannot be made continuously available for FlexCache volumes.
655625	Failed to create CIFS share. The Shares path is not a valid file-type for CIFS share
656426	CIFS Share Creation failed because the share name is invalid
655655	no-strict-security should be set to true only if unix_symlink is configured as "local" or "widelink"
655394	Failed to create CIFS share because share cannot be made continuously available unless running SMB3 or later.
4849678	Failed to create CIFS share because the specified UNIX group does not exist
655622	Invalid value for parameter {max-connections-per-share}. Maximum connections on CIFS share {name} must be between 1 to 4294967295.
655446	Failed to resolve the security identifier (SID) for the account named {account_name}. Reason: {Reason for failure}.
2621706	The specified SVM UUID is incorrect for the specified SVM name

See Definitions

href

Name	Type	Description
href	string	

_links

acls

The permissions that users and groups have on a CIFS share.

Name	Type	Description
permission	string	Specifies the access rights that a user or group has on the defined CIFS Share. The following values are allowed: • no_access - User does not have CIFS share access • read - User has only read access • change - User has change access • full_control - User has full_control access
type	string	Specifies the type of the user or group to add to the access control list of a CIFS share. The following values are allowed: • windows - Windows user or group • unix_user - UNIX user • unix_group - UNIX group
user_or_group	string	Specifies the user or group name to add to the access control list of a CIFS share.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

Name	Type	Description
name	string	The name of the volume. This field cannot be specified in a PATCH method.
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

cifs_share

CIFS share is a named access point in a volume. Before users and applications can access data on the CIFS server over SMB, a CIFS share must be created with sufficient share permission. CIFS shares are tied to the CIFS server on the SVM. When a CIFS share is created, ONTAP creates a default ACL for the share with Full Control permissions for Everyone.

Name	Type	Description
access_based_enumeration	boolean	If enabled, all folders inside this share are visible to a user based on that individual user access right; prevents the display of folders or other shared resources that the user does not have access to.
acls	array [acls]	

Name	Type	Description
allow_unencrypted_access	boolean	Specifies whether or not the SMB2 clients are allowed to access the encrypted share.
attribute_cache	boolean	Specifies that connections through this share cache attributes for a short time to improve performance.
browsable	boolean	Specifies whether or not the Windows clients can browse the share.
change_notify	boolean	Specifies whether CIFS clients can request for change notifications for directories on this share.
comment	string	Specify the CIFS share descriptions.
continuously_available	boolean	Specifies whether or not the clients connecting to this share can open files in a persistent manner. Files opened in this way are protected from disruptive events, such as, failover and giveback. If the Vscan ONTAP feature is used, it is not supported in continuous availability (CA) shares. • Default value: 1 • Introduced in: 9.10 • x-nullable: true
dir_umask	string	Directory Mode Creation Mask to be viewed as an octal number.
encryption	boolean	Specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption are not able to access this share.
file_umask	string	File Mode Creation Mask to be viewed as an octal number.

Name	Type	Description
force_group_for_create	string	Specifies that all files that CIFS users create in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style.
home_directory	boolean	Specifies whether or not the share is a home directory share, where the share and path names are dynamic. ONTAP home directory functionality automatically offer each user a dynamic share to their home directory without creating an individual SMB share for each user. The ONTAP CIFS home directory feature enable us to configure a share that maps to different directories based on the user that connects to it. Instead of creating a separate shares for each user, a single share with a home directory parameters can be created. In a home directory share, ONTAP dynamically generates the share-name and share-path by substituting %w, %u, and %d variables with the corresponding Windows user name, UNIX user name, and domain name, respectively. • Default value: 1 • Introduced in: 9.6 • readCreate: 1 • x-nullable: true
max_connections_per_share	integer	Maximum number of tree connections on share.

Name	Type	Description
name	string	Specifies the name of the CIFS share that you want to create. If this is a home directory share then the share name includes the pattern as %w (Windows user name), %u (UNIX user name) and %d (Windows domain name) variables in any combination with this parameter to generate shares dynamically.
namespace_caching	boolean	Specifies whether or not the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.
no_strict_security	boolean	Specifies whether or not CIFS clients can follow a unix symlinks outside the share boundaries.
offline_files	string	Offline Files The supported values are: • none - Clients are not permitted to cache files for offline access. • manual - Clients may cache files that are explicitly selected by the user for offline access. • documents - Clients may automatically cache files that are used by the user for offline access. • programs - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
oplocks	boolean	Specify whether opportunistic locks are enabled on this share. "Oplocks" allow clients to lock files and cache content locally, which can increase performance for file operations.

Name	Type	Description
path	string	The fully-qualified pathname in the owning SVM namespace that is shared through this share. If this is a home directory share then the path should be dynamic by specifying the pattern %w (Windows user name), %u (UNIX user name), or %d (domain name) variables in any combination. ONTAP generates the path dynamically for the connected user and this path is appended to each search path to find the full Home Directory path. • example: /volume_1/eng_vol/ • maxLength: 256 • minLength: 1 • Introduced in: 9.6 • x-nullable: true
show_previous_versions	boolean	Specifies that the previous version can be viewed and restored from the client.
show_snapshot	boolean	Specifies whether or not the snapshots can be viewed and traversed by clients.
svm	svm	SVM, applies only to SVM-scoped objects.
unix_symlink	string	Controls the access of UNIX symbolic links to CIFS clients. The supported values are: • local - Enables only local symbolic links which is within the same CIFS share. • widelink - Enables both local symlinks and widelinks. • disable - Disables local symlinks and widelinks.
volume	volume	

Name	Type	Description
vscan_profile	string	Vscan File-Operations Profile The supported values are: • no_scan - Virus scans are never triggered for accesses to this share. • standard - Virus scans can be triggered by open, close, and rename operations. • strict - Virus scans can be triggered by open, read, close, and rename operations. • writes_only - Virus scans can be triggered only when a file that has been modified is closed.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a CIFS share

```
DELETE /protocols/cifs/shares/{svm.uuid}/{name}
```

Introduced In: 9.6

Deletes a CIFS share.

Related ONTAP commands

- `vserver cifs share delete`

Learn more

- [DOC /protocols/cifs/shares](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	Share Name
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
655393	Standard admin shares cannot be removed

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a CIFS share

GET /protocols/cifs/shares/{svm.uuid}/{name}

Introduced In: 9.6

Retrieves a CIFS share.

Related ONTAP commands

- `vserver cifs share show`
- `vserver cifs share properties show`

Learn more

- [DOC /protocols/cifs/shares](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	Share Name
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
access_based_enumeration	boolean	If enabled, all folders inside this share are visible to a user based on that individual user access right; prevents the display of folders or other shared resources that the user does not have access to.
acls	array [acls]	
allow_unencrypted_access	boolean	Specifies whether or not the SMB2 clients are allowed to access the encrypted share.

Name	Type	Description
attribute_cache	boolean	Specifies that connections through this share cache attributes for a short time to improve performance.
browsable	boolean	Specifies whether or not the Windows clients can browse the share.
change_notify	boolean	Specifies whether CIFS clients can request for change notifications for directories on this share.
comment	string	Specify the CIFS share descriptions.
continuously_available	boolean	Specifies whether or not the clients connecting to this share can open files in a persistent manner. Files opened in this way are protected from disruptive events, such as, failover and giveback. If the Vscan ONTAP feature is used, it is not supported in continuous availability (CA) shares. • Default value: 1 • Introduced in: 9.10 • x-nullable: true
dir_umask	string	Directory Mode Creation Mask to be viewed as an octal number.
encryption	boolean	Specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption are not able to access this share.
file_umask	string	File Mode Creation Mask to be viewed as an octal number.

Name	Type	Description
force_group_for_create	string	Specifies that all files that CIFS users create in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style.
home_directory	boolean	Specifies whether or not the share is a home directory share, where the share and path names are dynamic. ONTAP home directory functionality automatically offer each user a dynamic share to their home directory without creating an individual SMB share for each user. The ONTAP CIFS home directory feature enable us to configure a share that maps to different directories based on the user that connects to it. Instead of creating a separate shares for each user, a single share with a home directory parameters can be created. In a home directory share, ONTAP dynamically generates the share-name and share-path by substituting %w, %u, and %d variables with the corresponding Windows user name, UNIX user name, and domain name, respectively. • Default value: 1 • Introduced in: 9.6 • readCreate: 1 • x-nullable: true
max_connections_per_share	integer	Maximum number of tree connections on share.

Name	Type	Description
name	string	Specifies the name of the CIFS share that you want to create. If this is a home directory share then the share name includes the pattern as %w (Windows user name), %u (UNIX user name) and %d (Windows domain name) variables in any combination with this parameter to generate shares dynamically.
namespace_caching	boolean	Specifies whether or not the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.
no_strict_security	boolean	Specifies whether or not CIFS clients can follow a unix symlinks outside the share boundaries.
offline_files	string	Offline Files The supported values are: • none - Clients are not permitted to cache files for offline access. • manual - Clients may cache files that are explicitly selected by the user for offline access. • documents - Clients may automatically cache files that are used by the user for offline access. • programs - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
oplocks	boolean	Specify whether opportunistic locks are enabled on this share. "Oplocks" allow clients to lock files and cache content locally, which can increase performance for file operations.

Name	Type	Description
path	string	The fully-qualified pathname in the owning SVM namespace that is shared through this share. If this is a home directory share then the path should be dynamic by specifying the pattern %w (Windows user name), %u (UNIX user name), or %d (domain name) variables in any combination. ONTAP generates the path dynamically for the connected user and this path is appended to each search path to find the full Home Directory path. • example: /volume_1/eng_vol/ • maxLength: 256 • minLength: 1 • Introduced in: 9.6 • x-nullable: true
show_previous_versions	boolean	Specifies that the previous version can be viewed and restored from the client.
show_snapshot	boolean	Specifies whether or not the snapshots can be viewed and traversed by clients.
svm	svm	SVM, applies only to SVM-scoped objects.
unix_symlink	string	Controls the access of UNIX symbolic links to CIFS clients. The supported values are: • local - Enables only local symbolic links which is within the same CIFS share. • widelink - Enables both local symlinks and widelinks. • disable - Disables local symlinks and widelinks.
volume	volume	

Name	Type	Description
vscan_profile	string	Vscan File-Operations Profile The supported values are: • no_scan - Virus scans are never triggered for accesses to this share. • standard - Virus scans can be triggered by open, close, and rename operations. • strict - Virus scans can be triggered by open, read, close, and rename operations. • writes_only - Virus scans can be triggered only when a file that has been modified is closed.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "acls": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "permission": "string",
      "type": "string",
      "user_or_group": "ENGDOMAIN\\ad_user",
      "win_sid_unix_id": "string"
    }
  ],
  "comment": "HR Department Share",
  "dir_umask": "21",
  "file_umask": "21",
  "force_group_for_create": "string",
  "name": "HR_SHARE",
  "offline_files": "string",
  "path": "/volume_1/eng_vol/",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "unix_symlink": "string",
  "volume": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  }
}
```

```
},  
  "vscan_profile": "string"  
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{  
  "error": {  
    "arguments": [  
      {  
        "code": "string",  
        "message": "string"  
      }  
    ],  
    "code": "4",  
    "message": "entry doesn't exist",  
    "target": "uuid"  
  }  
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

acls

The permissions that users and groups have on a CIFS share.

Name	Type	Description
_links	_links	
permission	string	Specifies the access rights that a user or group has on the defined CIFS Share. The following values are allowed: • no_access - User does not have CIFS share access • read - User has only read access • change - User has change access • full_control - User has full_control access
type	string	Specifies the type of the user or group to add to the access control list of a CIFS share. The following values are allowed: • windows - Windows user or group • unix_user - UNIX user • unix_group - UNIX group
user_or_group	string	Specifies the user or group name to add to the access control list of a CIFS share.

Name	Type	Description
win_sid_unix_id	string	Windows SID/UNIX ID depending on access-control type.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume. This field cannot be specified in a PATCH method.
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update a CIFS share

PATCH /protocols/cifs/shares/{svm.uuid}/{name}

Introduced In: 9.6

Updates a CIFS share.

Related ONTAP commands

- `vserver cifs share modify`
- `vserver cifs share properties add`
- `vserver cifs share properties remove`

Learn more

- [DOC /protocols/cifs/shares](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	Share Name
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
access_based_enumeration	boolean	If enabled, all folders inside this share are visible to a user based on that individual user access right; prevents the display of folders or other shared resources that the user does not have access to.
allow_unencrypted_access	boolean	Specifies whether or not the SMB2 clients are allowed to access the encrypted share.
attribute_cache	boolean	Specifies that connections through this share cache attributes for a short time to improve performance.
browsable	boolean	Specifies whether or not the Windows clients can browse the share.
change_notify	boolean	Specifies whether CIFS clients can request for change notifications for directories on this share.
comment	string	Specify the CIFS share descriptions.
continuously_available	boolean	Specifies whether or not the clients connecting to this share can open files in a persistent manner. Files opened in this way are protected from disruptive events, such as, failover and giveback. If the Vscan ONTAP feature is used, it is not supported in continuous availability (CA) shares. • Default value: 1 • Introduced in: 9.10 • x-nullable: true
dir_umask	string	Directory Mode Creation Mask to be viewed as an octal number.

Name	Type	Description
encryption	boolean	Specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption are not able to access this share.
file_umask	string	File Mode Creation Mask to be viewed as an octal number.
force_group_for_create	string	Specifies that all files that CIFS users create in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style.
max_connections_per_share	integer	Maximum number of tree connections on share.
namespace_caching	boolean	Specifies whether or not the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.
no_strict_security	boolean	Specifies whether or not CIFS clients can follow a unix symlinks outside the share boundaries.

Name	Type	Description
offline_files	string	Offline Files The supported values are: • none - Clients are not permitted to cache files for offline access. • manual - Clients may cache files that are explicitly selected by the user for offline access. • documents - Clients may automatically cache files that are used by the user for offline access. • programs - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
oplocks	boolean	Specify whether opportunistic locks are enabled on this share. "Oplocks" allow clients to lock files and cache content locally, which can increase performance for file operations.
path	string	The fully-qualified pathname in the owning SVM namespace that is shared through this share. If this is a home directory share then the path should be dynamic by specifying the pattern %w (Windows user name), %u (UNIX user name), or %d (domain name) variables in any combination. ONTAP generates the path dynamically for the connected user and this path is appended to each search path to find the full Home Directory path. • example: /volume_1/eng_vol/ • maxLength: 256 • minLength: 1 • Introduced in: 9.6 • x-nullable: true

Name	Type	Description
show_previous_versions	boolean	Specifies that the previous version can be viewed and restored from the client.
show_snapshot	boolean	Specifies whether or not the snapshots can be viewed and traversed by clients.
unix_symlink	string	Controls the access of UNIX symbolic links to CIFS clients. The supported values are: • local - Enables only local symbolic links which is within the same CIFS share. • widelink - Enables both local symlinks and widelinks. • disable - Disables local symlinks and widelinks.
volume	volume	
vscan_profile	string	Vscan File-Operations Profile The supported values are: • no_scan - Virus scans are never triggered for accesses to this share. • standard - Virus scans can be triggered by open, close, and rename operations. • strict - Virus scans can be triggered by open, read, close, and rename operations. • writes_only - Virus scans can be triggered only when a file that has been modified is closed.

Example request

```
{
  "comment": "HR Department Share",
  "dir_umask": "21",
  "file_umask": "21",
  "force_group_for_create": "string",
  "home_directory": true,
  "offline_files": "string",
  "path": "/volume_1/eng_vol/",
  "unix_symlink": "string",
  "volume": {
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  },
  "vscan_profile": "string"
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655628	'SMB_ENCRYPTION' property cannot be set on CIFS share because the CIFS server does not support SMB3.0
655551	CIFS Share modification failed because the specified path does not exist
655620	Cannot set symlink properties for admin shares
656420	Cannot modify the standard share ipc\$
656421	Cannot modify the standard share admin\$
656422	Failed to modify the home directory share because the directory shares must specify a path relative to one or more home directory search paths

Error Code	Description
656423	Failed to modify CIFS share. The Shares must define an absolute share path
656425	Failed to modify the CIFS share because the path for an administrative share cannot be modified
656486	Failed to modify CIFS share because the share cannot be made continuously available for FlexCache volumes.
655395	Failed to modify the CIFS share because share cannot be made continuously available unless running SMB3 or later.
4849678	Failed to modify the CIFS share because the specified UNIX group does not exist
655622	Invalid value for parameter {max-connections-per-share}. Maximum connections on CIFS share {name} must be between 1 to 4294967295.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

acls

The permissions that users and groups have on a CIFS share.

Name	Type	Description
permission	string	Specifies the access rights that a user or group has on the defined CIFS Share. The following values are allowed: • no_access - User does not have CIFS share access • read - User has only read access • change - User has change access • full_control - User has full_control access

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

Name	Type	Description
name	string	The name of the volume. This field cannot be specified in a PATCH method.
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

cifs_share

CIFS share is a named access point in a volume. Before users and applications can access data on the CIFS server over SMB, a CIFS share must be created with sufficient share permission. CIFS shares are tied to the CIFS server on the SVM. When a CIFS share is created, ONTAP creates a default ACL for the share with Full Control permissions for Everyone.

Name	Type	Description
access_based_enumeration	boolean	If enabled, all folders inside this share are visible to a user based on that individual user access right; prevents the display of folders or other shared resources that the user does not have access to.
allow_unencrypted_access	boolean	Specifies whether or not the SMB2 clients are allowed to access the encrypted share.
attribute_cache	boolean	Specifies that connections through this share cache attributes for a short time to improve performance.
browsable	boolean	Specifies whether or not the Windows clients can browse the share.

Name	Type	Description
change_notify	boolean	Specifies whether CIFS clients can request for change notifications for directories on this share.
comment	string	Specify the CIFS share descriptions.
continuously_available	boolean	Specifies whether or not the clients connecting to this share can open files in a persistent manner. Files opened in this way are protected from disruptive events, such as, failover and giveback. If the Vscan ONTAP feature is used, it is not supported in continuous availability (CA) shares. • Default value: 1 • Introduced in: 9.10 • x-nullable: true
dir_umask	string	Directory Mode Creation Mask to be viewed as an octal number.
encryption	boolean	Specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption are not able to access this share.
file_umask	string	File Mode Creation Mask to be viewed as an octal number.
force_group_for_create	string	Specifies that all files that CIFS users create in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style.
max_connections_per_share	integer	Maximum number of tree connections on share.

Name	Type	Description
namespace_caching	boolean	Specifies whether or not the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.
no_strict_security	boolean	Specifies whether or not CIFS clients can follow a unix symlinks outside the share boundaries.
offline_files	string	Offline Files The supported values are: • none - Clients are not permitted to cache files for offline access. • manual - Clients may cache files that are explicitly selected by the user for offline access. • documents - Clients may automatically cache files that are used by the user for offline access. • programs - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
oplocks	boolean	Specify whether opportunistic locks are enabled on this share. "Oplocks" allow clients to lock files and cache content locally, which can increase performance for file operations.

Name	Type	Description
path	string	The fully-qualified pathname in the owning SVM namespace that is shared through this share. If this is a home directory share then the path should be dynamic by specifying the pattern %w (Windows user name), %u (UNIX user name), or %d (domain name) variables in any combination. ONTAP generates the path dynamically for the connected user and this path is appended to each search path to find the full Home Directory path. • example: /volume_1/eng_vol/ • maxLength: 256 • minLength: 1 • Introduced in: 9.6 • x-nullable: true
show_previous_versions	boolean	Specifies that the previous version can be viewed and restored from the client.
show_snapshot	boolean	Specifies whether or not the snapshots can be viewed and traversed by clients.
unix_symlink	string	Controls the access of UNIX symbolic links to CIFS clients. The supported values are: • local - Enables only local symbolic links which is within the same CIFS share. • widelink - Enables both local symlinks and widelinks. • disable - Disables local symlinks and widelinks.
volume	volume	

Name	Type	Description
vscan_profile	string	Vscan File-Operations Profile The supported values are: • no_scan - Virus scans are never triggered for accesses to this share. • standard - Virus scans can be triggered by open, close, and rename operations. • strict - Virus scans can be triggered by open, read, close, and rename operations. • writes_only - Virus scans can be triggered only when a file that has been modified is closed.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage share-level ACL

Manage share-level ACL

Overview

Access to files and folders can be secured over a network by configuring share access control lists (ACLs) on CIFS shares. Share-level ACLs can be configured by using either Windows users and groups or UNIX users and groups. A share-level ACL consists of a list of access control entries (ACEs). Each ACE contains a user or group name and a set of permissions that determines user or group access to the share, regardless of the security style of the volume or qtree containing the share.

When an SMB user tries to access a share, ONTAP checks the share-level ACL to determine whether access should be granted. A share-level ACL only restricts access to files in the share; it never grants more access than the file level ACLs.

Examples

Creating a CIFS share ACL

To create a share ACL for a CIFS share, use the following API. Note the *return_records=true* query parameter used to obtain the newly created entry in the response.

```
# The API:
POST /api/protocols/cifs/shares{svm.uuid}/{share}/acls

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/shares/000c5cd2-ebdf-11e8-a96e-0050568ea3cb/sh1/acls?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{
  \"permission\": \"no_access\", \"type\": \"windows\", \"user_or_group\": \"root\"}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "name": "vs1"
      },
      "user_or_group": "root",
      "type": "windows",
      "permission": "no_access",
      "sid": "S-1-1-0"
    }
  ]
}
```

```
# The API:
GET /api/protocols/cifs/shares/{svm.uuid}/{share}/acls

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/shares/000c5cd2-ebdf-11e8-a96e-0050568ea3cb/sh1/acls?fields=*&return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "000c5cd2-ebdf-11e8-a96e-0050568ea3cb",
        "name": "vs1"
      },
      "share": "sh1",
      "user_or_group": "Everyone",
      "type": "windows",
      "permission": "full_control",
      "sid": "S-1-1-0"
    },
    {
      "svm": {
        "uuid": "000c5cd2-ebdf-11e8-a96e-0050568ea3cb",
        "name": "vs1"
      },
      "share": "sh1",
      "user_or_group": "root",
      "type": "windows",
      "permission": "no_access",
      "sid": "S-1-1-0"
    }
  ],
  "num_records": 2
}
```

Retrieving a CIFS share ACLs for a user or a group of type Windows or type UNIX on a CIFS share for a specific SVM

```
# The API:
GET
/api/protocols/cifs/shares/{svm.uuid}/{share}/acls/{user_or_group}/{type}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/shares/000c5cd2-ebdf-11e8-a96e-0050568ea3cb/sh1/acls/everyone/windows" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "000c5cd2-ebdf-11e8-a96e-0050568ea3cb",
    "name": "vs1"
  },
  "share": "sh1",
  "user_or_group": "everyone",
  "type": "windows",
  "permission": "full_control",
  "sid": "S-1-1-0"
}
```

Updating a CIFS share ACLs of a user or group on a CIFS share for a specific SVM

The CIFS share ACL being modified is identified by the UUID of its SVM, the CIFS share name, user or group name and the type of the user or group.

```
# The API:
PATCH
/api/protocols/cifs/shares/{svm.uuid}/{share}/acls/{user_or_group}/{type}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/shares/000c5cd2-ebdf-11e8-a96e-0050568ea3cb/sh1/acls/everyone/windows" -H "accept: application/json" -H "Content-Type: application/json" -d "{
  \"permission\": \"no_access\"}"
```

Removing a CIFS share ACLs of a user or group on a CIFS Share for a specific SVM

The CIFS share ACL being removed is identified by the UUID of its SVM, the CIFS share name, user or group name and the type of the user or group.


```
# The API:
DELETE
/api/protocols/cifs/shares/{svm.uuid}/{share}/acls/{user_or_group}/{type}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/shares/000c5cd2-ebdf-11e8-a96e-0050568ea3cb/sh1/acls/everyone/windows" -H "accept: application/json"
```

Retrieve a share-level ACL on a CIFS share

GET /protocols/cifs/shares/{svm.uuid}/{share}/acls

Introduced In: 9.6

Retrieves the share-level ACL on a CIFS share.

Related ONTAP commands

- `vserver cifs share access-control show`

Learn more

- [DOC /protocols/cifs/shares/{svm.uuid}/{share}/acls](#)

Parameters

Name	Type	In	Required	Description
share	string	path	True	CIFS Share Name
svm.name	string	query	False	Filter by svm.name • Introduced in: 9.9
sid	string	query	False	Filter by sid • Introduced in: 9.13
type	string	query	False	Filter by type
permission	string	query	False	Filter by permission

Name	Type	In	Required	Description
unix_id	integer	query	False	Filter by unix_id Introduced in: 9.16
user_or_group	string	query	False	Filter by user_or_group
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. - Default value: 15 - Max value: 120 - Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[cifs_share_acl]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "permission": "string",
      "share": "string",
      "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "type": "string",
      "unix_id": 100,
      "user_or_group": "ENGDOMAIN\\ad_user"
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_share_acl

The permissions that users and groups have on a CIFS share.

Name	Type	Description
_links	_links	

Name	Type	Description
permission	string	Specifies the access rights that a user or group has on the defined CIFS Share. The following values are allowed: • no_access - User does not have CIFS share access • read - User has only read access • change - User has change access • full_control - User has full_control access
share	string	CIFS share name
sid	string	Specifies the user or group secure identifier (SID).
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	Specifies the type of the user or group to add to the access control list of a CIFS share. The following values are allowed: • windows - Windows user or group • unix_user - UNIX user • unix_group - UNIX group
unix_id	integer	Specifies the UNIX user or group identifier (UID/GID).
user_or_group	string	Specifies the user or group name to add to the access control list of a CIFS share.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create a share-level ACL on a CIFS share

POST /protocols/cifs/shares/{svm.uuid}/{share}/acls

Introduced In: 9.6

Creates a share-level ACL on a CIFS share.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the share acl.
- `share` - Existing CIFS share in which to create the share acl.
- `user_or_group` - Existing user or group name for which the acl is added on the CIFS share.
- `permission` - Access rights that a user or group has on the defined CIFS share.

Default property values

- `type` - *windows*

Related ONTAP commands

- `vserver cifs share access-control create`

Learn more

- [DOC /protocols/cifs/shares/{svm.uuid}/{share}/acls](#)

Parameters

Name	Type	In	Required	Description
share	string	path	True	CIFS Share Name

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
permission	string	Specifies the access rights that a user or group has on the defined CIFS Share. The following values are allowed: • no_access - User does not have CIFS share access • read - User has only read access • change - User has change access • full_control - User has full_control access
share	string	CIFS share name
sid	string	Specifies the user or group secure identifier (SID).
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	Specifies the type of the user or group to add to the access control list of a CIFS share. The following values are allowed: • windows - Windows user or group • unix_user - UNIX user • unix_group - UNIX group

Name	Type	Description
unix_id	integer	Specifies the UNIX user or group identifier (UID/GID).
user_or_group	string	Specifies the user or group name to add to the access control list of a CIFS share.

Example request

```
{
  "permission": "string",
  "share": "string",
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "string",
  "unix_id": 100,
  "user_or_group": "ENGDOMAIN\\ad_user"
}
```

Response

Status: 201, Created

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655446	Failed to resolve the security identifier (SID) for the account named {user_or_group}. Reason: {Reason}.
4849678	Failed to resolve {user_or_group} name to a UNIX ID. Reason: {Reason}.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_share_acl

The permissions that users and groups have on a CIFS share.

Name	Type	Description
permission	string	Specifies the access rights that a user or group has on the defined CIFS Share. The following values are allowed: • no_access - User does not have CIFS share access • read - User has only read access • change - User has change access • full_control - User has full_control access
share	string	CIFS share name
sid	string	Specifies the user or group secure identifier (SID).

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	Specifies the type of the user or group to add to the access control list of a CIFS share. The following values are allowed: • windows - Windows user or group • unix_user - UNIX user • unix_group - UNIX group
unix_id	integer	Specifies the UNIX user or group identifier (UID/GID).
user_or_group	string	Specifies the user or group name to add to the access control list of a CIFS share.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a share-level ACL on a CIFS share

```
DELETE /protocols/cifs/shares/{svm.uuid}/{share}/acls/{user_or_group}/{type}
```

Introduced In: 9.6

Deletes a share-level ACL on a CIFS share.

Related ONTAP commands

- `vserver cifs share access-control delete`

Learn more

- [DOC /protocols/cifs/shares/{svm.uuid}/{share}/acls](#)

Parameters

Name	Type	In	Required	Description
share	string	path	True	Share name
user_or_group	string	path	True	User or group name
type	string	path	True	User or group type
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

```
Status: 200, Ok
```

Error

```
Status: Default, Error
```

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a share-level ACL on a CIFS share for a user or group

GET /protocols/cifs/shares/{svm.uuid}/{share}/acls/{user_or_group}/{type}

Introduced In: 9.6

Retrieves the share-level ACL on CIFS share for a specified user or group.

Related ONTAP commands

- `vserver cifs share access-control show`

Learn more

- [DOC /protocols/cifs/shares/{svm.uuid}/{share}/acls](#)

Parameters

Name	Type	In	Required	Description
share	string	path	True	Share name
user_or_group	string	path	True	User or group name
type	string	path	True	User or group type
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	

Name	Type	Description
permission	string	Specifies the access rights that a user or group has on the defined CIFS Share. The following values are allowed: • no_access - User does not have CIFS share access • read - User has only read access • change - User has change access • full_control - User has full_control access
share	string	CIFS share name
sid	string	Specifies the user or group secure identifier (SID).
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	Specifies the type of the user or group to add to the access control list of a CIFS share. The following values are allowed: • windows - Windows user or group • unix_user - UNIX user • unix_group - UNIX group
unix_id	integer	Specifies the UNIX user or group identifier (UID/GID).
user_or_group	string	Specifies the user or group name to add to the access control list of a CIFS share.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "permission": "string",
  "share": "string",
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "string",
  "unix_id": 100,
  "user_or_group": "ENGDOMAIN\\ad_user"
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update a share-level ACL on a CIFS share

PATCH /protocols/cifs/shares/{svm.uuid}/{share}/acls/{user_or_group}/{type}

Introduced In: 9.6

Updates a share-level ACL on a CIFS share.

Related ONTAP commands

- `vserver cifs share access-control modify`

Learn more

- [DOC /protocols/cifs/shares/{svm.uuid}/{share}/acls](#)

Parameters

Name	Type	In	Required	Description
share	string	path	True	Share name
user_or_group	string	path	True	User or group name
type	string	path	True	User or group type
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
permission	string	Specifies the access rights that a user or group has on the defined CIFS Share. The following values are allowed: • <code>no_access</code> - User does not have CIFS share access • <code>read</code> - User has only read access • <code>change</code> - User has change access • <code>full_control</code> - User has full_control access
share	string	CIFS share name

Name	Type	Description
sid	string	Specifies the user or group secure identifier (SID).
svm	svm	SVM, applies only to SVM-scoped objects.
unix_id	integer	Specifies the UNIX user or group identifier (UID/GID).

Example request

```
{
  "permission": "string",
  "share": "string",
  "sid": "S-1-5-21-256008430-3394229847-3930036330-1001",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "unix_id": 100
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655516	The share ACL does not exist for given user and share

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_share_acl

The permissions that users and groups have on a CIFS share.

Name	Type	Description
permission	string	Specifies the access rights that a user or group has on the defined CIFS Share. The following values are allowed: • no_access - User does not have CIFS share access • read - User has only read access • change - User has change access • full_control - User has full_control access
share	string	CIFS share name
sid	string	Specifies the user or group secure identifier (SID).

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
unix_id	integer	Specifies the UNIX user or group identifier (UID/GID).

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage CIFS UNIX symlink mapping

Manage CIFS UNIX symlink mapping

Overview

ONTAP allows both CIFS and NFS to access the same datastore. This datastore can contain symbolic links which are files, created by UNIX clients. It contains a reference to another file or directory. If an SMB client accesses a symbolic link, it is redirected to the target file or directory that the symbolic link refers to. The symbolic links can point to files within the volume that contain the share, or to files that are contained in other volumes on the Storage Virtual Machine (SVM), or even to volumes contained on other SVMs.

There are two types of symbolic links:

Relative A relative symbolic link contains a reference to the file or directory relative to its parent directory. Therefore, the path of the file it is referring to should not begin with a backslash (/). If you enable symbolic links on a share, relative symbolic links work without UNIX symlink mapping.

Absolute An absolute symbolic link contains a reference to a file or directory in the form of an absolute path. Therefore, the path of the file it is referring to should begin with a backslash (/). An absolute symbolic link can refer to a file or directory within or outside of the file system of the symbolic link. If the target is not in the same local file system, the symbolic link is called a "widelink". If the symbolic link is enabled on a share and absolute symbolic links do not work right away, the mapping between the UNIX path of the symbolic link to the destination CIFS path must be created. When creating absolute symbolic link mappings, locality could be either "local" or "widelink" and it must be specified. If UNIX symlink mapping is created for a file or directory which is outside of the local share but the locality is set to "local", ONTAP does not allow access to the target.

A UNIX symbolic link support could be added to SMB shares by specifying the *unix_symlink* property during the creation of SMB shares or at any time by modifying the existing SMB *unix_symlink* property. UNIX symbolic link support is enabled by default.

Examples

Creating a UNIX symlink mapping for CIFS shares

To create UNIX symlink mappings for SMB shares, use the following API. Note the *return_records=true* query parameter used to obtain the newly created entry in the response.

```
# The API:
POST /api/protocols/cifs/unix-symlink-mapping

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/unix-symlink-
mapping?return_records=true" -H "accept: application/json" -H "Content-
Type: application/json" -d "{ \"svm\": { \"name\": \"vs1\", \"uuid\":
\"000c5cd2-ebdf-11e8-a96e-0050568ea3cb\" }, \"target\": {
\"home_directory\": false, \"locality\": \"local\", \"path\":
\"/dir1/dir2/\", \"server\": \"cifs123\", \"share\": \"sh1\" },
\"unix_path\": \"/mnt/eng_volume/\"}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "000c5cd2-ebdf-11e8-a96e-0050568ea3cb",
        "name": "vs1"
      },
      "unix_path": "/mnt/eng_volume/",
      "target": {
        "share": "sh1",
        "path": "/dir1/dir2/",
        "server": "cifs123",
        "locality": "local",
        "home_directory": false
      }
    }
  ]
}
```

Retrieving UNIX symlink mappings for all SVMs in the cluster

```
# The API:
GET /api/protocols/cifs/unix-symlink-mapping

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/unix-symlink-
mapping?fields=*&return_records=true&return_timeout=15" -H "accept:
application/hal+json"
```

```
# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "000c5cd2-ebdf-11e8-a96e-0050568ea3cb",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/000c5cd2-ebdf-11e8-a96e-0050568ea3cb"
          }
        }
      },
      "unix_path": "/mnt/eng_volume/",
      "target": {
        "share": "sh1",
        "path": "/dir1/dir2/",
        "server": "CIFS123",
        "locality": "local",
        "home_directory": false
      },
      "_links": {
        "self": {
          "href": "/api/protocols/cifs/unix-symlink-mapping/000c5cd2-ebdf-11e8-a96e-0050568ea3cb/%2Fmnt%2Feng_volume%2F"
        }
      }
    },
    {
      "svm": {
        "uuid": "1d30d1b1-ebdf-11e8-a96e-0050568ea3cb",
        "name": "vs2",
        "_links": {
          "self": {
            "href": "/api/svm/svms/1d30d1b1-ebdf-11e8-a96e-0050568ea3cb"
          }
        }
      },
      "unix_path": "/mnt/eng_volume/",
      "target": {
        "share": "ENG_SHARE",
        "path": "/dir1/dir2/",
        "server": "ENG_CIFS",
        "locality": "widelink",
        "home_directory": false
      }
    }
  ]
}
```

```

    "_links": {
      "self": {
        "href": "/api/protocols/cifs/unix-symlink-mapping/1d30d1b1-ebdf-11e8-a96e-0050568ea3cb/%2Fmnt%2Feng_volume%2F"
      }
    }
  },
  "num_records": 2,
  "_links": {
    "self": {
      "href": "/api/protocols/cifs/unix-symlink-mapping?fields=*&return_records=true&return_timeout=15"
    }
  }
}

```

Retrieving a specific UNIX symlink mapping for an SVM

The mapping being returned is identified by the UUID of its SVM and the unix-path.

```

# The API:
GET /api/protocols/cifs/unix-symlink-mapping/{svm.uuid}/{unix_path}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/unix-symlink-mapping/000c5cd2-ebdf-11e8-a96e-0050568ea3cb/%2Fmnt%2Feng_volume%2F" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "000c5cd2-ebdf-11e8-a96e-0050568ea3cb",
    "name": "vs1"
  },
  "unix_path": "/mnt/eng_volume/",
  "target": {
    "share": "sh1",
    "path": "/dir1/dir2/",
    "server": "CIFS123",
    "locality": "local",
    "home_directory": false
  }
}

```

Updating a specific UNIX symlink mapping for an SVM

The mapping being modified is identified by the UUID of its SVM and the unix-path.

```
# The API:
PATCH /api/protocols/cifs/unix-symlink-mapping/{svm.uuid}/{unix_path}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/unix-symlink-mapping/000c5cd2-ebdf-11e8-a96e-0050568ea3cb/%2Fmnt%2Feng_volume%2F" -H "accept: application/json" -H "Content-Type: application/json" -d '{"target\": { \"home_directory\": true, \"locality\": \"widelink\", \"path\": \"/new_path/\", \"server\": \"HR_SERVER\", \"share\": \"sh2\" } }'
```

Removing a specific UNIX symlink mapping for an SVM

The mapping being removed is identified by the UUID of its SVM and the unix-path.

```
# The API:
DELETE /api/protocols/cifs/unix-symlink-mapping/{svm.uuid}/{unix_path}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/unix-symlink-mapping/000c5cd2-ebdf-11e8-a96e-0050568ea3cb/%2Fmnt%2Feng_volume%2F" -H "accept: application/json"
```

Retrieve UNIX symbolic link mappings for CIFS clients

GET /protocols/cifs/unix-symlink-mapping

Introduced In: 9.6

Retrieves UNIX symbolic link mappings for CIFS clients.

Related ONTAP commands

- `vserver cifs symlink show`

Learn more

- [DOC /protocols/cifs/unix-symlink-mapping](#)

Parameters

Name	Type	In	Required	Description
target.home_directory	boolean	query	False	Filter by target.home_directory
target.locality	string	query	False	Filter by target.locality
target.path	string	query	False	Filter by target.path • maxLength: 256
target.server	string	query	False	Filter by target.server • maxLength: 45
target.share	string	query	False	Filter by target.share • maxLength: 80
unix_path	string	query	False	Filter by unix_path • maxLength: 256
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[cifs_symlink_mapping]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "target": {
        "locality": "string",
        "path": "/dir1/dir2/",
        "server": "ENGCIFS",
        "share": "ENG_SHARE"
      },
      "unix_path": "/mnt/eng_volume/"
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_target

Name	Type	Description
home_directory	boolean	Specify if the destination share is a home directory.

Name	Type	Description
locality	string	Specifies whether the CIFS symbolic link is a local link or wide link. The following values are supported: • local - Local symbolic link maps only to the same CIFS share. • widelink - Wide symbolic link maps to any CIFS share on the network.
path	string	Specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted.
server	string	Specifies the destination CIFS server where the UNIX symbolic link is pointing. This field is mandatory if the locality of the symbolic link is 'widelink'. You can specify the value in any of the following formats: • DNS name of the CIFS server. • IP address of the CIFS server. • NetBIOS name of the CIFS server.
share	string	Specifies the CIFS share name on the destination CIFS server to which the UNIX symbolic link is pointing.

cifs_symlink_mapping

ONTAP allows for both CIFS and NFS access to the same datastore. This datastore can contain symbolic

links created by UNIX clients which can point anywhere from the perspective of the UNIX client. To Access such UNIX symlink from CIFS share, we need to create a CIFS symbolic link path mapping from a UNIX symlink and target it as a CIFS path.

Name	Type	Description
_links	_links	
svm	svm	SVM, applies only to SVM-scoped objects.
target	cifs_target	
unix_path	string	Specifies the UNIX path prefix to be matched for the mapping.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create a UNIX symbolic link mapping for a CIFS client

POST /protocols/cifs/unix-symlink-mapping

Introduced In: 9.6

Creates a UNIX symbolic link mapping for a CIFS client.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the CIFS unix-symlink-mapping.
- `unix_path` - UNIX path to which the CIFS symlink mapping to be created.

- `target.share` - CIFS share name on the destination CIFS server to which the UNIX symbolic link is pointing.
- `target.path` - CIFS path on the destination to which the symbolic link maps.

Default property values

- `target.server` - *Local_NetBIOS_Server_Name*
- `locality` - *local*
- `home_directory` - *false*

Related ONTAP commands

- `vserver cifs symlink create`

Learn more

- [DOC /protocols/cifs/unix-symlink-mapping](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
target	cifs_target	
unix_path	string	Specifies the UNIX path prefix to be matched for the mapping.

Example request

```
{
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "target": {
    "locality": "string",
    "path": "/dir1/dir2/",
    "server": "ENG_CIFS",
    "share": "ENG_SHARE"
  },
  "unix_path": "/mnt/eng_volume/"
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of records
records	array[cifs_symlink_mapping]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "target": {
        "locality": "string",
        "path": "/dir1/dir2/",
        "server": "ENG_CIFS",
        "share": "ENG_SHARE"
      },
      "unix_path": "/mnt/eng_volume/"
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655654	Must specify the target CIFS share while creating path mapping entries with localities "local" or "widelink"
655572	The target path contains illegal characters or is too long
655574	The target server contains illegal characters or is too long
655436	If the locality is "local", the target server must be blank or must match the CIFS NetBIOS name for given SVM

Error Code	Description
655439	The Specified target server is local CIFS server for given SVM but the locality is specified as "widelink"
655546	Failed to create symlink mapping because administrative share cannot be used as target share
655437	Failed to create the symlink mapping with locality "local" because the target share does not exist for the specified SVM
655429	UNIX path must begin and end with a "/"
655430	Target path must begin and end with a "/"
655399	Failed to get the CIFS server for specified SVM
656481	Failed to create the widelink because the target share does not exist for the specified SVM

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_target

Name	Type	Description
home_directory	boolean	Specify if the destination share is a home directory.
locality	string	Specifies whether the CIFS symbolic link is a local link or wide link. The following values are supported: • local - Local symbolic link maps only to the same CIFS share. • widelink - Wide symbolic link maps to any CIFS share on the network.

Name	Type	Description
path	string	Specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted.
server	string	Specifies the destination CIFS server where the UNIX symbolic link is pointing. This field is mandatory if the locality of the symbolic link is 'widelink'. You can specify the value in any of the following formats: • DNS name of the CIFS server. • IP address of the CIFS server. • NetBIOS name of the CIFS server.
share	string	Specifies the CIFS share name on the destination CIFS server to which the UNIX symbolic link is pointing.

cifs_symlink_mapping

ONTAP allows for both CIFS and NFS access to the same datastore. This datastore can contain symbolic links created by UNIX clients which can point anywhere from the perspective of the UNIX client. To Access such UNIX symlink from CIFS share, we need to create a CIFS symbolic link path mapping from a UNIX symlink and target it as a CIFS path.

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
target	cifs_target	

Name	Type	Description
unix_path	string	Specifies the UNIX path prefix to be matched for the mapping.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a UNIX symbolic link mapping for CIFS clients

`DELETE /protocols/cifs/unix-symlink-mapping/{svm.uuid}/{unix_path}`

Introduced In: 9.6

Deletes the UNIX symbolic link mapping for CIFS clients.

Related ONTAP commands

- `vserver cifs symlink delete`

Learn more

- [DOC /protocols/cifs/unix-symlink-mapping](#)

Parameters

Name	Type	In	Required	Description
unix_path	string	path	True	UNIX symbolic link path

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a UNIX symbolic link mapping for CIFS clients

GET /protocols/cifs/unix-symlink-mapping/{svm.uuid}/{unix_path}

Introduced In: 9.6

Retrieves a UNIX symbolic link mapping for CIFS clients.

Related ONTAP commands

- `vserver cifs symlink show`

Learn more

- [DOC /protocols/cifs/unix-symlink-mapping](#)

Parameters

Name	Type	In	Required	Description
unix_path	string	path	True	UNIX symbolic link path

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
svm	svm	SVM, applies only to SVM-scoped objects.
target	cifs_target	
unix_path	string	Specifies the UNIX path prefix to be matched for the mapping.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "target": {
    "locality": "string",
    "path": "/dirl1/dir2/",
    "server": "ENG_CIFS",
    "share": "ENG_SHARE"
  },
  "unix_path": "/mnt/eng_volume/"
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_target

Name	Type	Description
home_directory	boolean	Specify if the destination share is a home directory.
locality	string	Specifies whether the CIFS symbolic link is a local link or wide link. The following values are supported: • local - Local symbolic link maps only to the same CIFS share. • widelink - Wide symbolic link maps to any CIFS share on the network.

Name	Type	Description
path	string	Specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted.
server	string	Specifies the destination CIFS server where the UNIX symbolic link is pointing. This field is mandatory if the locality of the symbolic link is 'widelink'. You can specify the value in any of the following formats: • DNS name of the CIFS server. • IP address of the CIFS server. • NetBIOS name of the CIFS server.
share	string	Specifies the CIFS share name on the destination CIFS server to which the UNIX symbolic link is pointing.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments

Name	Type	Description
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update a UNIX symbolic link mapping for CIFS clients

PATCH /protocols/cifs/unix-symlink-mapping/{svm.uuid}/{unix_path}

Introduced In: 9.6

Updates the UNIX symbolic link mapping for CIFS clients.

Related ONTAP commands

- `vserver cifs symlink modify`

Learn more

- [DOC /protocols/cifs/unix-symlink-mapping](#)

Parameters

Name	Type	In	Required	Description
unix_path	string	path	True	UNIX symbolic link path
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
target	cifs_target	

Example request

```
{
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "target": {
    "locality": "string",
    "path": "/dir1/dir2/",
    "server": "ENG_CIFS",
    "share": "ENG_SHARE"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655437	Failed to modify the symlink mapping with locality "local" because the target share does not exist for the specified SVM
655573	Failed to modify the symlink mapping to target path because it contains illegal characters or is too long
655575	Failed to modify the symlink mapping to target server because it contains illegal characters or is too long
655547	Failed to modify symlink mapping because administrative share cannot be used as target share
656481	Failed to modify the widelink because the target share does not exist for the specified SVM

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

cifs_target

Name	Type	Description
home_directory	boolean	Specify if the destination share is a home directory.
locality	string	Specifies whether the CIFS symbolic link is a local link or wide link. The following values are supported: • local - Local symbolic link maps only to the same CIFS share. • widelink - Wide symbolic link maps to any CIFS share on the network.

Name	Type	Description
path	string	Specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted.
server	string	Specifies the destination CIFS server where the UNIX symbolic link is pointing. This field is mandatory if the locality of the symbolic link is 'widelink'. You can specify the value in any of the following formats: • DNS name of the CIFS server. • IP address of the CIFS server. • NetBIOS name of the CIFS server.
share	string	Specifies the CIFS share name on the destination CIFS server to which the UNIX symbolic link is pointing.

cifs_symlink_mapping

ONTAP allows for both CIFS and NFS access to the same datastore. This datastore can contain symbolic links created by UNIX clients which can point anywhere from the perspective of the UNIX client. To Access such UNIX symlink from CIFS share, we need to create a CIFS symbolic link path mapping from a UNIX symlink and target it as a CIFS path.

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
target	cifs_target	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Perform bulk import for CIFS user groups

Perform bulk import for CIFS user groups

Overview

Bulk import of the CIFS local users, groups and group membership information can be done from the specified Uniform Resource Identifier (URI). This replaces the existing contents of the CIFS local users, groups and group memberships. This API is used to bulk import from the specified URI, get the status of the last import and to upload the import status to the specified URI.

Retrieving import status of the last bulk import

The bulk-import GET endpoint retrieves the status of the last bulk-import operation of the specified SVM.

Examples

Retrieving the status of a successful bulk import

```

# The API:
/api/protocols/cifs/users-and-groups/bulk-import/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/users-and-groups/bulk-
import/6de1d39d-1473-11ec-b0cf-0050568e4acc" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "6de1d39d-1473-11ec-b0cf-0050568e4acc",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/6de1d39d-1473-11ec-b0cf-0050568e4acc"
      }
    }
  },
  "import_uri": {
    "path": "http://<import_uri>/file.7z"
  },
  "state": "success",
  "detailed_status": {
    "message": "Operation completed successfully.",
    "code": "0"
  },
  "elements_ignored": 0,
  "elements_imported": 2,
  "_links": {
    "self": {
      "href": "/api/protocols/cifs/users-and-groups/import/6de1d39d-1473-
11ec-b0cf-0050568e4acc"
    }
  }
}

```

Retrieving the status of a bulk import that failed


```

# The API:
/api/protocols/cifs/users-and-groups/bulk-import/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/users-and-groups/bulk-
import/6de1d39d-1473-11ec-b0cf-0050568e4acc" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "6de1d39d-1473-11ec-b0cf-0050568e4acc",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/6de1d39d-1473-11ec-b0cf-0050568e4acc"
      }
    }
  },
  "import_uri": {
    "path": "http://<import_uri>/file.7z"
  },
  "state": "success",
  "detailed_status": {
    "message": "Failed parsing line 1 of the input file. Check syntax and
contents.",
    "code": "655698"
  },
  "elements_ignored": 0,
  "elements_imported": 0,
  "_links": {
    "self": {
      "href": "/api/protocols/cifs/users-and-groups/import/6de1d39d-1473-
11ec-b0cf-0050568e4acc"
    }
  }
}

```

Retrieving bulk import information for CIFS local users, groups, and group memberships

```
# The API:
/api/protocols/cifs/users-and-groups/bulk-import/{svm.uuid}

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/users-and-groups/bulk-import/6de1d39d-1473-11ec-b0cf-0050568e4acc" -H "accept: application/json" -d
'{"import_uri.username":"user1","import_uri.password":"aaaa","decryption_password":"cccc","import_uri.path":"http://example.com/file1.7z"}'

# The response:
{
  "job": {
    "uuid": "e8293262-1af0-11ec-8243-0050568e4acc",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/e8293262-1af0-11ec-8243-0050568e4acc"
      }
    }
  }
}
```

Retrieving status upload information of the last import operation for the specified URI

```
# The API:
/api/protocols/cifs/users-and-groups/bulk-import/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/users-and-groups/bulk-import/6de1d39d-1473-11ec-b0cf-0050568e4acc" -H "accept: application/json" -d '{"status_uri.username":"user1","status_uri.password":"aaaa","status_uri.path":"http://example.com/fileupload.7z"}'

# The response:
{
  "job": {
    "uuid": "e8293262-1af0-11ec-8243-0050568e4acd",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/e8293262-1af0-11ec-8243-0050568e4acd"
      }
    }
  }
}
```

Retrieve import operation status for CIFS local users, groups, and group memberships

GET /protocols/cifs/users-and-groups/bulk-import/{svm.uuid}

Introduced In: 9.11

Retrieves information about the import operation status of the CIFS local users, groups, and group memberships.

Related ONTAP commands

- `vserver cifs users-and-groups import get-status`

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Name	Type	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
detailed_status	detailed_status	
elements_ignored	integer	Number of elements ignored.
elements_imported	integer	Number of elements successfully imported.
import_uri	import_uri	
state	string	Operation status.
status_uri	status_uri	
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "detailed_status": {
    "code": "6684732",
    "message": "string"
  },
  "elements_ignored": 0,
  "elements_imported": 0,
  "import_uri": {
    "path": "http://web.sample.com/web1/file1.7z"
  },
  "state": "string",
  "status_uri": {
    "path": "http://web.sample.com/web1/file1.7z"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

detailed_status

Name	Type	Description
code	string	Code corresponding to the import status failure.
message	string	Detailed description of the import status.

import_uri

Name	Type	Description
path	string	URI from which to load the input file containing the CIFS local users and groups. The file must be encrypted using the 7zip utility. URI can be FTP or HTTP.

status_uri

Name	Type	Description
path	string	URI from which to load the input file containing the CIFS local users and groups. The file must be encrypted using the 7zip utility. URI can be FTP or HTTP.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Upload the bulk-import status of an SVM to a URI

PATCH /protocols/cifs/users-and-groups/bulk-import/{svm.uuid}

Introduced In: 9.11

Upload the status of the bulk-import of the specified SVM to the specified URI.

Important notes

- Only the status of the last bulk-import will be uploaded and not the status of the previous bulk-imports.

Required properties

- status_uri.path - URI to which the status needs to be uploaded.

Optional properties

- `status_uri.username` - Username of the specified URI.
- `status_uri.password` - Password of the specified URI.

Related ONTAP commands

- `vserver cifs users-and-groups import get-status`

Parameters

Name	Type	In	Required	Description
<code>return_timeout</code>	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
<code>svm.uuid</code>	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
elements_ignored	integer	Number of elements ignored.
elements_imported	integer	Number of elements successfully imported.
state	string	Operation status.
status_uri	status_uri	
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "elements_ignored": 0,
  "elements_imported": 0,
  "state": "string",
  "status_uri": {
    "password": "string",
    "path": "http://web.sample.com/web1/file1.7z",
    "username": "user1"
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "uuid": "string"
  }
}
```

Response

Status: 202, Accepted

Error

Status: Default, Error

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

detailed_status

Name	Type	Description
code	string	Code corresponding to the import status failure.
message	string	Detailed description of the import status.

import_uri

Name	Type	Description
password	string	Password of the specified URI.
path	string	URI from which to load the input file containing the CIFS local users and groups. The file must be encrypted using the 7zip utility. URI can be FTP or HTTP.
username	string	Username of the specified URI.

status_uri

Name	Type	Description
password	string	Password of the specified URI.
path	string	URI from which to load the input file containing the CIFS local users and groups. The file must be encrypted using the 7zip utility. URI can be FTP or HTTP.
username	string	Username of the specified URI.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_users_and_groups_import

Name	Type	Description
elements_ignored	integer	Number of elements ignored.
elements_imported	integer	Number of elements successfully imported.
state	string	Operation status.
status_uri	status_uri	
svm	svm	SVM, applies only to SVM-scoped objects.

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments

Name	Type	Description
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Load CIFS local users, groups and group membership files from a URL

POST /protocols/cifs/users-and-groups/bulk-import/{svm.uuid}

Introduced In: 9.11

Loads CIFS local users, groups and group memberships file from the specified URL.

Important notes

Existing CIFS local users, groups, and group memberships will be replaced with the contents of the file.

Required properties

- import_uri.path
- decryption_password

Optional properties

- import_uri.username
- import_uri.password

Related ONTAP commands

- `vserver cifs users-and-groups import load-from-uri`

Parameters

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
decryption_password	string	Password to decrypt the compressed file.
elements_ignored	integer	Number of elements ignored.
elements_imported	integer	Number of elements successfully imported.

Name	Type	Description
import_uri	import_uri	
state	string	Operation status.
status_uri	status_uri	
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "decryption_password": "string",
  "elements_ignored": 0,
  "elements_imported": 0,
  "import_uri": {
    "password": "string",
    "path": "http://web.sample.com/web1/file1.7z",
    "username": "user1"
  },
  "state": "string",
  "status_uri": {
    "password": "string",
    "path": "http://web.sample.com/web1/file1.7z",
    "username": "user1"
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 202, Accepted

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "uuid": "string"
  }
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Response

Status: 201, Created

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655688	Invalid file decryption password. Valid password characters are: a-z, A-Z, and 0-9.
655660	This operation is only permitted on data SVMs.
655661	URI username, URI password and the file decryption password cannot exceed 128 characters.
655689	File decryption password cannot be empty.
655399	CIFS server does not exist.
655683	Domain Security Identifier is already present in Active Directory.
655685	Cluster is busy processing a local users and groups transition task.
655687	Unknown file schema version.
655690	Processing the import file failed. Check the file decryption password, compression format and content.

Error Code	Description
655691	Error occurred before processing the file. Verify the input parameters.
655692	Domain name that qualifies the local users and groups must match the CIFS server name.
655693	All local users and local groups must be prefixed with the NetBIOS domain name.
655693	Well-known user of group will not be present in this SVM.
655695	Group membership of the specified user will not be created.
655697	Failed processing a line of the bulk import file.
655698	Failed to parse a line of the bulk import file. Check the syntax and contents.
655699	Invalid number of elements in a line of the bulk import file.
655700	Failed processing a field index of a line in the input bulk import file.
655701	Unknown element type.
655702	Invalid URI.
655703	Failed to download the import file. Network error occurred.
655709	Failed to queue CIFS local users and groups import job since a similar job already exists. Retry the operation after some time.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

detailed_status

Name	Type	Description
code	string	Code corresponding to the import status failure.
message	string	Detailed description of the import status.

import_uri

Name	Type	Description
password	string	Password of the specified URI.
path	string	URI from which to load the input file containing the CIFS local users and groups. The file must be encrypted using the 7zip utility. URI can be FTP or HTTP.
username	string	Username of the specified URI.

status_uri

Name	Type	Description
password	string	Password of the specified URI.
path	string	URI from which to load the input file containing the CIFS local users and groups. The file must be encrypted using the 7zip utility. URI can be FTP or HTTP.
username	string	Username of the specified URI.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

local_cifs_users_and_groups_import

Name	Type	Description
decryption_password	string	Password to decrypt the compressed file.
elements_ignored	integer	Number of elements ignored.
elements_imported	integer	Number of elements successfully imported.
import_uri	import_uri	
state	string	Operation status.
status_uri	status_uri	
svm	svm	SVM, applies only to SVM-scoped objects.

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage CIFS user group privileges

Manage CIFS user group privileges

Overview

Privileges associated with local or Active Directory users or groups defines the permissions for the specified user or group. You can use this API to display and/or control privileges of local or Active Directory users or groups.

Retrieving the privileges of a specific local or Active Directory user or group and an SVM

The users and groups privileges GET endpoint retrieves privileges of the specified local or Active Directory user or group and the SVM.

Examples

Retrieving the privileges of all of the users or groups of data SVMs.

```
# The API:
/api/protocols/cifs/users-and-groups/privileges

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/users-and-groups/privileges?fields=*" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
        "name": "vs1"
      },
    },
  ]
}
```

```

    "name": "VS1.CIFS\\user1",
    "privileges": [
      "sechangenotifyprivilege",
      "setakeownershipprivilege"
    ]
  },
  {
    "svm": {
      "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
      "name": "vs1"
    },
    "name": "ACTIVE_DIRECTORY\\user",
    "privileges": [
      "sebackupprivilege",
      "setakeownershipprivilege"
    ]
  },
  {
    "svm": {
      "uuid": "0ac79c37-3867-11eb-bece-0050568ed0a2",
      "name": "vs2"
    },
    "name": "VS2.CIFS\\group1",
    "privileges": [
      "sesecurityprivilege",
      "sebackupprivilege",
      "serestoreprivilege"
    ]
  }
]
}

```

Retrieving the privileges of the specific SVM and user or group

```
# The API:
/api/protocols/cifs/users-and-groups/{svm.uuid}/{name}/privileges

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/users-and-
groups/privileges/25b363a6-2971-11eb-88e1-0050568eefd4/user1" -H "accept:
application/json"

# The response:
{
  "svm": {
    "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
    "name": "vs1"
  },
  "name": "VS1.CIFS\\user1",
  "privileges": [
    "sechangenotifyprivilege",
    "setakeownershipprivilege"
  ]
}
```

Adding privileges to the local or Active Directory user or group

The users and groups privileges POST endpoint adds privileges to the specified local or Active Directory user or group and the SVM.

Adding the privileges to the local user 'user1'

```
# The API:
/api/protocols/cifs/users-and-groups/privileges/{svm.uuid}/{name}

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/users-and-
groups/privileges/179d3c85-7053-11e8-b9b8-005056b41bd1/user1" -H "accept:
application/json" -H "Content-Type: application/json" -d '{ "privileges":
[ "SeSecurityPrivilege", "SeBackupPrivilege", "SeRestorePrivilege"] }'
```

Updating the privileges of the local or Active Directory user or group of a specific SVM

Example

Updating the privileges of local user 'user1' in SVM 'vs1' to 'SeRestorePrivilege' and 'SeSecurityPrivilege'

```
# The API:
/api/protocols/cifs/users-and-groups/privileges/{svm.uuid}/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/users-and-
groups/privileges/179d3c85-7053-11e8-b9b8-005056b41bd1/user1" -H "accept:
application/json" -d '{ "privileges": [ "SeRestorePrivilege",
"SeSecurityPrivilege"] }'
```

Reset all the privileges associated with the local user 'user1' in SVM 'vs1'

```
# The API:
/api/protocols/cifs/users-and-groups/privileges/{svm.uuid}/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/users-and-
groups/privileges/179d3c85-7053-11e8-b9b8-005056b41bd1/user1" -H "accept:
application/json" -d '{ "privileges": [ ] }'
```

Retrieve privileges for all local, or Active Directory users or groups and SVMs

GET /protocols/cifs/users-and-groups/privileges

Introduced In: 9.10

Retrieves privileges of the specified local or Active Directory user or group and SVM.

Related ONTAP commands

- `vserver cifs users-and-groups privilege show`

Learn more

- [DOC /protocols/cifs/users-and-groups/privileges](#)

Parameters

Name	Type	In	Required	Description
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
name	string	query	False	Filter by name
privileges	string	query	False	Filter by privileges

Name	Type	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of local or Active Directory user or group records.

Name	Type	Description
records	array[user_group_privileges]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "user1",
      "privileges": [
        "string"
      ],
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

user_group_privileges

Name	Type	Description
_links	_links	
name	string	Local or Active Directory user or group name.

Name	Type	Description
privileges	array[string]	An array of privileges associated with the local or Active Directory user or group. The available values are: • SeTcbPrivilege - Allows user to act as part of the operating system • SeBackupPrivilege - Allows user to back up files and directories, overriding any ACLs • SeRestorePrivilege - Allows user to restore files and directories, overriding any ACLs • SeTakeOwnershipPrivilege - Allows user to take ownership of files or other objects • SeSecurityPrivilege - Allows user to manage auditing and viewing/dumping/clearing the security log • SeChangeNotifyPrivilege - Allows user to bypass traverse checking
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Type	Description
message	string	Error message
target	string	The target parameter that caused the error.

Add privileges to a local, or Active Directory user or group and SVM

POST /protocols/cifs/users-and-groups/privileges

Introduced In: 9.10

Adds privileges to the specified local or Active Directory user or group and SVM.

Important note

- Specified privileges are appended to the existing list of privileges.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM for which privileges are added to user or group.
- `name` - Existing local or Active Directory user or group for which privileges are to be added.
- `privileges` - List of privileges to be added to a user or group.

Related ONTAP commands

- `vserver cifs users-and-groups privilege add-privilege`

Learn more

- [DOC /protocols/cifs/users-and-groups/privileges](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. Default value:

Request Body

Name	Type	Description
name	string	Local or Active Directory user or group name.
privileges	array[string]	An array of privileges associated with the local or Active Directory user or group. The available values are: • SeTcbPrivilege - Allows user to act as part of the operating system • SeBackupPrivilege - Allows user to back up files and directories, overriding any ACLs • SeRestorePrivilege - Allows user to restore files and directories, overriding any ACLs • SeTakeOwnershipPrivilege - Allows user to take ownership of files or other objects • SeSecurityPrivilege - Allows user to manage auditing and viewing/dumping/clearing the security log • SeChangeNotifyPrivilege - Allows user to bypass traverse checking
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "name": "user1",
  "privileges": [
    "string"
  ],
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655660	The operation is allowed only on data SVMs.
655673	Failed to resolve the user or group.
655730	The specified local user to which privileges are to be associated to does not exist.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

user_group_privileges

Name	Type	Description
name	string	Local or Active Directory user or group name.

Name	Type	Description
privileges	array[string]	An array of privileges associated with the local or Active Directory user or group. The available values are: • SeTcbPrivilege - Allows user to act as part of the operating system • SeBackupPrivilege - Allows user to back up files and directories, overriding any ACLs • SeRestorePrivilege - Allows user to restore files and directories, overriding any ACLs • SeTakeOwnershipPrivilege - Allows user to take ownership of files or other objects • SeSecurityPrivilege - Allows user to manage auditing and viewing/dumping/clearing the security log • SeChangeNotifyPrivilege - Allows user to bypass traverse checking
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Type	Description
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve privileges for a local, or Active Directory user or group and SVM

GET /protocols/cifs/users-and-groups/privileges/{svm.uuid}/{name}

Introduced In: 9.10

Retrieves privileges of the specified local or Active Directory user or group and SVM.

Related ONTAP commands

- `vserver cifs users-and-groups privilege show`

Learn more

- [DOC /protocols/cifs/users-and-groups/privileges](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	Local or Active Directory user or group name.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	Local or Active Directory user or group name.
privileges	array[string]	An array of privileges associated with the local or Active Directory user or group. The available values are: • SeTcbPrivilege - Allows user to act as part of the operating system • SeBackupPrivilege - Allows user to back up files and directories, overriding any ACLs • SeRestorePrivilege - Allows user to restore files and directories, overriding any ACLs • SeTakeOwnershipPrivilege - Allows user to take ownership of files or other objects • SeSecurityPrivilege - Allows user to manage auditing and viewing/dumping/clearing the security log • SeChangeNotifyPrivilege - Allows user to bypass traverse checking
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "user1",
  "privileges": [
    "string"
  ],
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update privileges for a local, or Active Directory user or group and SVM

PATCH /protocols/cifs/users-and-groups/privileges/{svm.uuid}/{name}

Introduced In: 9.10

Updates privileges of the specified local or Active Directory user or group and SVM.

Important note

- Specified privileges will replace all the existing privileges associated with the user or group.
- To reset privileges associated with the user or group, specify the privileges list as empty.

Related ONTAP commands

- `vserver cifs users-and-groups privilege reset-privilege`

Learn more

- [DOC /protocols/cifs/users-and-groups/privileges](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	Local or Active Directory user or group name.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
privileges	array[string]	An array of privileges associated with the local or Active Directory user or group. The available values are: • SeTcbPrivilege - Allows user to act as part of the operating system • SeBackupPrivilege - Allows user to back up files and directories, overriding any ACLs • SeRestorePrivilege - Allows user to restore files and directories, overriding any ACLs • SeTakeOwnershipPrivilege - Allows user to take ownership of files or other objects • SeSecurityPrivilege - Allows user to manage auditing and viewing/dumping/clearing the security log • SeChangeNotifyPrivilege - Allows user to bypass traverse checking

Example request

```
{
  "privileges": [
    "string"
  ]
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262196	Field 'svm.name' is not supported in the body of PATCH request.
262203	Field 'svm.uuid' is not supported in the body of PATCH request.
655673	Failed to resolve the user or group.
655730	The specified local user to which privileges are to be associated does not exist.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

user_group_privileges

Name	Type	Description
privileges	array[string]	An array of privileges associated with the local or Active Directory user or group. The available values are: • SeTcbPrivilege - Allows user to act as part of the operating system • SeBackupPrivilege - Allows user to back up files and directories, overriding any ACLs • SeRestorePrivilege - Allows user to restore files and directories, overriding any ACLs • SeTakeOwnershipPrivilege - Allows user to take ownership of files or other objects • SeSecurityPrivilege - Allows user to manage auditing and viewing/dumping/clearing the security log • SeChangeNotifyPrivilege - Allows user to bypass traverse checking

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

View file security permissions

View file security permissions

Overview

This API displays the effective permission granted to a Windows or UNIX user on the specified file or folder path. A path within the FlexCache volume is not supported.

Examples

Retrieving the effective permission for the specified Windows user on the specified path of an SVM.

```
# The API:
curl -X GET "https://10.63.26.252/api/protocols/file-security/effective-
permissions/cf5f271a-1beb-11ea-8fad-
005056bb645e/administrator/windows/%2F?share.name=sh1&return_records=true"
-H "accept: application/json" -H "authorization: Basic <CREDENTIALS>"

# The response:
{
  "svm": {
    "uuid": "cf5f271a-1beb-11ea-8fad-005056bb645e",
    "name": "vs1"
  },
  "user": "administrator",
  "type": "windows",
  "path": "/",
  "share": {
    "path": "/"
  },
  "file_permission": [
    "read",
    "write",
    "append",
    "read_ea",
    "write_ea",
    "execute",
    "delete_child",
    "read_attributes",
    "write_attributes",
    "delete",
    "read_control",
    "write_dac",
    "write_owner",
    "synchronize",
    "system_security"
  ],
  "share_permission": [
    "read",
    "read_ea",
    "execute",
    "read_attributes",
    "read_control",
    "synchronize"
  ]
}
```

Retrieve effective security permissions on a file

GET /protocols/file-security/effective-permissions/{svm.uuid}/{path}

Introduced In: 9.8

Retrieves effective security permissions on a file.

Related ONTAP commands

- `vserver security file-directory show-effective-permissions`

Parameters

Name	Type	In	Required	Description
path	string	path	True	File Path
user	string	query	True	User_Name
share.name	string	query	False	Share Name
type	string	query	False	User Type
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
file_permissions	array[string]	Specifies the effective permission granted to a user on the specified file or folder path.
path	string	Specifies the path of the file or the folder for which you want to display effective permissions. The path is relative to the SVM root volume. If "-share-name" is specified then path will be relative to the share path.

Name	Type	Description
share	share	
share_permissions	array[string]	Specifies the effective permission granted to a user on the specified file or folder path.
svm	svm_reference	SVM, applies only to SVM-scoped objects.
type	string	Specifies the user type. The following values are allowed: • windows - Windows user • unix - UNIX user
user	string	Specifies the user for which effective permission needs to be displayed for the specified path.

Example response

```
{
  "file_permissions": [
    "string"
  ],
  "path": "/dir1/dir2",
  "share": {
    "name": "string",
    "path": "string"
  },
  "share_permissions": [
    "string"
  ],
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "string",
  "user": "cifs1/administrator"
}
```

Error

Status: Default, Ontap error response codes | error code | description | |
----- | ----- | | 262278 | user is a required field | |
655865 | the specified path cannot be used if the file does not exist
| | 655470 | the specified share does not exist |

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

share

Name	Type	Description
name	string	Displays the file or directory effective permission for the mentioned user, only for files and directories contained where the specified path is relative to the root of the specified share. If this parameter is not specified, the SVM root volume is taken as the default. If this parameter is specified, the effective share permission of the user is also displayed. Wildcard query characters are not supported.
path	string	Displays the CIFS share path.

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm_reference

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage file security permissions and audit policies

Manage file security permissions and audit policies

Overview

Using this API, You can manage NTFS file security and audit policies of file or directory without the need of a client. It works similar to what you could do with a cacs in windows client. It will create an NTFS security descriptor(SD) to which you can add access control entries (ACEs) to the discretionary access control list (DACL) and the system access control list (SACL). Generally, an SD contains following information:

- Security identifiers (SIDs) for the owner and primary group of an object. A security identifier (SID) is a unique value of variable length used to identify a trustee. Each account has a unique SID issued by an authority, such as a Windows domain controller, and is stored in a security database.
- A DACL identifies the trustees that are allowed or denied access to a securable object. When a process tries to access a securable object, the system checks the ACEs in the object's DACL to determine whether to grant access to it.
- A SACL enables administrators to log attempts to access a secured object. Each ACE specifies the types of access attempts by a specified trustee that cause the system to generate a record in the security event log. An ACE in a SACL can generate audit records when an access attempt fails, when it succeeds, or both.
- A set of control bits that qualify the meaning of a SD or its individual members.

Currently, in ONTAP CLI, creating and applying NTFS ACLs is a 5-step process:

- Create an SD.
- Add DACLs and SACLs to the NTFS SD. If you want to audit file and directory events, you must configure auditing on the Vserver, in addition, to adding a SACL to the SD.

- Create a file/directory security policy. This step associates the policy with a SVM.
- Create a policy task. A policy task refers to a single operation to apply to a file (or folder) or to a set of files (or folders). Among other things, the task defines which SD to apply to a path.
- Apply a policy to the associated SVM. If a permission denied error occurs while applying the policy, the policy is skipped for the relevant files (or folders) and the job continues.

This REST API to set the DACL/SACL is similar to the windows GUI. The approach used here has been simplified by combining all steps into a single step. The REST API uses only minimal and mandatory parameters to create access control entries (ACEs), which can be added to the discretionary access control list (DACL) and the system access control list (SACL). Based on information provided, SD is created and applied on the target path. A path within the FlexCache volume is not supported

Beginning with ONTAP 9.10.1, SLAG (Storage-Level Access Guard) ACLs can also be configured through these endpoints. SLAG is designed to be set on a volume or qtree. Storage-level security cannot be revoked from a client, not even by a system (Windows or UNIX) administrator. It is designed to be modified by storage administrators only, which precedes the share/export permission and the Windows ACLs or UNIX mode bits. Similar to configuring file-directory ACLs, configuring SLAG ACLs is also simplified by combining all steps into a single step.

Examples

Creating a new SD

Use this endpoint to apply a fresh set of SACLs and DACLs. A new SD is created based on the input parameters and it replaces the old SD for the given target path:

```
# The API:
POST /protocols/file-security/permissions/{svm.uuid}/{path}

# The call:
curl -X POST "https://10.140.101.39/api/protocols/file-
security/permissions/9479099d-5b9f-11eb-9c4e-
0050568e8682/%2Fparent?return_timeout=0" -H "accept: application/json" -H
"authorization: Basic <CREDENTIALS>" -H "Content-Type: application/json"
-d "{ \"acls\": [ { \"access\": \"access_allow\", \"advanced_rights\": {
\"append_data\": true, \"delete\": true, \"delete_child\": true,
\"execute_file\": true, \"full_control\": true, \"read_attr\": true,
\"read_data\": true, \"read_ea\": true, \"read_perm\": true,
\"write_attr\": true, \"write_data\": true, \"write_ea\": true,
\"write_owner\": true, \"write_perm\": true }, \"apply_to\": { \"files\":
true, \"sub_folders\": true, \"this_folder\": true }, \"user\":
\"administrator\" } ], \"control_flags\": \"32788\", \"group\": \"S-1-5-
21-2233347455-2266964949-1780268902-69700\", \"ignore_paths\": [
\"/parent/child2\" ], \"owner\": \"S-1-5-21-2233347455-2266964949-
1780268902-69304\", \"propagation_mode\": \"propagate\"}"

# The response:
{
  "job": {
    "uuid": "3015c294-5bbc-11eb-9c4e-0050568e8682",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/3015c294-5bbc-11eb-9c4e-0050568e8682"
      }
    }
  }
}
```

Configuring a new set of SLAG DACLs and SACLs

Use this endpoint to apply a fresh set of SLAG DACLs and SACLs. A new SD is created based on the input parameters and it replaces the old SLAG permissions for the given target path:

```
# The API:
POST /protocols/file-security/permissions/{svm.uuid}/{path}

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/file-
security/permissions/9f738ac5-c502-11eb-b82c-
0050568e5902/%2Ftest_vol?return_timeout=0" -H "accept: application/json"
-H "Content-Type: application/json" -d "{ \"access_control\": \"slag\",
\"acls\": [ { \"access\": \"access_allow\",
\"advanced_rights\": { \"append_data\": true, \"delete\":
true, \"delete_child\": true, \"execute_file\": true,
\"full_control\": true, \"read_attr\": true, \"read_data\":
true, \"read_ea\": true, \"read_perm\": true,
\"write_attr\": true, \"write_data\": true, \"write_ea\":
true, \"write_owner\": true, \"write_perm\": true },
\"apply_to\": { \"files\": true, \"sub_folders\": true,
\"this_folder\": true }, \"user\": \"user1\" }, {
\"access\": \"audit_success\", \"advanced_rights\": {
\"append_data\": true, \"delete\": true, \"delete_child\":
true, \"execute_file\": true, \"full_control\": true,
\"read_attr\": true, \"read_data\": true, \"read_ea\": true,
\"read_perm\": true, \"write_attr\": true, \"write_data\":
true, \"write_ea\": true, \"write_owner\": true,
\"write_perm\": true }, \"apply_to\": { \"files\": true,
\"sub_folders\": true, \"this_folder\": true }, \"user\":
\"user2\" } ]}"

# The response:
{
  "job": {
    "uuid": "9938d743-d566-11eb-ad60-0050568e5902",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/9938d743-d566-11eb-ad60-0050568e5902"
      }
    }
  }
}
```

Retrieving file permissions

Use this endpoint to retrieve all the security and auditing information of a directory or file:

```
# The API:
GET /protocols/file-security/permissions/{svm.uuid}/{path}

# The call:
curl -X GET "https://10.140.101.39/api/protocols/file-
security/permissions/9479099d-5b9f-11eb-9c4e-0050568e8682/%2Fparent" -H
"accept: application/json" -H "authorization: Basic <CREDENTIALS>"

# The response:
{
  "svm": {
    "uuid": "9479099d-5b9f-11eb-9c4e-0050568e8682",
    "name": "vs1"
  },
  "path": "/parent",
  "owner": "BUILTIN\\Administrators",
  "group": "BUILTIN\\Administrators",
  "control_flags": "0x8014",
  "acls": [
    {
      "user": "BUILTIN\\Administrators",
      "access": "access_allow",
      "apply_to": {
        "files": true,
        "sub_folders": true,
        "this_folder": true
      },
      "advanced_rights": {
        "append_data": true,
        "delete": true,
        "delete_child": true,
        "execute_file": true,
        "full_control": true,
        "read_attr": true,
        "read_data": true,
        "read_ea": true,
        "read_perm": true,
        "write_attr": true,
        "write_data": true,
        "write_ea": true,
        "write_owner": true,
        "synchronize": true,
        "write_perm": true
      },
      "access_control": "file_directory"
    }
  ]
}
```



```

},
{
  "user": "BUILTIN\\Users",
  "access": "access_allow",
  "apply_to": {
    "files": true,
    "sub_folders": true,
    "this_folder": true
  },
  "advanced_rights": {
    "append_data": true,
    "delete": true,
    "delete_child": true,
    "execute_file": true,
    "full_control": true,
    "read_attr": true,
    "read_data": true,
    "read_ea": true,
    "read_perm": true,
    "write_attr": true,
    "write_data": true,
    "write_ea": true,
    "write_owner": true,
    "synchronize": true,
    "write_perm": true
  },
  "access_control": "file_directory"
},
{
  "user": "CREATOR OWNER",
  "access": "access_allow",
  "apply_to": {
    "files": true,
    "sub_folders": true,
    "this_folder": true
  },
  "advanced_rights": {
    "append_data": true,
    "delete": true,
    "delete_child": true,
    "execute_file": true,
    "full_control": true,
    "read_attr": true,
    "read_data": true,
    "read_ea": true,
    "read_perm": true,

```

```

        "write_attr": true,
        "write_data": true,
        "write_ea": true,
        "write_owner": true,
        "synchronize": true,
        "write_perm": true
    },
    "access_control": "file_directory"
},
{
    "user": "Everyone",
    "access": "access_allow",
    "apply_to": {
        "files": true,
        "sub_folders": true,
        "this_folder": true
    },
    "advanced_rights": {
        "append_data": true,
        "delete": true,
        "delete_child": true,
        "execute_file": true,
        "full_control": true,
        "read_attr": true,
        "read_data": true,
        "read_ea": true,
        "read_perm": true,
        "write_attr": true,
        "write_data": true,
        "write_ea": true,
        "write_owner": true,
        "synchronize": true,
        "write_perm": true
    },
    "access_control": "file_directory"
},
{
    "user": "NT AUTHORITY\\SYSTEM",
    "access": "access_allow",
    "apply_to": {
        "files": true,
        "sub_folders": true,
        "this_folder": true
    },
    "advanced_rights": {
        "append_data": true,

```

```

        "delete": true,
        "delete_child": true,
        "execute_file": true,
        "full_control": true,
        "read_attr": true,
        "read_data": true,
        "read_ea": true,
        "read_perm": true,
        "write_attr": true,
        "write_data": true,
        "write_ea": true,
        "write_owner": true,
        "synchronize": true,
        "write_perm": true
    },
    "access_control": "file_directory"
},
{
    "user": "user1",
    "access": "access_allow",
    "apply_to": {
        "sub_folders": true,
        "this_folder": true
    },
    "advanced_rights": {
        "append_data": true,
        "delete": true,
        "delete_child": true,
        "execute_file": true,
        "full_control": true,
        "read_attr": true,
        "read_data": true,
        "read_ea": true,
        "read_perm": true,
        "write_attr": true,
        "write_data": true,
        "write_ea": true,
        "write_owner": true,
        "synchronize": true,
        "write_perm": true
    },
    "access_control": "slag"
},
{
    "user": "user1",
    "access": "access_allow",

```

```

    "apply_to": {
        "files": true,
    },
    "advanced_rights": {
        "append_data": true,
        "delete": true,
        "delete_child": true,
        "execute_file": true,
        "full_control": true,
        "read_attr": true,
        "read_data": true,
        "read_ea": true,
        "read_perm": true,
        "write_attr": true,
        "write_data": true,
        "write_ea": true,
        "write_owner": true,
        "synchronize": true,
        "write_perm": true
    },
    "access_control": "slag"
},
{
    "user": "user2",
    "access": "audit_success",
    "apply_to": {
        "sub_folders": true,
        "this_folder": true
    },
    "advanced_rights": {
        "append_data": true,
        "delete": true,
        "delete_child": true,
        "execute_file": true,
        "full_control": true,
        "read_attr": true,
        "read_data": true,
        "read_ea": true,
        "read_perm": true,
        "write_attr": true,
        "write_data": true,
        "write_ea": true,
        "write_owner": true,
        "synchronize": true,
        "write_perm": true
    },

```

```

    "access_control": "slag"
  },
  {
    "user": "user2",
    "access": "audit_success",
    "apply_to": {
      "files": true,
    },
    "advanced_rights": {
      "append_data": true,
      "delete": true,
      "delete_child": true,
      "execute_file": true,
      "full_control": true,
      "read_attr": true,
      "read_data": true,
      "read_ea": true,
      "read_perm": true,
      "write_attr": true,
      "write_data": true,
      "write_ea": true,
      "write_owner": true,
      "synchronize": true,
      "write_perm": true
    },
    "access_control": "slag"
  }
],
"inode": 64,
"security_style": "mixed",
"effective_style": "ntfs",
"dos_attributes": "10",
"text_dos_attr": "----D---",
"user_id": "0",
"group_id": "0",
"mode_bits": 777,
"text_mode_bits": "rwxrwxrwx"
}

```

Configuring lookup_names in a GET request

When the value of lookup_names is set to false (the default value is true), the SID aren't translated into names:

```

# The API:
GET /protocols/file-security/permissions/{svm.uuid}/{path}

# The call:
curl -X GET "https://10.140.101.39/api/protocols/file-
security/permissions/bea90fd8-dc69-11ef-9cbd-
005056aeb209/%2Fvol01?lookup_names=false&fields=*" -H "accept:
application/json" -H "authorization: Basic <CREDENTIALS>"

# The response:
{
  "svm": {
    "uuid": "bea90fd8-dc69-11ef-9cbd-005056aeb209",
    "name": "vs0"
  },
  "path": "/vol01",
  "owner": "S-1-1-0",
  "group": "S-1-1-0",
  "control_flags": "0x8014",
  "acls": [
    {
      "user": "S-1-5-21-1328775103-872486983-3699758552-1002",
      "access": "audit_failure",
      "apply_to": {
        "files": true,
        "sub_folders": true,
        "this_folder": true
      },
      "advanced_rights": {
        "append_data": true,
        "delete": true,
        "delete_child": true,
        "execute_file": true,
        "full_control": true,
        "read_attr": true,
        "read_data": true,
        "read_ea": true,
        "read_perm": true,
        "write_attr": true,
        "write_data": true,
        "write_ea": true,
        "write_owner": true,
        "synchronize": true,
        "write_perm": true
      },
      "access_control": "file_directory"
    }
  ]
}

```

```
}  
],  
"inode": 64,  
"security_style": "mixed",  
"effective_style": "ntfs",  
"dos_attributes": "10",  
"text_dos_attr": "----D---",  
"user_id": "0",  
"group_id": "0",  
"mode_bits": 777,  
"text_mode_bits": "rwxrwxrwx"  
}
```

Updating SD-specific information

Use this end point to update the following information:

- Primary owner of the file/directory.
 - Primary group of the file/directory.
 - Control flags associated with with SD of the file/directory.
-

```
# The API:
PATCH /protocols/file-security/permissions/{svm.uuid}/{path}

# The call:
curl -X PATCH "https://10.140.101.39/api/protocols/file-
security/permissions/9479099d-5b9f-11eb-9c4e-
0050568e8682/%2Fparent?return_timeout=0" -H "accept: application/json" -H
"authorization: Basic <CREDENTIALS>" -H "Content-Type: application/json"
-d "{ \"control_flags\": \"32788\", \"group\": \"everyone\", \"owner\":
\"user1\"}"

# The Response:
{
  "job": {
    "uuid": "6f89e612-5bbd-11eb-9c4e-0050568e8682",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/6f89e612-5bbd-11eb-9c4e-0050568e8682"
      }
    }
  }
}
```

Removing all SLAG ACLs

Use this end point to remove all SLAG ACLs.

```
# The API:
DELETE /protocols/file-security/permissions/{svm.uuid}/{path}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/file-
security/permissions/713f569f-d4bc-11eb-b24a-
005056ac6ce1/%2Ftest_vol?access_control=slag"
```

Adding a single file-directory DACL/SACL ACE

Use this endpoint to add a single SACL/DACL ACE for a new user or for an existing user with a different access type (allow or deny). The given ACE is merged with an existing SACL/DACL and based on the type of “propagation-mode”, it is reflected to the child object:


```
# The API:
POST /protocols/file-security/permissions/{svm.uuid}/{path}/acl

# The call:
curl -X POST "https://10.140.101.39/api/protocols/file-
security/permissions/9479099d-5b9f-11eb-9c4e-
0050568e8682/%2Fparent/acl?return_timeout=0&return_records=false" -H
"accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H
"Content-Type: application/json" -d "{ \"access\": \"access_allow\",
\"apply_to\": { \"files\": true, \"sub_folders\": true, \"this_folder\":
true }, \"ignore_paths\": [ \"/parent/child2\" ], \"propagation_mode\":
\"propagate\", \"rights\": \"read\", \"user\": \"example_user\"}"

# The Response:
{
  "job": {
    "uuid": "26185a2f-5bbe-11eb-9c4e-0050568e8682",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/26185a2f-5bbe-11eb-9c4e-0050568e8682"
      }
    }
  }
}
```

Adding a single SLAG DACL/SACL ACE

Use this endpoint to add a single SLAG SACL/DACL ACE to an existing set of ACLs for a user or for an existing user with a different access type (allow or deny).

```
# The API:
POST /protocols/file-security/permissions/{svm.uuid}/{path}/acl

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/file-
security/permissions/713f569f-d4bc-11eb-b24a-
005056ac6ce1/%2Ftest_vol/acl?return_timeout=0&return_records=false" -H
"accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H
"Content-Type: application/json" -d "{  \"access\": \"access_allow\",
  \"access_control\": \"slag\",  \"advanced_rights\": {    \"append_data\":
true,    \"delete\": true,    \"delete_child\": true,    \"execute_file\":
true,    \"full_control\": true,    \"read_attr\": true,    \"read_data\":
true,    \"read_ea\": true,    \"read_perm\": true,    \"write_attr\":
true,    \"write_data\": true,    \"write_ea\": true,    \"write_owner\":
true,    \"write_perm\": true  },  \"apply_to\": {    \"files\": true,
  \"sub_folders\": true,    \"this_folder\": true  },  \"user\": \"user1\"}"

# The Response:
{
  "job": {
    "uuid": "7fa5f53f-d570-11eb-b24a-005056ac6ce1",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/7fa5f53f-d570-11eb-b24a-005056ac6ce1"
      }
    }
  }
}
}
```

Updating existing SACL/DACL ACE

Use this endpoint to update the rights/advanced rights for an existing user, for a specified path. You cannot update the access type using this end point. Based on the type of “propagation-mode”, it is reflected to the child object:

```
# The API:
PATCH /protocols/file-security/permissions/{svm.uuid}/{path}/acl/{user}
The Call:
curl -X PATCH "https://10.140.101.39/api/protocols/file-
security/permissions/9479099d-5b9f-11eb-9c4e-
0050568e8682/%2Fparent/acl/himanshu?return_timeout=0" -H "accept:
application/json" -H "authorization: Basic <CREDENTIALS>" -H "Content-
Type: application/json" -d "{ \"access\": \"access_allow\",
\"advanced_rights\": { \"append_data\": true, \"delete\": true,
\"delete_child\": true, \"execute_file\": true, \"full_control\": true,
\"read_attr\": false, \"read_data\": false, \"read_ea\": false,
\"read_perm\": false, \"write_attr\": true, \"write_data\": true,
\"write_ea\": true, \"write_owner\": true, \"write_perm\": true },
\"apply_to\": { \"files\": true, \"sub_folders\": true, \"this_folder\":
true }, \"ignore_paths\": [ \"/parent/child2\" ], \"propagation_mode\":
\"propagate\"}"
The Response:
{
  "job": {
    "uuid": "72067401-5bbf-11eb-9c4e-0050568e8682",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/72067401-5bbf-11eb-9c4e-0050568e8682"
      }
    }
  }
}
```

Updating an existing SLG SACL/DACL ACE

Use this endpoint to update the SLAG rights/advanced rights for an existing user, for a specified path. You cannot update the access type using this end point.

```
# The API:
PATCH /protocols/file-security/permissions/{svm.uuid}/{path}/acl/{user}
The Call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/file-
security/permissions/713f569f-d4bc-11eb-b24a-
005056ac6ce1/%2Ftest_vol/acl/user1?return_records=false&return_timeout=0"
-H "accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H
"Content-Type: application/json" -d "{  \"access\": \"access_allow\",
\"access_control\": \"slag\",  \"apply_to\": {    \"files\": true,
\"sub_folders\": true,    \"this_folder\": true  },  \"rights\":
\"read\"}"
The Response:
{
  "job": {
    "uuid": "3d21abcd-d571-11eb-b24a-005056ac6ce1",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/3d21abcd-d571-11eb-b24a-005056ac6ce1"
      }
    }
  }
}
```

Deleting an existing SACL/DACL ACE

Use this endpoint to delete any of the existing rights/advanced_rights for a user. Based on the type of "propagation-mode", it is reflected to the child object:

```
# The API:
DELETE /protocols/file-security/permissions/{svm.uuid}/{path}/acl/{user}

# The call:
curl -X DELETE "https://10.140.101.39/api/protocols/file-
security/permissions/9479099d-5b9f-11eb-9c4e-
0050568e8682/%2Fparent/acl/himanshu?return_timeout=0" -H "accept:
application/json" -H "authorization: Basic <CREDENTIALS>" -H "Content-
Type: application/json" -d "{ \"access\": \"access_allow\", \"apply_to\":
{ \"files\": true, \"sub_folders\": true, \"this_folder\": true },
\"ignore_paths\": [ \"/parent/child2\" ], \"propagation_mode\":
\"propagate\"}"

# The response:
{
  "job": {
    "uuid": "e5683b61-5bbf-11eb-9c4e-0050568e8682",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/e5683b61-5bbf-11eb-9c4e-0050568e8682"
      }
    }
  }
}
```

Deleting an existing SLAG SACL/DACL ACE

Use this endpoint to delete any SLAG ACE for a user.

```
# The API:
DELETE /protocols/file-security/permissions/{svm.uuid}/{path}/acl/{user}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/file-
security/permissions/713f569f-d4bc-11eb-b24a-
005056ac6ce1/%2Ftest_vol/acl/user1?return_records=false&return_timeout=0"
-H "accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H
"Content-Type: application/json" -d "{  \"access\": \"access_allow\",
\"access_control\": \"slag\",  \"apply_to\": {    \"files\": true,
\"sub_folders\": true,    \"this_folder\": true  }}"

# The response:
{
  "job": {
    "uuid": "10c29534-d572-11eb-b24a-005056ac6ce1",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/10c29534-d572-11eb-b24a-005056ac6ce1"
      }
    }
  }
}
```

Remove all SLAG ACLs for a path

DELETE /protocols/file-security/permissions/{svm.uuid}/{path}

Introduced In: 9.10

Remove all SLAG ACLs for specified path. Bulk deletion is supported only for SLAG You must keep the following points in mind while using these endpoints:

- Do not pass additional arguments that are not required.

Related ONTAP Commands

- vserver security file-directory remove-slag

Parameters

Name	Type	In	Required	Description
path	string	path	True	target path

Name	Type	In	Required	Description
access_control	string	query	False	Remove all SLAG ACLs. Currently bulk deletion of file-directory ACLs is not supported. • enum: ["slag"]
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655865	The specified file or directory does not exist.
10485811	Access is a required field.
1260882	Specified SVM not found.
6691623	User is not authorized.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve file permissions

GET /protocols/file-security/permissions/{svm.uuid}/{path}

Introduced In: 9.9

Retrieves file permissions.

Related ONTAP commands

- `vserver security file-directory show`

Parameters

Name	Type	In	Required	Description
path	string	path	True	target path
lookup_names	boolean	query	False	Translate security identifiers into names. • Introduced in: 9.17
fields	array[string]	query	False	Specify the fields to return.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Name	Type	Description
acls	array [acl]	A discretionary access security list (DACL) identifies the trustees that are allowed or denied access to a securable object. When a process tries to access a securable object, the system checks the access control entries (ACEs) in the object's DACL to determine whether to grant access to it.
control_flags	string	Specifies the control flags in the SD. It is a Hexadecimal Value.

Name	Type	Description
dos_attributes	string	Specifies the file attributes on this file or directory.
effective_style	string	Specifies the effective style of the SD. The following values are supported: • unix - UNIX style • ntfs - NTFS style • mixed - Mixed style • unified - Unified style
group	string	Specifies the owner's primary group. You can specify the owner group using either a group name or SID.
group_id	string	Specifies group ID on this file or directory.
inode	integer	Specifies the File Inode number.
mode_bits	integer	Specifies the mode bits on this file or directory.
owner	string	Specifies the owner of the SD. You can specify the owner using either a user name or security identifier (SID). The owner of the SD can modify the permissions on the file (or folder) or files (or folders) to which the SD is applied and can give other users the right to take ownership of the object or objects to which the SD is applied.
security_style	string	Specifies the security style of the SD. The following values are supported: • unix - UNIX style • ntfs - NTFS style • mixed - Mixed style • unified - Unified style

Name	Type	Description
text_dos_attr	string	Specifies the textual format of file attributes on this file or directory.
text_mode_bits	string	Specifies the textual format of mode bits on this file or directory.
user_id	string	Specifies user ID of this file or directory.

Example response

```
{
  "acls": [
    {
      "access": "access_allow",
      "access_control": "file_directory",
      "inherited": 1,
      "rights": "full_control",
      "user": "S-1-5-21-2233347455-2266964949-1780268902-69304"
    }
  ],
  "control_flags": "8014",
  "dos_attributes": "10",
  "effective_style": "mixed",
  "group": "S-1-5-21-2233347455-2266964949-1780268902-69700",
  "group_id": "2",
  "inode": 64,
  "mode_bits": 777,
  "owner": "S-1-5-21-2233347455-2266964949-1780268902-69304",
  "security_style": "ntfs",
  "text_dos_attr": "---A---",
  "text_mode_bits": "rwxrwxrwx",
  "user_id": "10"
}
```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655865	The specified file or directory does not exist.
1260882	Specified SVM not found.
6691623	User is not authorized.
4849676	The specified Windows user or group does not exist.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

advanced_rights

Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.

Name	Type	Description
append_data	boolean	Append DATA
delete	boolean	Delete
delete_child	boolean	Delete Child
execute_file	boolean	Execute File
full_control	boolean	Full Control
read_attr	boolean	Read Attributes
read_data	boolean	Read Data
read_ea	boolean	Read Extended Attributes
read_perm	boolean	Read Permissions
synchronize	boolean	Synchronize
write_attr	boolean	Write Attributes
write_data	boolean	Write Data
write_ea	boolean	Write Extended Attributes
write_owner	boolean	Write Owner
write_perm	boolean	Write Permission

apply_to

Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.

Name	Type	Description
files	boolean	Apply to Files

Name	Type	Description
sub_folders	boolean	Apply to all sub-folders
this_folder	boolean	Apply only to this folder

acl

An ACE is an element in an access control list (ACL). An ACL can have zero or more ACEs. Each ACE controls or monitors access to an object by a specified trustee.

Name	Type	Description
access	string	Specifies whether the ACL is for DACL or SACL. The available values are: • access_allow - DACL for allow access • access_deny - DACL for deny access • access_allowed_callback - CALLBACK for allowed access • access_denied_callback - CALLBACK for denied access • access_allowed_callback_object - CALLBACK OBJECT for allowed access • access_denied_callback_object - CALLBACK OBJECT for denied access • system_audit_callback - SYSTEM Audit Callback ace • system_audit_callback_object - SYSTEM Audit Callback Object ace • system_resource_attribute - SYSTEM Resource Attribute • system_scoped_policy_id - SYSTEM Scope Policy ID • audit_success - SACL for success access • audit_failure - SACL for failure access • audit_success_and_failure - SACL for both success and failure access

Name	Type	Description
access_control	string	An Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).
advanced_rights	advanced_rights	Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.
inherited	boolean	Indicates whether or not the ACE flag is inherited.
rights	string	Specifies the access rights controlled by the ACE for the account specified. The "rights" parameter is mutually exclusive with the "advanced_rights" parameter. If you specify the "rights" parameter, you can specify one of the following "rights" values ("-" or "_" is accepted as the delimiter).
user	string	Specifies the account to which the ACE applies. You can specify either name or SID.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update the SD information

PATCH /protocols/file-security/permissions/{svm.uuid}/{path}

Introduced In: 9.9

Updates SD specific Information. For example, owner, group and control-flags. SD specific information of SLAG ACLs is not modifiable.

Related ONTAP commands

- `vserver security file-directory ntfs modify`

Parameters

Name	Type	In	Required	Description
path	string	path	True	target path

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
control_flags	string	Specifies the control flags in the SD. It is a Hexadecimal Value.
dos_attributes	string	Specifies the file attributes on this file or directory.

Name	Type	Description
effective_style	string	Specifies the effective style of the SD. The following values are supported: • unix - UNIX style • ntfs - NTFS style • mixed - Mixed style • unified - Unified style
group	string	Specifies the owner's primary group. You can specify the owner group using either a group name or SID.
group_id	string	Specifies group ID on this file or directory.
inode	integer	Specifies the File Inode number.
mode_bits	integer	Specifies the mode bits on this file or directory.
owner	string	Specifies the owner of the SD. You can specify the owner using either a user name or security identifier (SID). The owner of the SD can modify the permissions on the file (or folder) or files (or folders) to which the SD is applied and can give other users the right to take ownership of the object or objects to which the SD is applied.
security_style	string	Specifies the security style of the SD. The following values are supported: • unix - UNIX style • ntfs - NTFS style • mixed - Mixed style • unified - Unified style
text_dos_attr	string	Specifies the textual format of file attributes on this file or directory.

Name	Type	Description
text_mode_bits	string	Specifies the textual format of mode bits on this file or directory.
user_id	string	Specifies user ID of this file or directory.

Example request

```
{
  "control_flags": "8014",
  "dos_attributes": "10",
  "effective_style": "mixed",
  "group": "S-1-5-21-2233347455-2266964949-1780268902-69700",
  "group_id": "2",
  "inode": 64,
  "mode_bits": 777,
  "owner": "S-1-5-21-2233347455-2266964949-1780268902-69304",
  "security_style": "ntfs",
  "text_dos_attr": "---A---",
  "text_mode_bits": "rwxrwxrwx",
  "user_id": "10"
}
```

Response

Status: 200, Ok

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "uuid": "string"
  }
}
```

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655865	The specified file or directory does not exist.
1260882	Specified SVM not found.
6691623	User is not authorized.
4849676	The specified Windows user or group does not exist.
10485814	The value provided for field control_flags is invalid.

Definitions

See Definitions

advanced_rights

Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.

Name	Type	Description
append_data	boolean	Append DAta
delete	boolean	Delete
delete_child	boolean	Delete Child
execute_file	boolean	Execute File
full_control	boolean	Full Control
read_attr	boolean	Read Attributes
read_data	boolean	Read Data
read_ea	boolean	Read Extended Attributes
read_perm	boolean	Read Permissions
synchronize	boolean	Synchronize
write_attr	boolean	Write Attributes
write_data	boolean	Write Data
write_ea	boolean	Write Extended Attributes
write_owner	boolean	Write Owner
write_perm	boolean	Write Permission

apply_to

Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.

Name	Type	Description
files	boolean	Apply to Files

Name	Type	Description
sub_folders	boolean	Apply to all sub-folders
this_folder	boolean	Apply only to this folder

acl

An ACE is an element in an access control list (ACL). An ACL can have zero or more ACEs. Each ACE controls or monitors access to an object by a specified trustee.

Name	Type	Description
access	string	Specifies whether the ACL is for DACL or SACL. The available values are: • access_allow - DACL for allow access • access_deny - DACL for deny access • access_allowed_callback - CALLBACK for allowed access • access_denied_callback - CALLBACK for denied access • access_allowed_callback_object - CALLBACK OBJECT for allowed access • access_denied_callback_object - CALLBACK OBJECT for denied access • system_audit_callback - SYSTEM Audit Callback ace • system_audit_callback_object - SYSTEM Audit Callback Object ace • system_resource_attribute - SYSTEM Resource Attribute • system_scoped_policy_id - SYSTEM Scope Policy ID • audit_success - SACL for success access • audit_failure - SACL for failure access • audit_success_and_failure - SACL for both success and failure access

Name	Type	Description
access_control	string	An Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).
advanced_rights	advanced_rights	Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.
apply_to	apply_to	Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.
inherited	boolean	Indicates whether or not the ACE flag is inherited.
rights	string	Specifies the access rights controlled by the ACE for the account specified. The "rights" parameter is mutually exclusive with the "advanced_rights" parameter. If you specify the "rights" parameter, you can specify one of the following "rights" values ("-" or "_" is accepted as the delimiter).

file_directory_security

Manages New Technology File System (NTFS) security and NTFS audit policies.

Name	Type	Description
control_flags	string	Specifies the control flags in the SD. It is a Hexadecimal Value.
dos_attributes	string	Specifies the file attributes on this file or directory.
effective_style	string	Specifies the effective style of the SD. The following values are supported: • unix - UNIX style • ntfs - NTFS style • mixed - Mixed style • unified - Unified style
group	string	Specifies the owner's primary group. You can specify the owner group using either a group name or SID.
group_id	string	Specifies group ID on this file or directory.
inode	integer	Specifies the File Inode number.
mode_bits	integer	Specifies the mode bits on this file or directory.
owner	string	Specifies the owner of the SD. You can specify the owner using either a user name or security identifier (SID). The owner of the SD can modify the permissions on the file (or folder) or files (or folders) to which the SD is applied and can give other users the right to take ownership of the object or objects to which the SD is applied.

Name	Type	Description
security_style	string	Specifies the security style of the SD. The following values are supported: • unix - UNIX style • ntfs - NTFS style • mixed - Mixed style • unified - Unified style
text_dos_attr	string	Specifies the textual format of file attributes on this file or directory.
text_mode_bits	string	Specifies the textual format of mode bits on this file or directory.
user_id	string	Specifies user ID of this file or directory.

href

Name	Type	Description
href	string	

_links

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Apply an SD to a path

POST /protocols/file-security/permissions/{svm.uuid}/{path}

Introduced In: 9.9

Applies an SD to the given path. You must keep the following points in mind while using these endpoints:

- Either SLAG ACL/s or file-directory ACL/s can be configured in one API call. Both cannot be configured in the same API call.
- SLAG applies to all files and/or directories in a volume hence, inheritance is not required to be propagated.
- Set access_control field to slag while configuring SLAG ACLs.
- Set access_control field to file_directory while configuring file-directory ACLs. By Default access_control field is set to file_directory.
- For SLAG, valid apply_to combinations are "this-folder, sub-folders", "files", "this-folder, sub-folders, files".

Related ONTAP commands

- `vserver security file-directory ntfs create`
- `vserver security file-directory ntfs dacl add`
- `vserver security file-directory ntfs sacl add`
- `vserver security file-directory policy create`
- `vserver security file-directory policy task add`
- `vserver security file-directory apply`

Parameters

Name	Type	In	Required	Description
path	string	path	True	target path

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
access_control	string	An Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).
acls	array [acl]	A discretionary access security list (DACL) identifies the trustees that are allowed or denied access to a securable object. When a process tries to access a securable object, the system checks the access control entries (ACEs) in the object's DACL to determine whether to grant access to it.
control_flags	string	Specifies the control flags in the SD. It is a Hexadecimal Value.
dos_attributes	string	Specifies the file attributes on this file or directory.
effective_style	string	Specifies the effective style of the SD. The following values are supported: • unix - UNIX style • ntfs - NTFS style • mixed - Mixed style • unified - Unified style
group	string	Specifies the owner's primary group. You can specify the owner group using either a group name or SID.
group_id	string	Specifies group ID on this file or directory.

Name	Type	Description
ignore_paths	array[string]	Specifies that permissions on this file or directory cannot be replaced.
inode	integer	Specifies the File Inode number.
mode_bits	integer	Specifies the mode bits on this file or directory.
owner	string	Specifies the owner of the SD. You can specify the owner using either a user name or security identifier (SID). The owner of the SD can modify the permissions on the file (or folder) or files (or folders) to which the SD is applied and can give other users the right to take ownership of the object or objects to which the SD is applied.
propagation_mode	string	Specifies how to propagate security settings to child subfolders and files. This setting determines how child files/folders contained within a parent folder inherit access control and audit information from the parent folder. The available values are: • propagate - propagate inheritable permissions to all subfolders and files • ignore - ignore inheritable permissions • replace - replace existing permissions on all subfolders and files with inheritable permissions
security_style	string	Specifies the security style of the SD. The following values are supported: • unix - UNIX style • ntfs - NTFS style • mixed - Mixed style • unified - Unified style

Name	Type	Description
text_dos_attr	string	Specifies the textual format of file attributes on this file or directory.
text_mode_bits	string	Specifies the textual format of mode bits on this file or directory.
user_id	string	Specifies user ID of this file or directory.

Example request

```
{
  "access_control": "file_directory",
  "acls": [
    {
      "access": "access_allow",
      "access_control": "file_directory",
      "inherited": 1,
      "rights": "full_control",
      "user": "S-1-5-21-2233347455-2266964949-1780268902-69304"
    }
  ],
  "control_flags": "8014",
  "dos_attributes": "10",
  "effective_style": "mixed",
  "group": "S-1-5-21-2233347455-2266964949-1780268902-69700",
  "group_id": "2",
  "ignore_paths": [
    "/dir1/dir2/",
    "/parent/dir3"
  ],
  "inode": 64,
  "mode_bits": 777,
  "owner": "S-1-5-21-2233347455-2266964949-1780268902-69304",
  "propagation_mode": "propagate",
  "security_style": "ntfs",
  "text_dos_attr": "---A---",
  "text_mode_bits": "rwxrwxrwx",
  "user_id": "10"
}
```


Response

Status: 202, Accepted

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "uuid": "string"
  }
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Response

Status: 201, Created

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655865	The specified file or directory does not exist.
10485813	All values corresponding to rights cannot be false.
10485815	The field "acls.access_control" is not allowed with POST method.
10485810	User is a required field.
1260882	Specified SVM not found.
6691623	User is not authorized.

Error Code	Description
4849676	The specified Windows user or group does not exist.
4849677	Failed to convert SID to a Windows name. Reason: "SecD Error: object not found".
10485814	The value provided for field control_flags is invalid.
10485813	All values cannot be false.

Definitions

See Definitions

advanced_rights

Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.

Name	Type	Description
append_data	boolean	Append DATA
delete	boolean	Delete
delete_child	boolean	Delete Child
execute_file	boolean	Execute File
full_control	boolean	Full Control
read_attr	boolean	Read Attributes
read_data	boolean	Read Data
read_ea	boolean	Read Extended Attributes
read_perm	boolean	Read Permissions
synchronize	boolean	Synchronize
write_attr	boolean	Write Attributes
write_data	boolean	Write Data
write_ea	boolean	Write Extended Attributes
write_owner	boolean	Write Owner
write_perm	boolean	Write Permission

apply_to

Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.

Name	Type	Description
files	boolean	Apply to Files

Name	Type	Description
sub_folders	boolean	Apply to all sub-folders
this_folder	boolean	Apply only to this folder

acl

An ACE is an element in an access control list (ACL). An ACL can have zero or more ACEs. Each ACE controls or monitors access to an object by a specified trustee.

Name	Type	Description
access	string	Specifies whether the ACL is for DACL or SACL. The available values are: • access_allow - DACL for allow access • access_deny - DACL for deny access • access_allowed_callback - CALLBACK for allowed access • access_denied_callback - CALLBACK for denied access • access_allowed_callback_object - CALLBACK OBJECT for allowed access • access_denied_callback_object - CALLBACK OBJECT for denied access • system_audit_callback - SYSTEM Audit Callback ace • system_audit_callback_object - SYSTEM Audit Callback Object ace • system_resource_attribute - SYSTEM Resource Attribute • system_scoped_policy_id - SYSTEM Scope Policy ID • audit_success - SACL for success access • audit_failure - SACL for failure access • audit_success_and_failure - SACL for both success and failure access

Name	Type	Description
access_control	string	An Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).
advanced_rights	advanced_rights	Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.
apply_to	apply_to	Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.
inherited	boolean	Indicates whether or not the ACE flag is inherited.
rights	string	Specifies the access rights controlled by the ACE for the account specified. The "rights" parameter is mutually exclusive with the "advanced_rights" parameter. If you specify the "rights" parameter, you can specify one of the following "rights" values ("-" or "_" is accepted as the delimiter).
user	string	Specifies the account to which the ACE applies. You can specify either name or SID.

file_directory_security

Manages New Technology File System (NTFS) security and NTFS audit policies.

Name	Type	Description
access_control	string	An Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).
acls	array [acl]	A discretionary access security list (DACL) identifies the trustees that are allowed or denied access to a securable object. When a process tries to access a securable object, the system checks the access control entries (ACEs) in the object's DACL to determine whether to grant access to it.
control_flags	string	Specifies the control flags in the SD. It is a Hexadecimal Value.
dos_attributes	string	Specifies the file attributes on this file or directory.
effective_style	string	Specifies the effective style of the SD. The following values are supported: • unix - UNIX style • ntfs - NTFS style • mixed - Mixed style • unified - Unified style
group	string	Specifies the owner's primary group. You can specify the owner group using either a group name or SID.

Name	Type	Description
group_id	string	Specifies group ID on this file or directory.
ignore_paths	array[string]	Specifies that permissions on this file or directory cannot be replaced.
inode	integer	Specifies the File Inode number.
mode_bits	integer	Specifies the mode bits on this file or directory.
owner	string	Specifies the owner of the SD. You can specify the owner using either a user name or security identifier (SID). The owner of the SD can modify the permissions on the file (or folder) or files (or folders) to which the SD is applied and can give other users the right to take ownership of the object or objects to which the SD is applied.
propagation_mode	string	Specifies how to propagate security settings to child subfolders and files. This setting determines how child files/folders contained within a parent folder inherit access control and audit information from the parent folder. The available values are: • propagate - propagate inheritable permissions to all subfolders and files • ignore - ignore inheritable permissions • replace - replace existing permissions on all subfolders and files with inheritable permissions

Name	Type	Description
security_style	string	Specifies the security style of the SD. The following values are supported: • unix - UNIX style • ntfs - NTFS style • mixed - Mixed style • unified - Unified style
text_dos_attr	string	Specifies the textual format of file attributes on this file or directory.
text_mode_bits	string	Specifies the textual format of mode bits on this file or directory.
user_id	string	Specifies user ID of this file or directory.

href

Name	Type	Description
href	string	

_links

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Add a new SACL or DACL ACE

POST /protocols/file-security/permissions/{svm.uuid}/{path}/acl

Introduced In: 9.9

Adds the new SACL/DACL ACE. You must keep the following points in mind while using these endpoints:

- SLAG applies to all files and/or directories in a volume hence, inheritance is not required to be propagated.
- Set access_control field to slag while adding SLAG ACE.
- Set access_control field to file_directory while adding file-directory ACE. By Default access_control field is set to file_directory.
- For SLAG, valid apply_to combinations are "this-folder, sub-folders", "files", "this-folder, sub-folders, files".

Required properties

- user - Name of the user to which the ACE applies.
- access - Specifies whether the ACE is for DACL or SACL.

Related ONTAP commands

- vserver security file-directory ntfs dacl add
- vserver security file-directory ntfs sacl add

Parameters

Name	Type	In	Required	Description
path	string	path	True	path

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
access	string	Specifies whether the ACL is for DACL or SACL. It is a required field. The available values are: • access_allow - DACL for allow access • access_deny - DACL for deny access • audit_success - SACL for success access • audit_failure - SACL for failure access
access_control	string	Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).
advanced_rights	advanced_rights	Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.
apply_to	apply_to	Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.
ignore_paths	array[string]	Specifies that permissions on this file or directory cannot be replaced.

Name	Type	Description
propagation_mode	string	Specifies how to propagate security settings to child subfolders and files. This setting determines how child files/folders contained within a parent folder inherit access control and audit information from the parent folder. The available values are: • propagate - propagate inheritable permissions to all subfolders and files • ignore - ignore inheritable permissions • replace - replace existing permissions on all subfolders and files with inheritable permissions
rights	string	Specifies the access rights controlled by the ACE for the account specified. The "rights" parameter is mutually exclusive with the "advanced_rights" parameter. If you specify the "rights" parameter, you can specify one of the following "rights" values ("-" or "_" is accepted as the delimiter).
user	string	Specifies the account to which the ACE applies. You can specify either name or SID.

Example request

```
{
  "access": "access_allow",
  "access_control": "file_directory",
  "ignore_paths": [
    "/dir1/dir2/",
    "/parent/dir3"
  ],
  "propagation_mode": "string",
  "rights": "full_control",
  "user": "S-1-5-21-2233347455-2266964949-1780268902-69304"
}
```

Response

Status: 202, Accepted

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "uuid": "string"
  }
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Response

Status: 201, Created

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655865	The specified file or directory does not exist.
10485811	Access is a required field.
1260882	Specified SVM not found.
6691623	User is not authorized.
4849676	The specified Windows user or group does not exist.
10485810	User is a required field.
10485813	All values cannot be false.

Definitions

See Definitions

advanced_rights

Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.

Name	Type	Description
append_data	boolean	Append DATA
delete	boolean	Delete
delete_child	boolean	Delete Child
execute_file	boolean	Execute File
full_control	boolean	Full Control
read_attr	boolean	Read Attributes
read_data	boolean	Read Data
read_ea	boolean	Read Extended Attributes
read_perm	boolean	Read Permissions
synchronize	boolean	Synchronize
write_attr	boolean	Write Attributes
write_data	boolean	Write Data
write_ea	boolean	Write Extended Attributes
write_owner	boolean	Write Owner
write_perm	boolean	Write Permission

apply_to

Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.

Name	Type	Description
files	boolean	Apply to Files

Name	Type	Description
sub_folders	boolean	Apply to all sub-folders
this_folder	boolean	Apply only to this folder

file_directory_security_acl

Manages the DACLS or SACLs.

Name	Type	Description
access	string	Specifies whether the ACL is for DACL or SACL. It is a required field. The available values are: • access_allow - DACL for allow access • access_deny - DACL for deny access • audit_success - SACL for success access • audit_failure - SACL for failure access
access_control	string	Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).
advanced_rights	advanced_rights	Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.

Name	Type	Description
apply_to	apply_to	Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.
ignore_paths	array[string]	Specifies that permissions on this file or directory cannot be replaced.
propagation_mode	string	Specifies how to propagate security settings to child subfolders and files. This setting determines how child files/folders contained within a parent folder inherit access control and audit information from the parent folder. The available values are: • propagate - propagate inheritable permissions to all subfolders and files • ignore - ignore inheritable permissions • replace - replace existing permissions on all subfolders and files with inheritable permissions
rights	string	Specifies the access rights controlled by the ACE for the account specified. The "rights" parameter is mutually exclusive with the "advanced_rights" parameter. If you specify the "rights" parameter, you can specify one of the following "rights" values ("- " or "_ " is accepted as the delimiter).
user	string	Specifies the account to which the ACE applies. You can specify either name or SID.

href

Name	Type	Description
href	string	

_links

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a SACL or DACL ACL

DELETE /protocols/file-security/permissions/{svm.uuid}/{path}/acl/{user}

Introduced In: 9.9

Deletes the SACL/DACL ACL You must keep the following points in mind while using these endpoints:

- SLAG applies to all files and/or directories in a volume hence, inheritance is not required to be propagated.
- Set access_control field to slag while deleting SLAG ACE.
- Set access_control field to file_directory while deleting file-directory ACE. By Default access_control field is set to file_directory.
- For SLAG, valid apply_to combinations are "this-folder, sub-folders", "files", "this-folder, sub-folders, files".

Required properties

- `access` - Specifies whether the ACE is for DACL or SACL.
- `user` - Name of the user to which the ACE applies.

Related ONTAP commands

- `vserver security file-directory ntfs dacl remove`
- `vserver security file-directory ntfs sacl remove`

Parameters

Name	Type	In	Required	Description
path	string	path	True	path
user	string	path	True	User Name
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
access	string	Specifies whether the ACL is for DACL or SACL. It is a required field. The available values are: • access_allow - DACL for allow access • access_deny - DACL for deny access • audit_success - SACL for success access • audit_failure - SACL for failure access
access_control	string	An Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).
apply_to	apply_to	Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.
ignore_paths	array[string]	Specifies that permissions on this file or directory cannot be replaced.

Name	Type	Description
propagation_mode	string	Specifies how to propagate security settings to child subfolders and files. This setting determines how child files/folders contained within a parent folder inherit access control and audit information from the parent folder. The available values are: • propagate - propagate inheritable permissions to all subfolders and files • replace - replace existing permissions on all subfolders and files with inheritable permissions

Example request

```
{
  "access": "access_allow",
  "access_control": "file_directory",
  "ignore_paths": [
    "/dir1/dir2/",
    "/parent/dir3"
  ],
  "propagation_mode": "string"
}
```

Response

Status: 200, Ok

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "string"
  }
}
```

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description	
655865	The specified file or directory does not exist.	
10485811	Access is a required field.	
1260882	Specified SVM not found.	
6691623	User is not authorized.	
4849676	The specified Windows user or group does not exist.	
10485813	All values cannot be false.	

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

apply_to

Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.

Name	Type	Description
files	boolean	Apply to Files
sub_folders	boolean	Apply to all sub-folders
this_folder	boolean	Apply only to this folder

acl_delete

Manages the DACLS or SACLs.

Name	Type	Description
access	string	Specifies whether the ACL is for DACL or SACL. It is a required field. The available values are: • access_allow - DACL for allow access • access_deny - DACL for deny access • audit_success - SACL for success access • audit_failure - SACL for failure access
access_control	string	An Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).

Name	Type	Description
apply_to	apply_to	Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.
ignore_paths	array[string]	Specifies that permissions on this file or directory cannot be replaced.
propagation_mode	string	Specifies how to propagate security settings to child subfolders and files. This setting determines how child files/folders contained within a parent folder inherit access control and audit information from the parent folder. The available values are: • propagate - propagate inheritable permissions to all subfolders and files • replace - replace existing permissions on all subfolders and files with inheritable permissions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

job_link

Name	Type	Description
_links	_links	
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update SACLs or DACLs

PATCH /protocols/file-security/permissions/{svm.uuid}/{path}/acl/{user}

Introduced In: 9.9

Updates the SACLs/DACLs You must keep the following points in mind while using these endpoints:

- SLAG applies to all files and/or directories in a volume hence, inheritance is not required to be propagated.
- Set access_control field to slag while updating SLAG ACE.
- Set access_control field to file_directory while updating file-directory ACE. By Default access_control field is set to file_directory.
- For SLAG, valid apply_to combinations are "this-folder, sub-folders", "files", "this-folder, sub-folders, files".

Required properties

- access - Specifies whether the ACE is for DACL or SACL.
- user - Name of the user to which the ACE applies.

Related ONTAP commands

- vserver security file-directory ntfs dacl modify
- vserver security file-directory ntfs sacl modify

Parameters

Name	Type	In	Required	Description
path	string	path	True	path
user	string	path	True	User Name
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 0 • Max value: 120 • Min value: 0
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
access	string	Specifies whether the ACL is for DACL or SACL. It is a required field. The available values are: • access_allow - DACL for allow access • access_deny - DACL for deny access • audit_success - SACL for success access • audit_failure - SACL for failure access
access_control	string	Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).
advanced_rights	advanced_rights	Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.
apply_to	apply_to	Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.
ignore_paths	array[string]	Specifies that permissions on this file or directory cannot be replaced.

Name	Type	Description
propagation_mode	string	Specifies how to propagate security settings to child subfolders and files. This setting determines how child files/folders contained within a parent folder inherit access control and audit information from the parent folder. The available values are: • propagate - propagate inheritable permissions to all subfolders and files • ignore - ignore inheritable permissions • replace - replace existing permissions on all subfolders and files with inheritable permissions
rights	string	Specifies the access rights controlled by the ACE for the account specified. The "rights" parameter is mutually exclusive with the "advanced_rights" parameter. If you specify the "rights" parameter, you can specify one of the following "rights" values ("- " or " _ " is accepted as the delimiter).

Example request

```
{
  "access": "access_allow",
  "access_control": "file_directory",
  "ignore_paths": [
    "/dir1/dir2/",
    "/parent/dir3"
  ],
  "propagation_mode": "string",
  "rights": "full_control"
}
```

Response

Status: 200, Ok

Name	Type	Description
job	job_link	

Example response

```
{
  "job": {
    "uuid": "string"
  }
}
```

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
655865	The specified file or directory does not exist.
10485811	Access is a required field.
1260882	Specified SVM not found.
6691623	User is not authorized.
4849676	The specified Windows user or group does not exist.
10485813	All values cannot be false.

Definitions

See Definitions

advanced_rights

Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.

Name	Type	Description
append_data	boolean	Append DATA
delete	boolean	Delete
delete_child	boolean	Delete Child
execute_file	boolean	Execute File
full_control	boolean	Full Control
read_attr	boolean	Read Attributes
read_data	boolean	Read Data
read_ea	boolean	Read Extended Attributes
read_perm	boolean	Read Permissions
synchronize	boolean	Synchronize
write_attr	boolean	Write Attributes
write_data	boolean	Write Data
write_ea	boolean	Write Extended Attributes
write_owner	boolean	Write Owner
write_perm	boolean	Write Permission

apply_to

Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.

Name	Type	Description
files	boolean	Apply to Files

Name	Type	Description
sub_folders	boolean	Apply to all sub-folders
this_folder	boolean	Apply only to this folder

file_directory_security_acl

Manages the DACLS or SACLs.

Name	Type	Description
access	string	Specifies whether the ACL is for DACL or SACL. It is a required field. The available values are: • access_allow - DACL for allow access • access_deny - DACL for deny access • audit_success - SACL for success access • audit_failure - SACL for failure access
access_control	string	Access Control Level specifies the access control of the task to be applied. Valid values are "file-directory" or "Storage-Level Access Guard (SLAG)". SLAG is used to apply the specified security descriptors with the task for the volume or qtree. Otherwise, the security descriptors are applied on files and directories at the specified path. The value SLAG is not supported on FlexGroups volumes. The default value is "file-directory" ('-' and '_' are interchangeable).
advanced_rights	advanced_rights	Specifies the advanced access right controlled by the ACE for the account specified. You can specify more than one "advanced-rights" value by using a comma-delimited list.

Name	Type	Description
apply_to	apply_to	Specifies where to apply the DACL or SACL entries. You can specify more than one value by using a comma-delimited list.
ignore_paths	array[string]	Specifies that permissions on this file or directory cannot be replaced.
propagation_mode	string	Specifies how to propagate security settings to child subfolders and files. This setting determines how child files/folders contained within a parent folder inherit access control and audit information from the parent folder. The available values are: • propagate - propagate inheritable permissions to all subfolders and files • ignore - ignore inheritable permissions • replace - replace existing permissions on all subfolders and files with inheritable permissions
rights	string	Specifies the access rights controlled by the ACE for the account specified. The "rights" parameter is mutually exclusive with the "advanced_rights" parameter. If you specify the "rights" parameter, you can specify one of the following "rights" values ("- " or "_ " is accepted as the delimiter).

href

Name	Type	Description
href	string	

_links

job_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage FPolicy configuration

Manage FPolicy configuration

Overview

FPolicy is an infrastructure component of ONTAP that enables partner applications to connect to ONTAP in order to monitor and set file access permissions. Every time a client accesses a file from a storage system, based on the configuration of FPolicy, the partner application is notified about file access. This enables partners to set restrictions on files that are created or accessed on the storage system. FPolicy also allows you to create file policies that specify file operation permissions according to file type. For example, you can restrict certain file types, such as .jpeg and .mp3 files, from being stored on the storage system. FPolicy can monitor file access from CIFS and NFS clients.

As part of FPolicy configuration, you can specify an FPolicy engine which defines the external FPolicy server, FPolicy events, which defines the protocol and file operations to monitor and the FPolicy policy that acts as a container for the FPolicy engine and FPolicy events. It provides a way for policy management functions, such as policy enabling and disabling.

Examples

Creating an FPolicy configuration

To create an FPolicy for an SVM use the following API. Note that the *return_records=true* query parameter is used to obtain the newly created entry in the response.

```
# The API:
POST /protocols/fpolicy/

#The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy?return_records=true"
-H "accept: application/json" -H "Content-Type: application/json" -d "{
  \"engines\": [ { \"name\": \"engine1\", \"port\": 9876,
  \"primary_servers\": [ \"10.132.145.22\", \"10.140.101.109\" ],
  \"secondary_servers\": [ \"10.132.145.20\", \"10.132.145.21\" ], \"type\":
  \"synchronous\", \"format\": \"xml\" } ], \"events\": [ {
  \"file_operations\": { \"read\": true, \"write\": true }, \"filters\": {
  \"monitor_ads\": true }, \"name\": \"event_cifs\", \"protocol\": \"cifs\",
  \"volume_monitoring\": true } ], \"policies\": [{ \"engine\": { \"name\":
  \"engine1\" }, \"events\": [ { \"name\": \"event_cifs\" } ],
  \"mandatory\": true, \"name\": \"pol0\", \"priority\": 1, \"scope\": {
  \"include_volumes\": [ \"vol1\" ] } } ], \"persistent_stores\": [ {
  \"name\": \"ps1\", \"volume\": \"psvol\" ,\"size\": 1073741824,
  \"autosize_mode\": \"off\"} ], \"svm\": { \"name\": \"vs1\", \"uuid\":
  \"b34f5e3d-01d0-11e9-8f63-0050568ea311\" } }]"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "b34f5e3d-01d0-11e9-8f63-0050568ea311",
        "name": "vs1"
      },
      "engines": [
        {
          "name": "engine1",
          "primary_servers": [
            "10.132.145.22",
            "10.140.101.109"
          ],
          "secondary_servers": [
            "10.132.145.20",
            "10.132.145.21"
          ],

```

```

        "type": "synchronous",
        "port": 9876,
        "format": "xml"
    }
],
    "events": [
    {
        "name": "event_cifs",
        "protocol": "cifs",
        "volume_monitoring": true,
        "file_operations": {
            "read": true,
            "write": true
        },
        "filters": {
            "monitor_ads": true
        }
    }
],
    "policies": [
    {
        "name": "pol0",
        "priority": 1,
        "events": [
            {
                "name": "event_cifs"
            }
        ],
        "engine": {
            "name": "engine1"
        },
        "scope": {
            "include_volumes": [
                "vol1"
            ]
        },
        "mandatory": true
    }
],
    "persistent_stores": [
    {
        "name": "ps1",
        "volume": "psvol",
        "size": 1073741824,
        "autosize_mode": "off"
    }
]

```

```
]
}
]
}
```

Retrieving the FPolicy configuration for all the SVMs in the cluster

```
# The API:
GET /protocols/fpolicy

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/fpolicy?fields=*&return_records=true&return_timeout=15"
-H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "b34f5e3d-01d0-11e9-8f63-0050568ea311",
        "name": "vs1"
      },
      "engines": [
        {
          "name": "engine1",
          "primary_servers": [
            "10.132.145.22",
            "10.140.101.109"
          ],
          "secondary_servers": [
            "10.132.145.20",
            "10.132.145.21"
          ],
          "type": "synchronous",
          "port": 9876,
          "format": "xml"
        }
      ],
      "events": [
        {
          "name": "event_cifs",
```

```

"protocol": "cifs",
"volume_monitoring": true,
"file_operations": {
  "close": false,
  "create": false,
  "create_dir": false,
  "delete": false,
  "delete_dir": false,
  "getattr": false,
  "link": false,
  "lookup": false,
  "open": false,
  "read": true,
  "write": true,
  "rename": false,
  "rename_dir": false,
  "setattr": false,
  "symlink": false
},
"filters": {
  "monitor_ads": true,
  "close_with_modification": false,
  "close_without_modification": false,
  "close_with_read": false,
  "first_read": false,
  "first_write": false,
  "offline_bit": false,
  "open_with_delete_intent": false,
  "open_with_write_intent": false,
  "write_with_size_change": false,
  "setattr_with_owner_change": false,
  "setattr_with_group_change": false,
  "setattr_with_sacl_change": false,
  "setattr_with_dacl_change": false,
  "setattr_with_modify_time_change": false,
  "setattr_with_access_time_change": false,
  "setattr_with_creation_time_change": false,
  "setattr_with_mode_change": false,
  "setattr_with_size_change": false,
  "setattr_with_allocation_size_change": false,
  "exclude_directory": false
}
},
"policies": [
{

```



```

    "name": "pol0",
    "enabled": true,
    "priority": 1,
    "events": [
      {
        "name": "event_cifs"
      }
    ],
    "engine": {
      "name": "engine1"
    },
    "scope": {
      "include_volumes": [
        "vol1"
      ]
    },
    "mandatory": true,
    "passthrough_read": false,
    "allow_privileged_access": false,
    "persistent_store": "ps1"
  }
],
"persistent_stores": [
  {
    "name": "ps1",
    "volume": "psvol",
    "size": 1073741824,
    "autosize_mode": "off"
  }
]
}
],
"num_records": 1
}

```

Retrieving an FPolicy configuration for a particular SVM

```

# The API:
GET /protocols/fpolicy/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/b34f5e3d-01d0-11e9-

```

```
8f63-0050568ea311?fields=*&return_records=true&return_timeout=15" -H
```

```
"accept: application/json"
```

```
# The response:
```

```
{
  "svm": {
    "uuid": "b34f5e3d-01d0-11e9-8f63-0050568ea311",
    "name": "vs1"
  },
  "engines": [
    {
      "name": "engine1",
      "primary_servers": [
        "10.132.145.22",
        "10.140.101.109"
      ],
      "secondary_servers": [
        "10.132.145.20",
        "10.132.145.21"
      ],
      "type": "synchronous",
      "port": 9876,
      "format": "xml"
    }
  ],
  "events": [
    {
      "name": "event_cifs",
      "protocol": "cifs",
      "volume_monitoring": true,
      "file_operations": {
        "close": false,
        "create": false,
        "create_dir": false,
        "delete": false,
        "delete_dir": false,
        "getattr": false,
        "link": false,
        "lookup": false,
        "open": false,
        "read": true,
        "write": true,
        "rename": false,
        "rename_dir": false,
        "setattr": false,
        "symlink": false
      }
    }
  ]
}
```

```

    },
    "filters": {
        "monitor_ads": true,
        "close_with_modification": false,
        "close_without_modification": false,
        "close_with_read": false,
        "first_read": false,
        "first_write": false,
        "offline_bit": false,
        "open_with_delete_intent": false,
        "open_with_write_intent": false,
        "write_with_size_change": false,
        "setattr_with_owner_change": false,
        "setattr_with_group_change": false,
        "setattr_with_sacl_change": false,
        "setattr_with_dacl_change": false,
        "setattr_with_modify_time_change": false,
        "setattr_with_access_time_change": false,
        "setattr_with_creation_time_change": false,
        "setattr_with_mode_change": false,
        "setattr_with_size_change": false,
        "setattr_with_allocation_size_change": false,
        "exclude_directory": false
    }
},
],
"policies": [
    {
        "name": "pol0",
        "enabled": true,
        "priority": 1,
        "events": [
            {
                "name": "event_cifs"
            }
        ],
        "engine": {
            "name": "engine1"
        },
        "scope": {
            "include_volumes": [
                "vol1"
            ]
        },
        "mandatory": true,
        "passthrough_read": false,
    }
]

```

```
    "allow_privileged_access": false,  
    "persistent_store": "ps1"  
  },  
],  
"persistent_stores": [  
  {  
    "name": "ps1",  
    "volume": "psvol",  
    "size": 1073741824,  
    "autosize_mode": "off"  
  }  
]  
}
```

Deleting an FPolicy configuration for a particular SVM

```
# The API:  
DELETE /protocols/fpolicy/{svm.uuid}  
  
# The call:  
curl -X DELETE "https://<mgmt-ip>/api/protocols/fpolicy/b34f5e3d-01d0-  
11e9-8f63-0050568ea311" -H "accept: application/json"
```

Retrieve an FPolicy configuration

GET /protocols/fpolicy

Introduced In: 9.6

Retrieves an FPolicy configuration.

Related ONTAP commands

- `fpolicy show`
- `fpolicy policy show`
- `fpolicy policy scope show`
- `fpolicy policy event show`
- `fpolicy policy external-engine show`
- `fpolicy persistent-store show`

Learn more

- [DOC /protocols/fpolicy](#)

Parameters

Name	Type	In	Required	Description
policies.name	string	query	False	Filter by policies.name
policies.priority	integer	query	False	Filter by policies.priority • Max value: 10 • Min value: 1
policies.privileged_user	string	query	False	Filter by policies.privileged_user • Introduced in: 9.11
policies.allow_privileged_access	boolean	query	False	Filter by policies.allow_privileged_access • Introduced in: 9.13
policies.enabled	boolean	query	False	Filter by policies.enabled
policies.engine.name	string	query	False	Filter by policies.engine.name
policies.events.name	string	query	False	Filter by policies.events.name
policies.persistent_store	string	query	False	Filter by policies.persistent_store • Introduced in: 9.14

Name	Type	In	Required	Description
policies.scope.include_shares	string	query	False	Filter by policies.scope.include_shares
policies.scope.exclude_shares	string	query	False	Filter by policies.scope.exclude_shares
policies.scope.exclude_extension	string	query	False	Filter by policies.scope.exclude_extension
policies.scope.object_monitoring_with_no_extension	boolean	query	False	Filter by policies.scope.object_monitoring_with_no_extension • Introduced in: 9.11
policies.scope.exclude_volumes	string	query	False	Filter by policies.scope.exclude_volumes
policies.scope.exclude_export_policies	string	query	False	Filter by policies.scope.exclude_export_policies
policies.scope.include_export_policies	string	query	False	Filter by policies.scope.include_export_policies
policies.scope.include_extension	string	query	False	Filter by policies.scope.include_extension
policies.scope.include_volumes	string	query	False	Filter by policies.scope.include_volumes
policies.scope.check_extensions_on_directories	boolean	query	False	Filter by policies.scope.check_extensions_on_directories • Introduced in: 9.11

Name	Type	In	Required	Description
policies.passthrough_read	boolean	query	False	Filter by policies.passthrough_read • Introduced in: 9.11
policies.mandatory	boolean	query	False	Filter by policies.mandatory
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
events.protocol	string	query	False	Filter by events.protocol
events.file_operations.getattr	boolean	query	False	Filter by events.file_operations.getattr
events.file_operations.read	boolean	query	False	Filter by events.file_operations.read
events.file_operations.write	boolean	query	False	Filter by events.file_operations.write
events.file_operations.close	boolean	query	False	Filter by events.file_operations.close
events.file_operations.setattr	boolean	query	False	Filter by events.file_operations.setattr
events.file_operations.create	boolean	query	False	Filter by events.file_operations.create
events.file_operations.create_dir	boolean	query	False	Filter by events.file_operations.create_dir

Name	Type	In	Required	Description
events.file_operations.lookup	boolean	query	False	Filter by events.file_operations.lookup
events.file_operations.delete_dir	boolean	query	False	Filter by events.file_operations.delete_dir
events.file_operations.delete	boolean	query	False	Filter by events.file_operations.delete
events.file_operations.access	boolean	query	False	Filter by events.file_operations.access • Introduced in: 9.13
events.file_operations.open	boolean	query	False	Filter by events.file_operations.open
events.file_operations.rename_dir	boolean	query	False	Filter by events.file_operations.rename_dir
events.file_operations.symlink	boolean	query	False	Filter by events.file_operations.symlink
events.file_operations.link	boolean	query	False	Filter by events.file_operations.link
events.file_operations.rename	boolean	query	False	Filter by events.file_operations.rename
events.filters.setattr_with_access_time_change	boolean	query	False	Filter by events.filters.setattr_with_access_time_change
events.filters.open_with_delete_intent	boolean	query	False	Filter by events.filters.open_with_delete_intent

Name	Type	In	Required	Description
events.filters.close_without_modification	boolean	query	False	Filter by events.filters.close_without_modification
events.filters.setattr_with_size_change	boolean	query	False	Filter by events.filters.setattr_with_size_change
events.filters.close_with_read	boolean	query	False	Filter by events.filters.close_with_read
events.filters.write_with_size_change	boolean	query	False	Filter by events.filters.write_with_size_change
events.filters.setattr_with_owner_change	boolean	query	False	Filter by events.filters.setattr_with_owner_change
events.filters.exclude_directory	boolean	query	False	Filter by events.filters.exclude_directory
events.filters.first_read	boolean	query	False	Filter by events.filters.first_read
events.filters.first_write	boolean	query	False	Filter by events.filters.first_write
events.filters.setattr_with_modify_time_change	boolean	query	False	Filter by events.filters.setattr_with_modify_time_change
events.filters.monitor_ads	boolean	query	False	Filter by events.filters.monitor_ads
events.filters.setattr_with_dacl_change	boolean	query	False	Filter by events.filters.setattr_with_dacl_change

Name	Type	In	Required	Description
events.filters.close_with_modification	boolean	query	False	Filter by events.filters.close_with_modification
events.filters.setattr_with_creation_time_change	boolean	query	False	Filter by events.filters.setattr_with_creation_time_change
events.filters.offline_bit	boolean	query	False	Filter by events.filters.offline_bit
events.filters.open_with_write_intent	boolean	query	False	Filter by events.filters.open_with_write_intent
events.filters.setattr_with_sacl_change	boolean	query	False	Filter by events.filters.setattr_with_sacl_change
events.filters.setattr_with_group_change	boolean	query	False	Filter by events.filters.setattr_with_group_change
events.filters.setattr_with_mode_change	boolean	query	False	Filter by events.filters.setattr_with_mode_change
events.filters.setattr_with_allocation_size_change	boolean	query	False	Filter by events.filters.setattr_with_allocation_size_change
events.name	string	query	False	Filter by events.name
events.monitor_fileop_failure	boolean	query	False	Filter by events.monitor_fileop_failure Introduced in: 9.13
events.volume_monitoring	boolean	query	False	Filter by events.volume_monitoring

Name	Type	In	Required	Description
persistent_stores.volume	string	query	False	Filter by persistent_stores.volume • Introduced in: 9.14
persistent_stores.name	string	query	False	Filter by persistent_stores.name • Introduced in: 9.14
persistent_stores.size	integer	query	False	Filter by persistent_stores.size • Introduced in: 9.15
persistent_stores.autosize_mode	string	query	False	Filter by persistent_stores.autosize_mode • Introduced in: 9.15
engines.keep_alive_interval	string	query	False	Filter by engines.keep_alive_interval • Introduced in: 9.13
engines.request_cancel_timeout	string	query	False	Filter by engines.request_cancel_timeout • Introduced in: 9.11

Name	Type	In	Required	Description
engines.max_server_requests	integer	query	False	Filter by engines.max_server_requests • Introduced in: 9.11 • Max value: 10000 • Min value: 1
engines.port	integer	query	False	Filter by engines.port
engines.type	string	query	False	Filter by engines.type
engines.resiliency.enabled	boolean	query	False	Filter by engines.resiliency.enabled • Introduced in: 9.11
engines.resiliency.retention_duration	string	query	False	Filter by engines.resiliency.retention_duration • Introduced in: 9.11
engines.resiliency.directory_path	string	query	False	Filter by engines.resiliency.directory_path • Introduced in: 9.11
engines.server_progress_timeout	string	query	False	Filter by engines.server_progress_timeout • Introduced in: 9.11

Name	Type	In	Required	Description
engines.ssl_option	string	query	False	Filter by engines.ssl_option Introduced in: 9.11
engines.status_request_interval	string	query	False	Filter by engines.status_request_interval Introduced in: 9.11
engines.buffer_size.recv_buffer	integer	query	False	Filter by engines.buffer_size.recv_buffer - Introduced in: 9.11 - Max value: 7895160 - Min value: 0
engines.buffer_size.send_buffer	integer	query	False	Filter by engines.buffer_size.send_buffer - Introduced in: 9.11 - Max value: 7895160 - Min value: 0
engines.primary_servers	string	query	False	Filter by engines.primary_servers
engines.name	string	query	False	Filter by engines.name

Name	Type	In	Required	Description
engines.max_connection_retries	integer	query	False	Filter by engines.max_connection_retries • Introduced in: 9.17 • Max value: 20 • Min value: 0
engines.certificate_serial_number	string	query	False	Filter by engines.certificate_serial_number • Introduced in: 9.11
engines.certificate_ca	string	query	False	Filter by engines.certificate_ca • Introduced in: 9.11
engines.certificate_name	string	query	False	Filter by engines.certificate_name • Introduced in: 9.11
engines.session_timeout	string	query	False	Filter by engines.session_timeout • Introduced in: 9.17
engines.secondary_servers	string	query	False	Filter by engines.secondary_servers
engines.format	string	query	False	Filter by engines.format • Introduced in: 9.11

Name	Type	In	Required	Description
engines.request_abort_timeout	string	query	False	Filter by engines.request_abort_timeout Introduced in: 9.11
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. - Max value: 120 - Min value: 0 - Default value: 15
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[fpolicy]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "engines": [
        {
          "certificate": {
            "ca": "TASample1",
            "name": "Sample1-FPolicy-Client",
            "serial_number": "8DDE112A114D1FBC"
          },
          "format": "string",
          "keep_alive_interval": "PT2M",
          "max_connection_retries": 5,
          "max_server_requests": 500,
          "name": "fp_ex_eng",
          "port": 9876,
          "primary_servers": [
            "10.132.145.20",
            "10.140.101.109"
          ],
          "request_abort_timeout": "PT40S",
          "request_cancel_timeout": "PT20S",
          "resiliency": {
            "directory_path": "/dir1",
            "retention_duration": "PT3M"
          },
          "secondary_servers": [
            "10.132.145.20",
            "10.132.145.21"
          ]
        },

```

```

        "server_progress_timeout": "PT1M",
        "session_timeout": "PT10S",
        "ssl_option": "string",
        "status_request_interval": "PT10S",
        "type": "string"
    }
],
"events": [
    {
        "name": "event_cifs",
        "protocol": "string"
    }
],
"persistent_stores": [
    {
        "autosize_mode": "string",
        "name": "ps1",
        "size": "100M",
        "volume": "psvol"
    }
],
"policies": [
    {
        "engine": {
            "_links": {
                "self": {
                    "href": "/api/resourcelink"
                }
            },
            "name": "string"
        },
        "events": [
            "event_cifs",
            "event_open"
        ],
        "name": "fp_policy_1",
        "persistent_store": "ps1",
        "priority": 1,
        "privileged_user": "mydomain\\testuser",
        "scope": {
            "exclude_export_policies": [
                "string"
            ],
            "exclude_extension": [
                "string"
            ]
        }
    }
],

```

```

        "exclude_shares": [
            "string"
        ],
        "exclude_volumes": [
            "vol1",
            "vol_svm1",
            "*"
        ],
        "include_export_policies": [
            "string"
        ],
        "include_extension": [
            "string"
        ],
        "include_shares": [
            "sh1",
            "share_cifs"
        ],
        "include_volumes": [
            "vol1",
            "vol_svm1"
        ]
    }
}
],
"svm": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

buffer_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Type	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

certificate

Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
ca	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

Name	Type	Description
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Type	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

fpolicy_engines

Defines how ONTAP makes and manages connections to external FPolicy servers.

Name	Type	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Type	Description
certificate	certificate	Provides details about certificate used to authenticate the FPolicy server.
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are: • xml - Notifications sent to the FPolicy server will be formatted using the XML schema. • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_connection_retries	integer	This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from an SVM. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.
max_server_requests	integer	Specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.

Name	Type	Description
name	string	Specifies the name to assign to the external server configuration.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.

Name	Type	Description
session_timeout	string	This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the -session-timeout interval, the old session ID is sent to the FPolicy server so that it can send responses for old notifications.

Name	Type	Description
ssl_option	string	Specifies the SSL option for external communication with the FPolicy server. Possible values include the following: • no_auth When set to "no_auth", no authentication takes place. • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate. • mutual_auth When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate along with the public certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.

Name	Type	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are: • synchronous - After sending a notification, wait for a response from the FPolicy server. • asynchronous - After sending a notification, file request processing continues. ◦ Default value: 1 ◦ enum: ["synchronous", "asynchronous"] ◦ Introduced in: 9.10 ◦ x-nullable: true

file_operations

Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.

Name	Type	Description
access	boolean	Access operations
close	boolean	File close operations
create	boolean	File create operations
create_dir	boolean	Directory create operations
delete	boolean	File delete operations
delete_dir	boolean	Directory delete operations
getattr	boolean	Get attribute operations
link	boolean	Link operations
lookup	boolean	Lookup operations
open	boolean	File open operations

Name	Type	Description
read	boolean	File read operations
rename	boolean	File rename operations
rename_dir	boolean	Directory rename operations
setattr	boolean	Set attribute operations
symlink	boolean	Symbolic link operations
write	boolean	File write operations

filters

Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.

Name	Type	Description
close_with_modification	boolean	Filter the client request for close with modification.
close_with_read	boolean	Filter the client request for close with read.
close_without_modification	boolean	Filter the client request for close without modification.
exclude_directory	boolean	Filter the client requests for directory operations. When this filter is specified directory operations are not monitored.
first_read	boolean	Filter the client requests for the first-read.
first_write	boolean	Filter the client requests for the first-write.
monitor_ads	boolean	Filter the client request for alternate data stream.
offline_bit	boolean	Filter the client request for offline bit set. FPolicy server receives notification only when offline files are accessed.

Name	Type	Description
open_with_delete_intent	boolean	Filter the client request for open with delete intent.
open_with_write_intent	boolean	Filter the client request for open with write intent.
setattr_with_access_time_change	boolean	Filter the client setattr requests for changing the access time of a file or directory.
setattr_with_allocation_size_change	boolean	Filter the client setattr requests for changing the allocation size of a file.
setattr_with_creation_time_change	boolean	Filter the client setattr requests for changing the creation time of a file or directory.
setattr_with_dacl_change	boolean	Filter the client setattr requests for changing dacl on a file or directory.
setattr_with_group_change	boolean	Filter the client setattr requests for changing group of a file or directory.
setattr_with_mode_change	boolean	Filter the client setattr requests for changing the mode bits on a file or directory.
setattr_with_modify_time_change	boolean	Filter the client setattr requests for changing the modification time of a file or directory.
setattr_with_owner_change	boolean	Filter the client setattr requests for changing owner of a file or directory.
setattr_with_sacl_change	boolean	Filter the client setattr requests for changing sacl on a file or directory.
setattr_with_size_change	boolean	Filter the client setattr requests for changing the size of a file.
write_with_size_change	boolean	Filter the client request for write with size change.

fpolicy_events

The information that a FPolicy process needs to determine what file access operations to monitor and for which of the monitored events notifications should be sent to the external FPolicy server.

Name	Type	Description
file_operations	file_operations	Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.
filters	filters	Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.
monitor_fileop_failure	boolean	Specifies whether failed file operations monitoring is required.
name	string	Specifies the name of the FPolicy event.
protocol	string	Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol.
volume_monitoring	boolean	Specifies whether volume operation monitoring is required.

fpolicy_persistent_stores

The information that an FPolicy process needs in order to configure a Persistent Store.

Name	Type	Description
autosize_mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows in response to the amount of space used. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.
name	string	The name specified for the FPolicy Persistent Store.
size	integer	The size of the Persistent Store volume, in bytes.
volume	string	The specified volume to store the events for the FPolicy Persistent Store.

fpolicy_engine_reference

FPolicy external engine

Name	Type	Description
_links	_links	
name	string	The name of the FPolicy external engine.

fpolicy_event_reference

FPolicy events

Name	Type	Description
_links	_links	
name	string	

scope

Name	Type	Description
check_extensions_on_directories	boolean	Specifies whether the file name extension checks also apply to directory objects. If this parameter is set to true, the directory objects are subjected to the same extension checks as regular files. If this parameter is set to false, the directory names are not matched for extensions and notifications are sent for directories even if their name extensions do not match. Default is false.
exclude_export_policies	array[string]	
exclude_extension	array[string]	
exclude_shares	array[string]	
exclude_volumes	array[string]	
include_export_policies	array[string]	
include_extension	array[string]	
include_shares	array[string]	
include_volumes	array[string]	
object_monitoring_with_no_extension	boolean	Specifies whether the extension checks also apply to objects with no extension. If this parameter is set to true, all objects with or without extensions are monitored. Default is false.

fpolicy_policies

Name	Type	Description
allow_privileged_access	boolean	Specifies whether privileged access is required for FPolicy servers. Privileged access is used when the FPolicy server requires direct access to the cluster nodes. When this parameter is set to true, FPolicy servers can access files on the cluster using a separate data channel with privileged access.

Name	Type	Description
enabled	boolean	Specifies if the policy is enabled on the SVM or not. If no value is mentioned for this field but priority is set, then this policy will be enabled.
engine	fpolicy_engine_reference	FPolicy external engine
events	array[fpolicy_event_reference]	
mandatory	boolean	Specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances.
name	string	Specifies the name of the policy.
passthrough_read	boolean	Specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are files that have been moved to secondary storage.
persistent_store	string	Specifies the persistent storage name. This can then be used to enable persistent mode for FPolicy events.
priority	integer	Specifies the priority that is assigned to this policy.
privileged_user	string	Specifies the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in "domain\username" format.
scope	scope	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

fpolicy

FPolicy is an infrastructure component of ONTAP that enables partner applications connected to your storage systems to monitor and set file access permissions. Every time a client accesses a file from a storage system, based on the configuration of FPolicy, the partner application is notified about file access.

Name	Type	Description
_links	_links	
engines	array[fpolicy_engines]	
events	array[fpolicy_events]	
persistent_stores	array[fpolicy_persistent_stores]	
policies	array[fpolicy_policies]	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Type	Description
message	string	Error message
target	string	The target parameter that caused the error.

Create an FPolicy configuration

POST /protocols/fpolicy

Introduced In: 9.6

Creates an FPolicy configuration.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the FPolicy configuration.

Recommended optional properties

- `engines` - External server to which the notifications will be sent.
- `events` - File operations to monitor.
- `policies` - Policy configuration which acts as a container for FPolicy event and FPolicy engine.
- `scope` - Scope of the policy. Can be limited to exports, volumes, shares or file extensions.

Default property values

If not specified in POST, the following default property values are assigned:

- `engines.type` - *synchronous*
- `policies.engine` - *native*
- `policies.mandatory` - *true*
- `events.volume_monitoring` - *false*
- `events.file_operations.*` - *false*
- `events.filters.*` - *false*
- `events.monitor_fileop_failure.*` - *false*

Related ONTAP commands

- `fpolicy policy event create`
- `fpolicy policy external-engine create`
- `fpolicy policy create`
- `fpolicy policy scope create`

- `fpolicy enable`
- `fpolicy persistent-store create`

Learn more

- [DOC /protocols/fpolicy](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
engines	array[fpolicy_engines]	
events	array[fpolicy_events]	
persistent_stores	array[fpolicy_persistent_stores]	
policies	array[fpolicy_policies]	
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "engines": [
    {
      "certificate": {
        "ca": "TASample1",
        "name": "Sample1-FPolicy-Client",
        "serial_number": "8DDE112A114D1FBC"
      },
      "format": "string",
      "keep_alive_interval": "PT2M",
      "max_connection_retries": 5,
      "max_server_requests": 500,
      "name": "fp_ex_eng",
      "port": 9876,
      "primary_servers": [
        "10.132.145.20",
        "10.140.101.109"
      ],
      "request_abort_timeout": "PT40S",
      "request_cancel_timeout": "PT20S",
      "resiliency": {
        "directory_path": "/dir1",
        "retention_duration": "PT3M"
      },
      "secondary_servers": [
        "10.132.145.20",
        "10.132.145.21"
      ],
      "server_progress_timeout": "PT1M",
      "session_timeout": "PT10S",
      "ssl_option": "string",
      "status_request_interval": "PT10S",
      "type": "string"
    }
  ],
  "events": [
    {
      "name": "event_cifs",
      "protocol": "string"
    }
  ],
  "persistent_stores": [
    {
      "autosize_mode": "string",
```

```

    "name": "ps1",
    "size": "100M",
    "volume": "psvol"
  }
],
"policies": [
  {
    "allow_privileged_access": true,
    "enabled": true,
    "engine": {
      "name": "string"
    },
    "events": [
      "event_cifs",
      "event_open"
    ],
    "name": "fp_policy_1",
    "persistent_store": "ps1",
    "priority": 1,
    "privileged_user": "mydomain\\testuser",
    "scope": {
      "exclude_export_policies": [
        "string"
      ],
      "exclude_extension": [
        "string"
      ],
      "exclude_shares": [
        "string"
      ],
      "exclude_volumes": [
        "vol1",
        "vol_svm1",
        "*"
      ],
      "include_export_policies": [
        "string"
      ],
      "include_extension": [
        "string"
      ],
      "include_shares": [
        "sh1",
        "share_cifs"
      ],
      "include_volumes": [

```

```
        "vol1",
        "vol_svm1"
    ]
}
],
"svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of records
records	array[fpolicy]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "engines": [
        {
          "certificate": {
            "ca": "TASample1",
            "name": "Sample1-FPolicy-Client",
            "serial_number": "8DDE112A114D1FBC"
          },
          "format": "string",
          "keep_alive_interval": "PT2M",
          "max_connection_retries": 5,
          "max_server_requests": 500,
          "name": "fp_ex_eng",
          "port": 9876,
          "primary_servers": [
            "10.132.145.20",
            "10.140.101.109"
          ],
          "request_abort_timeout": "PT40S",
          "request_cancel_timeout": "PT20S",
          "resiliency": {
            "directory_path": "/dir1",
            "retention_duration": "PT3M"
          },
          "secondary_servers": [
            "10.132.145.20",
            "10.132.145.21"
          ],
          "server_progress_timeout": "PT1M",
          "session_timeout": "PT10S",
          "ssl_option": "string",
          "status_request_interval": "PT10S",
          "type": "string"
        }
      ],
      "events": [
        {
          "name": "event_cifs",
          "protocol": "string"
        }
      ]
    }
  ],
}
```



```

"persistent_stores": [
  {
    "autosize_mode": "string",
    "name": "ps1",
    "size": "100M",
    "volume": "psvol"
  }
],
"policies": [
  {
    "allow_privileged_access": true,
    "enabled": true,
    "engine": {
      "name": "string"
    },
    "events": [
      "event_cifs",
      "event_open"
    ],
    "name": "fp_policy_1",
    "persistent_store": "ps1",
    "priority": 1,
    "privileged_user": "mydomain\\testuser",
    "scope": {
      "exclude_export_policies": [
        "string"
      ],
      "exclude_extension": [
        "string"
      ],
      "exclude_shares": [
        "string"
      ],
      "exclude_volumes": [
        "vol1",
        "vol_svm1",
        "*"
      ],
      "include_export_policies": [
        "string"
      ],
      "include_extension": [
        "string"
      ],
      "include_shares": [
        "sh1",

```

```

        "share_cifs"
    ],
    "include_volumes": [
        "vol1",
        "vol_svm1"
    ]
}
}
],
"svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}
]
}

```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
9765032	The FPolicy engine, FPolicy event or FPolicy policy specified already exists
9765031	If any of the FPolicy engine, FPolicy event, or FPolicy policy creation fails due to a systematic error or hardware failure, the cause of the failure is detailed in the error message
2621706	The SVM UUID specified belongs to different SVM
2621462	The SVM name specified does not exist

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

buffer_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Type	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

certificate

Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
ca	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.

Name	Type	Description
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Type	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

fpolicy_engines

Defines how ONTAP makes and manages connections to external FPolicy servers.

Name	Type	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.
certificate	certificate	Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are: • xml - Notifications sent to the FPolicy server will be formatted using the XML schema. • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_connection_retries	integer	This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from an SVM. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.
max_server_requests	integer	Specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.
name	string	Specifies the name to assign to the external server configuration.

Name	Type	Description
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.

Name	Type	Description
session_timeout	string	This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the -session-timeout interval, the old session ID is sent to the FPolicy server so that it can send responses for old notifications.

Name	Type	Description
ssl_option	string	Specifies the SSL option for external communication with the FPolicy server. Possible values include the following: • no_auth When set to "no_auth", no authentication takes place. • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate. • mutual_auth When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate along with the public certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.

Name	Type	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are: • synchronous - After sending a notification, wait for a response from the FPolicy server. • asynchronous - After sending a notification, file request processing continues. ◦ Default value: 1 ◦ enum: ["synchronous", "asynchronous"] ◦ Introduced in: 9.10 ◦ x-nullable: true

file_operations

Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.

Name	Type	Description
access	boolean	Access operations
close	boolean	File close operations
create	boolean	File create operations
create_dir	boolean	Directory create operations
delete	boolean	File delete operations
delete_dir	boolean	Directory delete operations
getattr	boolean	Get attribute operations
link	boolean	Link operations
lookup	boolean	Lookup operations
open	boolean	File open operations

Name	Type	Description
read	boolean	File read operations
rename	boolean	File rename operations
rename_dir	boolean	Directory rename operations
setattr	boolean	Set attribute operations
symlink	boolean	Symbolic link operations
write	boolean	File write operations

filters

Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.

Name	Type	Description
close_with_modification	boolean	Filter the client request for close with modification.
close_with_read	boolean	Filter the client request for close with read.
close_without_modification	boolean	Filter the client request for close without modification.
exclude_directory	boolean	Filter the client requests for directory operations. When this filter is specified directory operations are not monitored.
first_read	boolean	Filter the client requests for the first-read.
first_write	boolean	Filter the client requests for the first-write.
monitor_ads	boolean	Filter the client request for alternate data stream.
offline_bit	boolean	Filter the client request for offline bit set. FPolicy server receives notification only when offline files are accessed.

Name	Type	Description
open_with_delete_intent	boolean	Filter the client request for open with delete intent.
open_with_write_intent	boolean	Filter the client request for open with write intent.
setattr_with_access_time_change	boolean	Filter the client setattr requests for changing the access time of a file or directory.
setattr_with_allocation_size_change	boolean	Filter the client setattr requests for changing the allocation size of a file.
setattr_with_creation_time_change	boolean	Filter the client setattr requests for changing the creation time of a file or directory.
setattr_with_dacl_change	boolean	Filter the client setattr requests for changing dacl on a file or directory.
setattr_with_group_change	boolean	Filter the client setattr requests for changing group of a file or directory.
setattr_with_mode_change	boolean	Filter the client setattr requests for changing the mode bits on a file or directory.
setattr_with_modify_time_change	boolean	Filter the client setattr requests for changing the modification time of a file or directory.
setattr_with_owner_change	boolean	Filter the client setattr requests for changing owner of a file or directory.
setattr_with_sacl_change	boolean	Filter the client setattr requests for changing sacl on a file or directory.
setattr_with_size_change	boolean	Filter the client setattr requests for changing the size of a file.
write_with_size_change	boolean	Filter the client request for write with size change.

fpolicy_events

The information that a FPolicy process needs to determine what file access operations to monitor and for which of the monitored events notifications should be sent to the external FPolicy server.

Name	Type	Description
file_operations	file_operations	Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.
filters	filters	Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.
monitor_fileop_failure	boolean	Specifies whether failed file operations monitoring is required.
name	string	Specifies the name of the FPolicy event.
protocol	string	Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol.
volume_monitoring	boolean	Specifies whether volume operation monitoring is required.

fpolicy_persistent_stores

The information that an FPolicy process needs in order to configure a Persistent Store.

Name	Type	Description
autosize_mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows in response to the amount of space used. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.
name	string	The name specified for the FPolicy Persistent Store.
size	integer	The size of the Persistent Store volume, in bytes.
volume	string	The specified volume to store the events for the FPolicy Persistent Store.

fpolicy_engine_reference

FPolicy external engine

Name	Type	Description
name	string	The name of the FPolicy external engine.

fpolicy_event_reference

FPolicy events

Name	Type	Description
name	string	

scope

Name	Type	Description
check_extensions_on_directories	boolean	Specifies whether the file name extension checks also apply to directory objects. If this parameter is set to true, the directory objects are subjected to the same extension checks as regular files. If this parameter is set to false, the directory names are not matched for extensions and notifications are sent for directories even if their name extensions do not match. Default is false.
exclude_export_policies	array[string]	
exclude_extension	array[string]	
exclude_shares	array[string]	
exclude_volumes	array[string]	
include_export_policies	array[string]	
include_extension	array[string]	
include_shares	array[string]	
include_volumes	array[string]	
object_monitoring_with_no_extension	boolean	Specifies whether the extension checks also apply to objects with no extension. If this parameter is set to true, all objects with or without extensions are monitored. Default is false.

fpolicy_policies

Name	Type	Description
engine	fpolicy_engine_reference	FPolicy external engine
events	array[fpolicy_event_reference]	

Name	Type	Description
mandatory	boolean	Specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances.
name	string	Specifies the name of the policy.
passthrough_read	boolean	Specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are files that have been moved to secondary storage.
persistent_store	string	Specifies the persistent storage name. This can then be used to enable persistent mode for FPolicy events.
priority	integer	Specifies the priority that is assigned to this policy.
privileged_user	string	Specifies the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in "domain\username" format.
scope	scope	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

fpolicy

FPolicy is an infrastructure component of ONTAP that enables partner applications connected to your storage systems to monitor and set file access permissions. Every time a client accesses a file from a storage system, based on the configuration of FPolicy, the partner application is notified about file access.

Name	Type	Description
engines	array[fpolicy_engines]	
events	array[fpolicy_events]	
persistent_stores	array[fpolicy_persistent_stores]	
policies	array[fpolicy_policies]	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete the FPolicy configuration for an SVM

```
DELETE /protocols/fpolicy/{svm.uuid}
```


Introduced In: 9.6

Deletes the FPolicy configuration for the specified SVM. Before deleting the FPolicy configuration, ensure that all policies belonging to the SVM are disabled.

Important notes: The volume associated with the FPolicy Persistent Store is not automatically deleted from the FPolicy general endpoint. The associated volume can be removed manually.

Related ONTAP commands

- `fpolicy delete`
- `fpolicy policy scope delete`
- `fpolicy policy delete`
- `fpolicy policy event delete`
- `fpolicy policy external-engine delete`
- `fpolicy persistent-store delete`

Learn more

- [DOC /protocols/fpolicy](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
9765031	If any of the FPolicy engine, FPolicy event or FPolicy policy deletion fails due to a systemic error or hardware failure, the cause of the failure is detailed in the error message.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve the FPolicy configuration for an SVM

GET /protocols/fpolicy/{svm.uuid}

Introduced In: 9.6

Retrieves an FPolicy configuration of an SVM.

Related ONTAP commands

- `fpolicy show`
- `fpolicy policy show`
- `fpolicy policy scope show`
- `fpolicy policy event show`
- `fpolicy policy external-engine show`
- `fpolicy persistent-store show`

Learn more

- [DOC /protocols/fpolicy](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
engines	array[fpolicy_engines]	
events	array[fpolicy_events]	
persistent_stores	array[fpolicy_persistent_stores]	
policies	array[fpolicy_policies]	

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "engines": [
    {
      "certificate": {
        "ca": "TASample1",
        "name": "Sample1-FPolicy-Client",
        "serial_number": "8DDE112A114D1FBC"
      },
      "format": "string",
      "keep_alive_interval": "PT2M",
      "max_connection_retries": 5,
      "max_server_requests": 500,
      "name": "fp_ex_eng",
      "port": 9876,
      "primary_servers": [
        "10.132.145.20",
        "10.140.101.109"
      ],
      "request_abort_timeout": "PT40S",
      "request_cancel_timeout": "PT20S",
      "resiliency": {
        "directory_path": "/dir1",
        "retention_duration": "PT3M"
      },
      "secondary_servers": [
        "10.132.145.20",
        "10.132.145.21"
      ],
      "server_progress_timeout": "PT1M",
      "session_timeout": "PT10S",
      "ssl_option": "string",
      "status_request_interval": "PT10S",
      "type": "string"
    }
  ],
  "events": [
    {
      "name": "event_cifs",
      "protocol": "string"
    }
  ]
}
```

```

    }
  ],
  "persistent_stores": [
    {
      "autosize_mode": "string",
      "name": "ps1",
      "size": "100M",
      "volume": "psvol"
    }
  ],
  "policies": [
    {
      "engine": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "string"
      },
      "events": [
        "event_cifs",
        "event_open"
      ],
      "name": "fp_policy_1",
      "persistent_store": "ps1",
      "priority": 1,
      "privileged_user": "mydomain\\testuser",
      "scope": {
        "exclude_export_policies": [
          "string"
        ],
        "exclude_extension": [
          "string"
        ],
        "exclude_shares": [
          "string"
        ],
        "exclude_volumes": [
          "vol1",
          "vol_svm1",
          "*"
        ],
        "include_export_policies": [
          "string"
        ]
      }
    }
  ],

```

```

    "include_extension": [
      "string"
    ],
    "include_shares": [
      "sh1",
      "share_cifs"
    ],
    "include_volumes": [
      "vol1",
      "vol_svm1"
    ]
  }
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

buffer_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Type	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

certificate

Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
ca	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.

Name	Type	Description
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Type	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

fpolicy_engines

Defines how ONTAP makes and manages connections to external FPolicy servers.

Name	Type	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.
certificate	certificate	Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are: • xml - Notifications sent to the FPolicy server will be formatted using the XML schema. • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_connection_retries	integer	This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from an SVM. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.
max_server_requests	integer	Specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.
name	string	Specifies the name to assign to the external server configuration.

Name	Type	Description
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.

Name	Type	Description
session_timeout	string	This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the -session-timeout interval, the old session ID is sent to the FPolicy server so that it can send responses for old notifications.

Name	Type	Description
ssl_option	string	Specifies the SSL option for external communication with the FPolicy server. Possible values include the following: • no_auth When set to "no_auth", no authentication takes place. • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate. • mutual_auth When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate along with the public certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.

Name	Type	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are: • synchronous - After sending a notification, wait for a response from the FPolicy server. • asynchronous - After sending a notification, file request processing continues. ◦ Default value: 1 ◦ enum: ["synchronous", "asynchronous"] ◦ Introduced in: 9.10 ◦ x-nullable: true

file_operations

Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.

Name	Type	Description
access	boolean	Access operations
close	boolean	File close operations
create	boolean	File create operations
create_dir	boolean	Directory create operations
delete	boolean	File delete operations
delete_dir	boolean	Directory delete operations
getattr	boolean	Get attribute operations
link	boolean	Link operations
lookup	boolean	Lookup operations
open	boolean	File open operations

Name	Type	Description
read	boolean	File read operations
rename	boolean	File rename operations
rename_dir	boolean	Directory rename operations
setattr	boolean	Set attribute operations
symlink	boolean	Symbolic link operations
write	boolean	File write operations

filters

Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.

Name	Type	Description
close_with_modification	boolean	Filter the client request for close with modification.
close_with_read	boolean	Filter the client request for close with read.
close_without_modification	boolean	Filter the client request for close without modification.
exclude_directory	boolean	Filter the client requests for directory operations. When this filter is specified directory operations are not monitored.
first_read	boolean	Filter the client requests for the first-read.
first_write	boolean	Filter the client requests for the first-write.
monitor_ads	boolean	Filter the client request for alternate data stream.
offline_bit	boolean	Filter the client request for offline bit set. FPolicy server receives notification only when offline files are accessed.

Name	Type	Description
open_with_delete_intent	boolean	Filter the client request for open with delete intent.
open_with_write_intent	boolean	Filter the client request for open with write intent.
setattr_with_access_time_change	boolean	Filter the client setattr requests for changing the access time of a file or directory.
setattr_with_allocation_size_change	boolean	Filter the client setattr requests for changing the allocation size of a file.
setattr_with_creation_time_change	boolean	Filter the client setattr requests for changing the creation time of a file or directory.
setattr_with_dacl_change	boolean	Filter the client setattr requests for changing dacl on a file or directory.
setattr_with_group_change	boolean	Filter the client setattr requests for changing group of a file or directory.
setattr_with_mode_change	boolean	Filter the client setattr requests for changing the mode bits on a file or directory.
setattr_with_modify_time_change	boolean	Filter the client setattr requests for changing the modification time of a file or directory.
setattr_with_owner_change	boolean	Filter the client setattr requests for changing owner of a file or directory.
setattr_with_sacl_change	boolean	Filter the client setattr requests for changing sacl on a file or directory.
setattr_with_size_change	boolean	Filter the client setattr requests for changing the size of a file.
write_with_size_change	boolean	Filter the client request for write with size change.

fpolicy_events

The information that a FPolicy process needs to determine what file access operations to monitor and for which of the monitored events notifications should be sent to the external FPolicy server.

Name	Type	Description
file_operations	file_operations	Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.
filters	filters	Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.
monitor_fileop_failure	boolean	Specifies whether failed file operations monitoring is required.
name	string	Specifies the name of the FPolicy event.
protocol	string	Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol.
volume_monitoring	boolean	Specifies whether volume operation monitoring is required.

fpolicy_persistent_stores

The information that an FPolicy process needs in order to configure a Persistent Store.

Name	Type	Description
autosize_mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows in response to the amount of space used. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.
name	string	The name specified for the FPolicy Persistent Store.
size	integer	The size of the Persistent Store volume, in bytes.
volume	string	The specified volume to store the events for the FPolicy Persistent Store.

fpolicy_engine_reference

FPolicy external engine

Name	Type	Description
_links	_links	
name	string	The name of the FPolicy external engine.

fpolicy_event_reference

FPolicy events

Name	Type	Description
_links	_links	
name	string	

scope

Name	Type	Description
check_extensions_on_directories	boolean	Specifies whether the file name extension checks also apply to directory objects. If this parameter is set to true, the directory objects are subjected to the same extension checks as regular files. If this parameter is set to false, the directory names are not matched for extensions and notifications are sent for directories even if their name extensions do not match. Default is false.
exclude_export_policies	array[string]	
exclude_extension	array[string]	
exclude_shares	array[string]	
exclude_volumes	array[string]	
include_export_policies	array[string]	
include_extension	array[string]	
include_shares	array[string]	
include_volumes	array[string]	
object_monitoring_with_no_extension	boolean	Specifies whether the extension checks also apply to objects with no extension. If this parameter is set to true, all objects with or without extensions are monitored. Default is false.

fpolicy_policies

Name	Type	Description
allow_privileged_access	boolean	Specifies whether privileged access is required for FPolicy servers. Privileged access is used when the FPolicy server requires direct access to the cluster nodes. When this parameter is set to true, FPolicy servers can access files on the cluster using a separate data channel with privileged access.

Name	Type	Description
enabled	boolean	Specifies if the policy is enabled on the SVM or not. If no value is mentioned for this field but priority is set, then this policy will be enabled.
engine	fpolicy_engine_reference	FPolicy external engine
events	array[fpolicy_event_reference]	
mandatory	boolean	Specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances.
name	string	Specifies the name of the policy.
passthrough_read	boolean	Specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are files that have been moved to secondary storage.
persistent_store	string	Specifies the persistent storage name. This can then be used to enable persistent mode for FPolicy events.
priority	integer	Specifies the priority that is assigned to this policy.
privileged_user	string	Specifies the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in "domain\username" format.
scope	scope	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View and update FPolicy server configuration

View and update FPolicy server configuration

Overview

This API is used to display and update connection status information for external FPolicy servers. You must keep the following in mind while using these endpoints:

- If the `passthrough_read` field is set to `true` in a GET collection call, only FPolicy `passthrough-read` connections are returned.

- If the `passthrough_read` field is not provided or set to `false` in a GET collection call, only FPolicy server connections are returned.

Examples

Retrieving the FPolicy server connections for all SVMs in the cluster

```
# The API:
GET /protocols/fpolicy/{svm.uuid}/connections

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/fpolicy/*/connections?passthrough_read=false&fields=*&re
turn_records=true" -H "accept: application/json"

# The Response:
{
  "records": [
    {
      "node": {
        "uuid": "8ca36b68-c501-11eb-b82c-0050568e5902",
        "name": "user-vs1m4"
      },
      "svm": {
        "uuid": "9f738ac5-c502-11eb-b82c-0050568e5902",
        "name": "vs1"
      },
      "policy": {
        "name": "p1"
      },
      "server": "192.168.137.78",
      "state": "disconnected",
      "update_time": "2021-06-17T16:05:15+05:30",
      "disconnected_reason": {
        "message": "No local lif present to connect to FPolicy server.",
        "code": 9305
      },
      "type": "primary"
    },
    {
      "node": {
        "uuid": "8ca36b68-c501-11eb-b82c-0050568e5902",
        "name": "user-vs1m4"
      },
      "svm": {
```

```

    "uuid": "9f738ac5-c502-11eb-b82c-0050568e5902",
    "name": "vs1"
  },
  "policy": {
    "name": "p2"
  },
  "server": "192.168.136.38",
  "state": "disconnected",
  "update_time": "2021-06-17T16:05:15+05:30",
  "disconnected_reason": {
    "message": "No local lif present to connect to FPolicy server.",
    "code": 9305
  },
  "type": "primary"
},
{
  "node": {
    "uuid": "8ca36b68-c501-11eb-b82c-0050568e5902",
    "name": "user-vs4"
  },
  "svm": {
    "uuid": "b6df362b-c502-11eb-b82c-0050568e5902",
    "name": "vs2"
  },
  "policy": {
    "name": "poll"
  },
  "server": "192.168.129.146",
  "state": "disconnected",
  "update_time": "2021-06-17T16:05:15+05:30",
  "disconnected_reason": {
    "message": "No local lif present to connect to FPolicy server.",
    "code": 9305
  },
  "type": "primary"
}
],
"num_records": 3
}

```

Retrieving all FPolicy passthrough read connections for all SVMs in the cluster

```

# The API:
GET /protocols/fpolicy/{svm.uuid}/connections

# The Call:
curl-X GET "https://<mgmt-
ip>/api/protocols/fpolicy/*/connections?passthrough_read=true&fields=*&ret
urn_records=true&return_timeout=15"

# The Response:
{
  "records": [
    {
      "node": {
        "uuid": "55693090-c7c8-11eb-a07a-0050568ebc01",
        "name": "user-vs3",
      },
      "svm": {
        "uuid": "a69e938d-c7ca-11eb-a07a-0050568ebc01",
        "name": "vs2",
      },
      "policy": {
        "name": "pol1",
      },
      "server": "192.168.129.146",
      "session_uuid": "2410d348-c7cb-11eb-a07a-0050568ebc01",
      "state": "connected",
    },
    {
      "node": {
        "uuid": "55693090-c7c8-11eb-a07a-0050568ebc01",
        "name": "user-vs3",
      },
      "svm": {
        "uuid": "a69e938d-c7ca-11eb-a07a-0050568ebc01",
        "name": "vs2",
      },
      "policy": {
        "name": "pol2",
      },
      "server": "192.168.129.146",
      "session_uuid": "288f7002-c7cb-11eb-a07a-0050568ebc01",
      "state": "connected",
    }
  ],
  "num_records": 2,
}

```

```
# The API:
GET /protocols/fpolicy/{svm.uuid}/connections

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/9f738ac5-c502-11eb-b82c-0050568e5902/connections?passthrough_read=false&fields=*&return_records=true" -H "accept: application/json"

# The Response:
{
  "records": [
    {
      "node": {
        "uuid": "8ca36b68-c501-11eb-b82c-0050568e5902",
        "name": "user-vs1m4"
      },
      "svm": {
        "uuid": "9f738ac5-c502-11eb-b82c-0050568e5902",
        "name": "vs1"
      },
      "policy": {
        "name": "p1"
      },
      "server": "192.168.137.78",
      "state": "disconnected",
      "update_time": "2021-06-17T16:05:15+05:30",
      "disconnected_reason": {
        "message": "No local lif present to connect to FPolicy server.",
        "code": 9305
      },
      "type": "primary"
    },
    {
      "node": {
        "uuid": "8ca36b68-c501-11eb-b82c-0050568e5902",
        "name": "user-vs1m4"
      },
      "svm": {
        "uuid": "9f738ac5-c502-11eb-b82c-0050568e5902",
        "name": "vs1"
      },
      "policy": {
```

```
    "name": "p2"
  },
  "server": "192.168.136.38",
  "state": "disconnected",
  "update_time": "2021-06-17T16:05:15+05:30",
  "disconnected_reason": {
    "message": "No local lif present to connect to FPolicy server.",
    "code": 9305
  },
  "type": "primary"
},
],
"num_records": 2
}
```

Retrieving a specific FPolicy server connection

```
# The API:
GET
/protocols/fpolicy/{svm.uuid}/connections/{node.uuid}/{policy.name}/{server}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/9f738ac5-c502-11eb-b82c-0050568e5902/connections/8ca36b68-c501-11eb-b82c-0050568e5902/p1/192.168.137.78" -H "accept: application/json"

# The Response:
{
  "node": {
    "uuid": "8ca36b68-c501-11eb-b82c-0050568e5902",
    "name": "user-vs4"
  },
  "svm": {
    "uuid": "9f738ac5-c502-11eb-b82c-0050568e5902",
    "name": "vs1"
  },
  "policy": {
    "name": "p1"
  },
  "server": "192.168.137.78",
  "state": "disconnected",
  "update_time": "2021-06-17T16:05:15+05:30",
  "disconnected_reason": {
    "message": "No local lif present to connect to FPolicy server.",
    "code": 9305
  },
  "type": "primary"
}
```

Updating the FPolicy server connection

```
# The API:
PATCH
/protocols/fpolicy/{svm.uuid}/connections/{node.uuid}/{policy.name}/{server}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/fpolicy/9f738ac5-c502-11eb-b82c-0050568e5902/connections/8ca36b68-c501-11eb-b82c-0050568e5902/p1/192.168.137.78" -H "accept: application/json"
```

Retrieve the status of FPolicy servers

GET /protocols/fpolicy/{svm.uuid}/connections

Introduced In: 9.10

Retrieves the statuses of FPolicy servers.

Related ONTAP commands

- `vserver fpolicy show-engine`
- `vserver fpolicy show-passthrough-read-connection`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/connections](#)

Parameters

Name	Type	In	Required	Description
passthrough_read	boolean	query	False	Whether to view only passthrough-read connections
disconnected_reason.message	string	query	False	Filter by disconnected_reason.message
disconnected_reason.code	integer	query	False	Filter by disconnected_reason.code
state	string	query	False	Filter by state

Name	Type	In	Required	Description
update_time	string	query	False	Filter by update_time
svm.name	string	query	False	Filter by svm.name
server	string	query	False	Filter by server
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
type	string	query	False	Filter by type
policy.name	string	query	False	Filter by policy.name
session_uuid	string	query	False	Filter by session_uuid
max_records	integer	query	False	Limit the number of records returned.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[fpolicy_connection]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "disconnected_reason": {
        "code": 9307,
        "message": "TCP Connection to FPolicy server failed."
      },
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "policy": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "string"
      },
      "server": "10.132.145.20",
      "session_uuid": "5224ec64-b336-11eb-841c-0050568e14c2",
      "state": "connected",
      "svm": {
        "_links": {
          "self": {
```



```

        "href": "/api/resourcelink"
      },
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "primary",
  "update_time": "2019-06-12 11:00:16 -0400"
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```

{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

disconnected_reason

Indicates the reason for FPolicy server disconnection.

Name	Type	Description
code	integer	Reason ID for the FPolicy Server disconnection.
message	string	FPolicy server reason for disconnection message.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

self_link

Name	Type	Description
self	href	

fpolicy_policy_reference

Name	Type	Description
_links	self_link	
name	string	The name of the FPolicy Policy name.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

fpolicy_connection

Displays the connection status information of the FPolicy server.

Name	Type	Description
_links	_links	
disconnected_reason	disconnected_reason	Indicates the reason for FPolicy server disconnection.
node	node	
policy	fpolicy_policy_reference	
server	string	IP address of the FPolicy server.
session_uuid	string	Unique session ID associated with each connection to the FPolicy server and it can be used to identify the established connection.

Name	Type	Description
state	string	Specifies the FPolicy server connection state indicating if it is in the connected or disconnected state. The following is a list of the possible states: • connected - Connected • disconnected - Disconnected
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	FPolicy server type. The possible values are: • primary - Primary server • secondary - Secondary server
update_time	string	Specifies the time at which FPolicy server is connected or disconnected.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve the status of an FPolicy server

GET /protocols/fpolicy/{svm.uuid}/connections/{node.uuid}/{policy.name}/{server}

Introduced In: 9.10

Retrieves the status of an FPolicy server.

Related ONTAP commands

- `vserver fpolicy show-engine`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/connections](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
node.uuid	string	path	True	Node UUID.
policy.name	string	path	True	Policy name
server	string	path	True	FPolicy Server IP address

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
disconnected_reason	disconnected_reason	Indicates the reason for FPolicy server disconnection.
node	node	
policy	fpolicy_policy_reference	
server	string	IP address of the FPolicy server.

Name	Type	Description
session_uuid	string	Unique session ID associated with each connection to the FPolicy server and it can be used to identify the established connection.
state	string	Specifies the FPolicy server connection state indicating if it is in the connected or disconnected state. The following is a list of the possible states: • connected - Connected • disconnected - Disconnected
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	FPolicy server type. The possible values are: • primary - Primary server • secondary - Secondary server
update_time	string	Specifies the time at which FPolicy server is connected or disconnected.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "disconnected_reason": {
    "code": 9307,
    "message": "TCP Connection to FPolicy server failed."
  },
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "string"
  },
  "server": "10.132.145.20",
  "session_uuid": "5224ec64-b336-11eb-841c-0050568e14c2",
  "state": "connected",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "primary",
  "update_time": "2019-06-12 11:00:16 -0400"
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

disconnected_reason

Indicates the reason for FPolicy server disconnection.

Name	Type	Description
code	integer	Reason ID for the FPolicy Server disconnection.
message	string	FPolicy server reason for disconnection message.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

self_link

Name	Type	Description
self	href	

fpolicy_policy_reference

Name	Type	Description
_links	self_link	
name	string	The name of the FPolicy Policy name.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
<code>_links</code>	_links	
<code>name</code>	string	The name of the SVM. This field cannot be specified in a PATCH method.
<code>uuid</code>	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

`error_arguments`

Name	Type	Description
<code>code</code>	string	Argument code
<code>message</code>	string	Message argument

`returned_error`

Name	Type	Description
<code>arguments</code>	array[error_arguments]	Message arguments
<code>code</code>	string	Error code
<code>message</code>	string	Error message
<code>target</code>	string	The target parameter that caused the error.

Update the FPolicy server status

PATCH

`/protocols/fpolicy/{svm.uuid}/connections/{node.uuid}/{policy.name}/{server}`

Introduced In: 9.10

Updates the status of an FPolicy server.

Related ONTAP commands

- `vserver fpolicy engine-connect`
- `vserver fpolicy engine-disconnect`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/connections](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
node.uuid	string	path	True	Node UUID.
policy.name	string	path	True	Policy name
server	string	path	True	FPolicy Server IP address

Request Body

Name	Type	Description
disconnected_reason	disconnected_reason	Indicates the reason for FPolicy server disconnection.
node	node	
server	string	IP address of the FPolicy server.
session_uuid	string	Unique session ID associated with each connection to the FPolicy server and it can be used to identify the established connection.
state	string	Specifies the FPolicy server connection state indicating if it is in the connected or disconnected state. The following is a list of the possible states: • connected - Connected • disconnected - Disconnected
svm	svm	SVM, applies only to SVM-scoped objects.

Name	Type	Description
type	string	FPolicy server type. The possible values are: • primary - Primary server • secondary - Secondary server
update_time	string	Specifies the time at which FPolicy server is connected or disconnected.

Example request

```
{
  "disconnected_reason": {
    "code": 9307,
    "message": "TCP Connection to FPolicy server failed."
  },
  "node": {
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "server": "10.132.145.20",
  "session_uuid": "5224ec64-b336-11eb-841c-0050568e14c2",
  "state": "connected",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "primary",
  "update_time": "2019-06-12 11:00:16 -0400"
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
9764954	The specified policy does not exist
9764911	Failed to connect to the FPolicy server. Reason: The specified entry does not exist
9764912	Failed to disconnect the FPolicy server. Reason: The specified entry does not exist
9764948	The specified policy is disabled. Using a disabled policy with this API is not supported. Use the 'PATCH /protocols/fpolicy/{svm.uuid}/policies/{name}' API to enable the policy
9764963	The specified server is already connected
9764964	The specified server is already disconnected

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

disconnected_reason

Indicates the reason for FPolicy server disconnection.

Name	Type	Description
code	integer	Reason ID for the FPolicy Server disconnection.
message	string	FPolicy server reason for disconnection message.

node

Name	Type	Description
name	string	
uuid	string	

self_link

fpolicy_policy_reference

Name	Type	Description
name	string	The name of the FPolicy Policy name.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

fpolicy_connection

Displays the connection status information of the FPolicy server.

Name	Type	Description
disconnected_reason	disconnected_reason	Indicates the reason for FPolicy server disconnection.
node	node	
server	string	IP address of the FPolicy server.
session_uuid	string	Unique session ID associated with each connection to the FPolicy server and it can be used to identify the established connection.
state	string	Specifies the FPolicy server connection state indicating if it is in the connected or disconnected state. The following is a list of the possible states: • connected - Connected • disconnected - Disconnected
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	FPolicy server type. The possible values are: • primary - Primary server • secondary - Secondary server
update_time	string	Specifies the time at which FPolicy server is connected or disconnected.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage FPolicy engine configuration

Manage FPolicy engine configuration

Overview

The FPolicy engine allows you to configure the external servers to which the file access notifications are sent. As part of FPolicy engine configuration, you can configure a server(s) to which the notification is sent, an optional set of secondary server(s) to which the notification is sent in the case of a primary server(s) failure, the port number for FPolicy application, the type of the engine, which is either synchronous or asynchronous and the format of the notifications, which is either xml or protobuf.

For the synchronous engine, ONTAP will wait for a response from the FPolicy application before it allows the operation. With an asynchronous engine, ONTAP proceeds with the operation processing after sending the notification to the FPolicy application. An engine can belong to multiple FPolicy policies. If the format is not specified, the default format, xml, is configured.

Examples

Creating an FPolicy engine


```
# The API:
POST /protocols/fpolicy/{svm.uuid}/engines

#The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/engines/" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"name\": \"engine0\", \"port\": 9876, \"primary_servers\": [ \"10.132.145.22\", \"10.140.101.109\" ], \"secondary_servers\": [ \"10.132.145.20\", \"10.132.145.21\" ], \"type\": \"synchronous\", \"format\": \"xml\", \"request_abort_timeout\": \"PT3M\", \"request_cancel_timeout\": \"PT29S\", \"server_progress_timeout\": \"PT1M\", \"status_request_interval\": \"PT23S\", \"keep_alive_interval\": \"PT2M\", \"session_timeout\": \"PT10S\", \"max_connection_retries\": 5 }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "engine0",
      "primary_servers": [
        "10.132.145.22",
        "10.140.101.109"
      ],
      "secondary_servers": [
        "10.132.145.20",
        "10.132.145.21"
      ],
      "port": 9876,
      "type": "synchronous",
      "format": "xml"
    }
  ]
}
```

Creating an FPolicy engine with the minimum required fields

```
# The API:
POST /protocols/fpolicy/{svm.uuid}/engines

#The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/engines/" -H "accept: application/json" -H "Content-Type: application/json" -d '{"name": "engine0", "port": 9876, "primary_servers": [ "10.132.145.22", "10.140.101.109" ], "type": "synchronous"}'

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "engine0",
      "primary_servers": [
        "10.132.145.22",
        "10.140.101.109"
      ],
      "port": 9876,
      "type": "synchronous",
      "format": "xml"
    }
  ]
}
```

Retrieving an FPolicy engine configuration for a particular SVM

```
# The API:
GET /protocols/fpolicy/{svm.uuid}/engines

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/engines/?fields=*&return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
```

```

    "svm": {
      "uuid": "4f643fb4-fd21-11e8-ae49-0050568e2c1e"
    },
    "name": "cifs",
    "primary_servers": [
      "10.20.20.10"
    ],
    "port": 9876,
    "type": "synchronous"
  },
  {
    "svm": {
      "uuid": "4f643fb4-fd21-11e8-ae49-0050568e2c1e"
    },
    "name": "nfs",
    "primary_servers": [
      "10.23.140.64",
      "10.140.101.109"
    ],
    "secondary_servers": [
      "10.132.145.20",
      "10.132.145.22"
    ],
    "port": 9876,
    "type": "synchronous",
    "format": "xml",
    "ssl_option": "no_auth",
    "resiliency": {
      "enabled": false,
      "retention_duration": "PT3M"
    },
    "buffer_size": {
      "recv_buffer": 262144,
      "send_buffer": 1048576
    },
    "max_server_requests": 500,
    "request_cancel_timeout": "PT29S",
    "request_abort_timeout": "PT3M",
    "server_progress_timeout": "PT1M",
    "status_request_interval": "PT23S",
    "keep_alive_interval": "PT2M",
    "session_timeout": "PT10S",
    "max_connection_retries": 5
  }
],
"num_records": 2

```

```
}
```

Retrieving a specific FPolicy engine configuration for an SVM

```
# The Api:
GET /protocols/fpolicy/{svm.uuid}/engines/{name}

#The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/engines/cifs?fields=*" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "4f643fb4-fd21-11e8-ae49-0050568e2c1e"
  },
  "name": "cifs",
  "primary_servers": [
    "10.20.20.10"
  ],
  "port": 9876,
  "type": "synchronous",
  "format": "xml"
}
```

Updating an FPolicy engine for an SVM

```
# The API:
PATCH /protocols/fpolicy/{svm.uuid}/engines/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/engines/cifs" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"port\": 6666, \"secondary_servers\": [ \"10.132.145.20\", \"10.132.145.21\" ], \"type\": \"synchronous\"}"
```

Updating all the attributes of a specific FPolicy engine for an SVM

```
# The API:
PATCH /protocols/fpolicy/{svm.uuid}/engines/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/engines/cifs" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"port\": 9876, \"primary_servers\": [ \"10.132.145.20\", \"10.140.101.109\" ], \"secondary_servers\": [ \"10.132.145.23\", \"10.132.145.21\" ], \"type\": \"synchronous\", \"format\": \"protobuf\"}"
```

Deleting a specific FPolicy engine for an SVM

```
# The API:
DELETE /protocols/fpolicy/{svm.uuid}/engines/{name}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/engines/cifs" -H "accept: application/json"
```

Retrieve the FPolicy engine configuration for all engines of an SVM

```
GET /protocols/fpolicy/{svm.uuid}/engines
```

Introduced In: 9.6

Retrieves FPolicy engine configurations of all the engines for a specified SVM. ONTAP allows creation of cluster-level FPolicy engines that act as a template for all the SVMs belonging to the cluster. These cluster-level FPolicy engines are also retrieved for the specified SVM.

Related ONTAP commands

- `fpolicy policy external-engine show`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/engines](#)

Parameters

Name	Type	In	Required	Description
max_connection_retries	integer	query	False	Filter by max_connection_retries • Max value: 20 • Min value: 0 • Introduced in: 9.17
certificate.name	string	query	False	Filter by certificate.name • Introduced in: 9.11
certificate.serial_number	string	query	False	Filter by certificate.serial_number • Introduced in: 9.11
certificate.ca	string	query	False	Filter by certificate.ca • Introduced in: 9.11
session_timeout	string	query	False	Filter by session_timeout • Introduced in: 9.17
secondary_servers	string	query	False	Filter by secondary_servers
format	string	query	False	Filter by format • Introduced in: 9.11

Name	Type	In	Required	Description
request_abort_timeout	string	query	False	Filter by request_abort_timeout • Introduced in: 9.11
request_cancel_timeout	string	query	False	Filter by request_cancel_timeout • Introduced in: 9.11
keep_alive_interval	string	query	False	Filter by keep_alive_interval • Introduced in: 9.13
port	integer	query	False	Filter by port
max_server_requests	integer	query	False	Filter by max_server_requests • Max value: 10000 • Min value: 1 • Introduced in: 9.11
buffer_size.send_buffer	integer	query	False	Filter by buffer_size.send_buffer • Max value: 7895160 • Min value: 0 • Introduced in: 9.11

Name	Type	In	Required	Description
buffer_size.recv_buffer	integer	query	False	Filter by buffer_size.recv_buffer • Max value: 7895160 • Min value: 0 • Introduced in: 9.11
status_request_interval	string	query	False	Filter by status_request_interval • Introduced in: 9.11
ssl_option	string	query	False	Filter by ssl_option • Introduced in: 9.11
server_progress_timeout	string	query	False	Filter by server_progress_timeout • Introduced in: 9.11
resiliency.directory_path	string	query	False	Filter by resiliency.directory_path • Introduced in: 9.11
resiliency.retention_duration	string	query	False	Filter by resiliency.retention_duration • Introduced in: 9.11
resiliency.enabled	boolean	query	False	Filter by resiliency.enabled • Introduced in: 9.11

Name	Type	In	Required	Description
type	string	query	False	Filter by type
name	string	query	False	Filter by name
primary_servers	string	query	False	Filter by primary_servers
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Max value: 120 • Min value: 0 • Default value: 15
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[fpolicy_engine]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "certificate": {
        "ca": "TASample1",
        "name": "Sample1-FPolicy-Client",
        "serial_number": "8DDE112A114D1FBC"
      },
      "format": "string",
      "keep_alive_interval": "PT2M",
      "max_connection_retries": 5,
      "max_server_requests": 500,
      "name": "fp_ex_eng",
      "port": 9876,
      "primary_servers": [
        "10.132.145.20",
        "10.140.101.109"
      ],
      "request_abort_timeout": "PT40S",
      "request_cancel_timeout": "PT20S",
      "resiliency": {
        "directory_path": "/dir1",
        "retention_duration": "PT3M"
      },
      "secondary_servers": [
        "10.132.145.20",
        "10.132.145.21"
      ],
      "server_progress_timeout": "PT1M",
      "session_timeout": "PT10S",
      "ssl_option": "string",
      "status_request_interval": "PT10S",
      "svm": {
        "uuid": "string"
      }
    }
  ],
}
```

```
    "type": "string"
  }
]
```

Error

Status: Default,

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

buffer_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Type	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

certificate

Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
ca	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.

Name	Type	Description
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Type	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_engine

Defines how ONTAP makes and manages connections to external FPolicy servers.

Name	Type	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Type	Description
certificate	certificate	Provides details about certificate used to authenticate the FPolicy server.
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are: • xml - Notifications sent to the FPolicy server will be formatted using the XML schema. • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_connection_retries	integer	This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from an SVM. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.
max_server_requests	integer	Specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.

Name	Type	Description
name	string	Specifies the name to assign to the external server configuration.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.

Name	Type	Description
session_timeout	string	This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the -session-timeout interval, the old session ID is sent to the FPolicy server so that it can send responses for old notifications.

Name	Type	Description
ssl_option	string	Specifies the SSL option for external communication with the FPolicy server. Possible values include the following: • no_auth When set to "no_auth", no authentication takes place. • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate. • mutual_auth When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate along with the public certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	svm	

Name	Type	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are: • synchronous - After sending a notification, wait for a response from the FPolicy server. • asynchronous - After sending a notification, file request processing continues. ◦ Default value: 1 ◦ enum: ["synchronous", "asynchronous"] ◦ Introduced in: 9.6 ◦ x-nullable: true

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create the FPolicy engine configuration for an SVM

POST /protocols/fpolicy/{svm.uuid}/engines

Introduced In: 9.6

Creates an FPolicy engine configuration for a specified SVM. FPolicy engine creation is allowed only on data SVMs.

Required properties

- `svm.uuid` - Existing SVM in which to create the FPolicy engine.
- `name` - Name of external engine.
- `port` - Port number of the FPolicy server application.
- `primary_servers` - List of primary FPolicy servers to which the node will send notifications.

Recommended optional properties

- `secondary_servers` - It is recommended to configure secondary FPolicy server to which the node will send notifications when the primary server is down.

Default property values

- `type` - *synchronous*
- `format` - *xml*

Related ONTAP commands

- `fpolicy policy external-engine create`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/engines](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.
certificate	certificate	Provides details about certificate used to authenticate the FPolicy server.
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are: • xml - Notifications sent to the FPolicy server will be formatted using the XML schema. • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_connection_retries	integer	This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from an SVM. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.
max_server_requests	integer	Specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.

Name	Type	Description
name	string	Specifies the name to assign to the external server configuration.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.

Name	Type	Description
session_timeout	string	This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the -session-timeout interval, the old session ID is sent to the FPolicy server so that it can send responses for old notifications.
ssl_option	string	Specifies the SSL option for external communication with the FPolicy server. Possible values include the following: • no_auth When set to "no_auth", no authentication takes place. • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate. • mutual_auth When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate along with the public certificate and key file for authentication of the SVM.

Name	Type	Description
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	svm	
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are: • synchronous - After sending a notification, wait for a response from the FPolicy server. • asynchronous - After sending a notification, file request processing continues. ◦ Default value: 1 ◦ enum: ["synchronous", "asynchronous"] ◦ Introduced in: 9.6 ◦ x-nullable: true

Example request

```
{
  "certificate": {
    "ca": "TASample1",
    "name": "Sample1-FPolicy-Client",
    "serial_number": "8DDE112A114D1FBC"
  },
  "format": "string",
  "keep_alive_interval": "PT2M",
  "max_connection_retries": 5,
  "max_server_requests": 500,
  "name": "fp_ex_eng",
  "port": 9876,
  "primary_servers": [
    "10.132.145.20",
    "10.140.101.109"
  ],
  "request_abort_timeout": "PT40S",
  "request_cancel_timeout": "PT20S",
  "resiliency": {
    "directory_path": "/dir1",
    "retention_duration": "PT3M"
  },
  "secondary_servers": [
    "10.132.145.20",
    "10.132.145.21"
  ],
  "server_progress_timeout": "PT1M",
  "session_timeout": "PT10S",
  "ssl_option": "string",
  "status_request_interval": "PT10S",
  "svm": {
    "uuid": "string"
  },
  "type": "string"
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of records
records	array[fpolicy_engine]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "certificate": {
        "ca": "TASample1",
        "name": "Sample1-FPolicy-Client",
        "serial_number": "8DDE112A114D1FBC"
      },
      "format": "string",
      "keep_alive_interval": "PT2M",
      "max_connection_retries": 5,
      "max_server_requests": 500,
      "name": "fp_ex_eng",
      "port": 9876,
      "primary_servers": [
        "10.132.145.20",
        "10.140.101.109"
      ],
      "request_abort_timeout": "PT40S",
      "request_cancel_timeout": "PT20S",
      "resiliency": {
        "directory_path": "/dir1",
        "retention_duration": "PT3M"
      },
      "secondary_servers": [
        "10.132.145.20",
        "10.132.145.21"
      ],
      "server_progress_timeout": "PT1M",
      "session_timeout": "PT10S",
      "ssl_option": "string",
      "status_request_interval": "PT10S",
      "svm": {
        "uuid": "string"
      },
      "type": "string"
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
9764885	The primary secondary server has a redundant IP address
9764953	The name of the FPolicy engine is "native" which is reserved by the system
9765011	The resiliency feature is not supported with mandatory screening
9765012	The specified resiliency directory path does not exist
9765004	The specified session timeout exceeds the maximum limit
9764935	The specified max connection retries exceeds the maximum limit

Definitions

See Definitions

buffer_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Type	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

certificate

Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
ca	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Type	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_engine

Defines how ONTAP makes and manages connections to external FPolicy servers.

Name	Type	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.
certificate	certificate	Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are: • xml - Notifications sent to the FPolicy server will be formatted using the XML schema. • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_connection_retries	integer	This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from an SVM. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.
max_server_requests	integer	Specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.
name	string	Specifies the name to assign to the external server configuration.

Name	Type	Description
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.

Name	Type	Description
session_timeout	string	This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the -session-timeout interval, the old session ID is sent to the FPolicy server so that it can send responses for old notifications.

Name	Type	Description
ssl_option	string	Specifies the SSL option for external communication with the FPolicy server. Possible values include the following: • no_auth When set to "no_auth", no authentication takes place. • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate. • mutual_auth When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate along with the public certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	svm	

Name	Type	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are: • synchronous - After sending a notification, wait for a response from the FPolicy server. • asynchronous - After sending a notification, file request processing continues. ◦ Default value: 1 ◦ enum: ["synchronous", "asynchronous"] ◦ Introduced in: 9.6 ◦ x-nullable: true

href

Name	Type	Description
href	string	

_links

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete an FPolicy external engine configuration

DELETE /protocols/fpolicy/{svm.uuid}/engines/{name}

Introduced In: 9.6

Deletes the FPolicy external engine configuration. Deletion of an FPolicy engine that is attached to one or more FPolicy policies is not allowed.

Related ONTAP commands

- `fpolicy policy external-engine delete`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/engines](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
9764940	At least one FPolicy policy is using the FPolicy engine
9764887	The FPolicy engine is a cluster level FPolicy engine

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a particular FPolicy engine configuration for an SVM

GET /protocols/fpolicy/{svm.uuid}/engines/{name}

Introduced In: 9.6

Retrieves a particular FPolicy engine configuration of a specified SVM. A cluster-level FPolicy engine configuration cannot be retrieved for a data SVM.

Related ONTAP commands

- `fpolicy policy external-engine show`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/engines](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.
certificate	certificate	Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are: • xml - Notifications sent to the FPolicy server will be formatted using the XML schema. • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_connection_retries	integer	This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from an SVM. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.
max_server_requests	integer	Specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.
name	string	Specifies the name to assign to the external server configuration.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	

Name	Type	Description
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.
session_timeout	string	This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the -session-timeout interval, the old session ID is sent to the FPolicy server so that it can send responses for old notifications.

Name	Type	Description
ssl_option	string	Specifies the SSL option for external communication with the FPolicy server. Possible values include the following: • no_auth When set to "no_auth", no authentication takes place. • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate. • mutual_auth When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate along with the public certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	svm	

Name	Type	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are: • synchronous - After sending a notification, wait for a response from the FPolicy server. • asynchronous - After sending a notification, file request processing continues. ◦ Default value: 1 ◦ enum: ["synchronous", "asynchronous"] ◦ Introduced in: 9.6 ◦ x-nullable: true

Example response

```
{
  "certificate": {
    "ca": "TASample1",
    "name": "Sample1-FPolicy-Client",
    "serial_number": "8DDE112A114D1FBC"
  },
  "format": "string",
  "keep_alive_interval": "PT2M",
  "max_connection_retries": 5,
  "max_server_requests": 500,
  "name": "fp_ex_eng",
  "port": 9876,
  "primary_servers": [
    "10.132.145.20",
    "10.140.101.109"
  ],
  "request_abort_timeout": "PT40S",
  "request_cancel_timeout": "PT20S",
  "resiliency": {
    "directory_path": "/dir1",
    "retention_duration": "PT3M"
  },
  "secondary_servers": [
    "10.132.145.20",
    "10.132.145.21"
  ],
  "server_progress_timeout": "PT1M",
  "session_timeout": "PT10S",
  "ssl_option": "string",
  "status_request_interval": "PT10S",
  "svm": {
    "uuid": "string"
  },
  "type": "string"
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

buffer_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Type	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

certificate

Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
ca	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Type	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

svm

Name	Type	Description
uuid	string	SVM UUID

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update a specific FPolicy engine configuration for an SVM

PATCH /protocols/fpolicy/{svm.uuid}/engines/{name}

Introduced In: 9.6

Updates a specific FPolicy engine configuration of an SVM. Modification of an FPolicy engine that is attached to one or more enabled FPolicy policies is not allowed.

Related ONTAP commands

- `fpolicy policy external-engine modify`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/engines](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.
certificate	certificate	Provides details about certificate used to authenticate the FPolicy server.
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are: • xml - Notifications sent to the FPolicy server will be formatted using the XML schema. • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.

Name	Type	Description
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_connection_retries	integer	This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from an SVM. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.
max_server_requests	integer	Specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.

Name	Type	Description
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.
session_timeout	string	This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the -session-timeout interval, the old session ID is sent to the FPolicy server so that it can send responses for old notifications.

Name	Type	Description
ssl_option	string	Specifies the SSL option for external communication with the FPolicy server. Possible values include the following: • no_auth When set to "no_auth", no authentication takes place. • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate. • mutual_auth When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate along with the public certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	svm	

Name	Type	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are: • synchronous - After sending a notification, wait for a response from the FPolicy server. • asynchronous - After sending a notification, file request processing continues. ◦ Default value: 1 ◦ enum: ["synchronous", "asynchronous"] ◦ Introduced in: 9.6 ◦ x-nullable: true

Example request

```
{
  "certificate": {
    "ca": "TASample1",
    "name": "Sample1-FPolicy-Client",
    "serial_number": "8DDE112A114D1FBC"
  },
  "format": "string",
  "keep_alive_interval": "PT2M",
  "max_connection_retries": 5,
  "max_server_requests": 500,
  "port": 9876,
  "primary_servers": [
    "10.132.145.20",
    "10.140.101.109"
  ],
  "request_abort_timeout": "PT40S",
  "request_cancel_timeout": "PT20S",
  "resiliency": {
    "directory_path": "/dir1",
    "retention_duration": "PT3M"
  },
  "secondary_servers": [
    "10.132.145.20",
    "10.132.145.21"
  ],
  "server_progress_timeout": "PT1M",
  "session_timeout": "PT10S",
  "ssl_option": "string",
  "status_request_interval": "PT10S",
  "svm": {
    "uuid": "string"
  },
  "type": "string"
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
9764922	The primary and secondary server has a redundant IP address
9764942	At least one FPolicy policy is using the FPolicy engine
9764886	FPolicy engine is a cluster-level FPolicy engine
9765011	The resiliency feature is not supported with mandatory screening
9765012	The specified resiliency directory path does not exist
9765042	The specified send buffer size exceeds the maximum limit
9765043	The specified receive buffer size exceeds the maximum limit
9765063	Policy with Persistent Store feature does not support a "synchronous"
9765004	The specified session timeout exceeds the maximum limit
9764935	The specified max connection retries exceeds the maximum limit

Definitions

See Definitions

buffer_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Type	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

certificate

Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
ca	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Type	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_engine

Defines how ONTAP makes and manages connections to external FPolicy servers.

Name	Type	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.
certificate	certificate	Provides details about certificate used to authenticate the FPolicy server.

Name	Type	Description
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are: • xml - Notifications sent to the FPolicy server will be formatted using the XML schema. • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_connection_retries	integer	This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from an SVM. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.
max_server_requests	integer	Specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	

Name	Type	Description
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.
session_timeout	string	This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the -session-timeout interval, the old session ID is sent to the FPolicy server so that it can send responses for old notifications.

Name	Type	Description
ssl_option	string	Specifies the SSL option for external communication with the FPolicy server. Possible values include the following: • no_auth When set to "no_auth", no authentication takes place. • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate. • mutual_auth When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate along with the public certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	svm	

Name	Type	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are: • synchronous - After sending a notification, wait for a response from the FPolicy server. • asynchronous - After sending a notification, file request processing continues. ◦ Default value: 1 ◦ enum: ["synchronous", "asynchronous"] ◦ Introduced in: 9.6 ◦ x-nullable: true

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage FPolicy event configuration

Manage FPolicy event configuration

Overview

FPolicy events configurations allow you to specify which file access is monitored. As part of an FPolicy event, you can configure the SVM for which the events are generated, the name of the event configuration, the protocol (cifs, nfsv3/nfsv4) for which the events are generated, the file operations which are monitored, and filters that can be used to filter the unwanted notification generation for a specified protocol and file operation.

Each protocol has a set of supported file operations and filters. An SVM can have multiple events. A single FPolicy policy can have multiple FPolicy events.

FPolicy events can also be configured to monitor file operations which fail due to lack of permissions. You can specify which file operation to monitor for failure. However, filters can not be used to filter failed file operations.

Examples

Creating an FPolicy event for a CIFS protocol with all the supported file operations and filters

```
# The API:
POST /protocols/fpolicy/{svm.uuid}/events

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/events?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{
  \"file_operations\": { \"close\": true, \"create\": true, \"create_dir\": true, \"delete\": true, \"delete_dir\": true, \"getattr\": true, \"open\": true, \"read\": true, \"rename\": true, \"rename_dir\": true, \"setattr\": true, \"write\": true }, \"filters\": { \"close_with_modification\": true, \"close_with_read\": true, \"close_without_modification\": true, \"first_read\": true, \"first_write\": true, \"monitor_ads\": true, \"offline_bit\": true, \"open_with_delete_intent\": true, \"open_with_write_intent\": true, \"write_with_size_change\": true }, \"name\": \"event_cifs\", \"protocol\": \"cifs\", \"volume_monitoring\": true}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "event_cifs",
      "protocol": "cifs",
      "volume_monitoring": true,
      "monitor_fileop_failure": false,
      "file_operations": {
        "close": true,
        "create": true,
```

```
    "create_dir": true,
    "delete": true,
    "delete_dir": true,
    "getattr": true,
    "open": true,
    "read": true,
    "write": true,
    "rename": true,
    "rename_dir": true,
    "setattr": true
  },
  "filters": {
    "monitor_ads": true,
    "close_with_modification": true,
    "close_without_modification": true,
    "close_with_read": true,
    "first_read": true,
    "first_write": true,
    "offline_bit": true,
    "open_with_delete_intent": true,
    "open_with_write_intent": true,
    "write_with_size_change": true
  }
}
]
```

Creating an FPolicy event for an NFS protocol with all the supported file operations and filters

```

# The API:
post /protocols/fpolicy/{svm.uuid}/events

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/events?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{
  \"file_operations\": { \"create\": true, \"create_dir\": true, \"delete\": true, \"delete_dir\": true, \"link\": true, \"lookup\": true, \"read\": true, \"rename\": true, \"rename_dir\": true, \"setattr\": true, \"symlink\": true, \"write\": true }, \"filters\": { \"offline_bit\": true, \"write_with_size_change\": true }, \"name\": \"event_nfsv3\", \"protocol\": \"nfsv3\", \"volume_monitoring\": false}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "event_nfsv3",
      "protocol": "nfsv3",
      "volume_monitoring": false,
      "monitor_fileop_failure": false,
      "file_operations": {
        "create": true,
        "create_dir": true,
        "delete": true,
        "delete_dir": true,
        "link": true,
        "lookup": true,
        "read": true,
        "write": true,
        "rename": true,
        "rename_dir": true,
        "setattr": true,
        "symlink": true
      },
      "filters": {
        "offline_bit": true,
        "write_with_size_change": true
      }
    }
  ]
}

```

```
# The API:
post /protocols/fpolicy/{svm.uuid}/events

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/b5087518-40b3-11ed-
b3eb-005056bbe901/events?return_records=false" -H "accept:
application/json" -H "authorization: Basic <CREDENTIALS>" -H "Content-
Type: application/json" -d "{  \"file_operations\": {    \"create\": true,
\"create_dir\": true,    \"delete\": true,    \"delete_dir\": true,
\"link\": true,    \"read\": true,    \"rename\": true,    \"rename_dir\":
true,    \"write\": true  },  \"name\": \"nfs_failed_op\",  \"protocol\":
\"nfsv3\",  \"monitor_fileop_failure\": true,  \"volume_monitoring\":
false}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "nfs_failed_op",
      "protocol": "nfsv3",
      "volume_monitoring": false,
      "monitor_fileop_failure": true,
      "file_operations": {
        "create": true,
        "create_dir": true,
        "delete": true,
        "delete_dir": true,
        "link": true,
        "read": true,
        "write": true,
        "rename": true,
        "rename_dir": true
      }
    }
  ]
}
```

```
# The API:
post /protocols/fpolicy/{svm.uuid}/events

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/b5087518-40b3-11ed-
b3eb-
005056bbe901/events?monitor_fileop_failure=true&fields=*&return_records=tr
ue&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "b5087518-40b3-11ed-b3eb-005056bbe901"
      },
      "name": "fo_event",
      "protocol": "cifs",
      "volume_monitoring": false,
      "monitor_fileop_failure": true,
      "file_operations": {
        "close": false,
        "create": false,
        "create_dir": false,
        "delete": false,
        "delete_dir": false,
        "getattr": false,
        "link": false,
        "lookup": false,
        "open": true,
        "read": false,
        "write": false,
        "rename": false,
        "rename_dir": false,
        "setattr": false,
        "symlink": false
      }
    }
  ],
  "num_records": 1
}
```



```
# The API:
GET /protocols/fpolicy/{svm.uuid}/events

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/events/?fields=*&return_records=true&return_timeout=15"
-H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "4f643fb4-fd21-11e8-ae49-0050568e2c1e"
      },
      "name": "cluster",
      "protocol": "cifs",
      "volume_monitoring": false,
      "monitor_fileop_failure": false,
      "file_operations": {
        "close": true,
        "create": false,
        "create_dir": false,
        "delete": false,
        "delete_dir": false,
        "getattr": false,
        "link": false,
        "lookup": false,
        "open": false,
        "read": false,
        "write": false,
        "rename": false,
        "rename_dir": false,
        "setattr": false,
        "symlink": false
      },
      "filters": {
        "monitor_ads": false,
        "close_with_modification": false,
        "close_without_modification": false,
        "close_with_read": true,
        "first_read": false,
        "first_write": false,

```

```

    "offline_bit": false,
    "open_with_delete_intent": false,
    "open_with_write_intent": false,
    "write_with_size_change": false,
    "setattr_with_owner_change": false,
    "setattr_with_group_change": false,
    "setattr_with_sacl_change": false,
    "setattr_with_dacl_change": false,
    "setattr_with_modify_time_change": false,
    "setattr_with_access_time_change": false,
    "setattr_with_creation_time_change": false,
    "setattr_with_mode_change": false,
    "setattr_with_size_change": false,
    "setattr_with_allocation_size_change": false,
    "exclude_directory": false
  }
},
{
  "svm": {
    "uuid": "4f643fb4-fd21-11e8-ae49-0050568e2c1e"
  },
  "name": "event_cifs",
  "protocol": "cifs",
  "volume_monitoring": true,
  "monitor_fileop_failure": false,
  "file_operations": {
    "close": true,
    "create": true,
    "create_dir": true,
    "delete": true,
    "delete_dir": true,
    "getattr": true,
    "link": false,
    "lookup": false,
    "open": true,
    "read": true,
    "write": true,
    "rename": true,
    "rename_dir": true,
    "setattr": true,
    "symlink": false
  },
  "filters": {
    "monitor_ads": true,
    "close_with_modification": true,
    "close_without_modification": true,

```

```

    "close_with_read": true,
    "first_read": true,
    "first_write": true,
    "offline_bit": true,
    "open_with_delete_intent": true,
    "open_with_write_intent": true,
    "write_with_size_change": true,
    "setattr_with_owner_change": false,
    "setattr_with_group_change": false,
    "setattr_with_sacl_change": false,
    "setattr_with_dacl_change": false,
    "setattr_with_modify_time_change": false,
    "setattr_with_access_time_change": false,
    "setattr_with_creation_time_change": false,
    "setattr_with_mode_change": false,
    "setattr_with_size_change": false,
    "setattr_with_allocation_size_change": false,
    "exclude_directory": false
  }
}
],
"num_records": 2
}

```

Retrieving a specific FPolicy event configuration for an SVM

```

# The API:
GET /protocols/fpolicy/{svm.uuid}/events/{name}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/events/event_cifs?fields=*&return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "4f643fb4-fd21-11e8-ae49-0050568e2c1e"
  },
  "name": "event_cifs",
  "protocol": "cifs",

```

```
"volume_monitoring": true,
"monitor_fileop_failure": false,
"file_operations": {
  "close": true,
  "create": true,
  "create_dir": true,
  "delete": true,
  "delete_dir": true,
  "getattr": true,
  "link": false,
  "lookup": false,
  "open": true,
  "read": true,
  "write": true,
  "rename": true,
  "rename_dir": true,
  "setattr": true,
  "symlink": false
},
"filters": {
  "monitor_ads": true,
  "close_with_modification": true,
  "close_without_modification": true,
  "close_with_read": true,
  "first_read": true,
  "first_write": true,
  "offline_bit": true,
  "open_with_delete_intent": true,
  "open_with_write_intent": true,
  "write_with_size_change": true,
  "setattr_with_owner_change": false,
  "setattr_with_group_change": false,
  "setattr_with_sacl_change": false,
  "setattr_with_dacl_change": false,
  "setattr_with_modify_time_change": false,
  "setattr_with_access_time_change": false,
  "setattr_with_creation_time_change": false,
  "setattr_with_mode_change": false,
  "setattr_with_size_change": false,
  "setattr_with_allocation_size_change": false,
  "exclude_directory": false
}
}
```

Updating a specific FPolicy event configuration for a specified SVM

```
# The API:
PATCH /protocols/fpolicy/{svm.uuid}/events/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/events/event_cifs" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"file_operations\": { \"close\": false, \"create\": false, \"read\": true }, \"filters\": { \"close_with_modification\": false, \"close_with_read\": false, \"close_without_modification\": false }, \"protocol\": \"cifs\", \"volume_monitoring\": false}"
```

Deleting a specific FPolicy event configuration for a specific SVM

```
# The API:
DELETE /protocols/fpolicy/{svm.uuid}/events/{name}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/events/event_cifs" -H "accept: application/json"
```

Retrieve the FPolicy event configuration for all events for an SVM

```
GET /protocols/fpolicy/{svm.uuid}/events
```

Introduced In: 9.6

Retrieves FPolicy event configurations for all events for a specified SVM. ONTAP allows the creation of cluster-level FPolicy events that act as a template for all the data SVMs belonging to the cluster. These cluster-level FPolicy events are also retrieved for the specified SVM.

Related ONTAP commands

- `fpolicy policy event show`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/events](#)

Parameters

Name	Type	In	Required	Description
protocol	string	query	False	Filter by protocol
filters.first_write	boolean	query	False	Filter by filters.first_write
filters.setattr_with_modify_time_change	boolean	query	False	Filter by filters.setattr_with_modify_time_change
filters.monitor_ads	boolean	query	False	Filter by filters.monitor_ads
filters.setattr_with_acl_change	boolean	query	False	Filter by filters.setattr_with_acl_change
filters.close_with_read	boolean	query	False	Filter by filters.close_with_read
filters.write_with_size_change	boolean	query	False	Filter by filters.write_with_size_change
filters.setattr_with_owner_change	boolean	query	False	Filter by filters.setattr_with_owner_change
filters.exclude_directory	boolean	query	False	Filter by filters.exclude_directory
filters.first_read	boolean	query	False	Filter by filters.first_read
filters.open_with_delete_intent	boolean	query	False	Filter by filters.open_with_delete_intent
filters.close_without_modification	boolean	query	False	Filter by filters.close_without_modification

Name	Type	In	Required	Description
filters.setattr_with_size_change	boolean	query	False	Filter by filters.setattr_with_size_change
filters.setattr_with_access_time_change	boolean	query	False	Filter by filters.setattr_with_access_time_change
filters.setattr_with_sacl_change	boolean	query	False	Filter by filters.setattr_with_sacl_change
filters.setattr_with_mode_change	boolean	query	False	Filter by filters.setattr_with_mode_change
filters.setattr_with_group_change	boolean	query	False	Filter by filters.setattr_with_group_change
filters.setattr_with_allocation_size_change	boolean	query	False	Filter by filters.setattr_with_allocation_size_change
filters.open_with_write_intent	boolean	query	False	Filter by filters.open_with_write_intent
filters.close_with_modification	boolean	query	False	Filter by filters.close_with_modification
filters.setattr_with_creation_time_change	boolean	query	False	Filter by filters.setattr_with_creation_time_change
filters.offline_bit	boolean	query	False	Filter by filters.offline_bit
name	string	query	False	Filter by name
volume_monitoring	boolean	query	False	Filter by volume_monitoring

Name	Type	In	Required	Description
monitor_fileop_failur e	boolean	query	False	Filter by monitor_fileop_failur e • Introduced in: 9.13
file_operations.read	boolean	query	False	Filter by file_operations.read
file_operations.write	boolean	query	False	Filter by file_operations.write
file_operations.getatt r	boolean	query	False	Filter by file_operations.getat tr
file_operations.creat e	boolean	query	False	Filter by file_operations.creat e
file_operations.close	boolean	query	False	Filter by file_operations.close
file_operations.setatt r	boolean	query	False	Filter by file_operations.setatt r
file_operations.looku p	boolean	query	False	Filter by file_operations.looku p
file_operations.creat e_dir	boolean	query	False	Filter by file_operations.creat e_dir
file_operations.delet e	boolean	query	False	Filter by file_operations.delet e
file_operations.acce ss	boolean	query	False	Filter by file_operations.acce ss • Introduced in: 9.13

Name	Type	In	Required	Description
file_operations.open	boolean	query	False	Filter by file_operations.open
file_operations.delete_dir	boolean	query	False	Filter by file_operations.delete_dir
file_operations.rename_dir	boolean	query	False	Filter by file_operations.rename_dir
file_operations.symmlink	boolean	query	False	Filter by file_operations.symmlink
file_operations.rename	boolean	query	False	Filter by file_operations.rename
file_operations.link	boolean	query	False	Filter by file_operations.link
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[fpolicy_event]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "name": "event_cifs",
      "protocol": "string",
      "svm": {
        "uuid": "string"
      }
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

file_operations

Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.

Name	Type	Description
access	boolean	Access operations
close	boolean	File close operations
create	boolean	File create operations
create_dir	boolean	Directory create operations
delete	boolean	File delete operations
delete_dir	boolean	Directory delete operations
getattr	boolean	Get attribute operations
link	boolean	Link operations
lookup	boolean	Lookup operations
open	boolean	File open operations
read	boolean	File read operations
rename	boolean	File rename operations
rename_dir	boolean	Directory rename operations

Name	Type	Description
setattr	boolean	Set attribute operations
symlink	boolean	Symbolic link operations
write	boolean	File write operations

filters

Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.

Name	Type	Description
close_with_modification	boolean	Filter the client request for close with modification.
close_with_read	boolean	Filter the client request for close with read.
close_without_modification	boolean	Filter the client request for close without modification.
exclude_directory	boolean	Filter the client requests for directory operations. When this filter is specified directory operations are not monitored.
first_read	boolean	Filter the client requests for the first-read.
first_write	boolean	Filter the client requests for the first-write.
monitor_ads	boolean	Filter the client request for alternate data stream.
offline_bit	boolean	Filter the client request for offline bit set. FPolicy server receives notification only when offline files are accessed.
open_with_delete_intent	boolean	Filter the client request for open with delete intent.
open_with_write_intent	boolean	Filter the client request for open with write intent.

Name	Type	Description
setattr_with_access_time_change	boolean	Filter the client setattr requests for changing the access time of a file or directory.
setattr_with_allocation_size_change	boolean	Filter the client setattr requests for changing the allocation size of a file.
setattr_with_creation_time_change	boolean	Filter the client setattr requests for changing the creation time of a file or directory.
setattr_with_dacl_change	boolean	Filter the client setattr requests for changing dacl on a file or directory.
setattr_with_group_change	boolean	Filter the client setattr requests for changing group of a file or directory.
setattr_with_mode_change	boolean	Filter the client setattr requests for changing the mode bits on a file or directory.
setattr_with_modify_time_change	boolean	Filter the client setattr requests for changing the modification time of a file or directory.
setattr_with_owner_change	boolean	Filter the client setattr requests for changing owner of a file or directory.
setattr_with_sacl_change	boolean	Filter the client setattr requests for changing sacl on a file or directory.
setattr_with_size_change	boolean	Filter the client setattr requests for changing the size of a file.
write_with_size_change	boolean	Filter the client request for write with size change.

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_event

The information that a FPolicy process needs to determine what file access operations to monitor and for which of the monitored events notifications should be sent to the external FPolicy server.

Name	Type	Description
file_operations	file_operations	Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.
filters	filters	Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.
monitor_fileop_failure	boolean	Specifies whether failed file operations monitoring is required.
name	string	Specifies the name of the FPolicy event.
protocol	string	Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol.
svm	svm	
volume_monitoring	boolean	Specifies whether volume operation monitoring is required.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create the FPolicy event configuration for an SVM

POST /protocols/fpolicy/{svm.uuid}/events

Introduced In: 9.6

Creates an FPolicy event configuration for a specified SVM. FPolicy event creation is allowed only on data SVMs. When a protocol is specified, you must specify a file operation or a file operation and filters. When FPolicy event is configured to monitor failed file operations, you must specify protocol and file operations. Filters are not supported when failed file operations are monitored.

Required properties

- `svm.uuid` - Existing SVM in which to create the FPolicy event.
- `name` - Name of the FPolicy event.

Recommended optional properties

- `file-operations` - List of file operations to monitor.
- `protocol` - Protocol for which the file operations should be monitored.
- `filters` - List of filters for the specified file operations.
- `monitor-fileop-failure` - Enabled monitoring of failed file operations.

Default property values

If not specified in POST, the following default property values are assigned:

- `file_operations.*` - *false*

- `filters.*` - *false*
- `volume-monitoring` - *false*
- `monitor-fileop-failure` - *false*

Related ONTAP commands

- `fpolicy policy event create`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/events](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
file_operations	file_operations	Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.
filters	filters	Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.
monitor_fileop_failure	boolean	Specifies whether failed file operations monitoring is required.

Name	Type	Description
name	string	Specifies the name of the FPolicy event.
protocol	string	Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: - cifs - for the CIFS protocol. - nfsv3 - for the NFSv3 protocol. - nfsv4 - for the NFSv4 protocol.
svm	svm	
volume_monitoring	boolean	Specifies whether volume operation monitoring is required.

Example request

```
{
  "name": "event_cifs",
  "protocol": "string",
  "svm": {
    "uuid": "string"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of records
records	array[fpolicy_event]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "name": "event_cifs",
      "protocol": "string",
      "svm": {
        "uuid": "string"
      }
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

Error Code	Description
9764929	The file operation is not supported by the protocol
9764955	The filter is not supported by the protocol
9764930	The filter is not supported by any of the file operations
9764946	The protocol is specified without a file operation or a file operation and filter pair

Definitions

See Definitions

file_operations

Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.

Name	Type	Description
access	boolean	Access operations
close	boolean	File close operations
create	boolean	File create operations
create_dir	boolean	Directory create operations
delete	boolean	File delete operations
delete_dir	boolean	Directory delete operations
getattr	boolean	Get attribute operations
link	boolean	Link operations
lookup	boolean	Lookup operations
open	boolean	File open operations
read	boolean	File read operations
rename	boolean	File rename operations
rename_dir	boolean	Directory rename operations
setattr	boolean	Set attribute operations
symlink	boolean	Symbolic link operations
write	boolean	File write operations

filters

Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.

Name	Type	Description
close_with_modification	boolean	Filter the client request for close with modification.
close_with_read	boolean	Filter the client request for close with read.
close_without_modification	boolean	Filter the client request for close without modification.
exclude_directory	boolean	Filter the client requests for directory operations. When this filter is specified directory operations are not monitored.
first_read	boolean	Filter the client requests for the first-read.
first_write	boolean	Filter the client requests for the first-write.
monitor_ads	boolean	Filter the client request for alternate data stream.
offline_bit	boolean	Filter the client request for offline bit set. FPolicy server receives notification only when offline files are accessed.
open_with_delete_intent	boolean	Filter the client request for open with delete intent.
open_with_write_intent	boolean	Filter the client request for open with write intent.
setattr_with_access_time_change	boolean	Filter the client setattr requests for changing the access time of a file or directory.
setattr_with_allocation_size_change	boolean	Filter the client setattr requests for changing the allocation size of a file.
setattr_with_creation_time_change	boolean	Filter the client setattr requests for changing the creation time of a file or directory.

Name	Type	Description
setattr_with_dacl_change	boolean	Filter the client setattr requests for changing dacl on a file or directory.
setattr_with_group_change	boolean	Filter the client setattr requests for changing group of a file or directory.
setattr_with_mode_change	boolean	Filter the client setattr requests for changing the mode bits on a file or directory.
setattr_with_modify_time_change	boolean	Filter the client setattr requests for changing the modification time of a file or directory.
setattr_with_owner_change	boolean	Filter the client setattr requests for changing owner of a file or directory.
setattr_with_sacl_change	boolean	Filter the client setattr requests for changing sacl on a file or directory.
setattr_with_size_change	boolean	Filter the client setattr requests for changing the size of a file.
write_with_size_change	boolean	Filter the client request for write with size change.

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_event

The information that a FPolicy process needs to determine what file access operations to monitor and for which of the monitored events notifications should be sent to the external FPolicy server.

Name	Type	Description
file_operations	file_operations	Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.
filters	filters	Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.
monitor_fileop_failure	boolean	Specifies whether failed file operations monitoring is required.
name	string	Specifies the name of the FPolicy event.
protocol	string	Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol.
svm	svm	
volume_monitoring	boolean	Specifies whether volume operation monitoring is required.

href

Name	Type	Description
href	string	

_links

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a specific FPolicy event configuration for an SVM

```
DELETE /protocols/fpolicy/{svm.uuid}/events/{name}
```

Introduced In: 9.6

Deletes a specific FPolicy event configuration for an SVM. A cluster-level FPolicy event configuration cannot be modified for a data SVM through REST. An FPolicy event that is attached to an FPolicy policy cannot be deleted.

Related ONTAP commands

- `fpolicy policy event delete`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/events](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

Error Code	Description
9764874	The FPolicy event is a cluster event
9764947	The FPolicy event is attached to an FPolicy policy

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a specific FPolicy event configuration for an SVM

GET /protocols/fpolicy/{svm.uuid}/events/{name}

Introduced In: 9.6

Retrieves a specific FPolicy event configuration for an SVM. A cluster-level FPolicy event configuration cannot be retrieved for a data SVM through a REST API.

Related ONTAP commands

- `fpolicy policy event show`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/events](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Name	Type	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
file_operations	file_operations	Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.
filters	filters	Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.
monitor_fileop_failure	boolean	Specifies whether failed file operations monitoring is required.
name	string	Specifies the name of the FPolicy event.
protocol	string	Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol.
svm	svm	
volume_monitoring	boolean	Specifies whether volume operation monitoring is required.

Example response

```
{
  "name": "event_cifs",
  "protocol": "string",
  "svm": {
    "uuid": "string"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

file_operations

Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.

Name	Type	Description
access	boolean	Access operations
close	boolean	File close operations
create	boolean	File create operations
create_dir	boolean	Directory create operations
delete	boolean	File delete operations
delete_dir	boolean	Directory delete operations
getattr	boolean	Get attribute operations
link	boolean	Link operations
lookup	boolean	Lookup operations
open	boolean	File open operations
read	boolean	File read operations
rename	boolean	File rename operations
rename_dir	boolean	Directory rename operations
setattr	boolean	Set attribute operations
symlink	boolean	Symbolic link operations
write	boolean	File write operations

filters

Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.

Name	Type	Description
close_with_modification	boolean	Filter the client request for close with modification.
close_with_read	boolean	Filter the client request for close with read.
close_without_modification	boolean	Filter the client request for close without modification.
exclude_directory	boolean	Filter the client requests for directory operations. When this filter is specified directory operations are not monitored.
first_read	boolean	Filter the client requests for the first-read.
first_write	boolean	Filter the client requests for the first-write.
monitor_ads	boolean	Filter the client request for alternate data stream.
offline_bit	boolean	Filter the client request for offline bit set. FPolicy server receives notification only when offline files are accessed.
open_with_delete_intent	boolean	Filter the client request for open with delete intent.
open_with_write_intent	boolean	Filter the client request for open with write intent.
setattr_with_access_time_change	boolean	Filter the client setattr requests for changing the access time of a file or directory.
setattr_with_allocation_size_change	boolean	Filter the client setattr requests for changing the allocation size of a file.
setattr_with_creation_time_change	boolean	Filter the client setattr requests for changing the creation time of a file or directory.

Name	Type	Description
setattr_with_dacl_change	boolean	Filter the client setattr requests for changing dacl on a file or directory.
setattr_with_group_change	boolean	Filter the client setattr requests for changing group of a file or directory.
setattr_with_mode_change	boolean	Filter the client setattr requests for changing the mode bits on a file or directory.
setattr_with_modify_time_change	boolean	Filter the client setattr requests for changing the modification time of a file or directory.
setattr_with_owner_change	boolean	Filter the client setattr requests for changing owner of a file or directory.
setattr_with_sacl_change	boolean	Filter the client setattr requests for changing sacl on a file or directory.
setattr_with_size_change	boolean	Filter the client setattr requests for changing the size of a file.
write_with_size_change	boolean	Filter the client request for write with size change.

svm

Name	Type	Description
uuid	string	SVM UUID

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update a specific FPolicy event configuration for an SVM

PATCH /protocols/fpolicy/{svm.uuid}/events/{name}

Introduced In: 9.6

Updates a specific FPolicy event configuration for an SVM. A cluster-level FPolicy event configuration cannot be modified for a data SVM through REST. When the file operations and filters fields are modified, the previous values are retained and new values are added to the list of previous values. To remove a particular file operation or filter, set its value to false in the request.

Related ONTAP commands

- `fpolicy policy event modify`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/events](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
file_operations	file_operations	Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.
filters	filters	Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.
monitor_fileop_failure	boolean	Specifies whether failed file operations monitoring is required.
protocol	string	Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol.
svm	svm	
volume_monitoring	boolean	Specifies whether volume operation monitoring is required.

Example request

```
{
  "protocol": "string",
  "svm": {
    "uuid": "string"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

Error Code	Description
9764873	The event is a cluster event
9764929	The file operation is not supported by the protocol
9764955	The filter is not supported by the protocol
9764930	The filter is not supported by any of the file operations
9764946	The protocol is specified without file operation or a file operation and filter pair
9765048	The monitor fileop failure option is set without protocol and file operations

Definitions

See Definitions

file_operations

Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.

Name	Type	Description
access	boolean	Access operations
close	boolean	File close operations
create	boolean	File create operations
create_dir	boolean	Directory create operations
delete	boolean	File delete operations
delete_dir	boolean	Directory delete operations
getattr	boolean	Get attribute operations
link	boolean	Link operations
lookup	boolean	Lookup operations
open	boolean	File open operations
read	boolean	File read operations
rename	boolean	File rename operations
rename_dir	boolean	Directory rename operations
setattr	boolean	Set attribute operations
symlink	boolean	Symbolic link operations
write	boolean	File write operations

filters

Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.

Name	Type	Description
close_with_modification	boolean	Filter the client request for close with modification.
close_with_read	boolean	Filter the client request for close with read.
close_without_modification	boolean	Filter the client request for close without modification.
exclude_directory	boolean	Filter the client requests for directory operations. When this filter is specified directory operations are not monitored.
first_read	boolean	Filter the client requests for the first-read.
first_write	boolean	Filter the client requests for the first-write.
monitor_ads	boolean	Filter the client request for alternate data stream.
offline_bit	boolean	Filter the client request for offline bit set. FPolicy server receives notification only when offline files are accessed.
open_with_delete_intent	boolean	Filter the client request for open with delete intent.
open_with_write_intent	boolean	Filter the client request for open with write intent.
setattr_with_access_time_change	boolean	Filter the client setattr requests for changing the access time of a file or directory.
setattr_with_allocation_size_change	boolean	Filter the client setattr requests for changing the allocation size of a file.
setattr_with_creation_time_change	boolean	Filter the client setattr requests for changing the creation time of a file or directory.

Name	Type	Description
setattr_with_dacl_change	boolean	Filter the client setattr requests for changing dacl on a file or directory.
setattr_with_group_change	boolean	Filter the client setattr requests for changing group of a file or directory.
setattr_with_mode_change	boolean	Filter the client setattr requests for changing the mode bits on a file or directory.
setattr_with_modify_time_change	boolean	Filter the client setattr requests for changing the modification time of a file or directory.
setattr_with_owner_change	boolean	Filter the client setattr requests for changing owner of a file or directory.
setattr_with_sacl_change	boolean	Filter the client setattr requests for changing sacl on a file or directory.
setattr_with_size_change	boolean	Filter the client setattr requests for changing the size of a file.
write_with_size_change	boolean	Filter the client request for write with size change.

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_event

The information that a FPolicy process needs to determine what file access operations to monitor and for which of the monitored events notifications should be sent to the external FPolicy server.

Name	Type	Description
file_operations	file_operations	Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.
filters	filters	Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.
monitor_fileop_failure	boolean	Specifies whether failed file operations monitoring is required.
protocol	string	Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol.
svm	svm	
volume_monitoring	boolean	Specifies whether volume operation monitoring is required.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage FPolicy persistent store configuration

Manage FPolicy persistent store configuration

Overview

- The FPolicy Persistent Store feature enables the configuration of a Persistent Store. This includes:
- setting up a store to retain event notifications
- specifying the volume created for FPolicy Persistent Store
- defining the size of the volume
- defining the autosize mode for the volume.
- Each SVM can only have one Persistent Store. The same Persistent Store can be used by multiple policies within the same SVM. Once a Persistent Store is created, it can be utilized in the FPolicy policy configuration for the async and non-mandatory engine.

Examples

Creating an FPolicy Persistent Store with all required parameters


```
# The API:
POST /protocols/fpolicy/{svm.uuid}/persistent-stores

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/persistent-stores?return_records=true" -H "accept: application/json" -d "{\"name\": \"ps1\", \"volume\": \"psvol\", \"size\": 1073741824, \"autosize_mode\": \"off\"}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "ps1",
      "volume": "psvol",
      "size": 1073741824,
      "autosize_mode": "off"
    }
  ]
}
```

Creating an FPolicy Persistent Store with the minimum required fields

```
# The API:
POST /protocols/fpolicy/{svm.uuid}/persistent-stores

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/persistent-stores?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{\"name\": \"ps1\", \"volume\": \"psvol\", \"size\": 1073741824 }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "ps1",
      "volume": "psvol",
      "size": 1073741824
    }
  ]
}
```

Retrieving an FPolicy Persistent Store configuration for a specific SVM

```
# The API:
GET /protocols/fpolicy/{svm.uuid}/persistent-stores

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/persistent-stores/?return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "name": "ps1"
    }
  ],
  "num_records": 1
}
```

Retrieving a specific FPolicy Persistent Store configuration for a specific SVM

```
# The API:
GET /protocols/fpolicy/{svm.uuid}/persistent-stores/{name}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/persistent-stores/persistent_fpolicy?fields=*&return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "4f643fb4-fd21-11e8-ae49-0050568e2c1e"
  },
  "name": "ps1",
  "volume": "psvol",
  "size": 1073741824,
  "autosize_mode": "off"
}
```

Updating an FPolicy Persistent Store for an SVM

```
# The API:
PATCH /protocols/fpolicy/{svm.uuid}/persistent-stores/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/persistent-stores/persistent_fpolicy" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"volume\": \"psvol\" , \"size\": 1073741824}"
```

Deleting a specific FPolicy Persistent Store configuration for a specific SVM

```
# The API:
DELETE /protocols/fpolicy/{svm.uuid}/persistent-stores/{name}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-ae49-0050568e2c1e/persistent-stores/persistent_fpolicy" -H "accept: application/json"
```

Retrieve the FPolicy persistent store configurations for an SVM

GET /protocols/fpolicy/{svm.uuid}/persistent-stores

Introduced In: 9.14

Retrieves FPolicy Persistent Store configurations for a specified SVM.

Related ONTAP commands

- `fpolicy persistent-store show`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/persistent-stores](#)

Parameters

Name	Type	In	Required	Description
volume	string	query	False	Filter by volume
name	string	query	False	Filter by name
size	integer	query	False	Filter by size • Introduced in: 9.15
autosize_mode	string	query	False	Filter by autosize_mode • Introduced in: 9.15
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Name	Type	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[fpolicy_persistent_store]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "autosize_mode": "string",
      "name": "ps1",
      "size": "100M",
      "svm": {
        "uuid": "string"
      },
      "volume": "psvol"
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_persistent_store

The information that an FPolicy process needs in order to configure a Persistent Store.

Name	Type	Description
autosize_mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows in response to the amount of space used. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.
name	string	The name specified for the FPolicy Persistent Store.
size	integer	The size of the Persistent Store volume, in bytes.
svm	svm	
volume	string	The specified volume to store the events for the FPolicy Persistent Store.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create an FPolicy persistent store configuration for an SVM

POST /protocols/fpolicy/{svm.uuid}/persistent-stores

Introduced In: 9.14

Creates an FPolicy Persistent Store configuration for a specified SVM.

Important notes:

- FPolicy Persistent Store creation is allowed only on data SVMs.
- In persistent mode, when the Persistent Store is full, event notifications are dropped.
- There is flexibility to provide an existing volume or create a new volume for the persistent storage. The creation of new volume is handled internally.
- For existing volumes, the snapshot policy is set to 'none' and the size is adjusted to the specified value.

Required properties

- `svm.uuid` - Existing SVM in which to create the FPolicy Persistent Store.
- `name` - Name of the FPolicy Persistent Store.
- `volume` - Volume specified for Persistent Store (only FlexVol volumes of type RW are supported).

Optional properties

- `size` - Size of the Persistent Store volume.
- `autosize-mode` - Autosize mode for the Persistent Store volume.

Related ONTAP commands

- `fpolicy persistent-store create`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/persistent-stores](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
autosize_mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows in response to the amount of space used. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.
name	string	The name specified for the FPolicy Persistent Store.
size	integer	The size of the Persistent Store volume, in bytes.
svm	svm	
volume	string	The specified volume to store the events for the FPolicy Persistent Store.

Example request

```
{
  "autosize_mode": "string",
  "name": "ps1",
  "size": "100M",
  "svm": {
    "uuid": "string"
  },
  "volume": "psvol"
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of records
records	array[fpolicy_persistent_store]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "autosize_mode": "string",
      "name": "ps1",
      "size": "100M",
      "svm": {
        "uuid": "string"
      },
      "volume": "psvol"
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

Error Code	Description
9765052	Cannot create more than one Persistent Store per SVM
9765053	Volume mentioned does not exist in the SVM
9765068	The Persistent Store name is too long. It must not exceed 500 characters
2621516	This operation is only supported on a data SVM
9765069	Volume is not a FlexVol volume. Only FlexVol volumes are supported for this operation.
9765072	Volume is not of type RW. Only volumes of type RW are supported.
9765074	Size is a required parameter for the creation of the Persistent Store.
9765077	The SVM is not associated with any aggregates.
524849	Attribute cannot be modified for the target volume because of the specified reason.
917533	The target volume is not eligible for modification due to certain constraints, such as the volume being offline or currently engaged in a volume move operation.
917826	Volume minimum autosize must be greater than zero.
918647	The designated size exceeds the maximum available capacity of the intended volume.
917534	The value specified for the field \"-size\" is too small. Update the field \"-size\" with the minimum size allowed and retry the operation.

Definitions

See Definitions

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_persistent_store

The information that an FPolicy process needs in order to configure a Persistent Store.

Name	Type	Description
autosize_mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows in response to the amount of space used. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.
name	string	The name specified for the FPolicy Persistent Store.
size	integer	The size of the Persistent Store volume, in bytes.
svm	svm	
volume	string	The specified volume to store the events for the FPolicy Persistent Store.

href

Name	Type	Description
href	string	

_links

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete an FPolicy persistent store configuration for an SVM

```
DELETE /protocols/fpolicy/{svm.uuid}/persistent-stores/{name}
```

Introduced In: 9.14

Deletes a specific FPolicy Persistent Store configuration for an SVM.

Important notes: An option has been provided to delete the associated volume.

Related ONTAP commands

- `fpolicy persistent-store delete`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/persistent-stores](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
delete_volume	boolean	query	False	Delete the associated volume of the Persistent Store. • Introduced in: 9.15 • Default value:

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

Error Code	Description
9765064	Persistent Store is active on at least one policy

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an FPolicy persistent store configuration for an SVM

GET /protocols/fpolicy/{svm.uuid}/persistent-stores/{name}

Introduced In: 9.14

Retrieves a specific FPolicy Persistent Store configuration for an SVM.

Related ONTAP commands

- `fpolicy persistent-store show`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/persistent-stores](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Name	Type	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
autosize_mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows in response to the amount of space used. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.
name	string	The name specified for the FPolicy Persistent Store.
size	integer	The size of the Persistent Store volume, in bytes.
svm	svm	
volume	string	The specified volume to store the events for the FPolicy Persistent Store.

Example response

```
{
  "autosize_mode": "string",
  "name": "ps1",
  "size": "100M",
  "svm": {
    "uuid": "string"
  },
  "volume": "psvol"
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

svm

Name	Type	Description
uuid	string	SVM UUID

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update an FPolicy persistent store configuration for an SVM

PATCH /protocols/fpolicy/{svm.uuid}/persistent-stores/{name}

Introduced In: 9.14

Updates a specific FPolicy Persistent Store configuration for an SVM.

Important notes:

- If the volume exists, it is set to the size specified and the snapshot policy is set to "none". Otherwise, a new volume is created.
- The autosize parameter is not available in PATCH operations for this endpoint, use the the "autosize" parameter in PATCH for the "/storage/volumes/{uuid}" endpoint instead.
- When the Persistent Store is updated with a new volume, the previous volume is not automatically deleted. An option is provided to delete the previous volume.

Related ONTAP commands

- `fpolicy persistent-store modify`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/persistent-stores](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
delete_volume	boolean	query	False	Delete the previous volume of a Persistent Store if a new volume is provided. • Introduced in: 9.15 • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
size	integer	The size of the Persistent Store volume, in bytes.
svm	svm	
volume	string	The specified volume to store the events for the FPolicy Persistent Store.

Example request

```
{
  "size": "100M",
  "svm": {
    "uuid": "string"
  },
  "volume": "psvol"
}
```

Response

Status: 200, Ok

Error

Status: Default

Error Code	Description
9765053	Volume mentioned does not exist in the SVM
9765056	Specified Persistent Store name does not exist in the SVM
9765069	Volume is not a FlexVol volume. Only FlexVol volumes are supported for this operation.
9765070	Cannot update a Persistent Store volume when it is part of an enabled policy
9765072	Volume is not of type RW. Only volumes of type RW are supported.
9765074	Size is a required parameter for the creation of the Persistent Store.
9765077	The SVM is not associated with any aggregates.
524849	Attribute cannot be modified for the target volume because of the specified reason.
917533	The target volume is not eligible for modification due to certain constraints, such as the volume being offline or currently engaged in a volume move operation.
917826	Volume minimum autosize must be greater than zero.
918647	The designated size exceeds the maximum available capacity of the intended volume.

Error Code	Description
917534	The value specified for the field \"-size\" is too small. Update the field \"-size\" with the minimum size allowed and retry the operation.

Definitions

See Definitions

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_persistent_store

The information that an FPolicy process needs in order to configure a Persistent Store.

Name	Type	Description
size	integer	The size of the Persistent Store volume, in bytes.
svm	svm	
volume	string	The specified volume to store the events for the FPolicy Persistent Store.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage SVM FPolicy configuration

Manage SVM FPolicy configuration

Overview

The FPolicy policy acts as a container for different constituents of the FPolicy such as FPolicy events and the FPolicy engine. It also provides a platform for policy management functions, such as policy enabling and disabling. As part of FPolicy policy configuration, you can specify the name of policy, the SVM to which it belongs, the FPolicy events to monitor, the FPolicy engine to which the generated notifications are sent and the policy priority. FPolicy policy configuration also allows you to configure the file access behavior when the primary and secondary servers are down. Under such circumstances, if the "mandatory" field is set to true, file access is denied.

Each FPolicy policy is associated with a scope which allows you to restrain the scope of the policy to specified storage objects such as volume, shares and export or to a set of file extensions such as .txt, .jpeg. An FPolicy policy can be configured to send notifications, to the FPolicy server or for native file blocking which uses the file extension specified in the policy scope. An SVM can have multiple FPolicy policies which can be enabled or disabled independently of each other.

Examples

Creating an FPolicy policy

Use the following API to create an FPolicy policy configuration. Note that the *return_records=true* query parameter used to obtain the newly created entry in the response.

```
# The API:
POST /protocols/fpolicy/{svm.uuid}/policies

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/a00fac5d-0164-11e9-b64a-0050568eeb34/policies?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"engine\": { \"name\": \"engine1\" }, \"events\": [ { \"name\": \"cifs\" }, { \"name\": \"nfs\" } ], \"mandatory\": true, \"name\": \"FPolicy_policy_0\", \"passthrough_read\": true, \"privileged_user\": \"mydomain\\\\\\\\testuser\", \"scope\": { \"exclude_export_policies\": [ \"export_pol1\" ], \"exclude_extension\": [ \"txt\", \"png\" ], \"exclude_shares\": [ \"sh1\" ], \"exclude_volumes\": [ \"vol0\" ], \"include_export_policies\": [ \"export_pol10\" ], \"include_extension\": [ \"pdf\" ], \"include_shares\": [ \"sh2\", \"sh3\" ], \"include_volumes\": [ \"vol1\", \"vol2\" ] } }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "FPolicy_policy_0",
```



```

"events": [
  {
    "name": "cifs"
  },
  {
    "name": "nfs"
  }
],
"engine": {
  "name": "engine1"
},
"scope": {
  "include_shares": [
    "sh2",
    "sh3"
  ],
  "exclude_shares": [
    "sh1"
  ],
  "include_volumes": [
    "vol1",
    "vol2"
  ],
  "exclude_volumes": [
    "vol0"
  ],
  "include_export_policies": [
    "export_pol10"
  ],
  "exclude_export_policies": [
    "export_pol1"
  ],
  "include_extension": [
    "pdf"
  ],
  "exclude_extension": [
    "txt",
    "png"
  ]
},
"mandatory": true,
"privileged_user": "mydomain\\testuser",
"passthrough_read": true
}
]
}

```

```
# The API:
POST /protocols/fpolicy/{svm.uuid}/policies

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/a00fac5d-0164-11e9-b64a-0050568eeb34/policies?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"priority\": 1, \"engine\": { \"name\": \"engine1\" }, \"events\": [ { \"name\": \"cifs\" }, { \"name\": \"nfs\" } ], \"mandatory\": true, \"name\": \"FPolicy_policy_on\", \"passthrough_read\": false, \"scope\": { \"exclude_export_policies\": [ \"export_pol1\" ], \"exclude_extension\": [ \"txt\", \"png\" ], \"exclude_shares\": [ \"sh1\" ], \"exclude_volumes\": [ \"vol0\" ], \"include_export_policies\": [ \"export_pol10\" ], \"include_extension\": [ \"pdf\" ], \"include_shares\": [ \"sh2\", \"sh3\" ], \"include_volumes\": [ \"vol1\", \"vol2\" ] }}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "FPolicy_policy_0",
      "priority": 1,
      "events": [
        {
          "name": "cifs"
        },
        {
          "name": "nfs"
        }
      ],
      "engine": {
        "name": "engine1"
      },
      "scope": {
        "include_shares": [
          "sh2",
          "sh3"
        ],
        "exclude_shares": [
          "sh1"
        ],
        "include_volumes": [
```

```

        "vol1",
        "vol2"
    ],
    "exclude_volumes": [
        "vol0"
    ],
    "include_export_policies": [
        "export_pol10"
    ],
    "exclude_export_policies": [
        "export_pol1"
    ],
    "include_extension": [
        "pdf"
    ],
    "exclude_extension": [
        "txt",
        "png"
    ]
},
"mandatory": true,
"privileged_user": "mydomain\\testuser",
"passthrough_read": true
}
]
}

```

Creating an FPolicy policy with the minimum required fields and a native engine

```

# The API:
POST /protocols/fpolicy/{svm.uuid}/policies

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/a00fac5d-0164-11e9-b64a-0050568eeb34/policies?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"events\": [ { \"name\": \"cifs\" }, { \"name\": \"nfs\" } ], \"name\": \"pol_minimum_fields\", \"scope\": { \"include_volumes\": [ \"vol1\", \"vol2\" ] } }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "pol_minimum_fields",
      "events": [
        {
          "name": "cifs"
        },
        {
          "name": "nfs"
        }
      ],
      "scope": {
        "include_volumes": [
          "vol1",
          "vol2"
        ]
      }
    }
  ]
}

```

Retrieving all the FPolicy policy configurations for an SVM

```

# The API:
GET /protocols/fpolicy/{svm.uuid}/policies

# The call:

```

```

curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/a00fac5d-0164-11e9-
b64a-0050568eeb34/policies?fields=*&return_records=true&return_timeout=15"
-H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "a00fac5d-0164-11e9-b64a-0050568eeb34"
      },
      "name": "pol0",
      "enabled": false,
      "events": [
        {
          "name": "cifs"
        },
        {
          "name": "nfs"
        }
      ],
      "engine": {
        "name": "engine1"
      },
      "scope": {
        "include_shares": [
          "sh2",
          "sh3"
        ],
        "exclude_shares": [
          "sh1"
        ],
        "include_volumes": [
          "vol1",
          "vol2"
        ],
        "exclude_volumes": [
          "vol0"
        ],
        "include_export_policies": [
          "export_pol10"
        ],
        "exclude_export_policies": [
          "export_pol1"
        ],
        "include_extension": [

```

```

        "pdf"
    ],
    "exclude_extension": [
        "txt",
        "png"
    ]
},
"mandatory": true,
"passthrough_read": false,
"allow_privileged_access": false,
"persistent_store": "ps1"
},
{
    "svm": {
        "uuid": "a00fac5d-0164-11e9-b64a-0050568eeb34"
    },
    "name": "FPolicy_policy_on",
    "enabled": true,
    "priority": 1,
    "events": [
        {
            "name": "cifs"
        },
        {
            "name": "nfs"
        }
    ],
    "engine": {
        "name": "engine1"
    },
    "scope": {
        "include_shares": [
            "sh2",
            "sh3"
        ],
        "exclude_shares": [
            "sh1"
        ],
        "include_volumes": [
            "vol1",
            "vol2"
        ],
        "exclude_volumes": [
            "vol0"
        ],
        "include_export_policies": [

```

```

        "export_poll10"
    ],
    "exclude_export_policies": [
        "export_poll1"
    ],
    "include_extension": [
        "pdf"
    ],
    "exclude_extension": [
        "txt",
        "png"
    ]
},
"mandatory": true,
"passthrough_read": false,
"allow_privileged_access": false,
"persistent_store": "ps1"
},
{
    "svm": {
        "uuid": "a00fac5d-0164-11e9-b64a-0050568eeb34"
    },
    "name": "cluster_pol",
    "enabled": false,
    "events": [
        {
            "name": "cluster"
        }
    ],
    "engine": {
        "name": "native"
    },
    "mandatory": true,
    "passthrough_read": false,
    "allow_privileged_access": false,
    "persistent_store": "ps1"
},
{
    "svm": {
        "uuid": "a00fac5d-0164-11e9-b64a-0050568eeb34"
    },
    "name": "pol_minimum_fields",
    "enabled": false,
    "events": [
        {
            "name": "cifs"
        }
    ]
}

```

```

    },
    {
        "name": "nfs"
    }
],
"engine": {
    "name": "native"
},
"scope": {
    "include_volumes": [
        "vol1",
        "vol2"
    ]
},
"mandatory": true,
"passthrough_read": false,
"allow_privileged_access": false,
"persistent_store": "ps1"
}
],
"num_records": 4
}

```

Retrieving all of the FPolicy policy configurations for the FPolicy engine "engine1" for an SVM

```

# The API:
GET /protocols/fpolicy/{svm.uuid}/policies/{name}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/a00fac5d-0164-11e9-b64a-0050568eeb34/policies?engine.name=engine1&fields=*&return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "a00fac5d-0164-11e9-b64a-0050568eeb34"
      },
      "name": "pol0",

```



```

"enabled": false,
"events": [
  {
    "name": "cifs"
  },
  {
    "name": "nfs"
  }
],
"engine": {
  "name": "engine1"
},
"scope": {
  "include_export_policies": [
    "export_poll0"
  ],
  "exclude_export_policies": [
    "export_poll"
  ],
  "include_extension": [
    "pdf"
  ],
  "exclude_extension": [
    "txt",
    "png"
  ]
},
"mandatory": true,
"passthrough_read": false,
"allow_privileged_access": false,
"persistent_store": "ps1"
},
{
  "svm": {
    "uuid": "a00fac5d-0164-11e9-b64a-0050568eeb34"
  },
  "name": "FPolicy_policy_on",
  "enabled": true,
  "priority": 1,
  "events": [
    {
      "name": "cifs"
    },
    {
      "name": "nfs"
    }
  ]
}

```

```

    ],
    "engine": {
        "name": "engine1"
    },
    "scope": {
        "include_shares": [
            "sh2",
            "sh3"
        ],
        "exclude_shares": [
            "sh1"
        ],
        "include_volumes": [
            "vol1",
            "vol2"
        ],
        "exclude_volumes": [
            "vol0"
        ],
        "include_export_policies": [
            "export_pol10"
        ],
        "exclude_export_policies": [
            "export_pol1"
        ],
        "include_extension": [
            "pdf"
        ],
        "exclude_extension": [
            "txt",
            "png"
        ]
    },
    "mandatory": true,
    "passthrough_read": false,
    "allow_privileged_access": false,
    "persistent_store": "ps1"
}
],
"num_records": 2
}

```

```
# The API:
GET /protocols/fpolicy/{svm.uuid}/policies/{name}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/a00fac5d-0164-11e9-b64a-0050568eeb34/policies/pol0" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "a00fac5d-0164-11e9-b64a-0050568eeb34"
  },
  "name": "pol0",
  "enabled": false,
  "events": [
    {
      "name": "cifs"
    },
    {
      "name": "nfs"
    }
  ],
  "engine": {
    "name": "engine1"
  },
  "scope": {
    "include_shares": [
      "sh2",
      "sh3"
    ],
    "exclude_shares": [
      "sh1"
    ],
    "include_volumes": [
      "vol1",
      "vol2"
    ],
    "exclude_volumes": [
      "vol0"
    ],
    "include_export_policies": [
      "export_pol10"
    ],
  ],
}
```

```

"exclude_export_policies": [
  "export_poll"
],
"include_extension": [
  "pdf"
],
"exclude_extension": [
  "txt",
  "png"
]
},
"mandatory": true,
"passthrough_read": false,
"allow_privileged_access": false,
"persistent_store": "ps1"
}

```

Updating a particular FPolicy policy

```

# The API:
PATCH /protocols/fpolicy/{svm.uuid}/policies/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/fpolicy/a00fac5d-0164-11e9-b64a-0050568eeb34/policies/pol0" -H "accept: application/json" -H
"Content-Type: application/json" -d "{ \"engine\": { \"name\": \"native\"
}, \"events\": [ { \"name\": \"cifs\" } ], \"mandatory\": false,
\"scope\": { \"include_volumes\": [ \"*\" ] } }"

```

Enabling a particular FPolicy policy

```
# The API:
PATCH /protocols/fpolicy/{svm.uuid}/policies/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/fpolicy/a00fac5d-0164-11e9-b64a-0050568eeb34/policies/pol0" -H "accept: application/json" -H "Content-Type: application/json" -d '{"enabled": true, "priority": 3}'
```

Disabling a particular FPolicy policy

```
# The API:
PATCH /protocols/fpolicy/{svm.uuid}/policies/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/fpolicy/a00fac5d-0164-11e9-b64a-0050568eeb34/policies/pol0" -H "accept: application/json" -H "Content-Type: application/json" -d '{"enabled": true }'
```

Retrieve an FPolicy configuration for an SVM

GET /protocols/fpolicy/{svm.uuid}/policies

Introduced In: 9.6

Retrieves the FPolicy policy configuration of an SVM. ONTAP allows the creation of a cluster level FPolicy policy that acts as a template for all the data SVMs belonging to the cluster. This cluster level FPolicy policy is also retrieved for the specified SVM.

Related ONTAP commands

- `fpolicy policy show`
- `fpolicy policy scope show`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/policies](#)

Parameters

Name	Type	In	Required	Description
allow_privileged_access	boolean	query	False	Filter by allow_privileged_access • Introduced in: 9.13
privileged_user	string	query	False	Filter by privileged_user • Introduced in: 9.10
enabled	boolean	query	False	Filter by enabled
engine.name	string	query	False	Filter by engine.name
name	string	query	False	Filter by name
priority	integer	query	False	Filter by priority • Max value: 10 • Min value: 1
passthrough_read	boolean	query	False	Filter by passthrough_read • Introduced in: 9.10
scope.object_monitoring_with_no_extension	boolean	query	False	Filter by scope.object_monitoring_with_no_extension • Introduced in: 9.11
scope.exclude_volumes	string	query	False	Filter by scope.exclude_volumes
scope.exclude_shares	string	query	False	Filter by scope.exclude_shares

Name	Type	In	Required	Description
scope.include_shares	string	query	False	Filter by scope.include_shares
scope.exclude_extension	string	query	False	Filter by scope.exclude_extension
scope.include_volumes	string	query	False	Filter by scope.include_volumes
scope.check_extensions_on_directories	boolean	query	False	Filter by scope.check_extensions_on_directories • Introduced in: 9.11
scope.exclude_export_policies	string	query	False	Filter by scope.exclude_export_policies
scope.include_export_policies	string	query	False	Filter by scope.include_export_policies
scope.include_extension	string	query	False	Filter by scope.include_extension
mandatory	boolean	query	False	Filter by mandatory
events.name	string	query	False	Filter by events.name
persistent_store	string	query	False	Filter by persistent_store • Introduced in: 9.14
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Name	Type	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Max value: 120 • Min value: 0 • Default value: 15
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of Records
records	array[fpolicy_policy]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "engine": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "string"
      },
      "events": [
        "event_cifs",
        "event_open"
      ],
      "name": "fp_policy_1",
      "persistent_store": "ps1",
      "priority": 1,
      "privileged_user": "mydomain\\testuser",
      "scope": {
        "exclude_export_policies": [
          "string"
        ],
        "exclude_extension": [
          "string"
        ],
        "exclude_shares": [
          "string"
        ],
        "exclude_volumes": [
          "vol1",
          "vol_svm1",
          "*"
        ],
        "include_export_policies": [
```

```

        "string"
    ],
    "include_extension": [
        "string"
    ],
    "include_shares": [
        "sh1",
        "share_cifs"
    ],
    "include_volumes": [
        "vol1",
        "vol_svm1"
    ]
},
"svm": {
    "uuid": "string"
}
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

fpolicy_engine_reference

FPolicy external engine

Name	Type	Description
_links	_links	
name	string	The name of the FPolicy external engine.

fpolicy_event_reference

FPolicy events

Name	Type	Description
_links	_links	
name	string	

scope

Name	Type	Description
check_extensions_on_directories	boolean	Specifies whether the file name extension checks also apply to directory objects. If this parameter is set to true, the directory objects are subjected to the same extension checks as regular files. If this parameter is set to false, the directory names are not matched for extensions and notifications are sent for directories even if their name extensions do not match. Default is false.
exclude_export_policies	array[string]	
exclude_extension	array[string]	
exclude_shares	array[string]	
exclude_volumes	array[string]	
include_export_policies	array[string]	
include_extension	array[string]	
include_shares	array[string]	
include_volumes	array[string]	
object_monitoring_with_no_extension	boolean	Specifies whether the extension checks also apply to objects with no extension. If this parameter is set to true, all objects with or without extensions are monitored. Default is false.

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_policy

Name	Type	Description
allow_privileged_access	boolean	Specifies whether privileged access is required for FPolicy servers. Privileged access is used when the FPolicy server requires direct access to the cluster nodes. When this parameter is set to true, FPolicy servers can access files on the cluster using a separate data channel with privileged access.
enabled	boolean	Specifies if the policy is enabled on the SVM or not. If no value is mentioned for this field but priority is set, then this policy will be enabled.
engine	fpolicy_engine_reference	FPolicy external engine
events	array[fpolicy_event_reference]	
mandatory	boolean	Specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances.
name	string	Specifies the name of the policy.
passthrough_read	boolean	Specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are files that have been moved to secondary storage.
persistent_store	string	Specifies the persistent storage name. This can then be used to enable persistent mode for FPolicy events.

Name	Type	Description
priority	integer	Specifies the priority that is assigned to this policy.
privileged_user	string	Specifies the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in "domain\username" format.
scope	scope	
svm	svm	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create an FPolicy configuration for an SVM

POST /protocols/fpolicy/{svm.uuid}/policies

Introduced In: 9.6

Creates an FPolicy policy configuration for the specified SVM. To create an FPolicy policy, you must specify the policy scope and the FPolicy events to be monitored.

Important notes:

- A single policy can monitor multiple events.

- An FPolicy engine is an optional field whose default value is set to native. A native engine can be used to simply block the file access based on the file extensions specified in the policy scope.
- To enable a policy, the policy priority must be specified. If the priority is not specified, the policy is created but it is not enabled.
- The "mandatory" field, if set to true, blocks the file access when the primary or secondary FPolicy servers are down.

Required properties

- `svm.uuid` - Existing SVM in which to create the FPolicy policy.
- `events` - Name of the events to monitor.
- `name` - Name of the FPolicy policy.
- `scope` - Scope of the policy. Can be limited to exports, volumes, shares or file extensions.
- `priority` - Priority of the policy (ranging from 1 to 10).

Default property values

- `mandatory` - *true*
- `engine` - *native*

Related ONTAP commands

- `fpolicy policy scope create`
- `fpolicy policy create`
- `fpolicy enable`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/policies](#)

Parameters

Name	Type	In	Required	Description
<code>return_records</code>	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
<code>svm.uuid</code>	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
engine	fpolicy_engine_reference	FPolicy external engine
events	array[fpolicy_event_reference]	
mandatory	boolean	Specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances.
name	string	Specifies the name of the policy.
passthrough_read	boolean	Specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are files that have been moved to secondary storage.
persistent_store	string	Specifies the persistent storage name. This can then be used to enable persistent mode for FPolicy events.
priority	integer	Specifies the priority that is assigned to this policy.
privileged_user	string	Specifies the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in "domain\username" format.
scope	scope	
svm	svm	

Example request

```
{
  "allow_privileged_access": true,
  "enabled": true,
  "engine": {
    "name": "string"
  },
  "events": [
    "event_cifs",
    "event_open"
  ],
  "name": "fp_policy_1",
  "persistent_store": "ps1",
  "priority": 1,
  "privileged_user": "mydomain\\testuser",
  "scope": {
    "exclude_export_policies": [
      "string"
    ],
    "exclude_extension": [
      "string"
    ],
    "exclude_shares": [
      "string"
    ],
    "exclude_volumes": [
      "vol1",
      "vol_svm1",
      "*"
    ],
    "include_export_policies": [
      "string"
    ],
    "include_extension": [
      "string"
    ],
    "include_shares": [
      "sh1",
      "share_cifs"
    ],
    "include_volumes": [
      "vol1",
      "vol_svm1"
    ]
  ]
},
```

```
"svm": {  
  "uuid": "string"  
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of Records
records	array[fpolicy_policy]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "allow_privileged_access": true,
      "enabled": true,
      "engine": {
        "name": "string"
      },
      "events": [
        "event_cifs",
        "event_open"
      ],
      "name": "fp_policy_1",
      "persistent_store": "ps1",
      "priority": 1,
      "privileged_user": "mydomain\\testuser",
      "scope": {
        "exclude_export_policies": [
          "string"
        ],
        "exclude_extension": [
          "string"
        ],
        "exclude_shares": [
          "string"
        ],
        "exclude_volumes": [
          "vol1",
          "vol_svm1",
          "*"
        ],
        "include_export_policies": [
          "string"
        ],
        "include_extension": [
          "string"
        ],
        "include_shares": [
          "sh1",
          "share_cifs"
        ],
        "include_volumes": [
          "vol1",
```

```

        "vol_svm1"
    ],
    },
    "svm": {
        "uuid": "string"
    }
}
]
}

```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
9764875	An FPolicy event does not exist
9764888	An FPolicy engine does not exist
9764898	An FPolicy policy cannot be created without defining its scope
9765027	FPolicy creation is successful but it cannot be enabled as the priority is already in use by another policy
9765037	FPolicy creation failed as passthrough-read cannot be enabled for policy without privileged user
9765038	Passthrough-read policies are not supported with asynchronous external engine
9765056	The specified Persistent Store does not exist
9765059	Persistent Store feature is not supported with native engine
9765060	Persistent Store feature is not supported with synchronous engine
9765061	Persistent Store feature is not supported with mandatory screening

Error Code	Description
9765065	A valid privileged user name must be in the form "domain-name\user-name"
9765066	The privileged user contains characters that are not allowed

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

fpolicy_engine_reference

FPolicy external engine

Name	Type	Description
name	string	The name of the FPolicy external engine.

fpolicy_event_reference

FPolicy events

Name	Type	Description
name	string	

scope

Name	Type	Description
check_extensions_on_directories	boolean	Specifies whether the file name extension checks also apply to directory objects. If this parameter is set to true, the directory objects are subjected to the same extension checks as regular files. If this parameter is set to false, the directory names are not matched for extensions and notifications are sent for directories even if their name extensions do not match. Default is false.
exclude_export_policies	array[string]	
exclude_extension	array[string]	
exclude_shares	array[string]	
exclude_volumes	array[string]	
include_export_policies	array[string]	

Name	Type	Description
include_extension	array[string]	
include_shares	array[string]	
include_volumes	array[string]	
object_monitoring_with_no_extension	boolean	Specifies whether the extension checks also apply to objects with no extension. If this parameter is set to true, all objects with or without extensions are monitored. Default is false.

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_policy

Name	Type	Description
engine	fpolicy_engine_reference	FPolicy external engine
events	array[fpolicy_event_reference]	
mandatory	boolean	Specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances.
name	string	Specifies the name of the policy.
passthrough_read	boolean	Specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are files that have been moved to secondary storage.

Name	Type	Description
persistent_store	string	Specifies the persistent storage name. This can then be used to enable persistent mode for FPolicy events.
priority	integer	Specifies the priority that is assigned to this policy.
privileged_user	string	Specifies the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in "domain\username" format.
scope	scope	
svm	svm	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete an FPolicy configuration for an SVM

DELETE /protocols/fpolicy/{svm.uuid}/policies/{name}

Introduced In: 9.6

Deletes a particular FPolicy policy configuration for a specified SVM. To delete a policy, you must first disable

the policy.

Related ONTAP commands

- `fpolicy policy scope delete`
- `fpolicy policy delete`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/policies](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
9764900	Deletion of a cluster level FPolicy policy is not supported

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an FPolicy configuration for an SVM

GET /protocols/fpolicy/{svm.uuid}/policies/{name}

Introduced In: 9.6

Retrieves a particular FPolicy policy configuration for a specified SVM. Cluster-level FPolicy policy configuration details cannot be retrieved for a data SVM.

Related ONTAP commands

- `fpolicy policy show`
- `fpolicy policy scope show`
- `fpolicy show`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/policies](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
allow_privileged_access	boolean	Specifies whether privileged access is required for FPolicy servers. Privileged access is used when the FPolicy server requires direct access to the cluster nodes. When this parameter is set to true, FPolicy servers can access files on the cluster using a separate data channel with privileged access.
enabled	boolean	Specifies if the policy is enabled on the SVM or not. If no value is mentioned for this field but priority is set, then this policy will be enabled.

Name	Type	Description
engine	fpolicy_engine_reference	FPolicy external engine
events	array[fpolicy_event_reference]	
mandatory	boolean	Specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances.
name	string	Specifies the name of the policy.
passthrough_read	boolean	Specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are files that have been moved to secondary storage.
persistent_store	string	Specifies the persistent storage name. This can then be used to enable persistent mode for FPolicy events.
priority	integer	Specifies the priority that is assigned to this policy.
privileged_user	string	Specifies the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in "domain\username" format.
scope	scope	
svm	svm	

Example response

```
{
  "engine": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "string"
  },
  "events": [
    "event_cifs",
    "event_open"
  ],
  "name": "fp_policy_1",
  "persistent_store": "ps1",
  "priority": 1,
  "privileged_user": "mydomain\\testuser",
  "scope": {
    "exclude_export_policies": [
      "string"
    ],
    "exclude_extension": [
      "string"
    ],
    "exclude_shares": [
      "string"
    ],
    "exclude_volumes": [
      "voll",
      "vol_svm1",
      "*"
    ],
    "include_export_policies": [
      "string"
    ],
    "include_extension": [
      "string"
    ],
    "include_shares": [
      "sh1",
      "share_cifs"
    ],
    "include_volumes": [
      "voll",
```

```
        "vol_svm1"
      ],
    },
    "svm": {
      "uuid": "string"
    }
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

fpolicy_engine_reference

FPolicy external engine

Name	Type	Description
_links	_links	
name	string	The name of the FPolicy external engine.

fpolicy_event_reference

FPolicy events

Name	Type	Description
_links	_links	
name	string	

scope

Name	Type	Description
check_extensions_on_directories	boolean	Specifies whether the file name extension checks also apply to directory objects. If this parameter is set to true, the directory objects are subjected to the same extension checks as regular files. If this parameter is set to false, the directory names are not matched for extensions and notifications are sent for directories even if their name extensions do not match. Default is false.
exclude_export_policies	array[string]	

Name	Type	Description
exclude_extension	array[string]	
exclude_shares	array[string]	
exclude_volumes	array[string]	
include_export_policies	array[string]	
include_extension	array[string]	
include_shares	array[string]	
include_volumes	array[string]	
object_monitoring_with_no_extension	boolean	Specifies whether the extension checks also apply to objects with no extension. If this parameter is set to true, all objects with or without extensions are monitored. Default is false.

svm

Name	Type	Description
uuid	string	SVM UUID

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update an FPolicy configuration for an SVM

PATCH /protocols/fpolicy/{svm.uuid}/policies/{name}

Introduced In: 9.6

Updates a particular FPolicy policy configuration for a specified SVM. PATCH can be used to enable or disable the policy. When enabling a policy, you must specify the policy priority. The policy priority of the policy is not required when disabling the policy. If the policy is enabled, the FPolicy policy cannot be modified.

Related ONTAP commands

- `fpolicy policy modify`
- `fpolicy policy scope modify`
- `fpolicy enable`
- `fpolicy disable`

Learn more

- [DOC /protocols/fpolicy/{svm.uuid}/policies](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
allow_privileged_access	boolean	Specifies whether privileged access is required for FPolicy servers. Privileged access is used when the FPolicy server requires direct access to the cluster nodes. When this parameter is set to true, FPolicy servers can access files on the cluster using a separate data channel with privileged access.
enabled	boolean	Specifies if the policy is enabled on the SVM or not. If no value is mentioned for this field but priority is set, then this policy will be enabled.

Name	Type	Description
engine	fpolicy_engine_reference	FPolicy external engine
events	array[fpolicy_event_reference]	
mandatory	boolean	Specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances.
passthrough_read	boolean	Specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are files that have been moved to secondary storage.
persistent_store	string	Specifies the persistent storage name. This can then be used to enable persistent mode for FPolicy events.
priority	integer	Specifies the priority that is assigned to this policy.
privileged_user	string	Specifies the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in "domain\username" format.
scope	scope	
svm	svm	

Example request

```

{
  "engine": {
    "name": "string"
  },
  "events": [
    "event_cifs",
    "event_open"
  ],
  "persistent_store": "ps1",
  "priority": 1,
  "privileged_user": "mydomain\\testuser",
  "scope": {
    "exclude_export_policies": [
      "string"
    ],
    "exclude_extension": [
      "string"
    ],
    "exclude_shares": [
      "string"
    ],
    "exclude_volumes": [
      "vol1",
      "vol_svm1",
      "*"
    ],
    "include_export_policies": [
      "string"
    ],
    "include_extension": [
      "string"
    ],
    "include_shares": [
      "sh1",
      "share_cifs"
    ],
    "include_volumes": [
      "vol1",
      "vol_svm1"
    ]
  },
  "svm": {
    "uuid": "string"
  }
}

```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
9764875	An FPolicy event does not exist
9764888	An FPolicy engine does not exist
9765026	The priority must be specified when enabling the FPolicy policy
9765025	Cannot disable an FPolicy policy when the priority is specified
9764899	Cannot modify an enabled FPolicy policy
9764899	Deletion of a cluster policy is not supported
9764907	An FPolicy policy is already enabled
9764908	An FPolicy policy is already disabled
9765029	An FPolicy was modified but disable/enable failed as the policy is already disabled/enabled
9765036	Cannot modify an FPolicy policy as passthrough-read policies are not supported without privileged user
9765038	Passthrough-read policies are not supported with an external engine of type "asynchronous"
9765039	Passthrough-read policies are not supported with native engine
9765056	The specified Persistent Store does not exist
9765062	Policy with Persistent Store does not support mandatory screening
9765065	A valid privileged user name must be in the form "domain-name\user-name"
9765066	The privileged user contains characters that are not allowed

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

fpolicy_engine_reference

FPolicy external engine

Name	Type	Description
name	string	The name of the FPolicy external engine.

fpolicy_event_reference

FPolicy events

Name	Type	Description
name	string	

scope

Name	Type	Description
check_extensions_on_directories	boolean	Specifies whether the file name extension checks also apply to directory objects. If this parameter is set to true, the directory objects are subjected to the same extension checks as regular files. If this parameter is set to false, the directory names are not matched for extensions and notifications are sent for directories even if their name extensions do not match. Default is false.
exclude_export_policies	array[string]	
exclude_extension	array[string]	
exclude_shares	array[string]	
exclude_volumes	array[string]	
include_export_policies	array[string]	

Name	Type	Description
include_extension	array[string]	
include_shares	array[string]	
include_volumes	array[string]	
object_monitoring_with_no_extension	boolean	Specifies whether the extension checks also apply to objects with no extension. If this parameter is set to true, all objects with or without extensions are monitored. Default is false.

svm

Name	Type	Description
uuid	string	SVM UUID

fpolicy_policy

Name	Type	Description
allow_privileged_access	boolean	Specifies whether privileged access is required for FPolicy servers. Privileged access is used when the FPolicy server requires direct access to the cluster nodes. When this parameter is set to true, FPolicy servers can access files on the cluster using a separate data channel with privileged access.
enabled	boolean	Specifies if the policy is enabled on the SVM or not. If no value is mentioned for this field but priority is set, then this policy will be enabled.
engine	fpolicy_engine_reference	FPolicy external engine
events	array[fpolicy_event_reference]	

Name	Type	Description
mandatory	boolean	Specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances.
passthrough_read	boolean	Specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are files that have been moved to secondary storage.
persistent_store	string	Specifies the persistent storage name. This can then be used to enable persistent mode for FPolicy events.
priority	integer	Specifies the priority that is assigned to this policy.
privileged_user	string	Specifies the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in "domain\username" format.
scope	scope	
svm	svm	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View lock details

View lock details

Overview

A lock is a synchronization mechanism for enforcing limits on concurrent access to files where many clients can be accessing the same file at the same time. Locks can be viewed or broken according to a wide range of query fields that are presented in the lock information definition.

It is recommended that you provide as many fields as possible to optimize query processing.

Examples

Retrieving locks with all fields for all SVMs

```
# The API:
GET /protocols/locks

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/locks?return_records=true&return_timeout=15&fields=*" -H
"accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "5b4b6847-9ae4-11eb-8597-0050568ec154",
        "name": "vs1"
      },
      "volume": {
        "uuid": "429dcc79-9af2-11eb-b313-0050568ec154",
```

```

    "name": "test_vol1"
  },
  "interface": {
    "name": "vs1.data",
    "uuid": "6bf26e25-9ae4-11eb-8597-0050568ec154",
    "ip": {
      "address": "10.140.115.95"
    }
  },
  "path": "/test_vol1/Demo406.TXT",
  "uuid": "bf03d8b4-e145-498a-902d-b9fe5d546d18",
  "constituent": false,
  "protocol": "cifs",
  "client_address": "10.74.7.22",
  "owner_id": "feff-
02060000000200000002040000000000000000000000ffff0a4a07161053010001000000
0300000006c000000000000000",
  "share_lock": {
    "mode": "read_write_deny_write_delete",
    "soft": false
  },
  "smb": {
    "connect_state": "connected",
    "open_group_id":
"71756e2325a7eb11843f005056a4731c101068450bcdffff1c2c000000000000",
    "open_type": "durable"
  },
  "state": "granted",
  "type": "share_level",
  "node": {
    "name": "user-vs1",
    "uuid": "1f29b875-9ae3-11eb-8597-0050568ec154"
  }
},
{
  "svm": {
    "uuid": "5b4b6847-9ae4-11eb-8597-0050568ec154",
    "name": "vs1"
  },
  "volume": {
    "uuid": "429dcc79-9af2-11eb-b313-0050568ec154",
    "name": "test_vol1"
  },
  "interface": {
    "name": "vs1.data",
    "uuid": "6bf26e25-9ae4-11eb-8597-0050568ec154",

```

```

    "ip": {
      "address": "10.140.115.95"
    },
    "path": "/test_vol1/Demo406.TXT",
    "uuid": "0c33d18d-dcbc-492a-81b3-4c5740c46172",
    "constituent": false,
    "protocol": "cifs",
    "client_address": "10.74.7.22",
    "oplock_level": "batch",
    "owner_id": "feff-
02060000000200000002040000000000000000000000ffff0a4a07161053010001000000
0300000006c0000000000000",
    "smb": {
      "connect_state": "connected",
      "open_group_id":
"71756e2325a7eb11843f005056a4731c101068450bcdffff1c2c000000000000"
    },
    "state": "granted",
    "type": "op_lock",
    "node": {
      "name": "user-vsimg3",
      "uuid": "1f29b875-9ae3-11eb-8597-0050568ec154"
    }
  },
  "num_records": 2
}

```

Retrieving locks of a specific volume

```

# The API:
GET /protocols/locks

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/locks?volume.uuid=429dcc79-
9af2-11eb-b313-
0050568ec154&return_records=true&return_timeout=15&fields=*" -H "accept:
application/json"

# The response:
{

```

```

"records": [
  {
    "svm": {
      "uuid": "5b4b6847-9ae4-11eb-8597-0050568ec154",
      "name": "vs1"
    },
    "volume": {
      "uuid": "429dcc79-9af2-11eb-b313-0050568ec154",
      "name": "test_vol1"
    },
    "interface": {
      "name": "vs1.data",
      "uuid": "6bf26e25-9ae4-11eb-8597-0050568ec154"
    },
    "path": "/test_vol1/Demo408.TXT",
    "uuid": "be1cdf00-37f1-4477-b6d0-bba8c4fa8c67"
  },
  {
    "svm": {
      "uuid": "5b4b6847-9ae4-11eb-8597-0050568ec154",
      "name": "vs1"
    },
    "volume": {
      "uuid": "429dcc79-9af2-11eb-b313-0050568ec154",
      "name": "test_vol1"
    },
    "interface": {
      "name": "vs1.data",
      "uuid": "6bf26e25-9ae4-11eb-8597-0050568ec154"
    },
    "path": "/test_vol1/Demo408.TXT",
    "uuid": "393cc06e-8b37-4f49-b09a-74d1eef79368"
  }
],
"num_records": 2
}

```

Retrieving the lock for a specific UUID

```

# The API:
GET /protocols/locks/{uuid}

```

```
# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/locks/belcdf00-37f1-4477-b6d0-bba8c4fa8c67" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "5b4b6847-9ae4-11eb-8597-0050568ec154",
    "name": "vs1"
  },
  "volume": {
    "uuid": "429dcc79-9af2-11eb-b313-0050568ec154",
    "name": "test_vol1"
  },
  "interface": {
    "name": "vs1.data",
    "uuid": "6bf26e25-9ae4-11eb-8597-0050568ec154",
    "ip": {
      "address": "10.140.115.95"
    }
  },
  "path": "/test_vol1/Demo406.TXT",
  "uuid": "belcdf00-37f1-4477-b6d0-bba8c4fa8c67",
  "constituent": false,
  "protocol": "cifs",
  "client_address": "10.74.7.22",
  "owner_id": "feff-
02060000000200000002040000000000000000000000ffff0a4a07161053010001000000
030000006c00000000000000",
  "share_lock": {
    "mode": "read_write_deny_write_delete",
    "soft": false
  },
  "smb": {
    "connect_state": "connected",
    "open_group_id":
"71756e2325a7eb11843f005056a4731c101068450bcdffff1c2c000000000000",
    "open_type": "durable"
  },
  "state": "granted",
  "type": "share_level",
  "node": {
    "name": "user-vs1m3",
    "uuid": "1f29b875-9ae3-11eb-8597-0050568ec154"
  }
}
```

Deleting the lock for a specific UUID

```
# The API:
DELETE /protocols/locks/{uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/locks/be1cdf00-37f1-4477-b6d0-bba8c4fa8c67" -H "accept: application/json"
```

Deleting all locks for a specific protocol

```
# The API:
DELETE /protocols/locks/{uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/locks?protocol=cifs" -H "accept: application/json"
```

Retrieve lock details

GET /protocols/locks

Introduced In: 9.10

Retrieves locks details.

Related ONTAP commands

- `vserver locks show`

Parameters

Name	Type	In	Required	Description
volume.name	string	query	False	Filter by volume.name
volume.uuid	string	query	False	Filter by volume.uuid
constituent	boolean	query	False	Filter by constituent

Name	Type	In	Required	Description
uuid	string	query	False	Filter by uuid
protocol	string	query	False	Filter by protocol
smb.connect_state	string	query	False	Filter by smb.connect_state
smb.open_type	string	query	False	Filter by smb.open_type
smb.open_group_id	string	query	False	Filter by smb.open_group_id
share_lock.mode	string	query	False	Filter by share_lock.mode
share_lock.soft	boolean	query	False	Filter by share_lock.soft
byte_lock.super	boolean	query	False	Filter by byte_lock.super
byte_lock.mandatory	boolean	query	False	Filter by byte_lock.mandatory
byte_lock.offset	integer	query	False	Filter by byte_lock.offset
byte_lock.soft	boolean	query	False	Filter by byte_lock.soft
byte_lock.exclusive	boolean	query	False	Filter by byte_lock.exclusive
byte_lock.length	integer	query	False	Filter by byte_lock.length
interface.ip.address	string	query	False	Filter by interface.ip.address
interface.name	string	query	False	Filter by interface.name
interface.uuid	string	query	False	Filter by interface.uuid

Name	Type	In	Required	Description
state	string	query	False	Filter by state
client_address	string	query	False	Filter by client_address
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
type	string	query	False	Filter by type
path	string	query	False	Filter by path
delegation	string	query	False	Filter by delegation
oplock_level	string	query	False	Filter by oplock_level
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
owner_id	string	query	False	Filter by owner_id
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc
desc] direction. Default direction is 'asc' for ascending.	fields	array[string]	query	False

Response

Status: 200, Ok

Name	Type	Description
_links	collection_links	
num_records	integer	Number of records.
records	array[client_lock]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "byte_lock": {
        "length": "10",
        "offset": "100"
      },
      "client_address": "0.0.0.0",
      "delegation": "string",
      "interface": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "ip": {
          "address": "10.10.10.7"
        },
        "name": "lif1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "oplock_level": "string",
      "owner_id": "string",
      "path": "string",
      "protocol": "string",
      "share_lock": {
```

```

    "mode": "string"
  },
  "smb": {
    "connect_state": "string",
    "open_group_id": "string",
    "open_type": "string"
  },
  "state": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "string",
  "uuid": "ceeac1b4-8646-4c76-a054-1c96e87594aa",
  "volume": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  }
}
]
}

```

Error

Status: Default, Unexpected error_response

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

collection_links

Name	Type	Description
next	href	
self	href	

byte_lock

Name	Type	Description
exclusive	boolean	Indicates whether it is an exclusive bytelock.
length	integer	Length of the bytelock starting from the offset.
mandatory	boolean	Indicates whether or not the bytelock is mandatory.
offset	integer	Starting offset for a bytelock.
soft	boolean	Indicates whether it is a soft bytelock.
super	boolean	Indicates whether it is a super bytelock.

_links

Name	Type	Description
self	href	

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

interface

A network interface. Either UUID or name may be supplied on input.

Name	Type	Description
_links	_links	
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

share_lock

Name	Type	Description
mode	string	Types of share lock modes.
soft	boolean	Indicates whether it is a soft share lock.

smb

Name	Type	Description
connect_state	string	SMB connection state.
open_group_id	string	SMB open group ID.
open_type	string	SMB open type.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume. This field cannot be specified in a PATCH method.
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

client_lock

This object represents locks on a volume.

Name	Type	Description
byte_lock	byte_lock	
client_address	string	IP address of the client holding the lock.
constituent	boolean	Indicate if volume is constituent or not.
delegation	string	Type of delegation.

Name	Type	Description
interface	interface	A network interface. Either UUID or name may be supplied on input.
node	node	
oplock_level	string	The oplock level determines which operations the client may cache locally.
owner_id	string	Owner ID.
path	string	Object path
protocol	string	Type of lock protocol.
share_lock	share_lock	
smb	smb	
state	string	State of lock.
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	Type of lock.
uuid	string	Lock UUID
volume	volume	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Type	Description
message	string	Error message
target	string	The target parameter that caused the error.

Delete locks for a parameter

DELETE /protocols/locks/{uuid}

Introduced In: 9.10

Deletes locks of given parameter.

Related ONTAP commands

- `vserver locks break`

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Lock ID

Response

Status: 200, Ok

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve the lock for a specific UUID

GET /protocols/locks/{uuid}

Introduced In: 9.10

Retrieves the lock for a specific UUID.

Related ONTAP commands

- `vserver locks show`

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Lock ID
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
byte_lock	byte_lock	
client_address	string	IP address of the client holding the lock.
constituent	boolean	Indicate if volume is constituent or not.
delegation	string	Type of delegation.
interface	interface	A network interface. Either UUID or name may be supplied on input.
node	node	
oplock_level	string	The oplock level determines which operations the client may cache locally.
owner_id	string	Owner ID.
path	string	Object path
protocol	string	Type of lock protocol.

Name	Type	Description
share_lock	share_lock	
smb	smb	
state	string	State of lock.
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	Type of lock.
uuid	string	Lock UUID
volume	volume	

Example response

```
{
  "byte_lock": {
    "length": "10",
    "offset": "100"
  },
  "client_address": "0.0.0.0",
  "delegation": "string",
  "interface": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "ip": {
      "address": "10.10.10.7"
    },
    "name": "lif1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "oplock_level": "string",
  "owner_id": "string",
  "path": "string",
  "protocol": "string",
  "share_lock": {
    "mode": "string"
  },
  "smb": {
    "connect_state": "string",
    "open_group_id": "string",
    "open_type": "string"
  },
  "state": "string",
  "svm": {
    "_links": {
      "self": {
```

```

        "href": "/api/resourcelink"
      },
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "string",
  "uuid": "ceeac1b4-8646-4c76-a054-1c96e87594aa",
  "volume": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  }
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```

{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```


See Definitions

byte_lock

Name	Type	Description
exclusive	boolean	Indicates whether it is an exclusive bytelock.
length	integer	Length of the bytelock starting from the offset.
mandatory	boolean	Indicates whether or not the bytelock is mandatory.
offset	integer	Starting offset for a bytelock.
soft	boolean	Indicates whether it is a soft bytelock.
super	boolean	Indicates whether it is a super bytelock.

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

interface

A network interface. Either UUID or name may be supplied on input.

Name	Type	Description
_links	_links	

Name	Type	Description
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

share_lock

Name	Type	Description
mode	string	Types of share lock modes.
soft	boolean	Indicates whether it is a soft share lock.

smb

Name	Type	Description
connect_state	string	SMB connection state.
open_group_id	string	SMB open group ID.
open_type	string	SMB open type.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume. This field cannot be specified in a PATCH method.
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

View NFS client information

View NFS client information

Overview

ONTAP connected clients map functionality is mainly used by the System Manager to display client information.

The following are details of the fields retrieved for the Connected Clients MAP GET API:

node.name: Node name hosting this record, essentially the node hosting the "server_ip". node.uuid: Node UUID hosting this record, essentially the node hosting the "server_ip". svm.name: SVM name to which the "server_ip" belongs to. svm.uuid: SVM UUID to which the "server_ip" belongs to. server_ip: All clients that are connected to this interface are displayed in rows. client_ips: List of client IP addresses connected to the interface.

Example

Retrieving connected client Map information

```
# The API:
GET /protocols/nfs/connected-client-maps

# The call:
curl -X GET "https://<cluster-mgmt-ip>/api/protocols/nfs/connected-client-maps?return_timeout=15&return_records=true" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "c642db55-b8d0-11e9-9ad1-0050568e8480",
        "name": "vs1"
      },
      "node": {
        "uuid": "cc282893-b82f-11e9-a3ad-0050568e8480",
        "name": "vsim1"
      },
      "server_ip": "10.140.72.214",
      "client_ips": [
        "127.0.0.1"
      ]
    }
  ],
  "num_records": 1
}
```

Retrieve NFS client information

GET /protocols/nfs/connected-client-maps

Introduced In: 9.11

Retrieves NFS clients information.

Parameters

Name	Type	In	Required	Description
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
client_ips	string	query	False	Filter by client_ips
server_ip	string	query	False	Filter by server_ip

Name	Type	In	Required	Description
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[nfs_clients_map]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "client_ips": [
        "127.0.0.1"
      ],
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "server_ip": "string",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```


Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

nfs_clients_map

Name	Type	Description
_links	_links	

Name	Type	Description
client_ips	array[string]	Specifies the IP address of the client.
node	node	
server_ip	string	Specifies the IP address of the server.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View and update NFS client settings

View and update NFS client settings

Overview

This cluster-wide API is used to set the maximum cache idle time (`client_retention_interval`) for the connected-clients cache. If a client connected to NFS server is idle for longer than the maximum cache idle time, the entry will be removed. The `update_interval` value will change when the `client_retention_interval` is changed. The update interval represents the interval between the cleaning happens. If the value of `client_retention_interval` is set to 60hrs the connected client entry will stay there for 60 hours and after that it will get removed. If the value of `update_interval` is 8 hours then the cache will be refreshed once every 8 hours.

Example

Retrieves connected-client cache settings information

```
# The API:
GET /api/protocols/nfs/connected-client-settings

# The call:
curl -X GET "https://<cluster-mgmt-ip>/api/protocols/nfs/connected-client-
settings?return_timeout=15&return_records=true" -H "accept:
application/json"

# The response:
{
  "client_retention_interval": "P7D",
  "update_interval": "PT8H"
}
```

Updating connected-client cache settings

```
# The API:
PATCH /api/protocols/nfs/connected-client-settings

# The call:
curl -d "@test_cache_settings_patch.txt" -X PATCH "https://<mgmt-
ip>/api/protocols/nfs/connected-client-settings"
test_cache_settings_patch.txt (body):
{
  "client_retention_interval": "P7D"
}
```

Retrieve the NFS connected-client cache settings for a cluster

GET /protocols/nfs/connected-client-settings

Introduced In: 9.12

Retrieves the NFS connected-client cache settings of the cluster.

Parameters

Name	Type	In	Required	Description
client_retention_inter val	string	query	False	Filter by client_retention_inte rval

Name	Type	In	Required	Description
update_interval	string	query	False	Filter by update_interval
enable_nfs_clients_deletion	boolean	query	False	Filter by enable_nfs_clients_deletion
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
client_retention_interval	string	The lifetime range of the connected-clients cache. Only intervals in multiples of 12 hours or its equivalent in days, minutes or seconds are supported. The minimum is 12 hours and the maximum is 168 hours or 7 days.
enable_nfs_clients_deletion	boolean	Specifies whether or not NFS Clients deletion is enabled for the connected-clients cache. When set to "true", connected-clients entries are deleted when a connection is closed.
update_interval	string	The time interval between refreshing the connected-clients cache. The minimum is 1 hour and the maximum is 8 hours.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "client_retention_interval": "string",
  "update_interval": "string"
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update NFS connected-client cache settings properties

PATCH /protocols/nfs/connected-client-settings

Introduced In: 9.12

Updates the properties of the NFS connected-client cache settings.

Request Body

Name	Type	Description
client_retention_interval	string	The lifetime range of the connected-clients cache. Only intervals in multiples of 12 hours or its equivalent in days, minutes or seconds are supported. The minimum is 12 hours and the maximum is 168 hours or 7 days.
enable_nfs_clients_deletion	boolean	Specifies whether or not NFS Clients deletion is enabled for the connected-clients cache. When set to "true", connected-clients entries are deleted when a connection is closed.
update_interval	string	The time interval between refreshing the connected-clients cache. The minimum is 1 hour and the maximum is 8 hours.

Example request

```
{
  "client_retention_interval": "string",
  "update_interval": "string"
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
3277172	The value for "client_retention_interval" must be between 12 and 168 hours or its equivalent in days, minutes or seconds.

Error Code	Description
3277170	The "client_retention_interval" must be set to a value which is a multiple of 12 hours or to its equivalent in days, minutes or seconds.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

nfs_clients_cache

Name	Type	Description
client_retention_interval	string	The lifetime range of the connected-clients cache. Only intervals in multiples of 12 hours or its equivalent in days, minutes or seconds are supported. The minimum is 12 hours and the maximum is 168 hours or 7 days.
enable_nfs_clients_deletion	boolean	Specifies whether or not NFS Clients deletion is enabled for the connected-clients cache. When set to "true", connected-clients entries are deleted when a connection is closed.
update_interval	string	The time interval between refreshing the connected-clients cache. The minimum is 1 hour and the maximum is 8 hours.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Type	Description
message	string	Error message
target	string	The target parameter that caused the error.

View NFS connected clients

View NFS connected clients

Overview

ONTAP connected clients show functionality is mainly used to provide a list of currently connected NFS clients. It also provides a potential list of other NFS clients that can be connected but are currently idle and a list of recently unmounted clients. If a client connected to the NFS server is idle for longer than the maximum cache idle time, then the entry will be removed. By default, the maximum cache idle time is 48 hours.

The following are details of the fields retrieved for the Connected Clients GET API:

node.name: The node name hosting this record; basically the node hosting the "server_ip". node.uuid: The node UUID hosting this record; basically the node hosting the "server_ip". svm.name: The svm name to which the "server_ip" belongs to. svm.uuid: The svm uuid to which the "server_ip" belongs to. server_ip: All clients that are connected to this interface are displayed in rows. client_ip: The IP address of the client that is connected to the interface. volume.name: The name of the volume the client is accessing. volume.uuid: The UUID of the volume the client is accessing. This field is expensive field and will be fetched in advance privilege level. protocol: The NFS protocol version over which client is accessing the volume. export_policy.id: The export policy ID associated with the volume. export_policy.name: The export policy name associated with the volume. idle_duration: The time elapsed since the last request was sent by the client for this volume. local_request_count: A counter that tracks requests that are sent to the volume with fast-path to local node. remote_request_count: A counter that tracks requests that are sent to the volume with slow-path to remote node. trunking_enabled: Flag that indicates the trunking status for the specified SVM connection. True indicates that the trunking feature is enabled while false indicates that the trunking feature is disabled.

Related CLI command

The CLI command for ONTAP connected clients is: "nfs connected-clients show" cluster-1::*> nfs connected-clients show Node: node1 Vserver: vs1 Data-lp: xxx.xxx.xxx.xxx Local Remote Client-lp Protocol Volume Policy Idle-Time Reqs Reqs Trunking -----

```
xxx.xxx.xxx.xxx nfs4.1 root_vol pol1 6s 9 0 false xxx.xxx.xxx.xxx nfs3 vol1 pol1 56s 7 0 false xxx.xxx.xxx.xxx
nfs4.1 vol1 pol1 6s 7 0 false 3 entries were displayed.
```

Example

Retrieves connected client information

```
# The API:
```

```
GET /protocols/nfs/connected-clients
```

```
# The call:
```

```
curl -X GET "https://<cluster-mgmt-ip>/api/protocols/nfs/connected-clients?return_timeout=15&return_records=true" -H "accept: application/json"
```

```
# The response:
```

```
{
  "records": [
    {
      "svm": {
        "uuid": "c642db55-b8d0-11e9-9ad1-0050568e8480",
        "name": "vs1"
      },
      "node": {
        "uuid": "cc282893-b82f-11e9-a3ad-0050568e8480",
        "name": "vsim1"
      },
      "server_ip": "10.140.72.214",
      "client_ip": "10.140.137.57",
      "volume": {
        "name": "rvol1",
        "uuid": "c6bbc6f2-b8d0-11e9-9ad1-0050568e8480"
      },
      "protocol": "nfs4"
    },
    {
      "svm": {
        "uuid": "c642db55-b8d0-11e9-9ad1-0050568e8480",
        "name": "vs1"
      },
      "node": {
        "uuid": "cc282893-b82f-11e9-a3ad-0050568e8480",
        "name": "vsim1"
      },
      "server_ip": "10.140.72.214",
      "client_ip": "10.140.137.57",
      "volume": {
        "name": "vol1",
        "uuid": "d28d1999-b8d0-11e9-9ad1-0050568e8480"
      },
      "protocol": "nfs3"
    },
    {
      "svm": {
```

```

    "uuid": "c642db55-b8d0-11e9-9ad1-0050568e8480",
    "name": "vs1"
  },
  "node": {
    "uuid": "cc282893-b82f-11e9-a3ad-0050568e8480",
    "name": "vsim1"
  },
  "server_ip": "10.140.72.214",
  "client_ip": "10.140.137.57",
  "volume": {
    "name": "vol1",
    "uuid": "d28d1999-b8d0-11e9-9ad1-0050568e8480"
  },
  "protocol": "nfs4"
}],
"num_records": 3
}

```

Retrieve the NFS configuration for an SVM

GET /protocols/nfs/connected-clients

Introduced In: 9.7

Retrieves the NFS configuration of SVMs.

Expensive properties

export_policy.id is expensive field. It is not included by default in GET results and must be explicitly requested using the `fields` query parameter. See [Requesting specific fields](#) to learn more.

- export_policy.id

Parameters

Name	Type	In	Required	Description
volume.name	string	query	False	Filter by volume.name
volume.uuid	string	query	False	Filter by volume.uuid
client_ip	string	query	False	Filter by client_ip

Name	Type	In	Required	Description
trunking_enabled	boolean	query	False	Filter by trunking_enabled Introduced in: 9.12
protocol	string	query	False	Filter by protocol
export_policy.name	string	query	False	Filter by export_policy.name Introduced in: 9.9
export_policy.id	integer	query	False	Filter by export_policy.id Introduced in: 9.9
idle_duration	string	query	False	Filter by idle_duration
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
server_ip	string	query	False	Filter by server_ip
remote_request_count	integer	query	False	Filter by remote_request_count
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
local_request_count	integer	query	False	Filter by local_request_count
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[nfs_clients]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "client_ip": "string",
      "export_policy": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "id": 100,
        "name": "default"
      },
      "idle_duration": "P4DT84H30M5S",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "protocol": "nfs3",
      "server_ip": "string",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    }
  ]
}
```



```

    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "volume": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  }
}
]
}

```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
917887	The first character of the volume name must be a letter or underscore.
917888	Invalid character in volume name. It can have '_' and alphanumeric characters.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

export_policy

Export Policy

Name	Type	Description
_links	_links	
id	integer	
name	string	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume. This field cannot be specified in a PATCH method.
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 • x-nullable: true

nfs_clients

Name	Type	Description
_links	_links	
client_ip	string	Specifies IP address of the client.
export_policy	export_policy	Export Policy
idle_duration	string	Specifies an ISO-8601 format of date and time to retrieve the idle time duration in hours, minutes, and seconds format.
local_request_count	integer	A counter that tracks requests that are sent to the volume with fast-path to local node.
node	node	

Name	Type	Description
protocol	string	The NFS protocol version over which client is accessing the volume. The following values are supported: • nfs - All NFS versions are considered • nfs3 - NFS version 3 protocol • nfs4 - NFS version 4 protocol • nfs4.1 - NFS version 4 minor version 1 protocol • nfs4.2 - NFS version 4 minor version 2 protocol
remote_request_count	integer	A counter that tracks requests that are sent to the volume with slow-path to remote node.
server_ip	string	Specifies the IP address of the server.
svm	svm	SVM, applies only to SVM-scoped objects.
trunking_enabled	boolean	Flag that indicates the trunking status for the specified SVM connection. True indicates that the trunking feature is enabled while false indicates that the trunking feature is disabled.
volume	volume	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments

Name	Type	Description
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage NFS export policies

Manage NFS export policies

Export Policies

1) Retrieve the export policy details

NOTE: This is used to read in the whole policy.

```
# The API:
GET /api/protocols/nfs/export-policies

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/nfs/export-policies"
```

2) Create an export policy for an SVM

```
# The API:
POST /api/protocols/nfs/export-policies

# The call:
curl -d "@test_post_policy_single_rule.txt" -X POST "https://<mgmt-ip>/api/protocols/nfs/export-policies"
test_post_policy_single_rule.txt (body):
{
  "name": "P1",
  "rules": [
    {
      "clients": [
```

```
{
  {
    "match": "host1"
  }
],
"ro_rule": [
  "krb5"
],
"rw_rule": [
  "ntlm"
],
"anonymous_user": "anon1",
"chown_mode": "restricted",
"allow_suid": true
},
{
  "clients": [
    {
      "match": "host2"
    }
  ],
  "ro_rule": [
    "sys"
  ],
  "rw_rule": [
    "ntlm"
  ],
  "superuser": [
    "any"
  ],
  "allow_device_creation": true,
  "ntfs_unix_security": "fail"
}
]
```

3) Update an export policy for an SVM

NOTE: This is used to either update the policy name or update all of the rules at once in an existing export policy.

```
# The API:
PATCH /api/protocols/nfs/export-policies/{policy.id}

# The call:
curl -d "@test_patch_policy.txt" -X PATCH "https://<mgmt-
ip>/api/protocols/nfs/export-policies/8589934594"
test_patch_policy.txt (body):
{
  "name": "S1",
  "rules": [
    {
      "clients": [
        {
          "match": "host4"
        }
      ],
      "ro_rule": [
        "krb5"
      ],
      "rw_rule": [
        "ntlm"
      ]
    }
  ]
}
```

4) Delete an export policy for an SVM

```
# The API:
DELETE /api/protocols/nfs/export-policies/{policy.id}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/nfs/export-
policies/8589934594"
```

Export Rules

1) Retrieve the export policy rule details for an export policy

```
# The API:
GET /api/protocols/nfs/export-policies/{policy.id}/rules

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/nfs/export-
policies/8589934595/rules"
```

2) Create an export policy rule for an export policy

NOTE: This is used to add a single new rule to an existing export policy.

```
# The API:
POST /api/protocols/nfs/export-policies/{policy.id}/rules

# The call:
curl -d "@test_patch_export_rule.txt" -X POST "https://<mgmt-
ip>/api/protocols/nfs/export-policies/8589934595/rules"
test_patch_export_rule.txt (body) :
{
  "clients": [
    {
      "match": "host2"
    }
  ],
  "ro_rule": [
    "sys"
  ],
  "rw_rule": [
    "ntlm"
  ]
}
```

3) Update an export policy rule for an export policy

NOTE: This is used to edit an existing single rule in an existing export policy.

```
# The API:
PATCH /api/protocols/nfs/export-policies/{policy.id}/rules/{index}

# The call:
curl -d "@test_patch_export_rule.txt" -X PATCH "https://<mgmt-
ip>/api/protocols/nfs/export-policies/8589934595/rules/5?new_index=10"
test_patch_export_rule.txt(body):
{
  "clients": [
    {
      "match": "host4"
    }
  ],
  "ro_rule": [
    "sys"
  ],
  "rw_rule": [
    "krb5"
  ]
}
```

4) Delete an export policy rule for an export policy

```
# The API:
DELETE /api/protocols/nfs/export-policies/{policy.id}/rules/{index}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/nfs/export-
policies/8589934595/rules/15"
```

Export Clients

1) Retrieve the export client matches of an export policy rule

```
# The API:
GET /api/protocols/nfs/export-policies/{policy.id}/rules/{index}/clients

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/nfs/export-
policies/8589934593/rules/2/clients"
```

2) Add an export client match to an export policy rule

```
# The API:
POST /api/protocols/nfs/export-policies/{policy.id}/rules/{index}/clients

# The call:
curl -d "@add_client_match.txt" -X POST "https://<mgmt-
ip>/api/protocols/nfs/export-policies/8589934593/rules/1/clients"
add_client_match.txt (body):
{
  "match" : "host4"
}
```

3) Delete an export client match from an export policy rule

```
# The API:
DELETE /api/protocols/nfs/export-
policies/{policy.id}/rules/{index}/clients/{match}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/nfs/export-
policies/8589934593/rules/1/clients/host1,host2"
```

Retrieve export policies

GET /protocols/nfs/export-policies

Introduced In: 9.6

Retrieves export policies.

Related ONTAP commands

- `vserver export-policy show`
- `vserver export-policy rule show`

Learn more

- [DOC /protocols/nfs/export-policies](#)



`are_rules_truncated` is set to 'true' if the total number of export-policy rules is greater than 500. If set to 'true', rules after 500 will be truncated. Use `GET /api/protocols/nfs/export-policies/{id}/rules` to retrieve all rules for truncated policies.

Parameters

Name	Type	In	Required	Description
id	integer	query	False	Filter by id
are_rules_truncated	boolean	query	False	Filter by are_rules_truncated • Introduced in: 9.18
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
name	string	query	False	Filter by name • maxLength: 256
rules.index	integer	query	False	Filter by rules.index
rules.clients.match	string	query	False	Filter by rules.clients.match
rules.chown_mode	string	query	False	Filter by rules.chown_mode • Introduced in: 9.9

Name	Type	In	Required	Description
rules.ntfs_unix_security	string	query	False	Filter by rules.ntfs_unix_security • Introduced in: 9.9
rules.allow_suid	boolean	query	False	Filter by rules.allow_suid • Introduced in: 9.9
rules.superuser	string	query	False	Filter by rules.superuser
rules.ro_rule	string	query	False	Filter by rules.ro_rule
rules.protocols	string	query	False	Filter by rules.protocols
rules.anonymous_user	string	query	False	Filter by rules.anonymous_user
rules.allow_device_creation	boolean	query	False	Filter by rules.allow_device_creation • Introduced in: 9.9
rules.rw_rule	string	query	False	Filter by rules.rw_rule
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	The number of export policy records
records	array[export_policy]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "id": 0,
      "name": "string",
      "rules": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "anonymous_user": "string",
          "chown_mode": "string",
          "clients": [
            {
              "match": "0.0.0.0/0"
            }
          ],
          "ntfs_unix_security": "string",
          "protocols": [
            "string"
          ],
          "ro_rule": [
            "string"
          ],
          "rw_rule": [
            "string"
          ],
          "superuser": [
```

```

        "string"
    ]
}
],
"svm": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}
]
}

```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262197	The value provided is invalid for the field
2621462	The specified SVM name does not exist
2621519	SVM name is invalid. The SVM name must begin with a letter or an underscore. If the SVM is of type "sync-source", the maximum supported length is 41. Otherwise, the maximum supported length is 47
2621643	The specified SVM name is too long
2621685	SVM name length cannot be zero
2621706	The specified SVM UUID is incorrect for the specified SVM name
6691623	User is not authorized

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

export_clients

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com

export_rules

Name	Type	Description
_links	_links	
allow_device_creation	boolean	Specifies whether or not device creation is allowed.
allow_suid	boolean	Specifies whether or not SetUID bits in SETATTR Op is to be honored.
anonymous_user	string	User ID To Which Anonymous Users Are Mapped.

Name	Type	Description
chown_mode	string	Specifies who is authorized to change the ownership mode of a file.
clients	array[export_clients]	Array of client matches
index	integer	Index of the rule within the export policy.
ntfs_unix_security	string	NTFS export UNIX security options.
protocols	array[string]	
ro_rule	array[string]	Authentication flavors that the read-only access rule governs
rw_rule	array[string]	Authentication flavors that the read/write access rule governs
superuser	array[string]	Authentication flavors that the superuser security type governs

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

export_policy

Name	Type	Description
_links	_links	
are_rules_truncated	boolean	Indicates whether or not export-policy rules are truncated.

Name	Type	Description
id	integer	Export Policy ID
name	string	Export Policy Name
rules	array[export_rules]	Rules of the Export Policy.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create an export policy

POST /protocols/nfs/export-policies

Introduced In: 9.6

Creates an export policy. An SVM can have any number of export policies to define rules for which clients can access data exported by the SVM. A policy with no rules prohibits access.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create an export policy.
- `name` - Name of the export policy.

Recommended optional properties

- `rules` - Rule(s) of an export policy. Used to create the export rule and populate the export policy with export rules in a single request.
- `rules[].index` - If you specify an index number that already matches a rule, the index number of the existing rule is incremented, as are the index numbers of all subsequent rules, either to the end of the list or to an open space in the list. If you do not specify an index number, the new rule is placed at the end of the policy's list.

Related ONTAP commands

- `vserver export-policy create`
- `vserver export-policy rule create`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
are_rules_truncated	boolean	Indicates whether or not export-policy rules are truncated.
id	integer	Export Policy ID
name	string	Export Policy Name
rules	array[export_rules]	Rules of the Export Policy.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "id": 0,
  "name": "string",
  "rules": [
    {
      "anonymous_user": "string",
      "chown_mode": "string",
      "clients": [
        {
          "match": "0.0.0.0/0"
        }
      ],
      "ntfs_unix_security": "string",
      "protocols": [
        "string"
      ],
      "ro_rule": [
        "string"
      ],
      "rw_rule": [
        "string"
      ],
      "superuser": [
        "string"
      ]
    }
  ],
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	The number of export policy records

Name	Type	Description
records	array[export_policy]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "id": 0,
      "name": "string",
      "rules": [
        {
          "anonymous_user": "string",
          "chown_mode": "string",
          "clients": [
            {
              "match": "0.0.0.0/0"
            }
          ],
          "ntfs_unix_security": "string",
          "protocols": [
            "string"
          ],
          "ro_rule": [
            "string"
          ],
          "rw_rule": [
            "string"
          ],
          "superuser": [
            "string"
          ]
        }
      ],
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```


Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1703952	Invalid ruleset name provided. No spaces allowed in a ruleset name
1703954	Export policy does not exist
1704036	Invalid clientmatch: missing domain name
1704037	Invalid clientmatch: missing network name
1704038	Invalid clientmatch: missing netgroup name
1704039	Invalid clientmatch
1704040	Invalid clientmatch: address bytes masked out by netmask are non-zero
1704041	Invalid clientmatch: address bytes masked to zero by netmask
1704042	Invalid clientmatch: too many bits in netmask
1704043	Invalid clientmatch: invalid netmask
1704044	Invalid clientmatch: invalid characters in host name
1704045	Invalid clientmatch: invalid characters in domain name
1704047	The export policy name cannot be longer than 256 characters
1704049	Invalid clientmatch: clientmatch lists require an effective cluster version of Data ONTAP 9.0 or later. Upgrade all nodes to Data ONTAP 9.0 or above to use features that operate on lists of clientmatch strings in export-policy rules
1704050	Invalid clientmatch: clientmatch list contains a duplicate string. Duplicate strings in a clientmatch list are not supported
1704054	Invalid clientmatch: invalid characters in netgroup name. Valid characters for a netgroup name are 0-9, A-Z, a-z, ".", "_" and "-"

Error Code	Description
1704055	Export policies are only supported for data Vservers
1704064	Clientmatch host name too long
1704065	Clientmatch domain name too long
1704071	The export policy was not created because of duplicate export policy rules present in the request
2621462	The specified SVM name does not exist
2621519	SVM name is invalid. The SVM name must begin with a letter or an underscore. If the SVM is of type "sync-source", the maximum supported length is 41. Otherwise, the maximum supported length is 47
2621643	The specified SVM name is too long
2621685	SVM name length cannot be zero
2621706	The specified SVM UUID is incorrect for the specified SVM name
3277000	Upgrade all nodes to ONTAP 9.0.0 or above to use krb5p as a security flavor in export-policy rules
3277083	User ID is not valid. Enter a value for User ID from 0 to 4294967295
3277149	The "Anon" field cannot be an empty string
6691623	User is not authorized

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

export_clients

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com

export_rules

Name	Type	Description
allow_device_creation	boolean	Specifies whether or not device creation is allowed.
allow_suid	boolean	Specifies whether or not SetUID bits in SETATTR Op is to be honored.
anonymous_user	string	User ID To Which Anonymous Users Are Mapped.
chown_mode	string	Specifies who is authorized to change the ownership mode of a file.
clients	array[export_clients]	Array of client matches
index	integer	Index of the rule within the export policy.
ntfs_unix_security	string	NTFS export UNIX security options.
protocols	array[string]	
ro_rule	array[string]	Authentication flavors that the read-only access rule governs
rw_rule	array[string]	Authentication flavors that the read/write access rule governs
superuser	array[string]	Authentication flavors that the superuser security type governs

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

export_policy

Name	Type	Description
are_rules_truncated	boolean	Indicates whether or not export-policy rules are truncated.
id	integer	Export Policy ID
name	string	Export Policy Name
rules	array[export_rules]	Rules of the Export Policy.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete an export policy

DELETE /protocols/nfs/export-policies/{id}

Introduced In: 9.6

Deletes an export policy.

Related ONTAP commands

- `vserver export-policy delete`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
id	integer	path	True	Export Policy ID

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1703944	Failed to delete rule
1703945	Ruleset is in use by a volume. It cannot be deleted until all volumes that refer to it are first deleted
1703946	Cannot determine if the ruleset is in use by a volume. It cannot be deleted until all volumes that refer to it are first deleted
1703947	Cannot delete default ruleset. This ruleset will be deleted when the owning Vserver is deleted
1703952	Invalid ruleset name provided. No spaces are allowed in a ruleset name
1703953	This ruleset is in use by a qtree export policy. It cannot be deleted until all qtree policies that refer to it are first deleted
1704047	The export policy name cannot be longer than 256 characters

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an export policy

GET /protocols/nfs/export-policies/{id}

Introduced In: 9.6

Retrieves an export policy.

Related ONTAP commands

- `vserver export-policy show`
- `vserver export-policy rule show`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
id	integer	path	True	Export Policy ID
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
are_rules_truncated	boolean	Indicates whether or not export-policy rules are truncated.
id	integer	Export Policy ID
name	string	Export Policy Name
rules	array[export_rules]	Rules of the Export Policy.
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "id": 0,
  "name": "string",
  "rules": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "anonymous_user": "string",
      "chown_mode": "string",
      "clients": [
        {
          "match": "0.0.0.0/0"
        }
      ],
      "ntfs_unix_security": "string",
      "protocols": [
        "string"
      ],
      "ro_rule": [
        "string"
      ],
      "rw_rule": [
        "string"
      ],
      "superuser": [
        "string"
      ]
    }
  ],
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "name": "svm1",
}
```

```
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

export_clients

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com

export_rules

Name	Type	Description
_links	_links	
allow_device_creation	boolean	Specifies whether or not device creation is allowed.
allow_suid	boolean	Specifies whether or not SetUID bits in SETATTR Op is to be honored.
anonymous_user	string	User ID To Which Anonymous Users Are Mapped.
chown_mode	string	Specifies who is authorized to change the ownership mode of a file.
clients	array[export_clients]	Array of client matches
index	integer	Index of the rule within the export policy.
ntfs_unix_security	string	NTFS export UNIX security options.
protocols	array[string]	
ro_rule	array[string]	Authentication flavors that the read-only access rule governs
rw_rule	array[string]	Authentication flavors that the read/write access rule governs
superuser	array[string]	Authentication flavors that the superuser security type governs

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update export policy properties

PATCH /protocols/nfs/export-policies/{id}

Introduced In: 9.6

Updates the properties of an export policy to change an export policy name or replace all export policy rules.

Related ONTAP commands

- `vserver export-policy rename`
- `vserver export-policy rule delete`
- `vserver export-policy rule create`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
id	integer	path	True	Export Policy ID

Request Body

Name	Type	Description
are_rules_truncated	boolean	Indicates whether or not export-policy rules are truncated.
id	integer	Export Policy ID
name	string	Export Policy Name
rules	array[export_rules]	Rules of the Export Policy.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "id": 0,
  "name": "string",
  "rules": [
    {
      "anonymous_user": "string",
      "chown_mode": "string",
      "clients": [
        {
          "match": "0.0.0.0/0"
        }
      ],
      "ntfs_unix_security": "string",
      "protocols": [
        "string"
      ],
      "ro_rule": [
        "string"
      ],
      "rw_rule": [
        "string"
      ],
      "superuser": [
        "string"
      ]
    }
  ],
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1703950	Failed to rename ruleset
1703952	Invalid ruleset name provided. No spaces are allowed in a ruleset name
1704036	Invalid clientmatch: missing domain name
1704037	Invalid clientmatch: missing network name
1704038	Invalid clientmatch: missing netgroup name
1704039	Invalid clientmatch
1704040	Invalid clientmatch: address bytes masked out by netmask are non-zero
1704041	Invalid clientmatch: address bytes masked to zero by netmask
1704042	Invalid clientmatch: too many bits in netmask
1704043	Invalid clientmatch: invalid netmask
1704044	Invalid clientmatch: invalid characters in host name
1704045	Invalid clientmatch: invalid characters in domain name
1704047	The export policy name cannot be longer than 256 characters
1704050	Invalid clientmatch: clientmatch list contains a duplicate string. Duplicate strings in a clientmatch list are not supported
1704054	Invalid clientmatch: invalid characters in netgroup name. Valid characters for a netgroup name are 0-9, A-Z, a-z, ".", "_", and "-"
1704064	Clientmatch host name too long
1704065	Clientmatch domain name too long
3277000	Upgrade all nodes to ONTAP 9.0.0 or above to use krb5p as a security flavor in export-policy rules
3277083	User ID is not valid. Enter a value for User ID from 0 to 4294967295
3277149	The "Anon" field cannot be an empty string

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

export_clients

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com

export_rules

Name	Type	Description
allow_device_creation	boolean	Specifies whether or not device creation is allowed.
allow_suid	boolean	Specifies whether or not SetUID bits in SETATTR Op is to be honored.
anonymous_user	string	User ID To Which Anonymous Users Are Mapped.
chown_mode	string	Specifies who is authorized to change the ownership mode of a file.
clients	array[export_clients]	Array of client matches
index	integer	Index of the rule within the export policy.
ntfs_unix_security	string	NTFS export UNIX security options.
protocols	array[string]	
ro_rule	array[string]	Authentication flavors that the read-only access rule governs
rw_rule	array[string]	Authentication flavors that the read/write access rule governs
superuser	array[string]	Authentication flavors that the superuser security type governs

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

export_policy

Name	Type	Description
are_rules_truncated	boolean	Indicates whether or not export-policy rules are truncated.
id	integer	Export Policy ID
name	string	Export Policy Name
rules	array[export_rules]	Rules of the Export Policy.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve export policy rules

GET /protocols/nfs/export-policies/{policy.id}/rules

Introduced In: 9.6

Retrieves export policy rules.

Related ONTAP commands

- `vserver export-policy rule show`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
policy.id	integer	path	True	Export Policy ID
allow_device_creation	boolean	query	False	Filter by allow_device_creation • Introduced in: 9.9
svm.name	string	query	False	Filter by svm.name • Introduced in: 9.10
svm.uuid	string	query	False	Filter by svm.uuid • Introduced in: 9.10
rw_rule	string	query	False	Filter by rw_rule
superuser	string	query	False	Filter by superuser
policy.name	string	query	False	Filter by policy.name • Introduced in: 9.10
protocols	string	query	False	Filter by protocols
ro_rule	string	query	False	Filter by ro_rule
anonymous_user	string	query	False	Filter by anonymous_user

Name	Type	In	Required	Description
allow_suid	boolean	query	False	Filter by allow_suid Introduced in: 9.9
index	integer	query	False	Filter by index
clients.match	string	query	False	Filter by clients.match
chown_mode	string	query	False	Filter by chown_mode Introduced in: 9.9
ntfs_unix_security	string	query	False	Filter by ntfs_unix_security Introduced in: 9.9
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of Export Rule records
records	array[export_rule]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "anonymous_user": "string",
      "chown_mode": "string",
      "clients": [
        {
          "match": "0.0.0.0/0"
        }
      ],
      "ntfs_unix_security": "string",
      "policy": {
        "name": "string"
      },
      "protocols": [
        "string"
      ],
      "ro_rule": [
        "string"
      ],
      "rw_rule": [
        "string"
      ],
      "superuser": [
        "string"
      ],
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    }
  ]
}
```

```

    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
]
}

```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262194	The expression is missing a value
262197	The value provided is invalid for the field
2621462	The specified SVM name does not exist
2621519	SVM name is invalid. The SVM name must begin with a letter or an underscore. If the SVM is of type "sync-source", the maximum supported length is 41. Otherwise, the maximum supported length is 47
2621643	The specified SVM name is too long
2621685	SVM name length cannot be zero
2621706	The specified SVM UUID is incorrect for the specified SVM name
6691623	User is not authorized

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

export_clients

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com

policy

Name	Type	Description
id	integer	Export policy ID
name	string	Export policy name

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

export_rule

Name	Type	Description
_links	_links	
allow_device_creation	boolean	Specifies whether or not device creation is allowed.
allow_suid	boolean	Specifies whether or not SetUID bits in SETATTR Op is to be honored.
anonymous_user	string	User ID To Which Anonymous Users Are Mapped.
chown_mode	string	Specifies who is authorized to change the ownership mode of a file.
clients	array[export_clients]	Array of client matches
index	integer	Index of the rule within the export policy.
ntfs_unix_security	string	NTFS export UNIX security options.
policy	policy	
protocols	array[string]	
ro_rule	array[string]	Authentication flavors that the read-only access rule governs
rw_rule	array[string]	Authentication flavors that the read/write access rule governs
superuser	array[string]	Authentication flavors that the superuser security type governs

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create an export policy rule

POST /protocols/nfs/export-policies/{policy.id}/rules

Introduced In: 9.6

Creates an export policy rule.

Required properties

- `policy.id` - Existing export policy for which to create an export rule.
- `clients.match` - List of clients (hostnames, ipaddresses, netgroups, domains) to which the export rule applies.
- `ro_rule` - Used to specify the security type for read-only access to volumes that use the export rule.
- `rw_rule` - Used to specify the security type for read-write access to volumes that use the export rule.

Optional property

- `index` - Used to specify the index number of the export rule that you want to create. If you specify an index number that already matches a rule, the index number of the existing rule is incremented, as are the index numbers of all subsequent rules, either to the end of the list or to an open space in the list. If you do not

specify an index number, the new rule is placed at the end of the policy's list.

Default property values

If not specified in POST, the following default property values are assigned:

- `protocols` - *any*
- `anonymous_user` - *none*
- `superuser` - *any*
- `allow_device_creation` - *true*
- `ntfs_unix_security` - *fail*
- `chown_mode` - *restricted*
- `allow_suid` - *true*

Related ONTAP commands

- `vserver export-policy rule create`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
policy.id	integer	path	True	Export Policy ID
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
allow_device_creation	boolean	Specifies whether or not device creation is allowed.
allow_suid	boolean	Specifies whether or not SetUID bits in SETATTR Op is to be honored.

Name	Type	Description
anonymous_user	string	User ID To Which Anonymous Users Are Mapped.
chown_mode	string	Specifies who is authorized to change the ownership mode of a file.
clients	array[export_clients]	Array of client matches
index	integer	Index of the rule within the export policy.
ntfs_unix_security	string	NTFS export UNIX security options.
policy	policy	
protocols	array[string]	
ro_rule	array[string]	Authentication flavors that the read-only access rule governs
rw_rule	array[string]	Authentication flavors that the read/write access rule governs
superuser	array[string]	Authentication flavors that the superuser security type governs
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "anonymous_user": "string",
  "chown_mode": "string",
  "clients": [
    {
      "match": "0.0.0.0/0"
    }
  ],
  "ntfs_unix_security": "string",
  "policy": {
    "name": "string"
  },
  "protocols": [
    "string"
  ],
  "ro_rule": [
    "string"
  ],
  "rw_rule": [
    "string"
  ],
  "superuser": [
    "string"
  ],
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of Export Rule records
records	array[export_rule]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "anonymous_user": "string",
      "chown_mode": "string",
      "clients": [
        {
          "match": "0.0.0.0/0"
        }
      ],
      "ntfs_unix_security": "string",
      "policy": {
        "name": "string"
      },
      "protocols": [
        "string"
      ],
      "ro_rule": [
        "string"
      ],
      "rw_rule": [
        "string"
      ],
      "superuser": [
        "string"
      ],
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1703954	Export policy does not exist
1704036	Invalid clientmatch: missing domain name
1704037	Invalid clientmatch: missing network name
1704038	Invalid clientmatch: missing netgroup name
1704039	Invalid clientmatch
1704040	Invalid clientmatch: address bytes masked out by netmask are non-zero
1704041	Invalid clientmatch: address bytes masked to zero by netmask
1704042	Invalid clientmatch: too many bits in netmask
1704043	Invalid clientmatch: invalid netmask
1704044	Invalid clientmatch: invalid characters in host name
1704045	Invalid clientmatch: invalid characters in domain name
1704050	Invalid clientmatch: clientmatch list contains a duplicate string. Duplicate strings in a clientmatch list are not supported
1704054	Invalid clientmatch: invalid characters in netgroup name. Valid characters for a netgroup name are 0-9, A-Z, a-z, ".", "_", and "-"
1704064	Clientmatch host name too long
1704065	Clientmatch domain name too long
1704070	Export policy rule already exists. The export policy rule was not created because an export policy rule with the same values already exists.
3277000	Upgrade all nodes to ONTAP 9.0.0 or above to use krb5p as a security flavor in export-policy rules
3277083	User ID is not valid. Enter a value for User ID from 0 to 4294967295
3277162	The specified "index", 0, is invalid. Valid values are values from 1 to 4294967295
3277163	The system cannot automatically specify an "index" for this rule, because a rule with "index" 4294967295 exists. Either specify an unused "index", or update the existing rules so that "index" 4294967295 is not used.

Error Code	Description
3277149	The "Anon" field cannot be an empty string

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

export_clients

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com

policy

Name	Type	Description
id	integer	Export policy ID
name	string	Export policy name

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

export_rule

Name	Type	Description
allow_device_creation	boolean	Specifies whether or not device creation is allowed.
allow_suid	boolean	Specifies whether or not SetUID bits in SETATTR Op is to be honored.
anonymous_user	string	User ID To Which Anonymous Users Are Mapped.
chown_mode	string	Specifies who is authorized to change the ownership mode of a file.
clients	array[export_clients]	Array of client matches
index	integer	Index of the rule within the export policy.
ntfs_unix_security	string	NTFS export UNIX security options.
policy	policy	
protocols	array[string]	

Name	Type	Description
ro_rule	array[string]	Authentication flavors that the read-only access rule governs
rw_rule	array[string]	Authentication flavors that the read/write access rule governs
superuser	array[string]	Authentication flavors that the superuser security type governs
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete an export policy rule

DELETE /protocols/nfs/export-policies/{policy.id}/rules/{index}

Introduced In: 9.6

Deletes an export policy rule.

Related ONTAP commands

- `vserver export-policy rule delete`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
policy.id	integer	path	True	Export Policy ID
index	integer	path	True	Export Rule Index

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1703945	Ruleset is in use by a volume. It cannot be deleted until all volumes that refer to it are first deleted
1703946	Cannot determine if the ruleset is in use by a volume. It cannot be deleted until all volumes that refer to it are first deleted
1703954	Export policy does not exist

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an export policy rule

GET /protocols/nfs/export-policies/{policy.id}/rules/{index}

Introduced In: 9.6

Retrieves an export policy rule

Related ONTAP commands

- `vserver export-policy rule show`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
policy.id	integer	path	True	Export Policy ID
index	integer	path	True	Export Rule Index
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
allow_device_creation	boolean	Specifies whether or not device creation is allowed.
allow_suid	boolean	Specifies whether or not SetUID bits in SETATTR Op is to be honored.
anonymous_user	string	User ID To Which Anonymous Users Are Mapped.
chown_mode	string	Specifies who is authorized to change the ownership mode of a file.
clients	array[export_clients]	Array of client matches

Name	Type	Description
index	integer	Index of the rule within the export policy.
ntfs_unix_security	string	NTFS export UNIX security options.
policy	policy	
protocols	array[string]	
ro_rule	array[string]	Authentication flavors that the read-only access rule governs
rw_rule	array[string]	Authentication flavors that the read/write access rule governs
superuser	array[string]	Authentication flavors that the superuser security type governs
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "anonymous_user": "string",
  "chown_mode": "string",
  "clients": [
    {
      "match": "0.0.0.0/0"
    }
  ],
  "ntfs_unix_security": "string",
  "policy": {
    "name": "string"
  },
  "protocols": [
    "string"
  ],
  "ro_rule": [
    "string"
  ],
  "rw_rule": [
    "string"
  ],
  "superuser": [
    "string"
  ],
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262197	The value provided is invalid for the field
6691623	User is not authorized

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

export_clients

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com

policy

Name	Type	Description
id	integer	Export policy ID
name	string	Export policy name

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update the properties of an export policy rule

PATCH /protocols/nfs/export-policies/{policy.id}/rules/{index}

Introduced In: 9.6

Updates the properties of an export policy rule to change an export policy rule's index or fields.

Related ONTAP commands

- `vserver export-policy rule modify`
- `vserver export-policy rule setindex`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
policy.id	integer	path	True	Export Policy ID
index	integer	path	True	Export Rule Index
new_index	integer	query	False	New Export Rule Index

Request Body

Name	Type	Description
allow_device_creation	boolean	Specifies whether or not device creation is allowed.
allow_suid	boolean	Specifies whether or not SetUID bits in SETATTR Op is to be honored.
anonymous_user	string	User ID To Which Anonymous Users Are Mapped.
chown_mode	string	Specifies who is authorized to change the ownership mode of a file.
clients	array[export_clients]	Array of client matches
index	integer	Index of the rule within the export policy.

Name	Type	Description
ntfs_unix_security	string	NTFS export UNIX security options.
protocols	array[string]	
ro_rule	array[string]	Authentication flavors that the read-only access rule governs
rw_rule	array[string]	Authentication flavors that the read/write access rule governs
superuser	array[string]	Authentication flavors that the superuser security type governs
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "anonymous_user": "string",
  "chown_mode": "string",
  "clients": [
    {
      "match": "0.0.0.0/0"
    }
  ],
  "ntfs_unix_security": "string",
  "protocols": [
    "string"
  ],
  "ro_rule": [
    "string"
  ],
  "rw_rule": [
    "string"
  ],
  "superuser": [
    "string"
  ],
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262196	Field 'svm.name' is not supported in the body of PATCH request

Error Code	Description
262197	The value provided is invalid for the field
262203	Field 'svm.uuid' is not supported in the body of PATCH request
1703954	Export policy does not exist
1704036	Invalid clientmatch: missing domain name
1704037	Invalid clientmatch: missing network name
1704038	Invalid clientmatch: missing netgroup name
1704039	Invalid clientmatch
1704040	Invalid clientmatch: address bytes masked out by netmask are non-zero
1704041	Invalid clientmatch: address bytes masked to zero by netmask
1704042	Invalid clientmatch: too many bits in netmask
1704043	Invalid clientmatch: invalid netmask
1704044	Invalid clientmatch: invalid characters in host name
1704045	Invalid clientmatch: invalid characters in domain name
1704050	Invalid clientmatch: clientmatch list contains a duplicate string. Duplicate strings in a clientmatch list are not supported
1704054	Invalid clientmatch: invalid characters in netgroup name. Valid characters for a netgroup name are 0-9, A-Z, a-z, ".", "_", and "-"
1704064	Clientmatch host name too long
1704065	Clientmatch domain name too long
3277000	Upgrade all nodes to ONTAP 9.0.0 or above to use krb5p as a security flavor in export-policy rules
3277083	User ID is not valid. Enter a value for User ID from 0 to 4294967295
3277149	The "Anon" field cannot be an empty string
6691623	User is not authorized

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

export_clients

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com

policy

Name	Type	Description
id	integer	Export policy ID
name	string	Export policy name

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

export_rule

Name	Type	Description
allow_device_creation	boolean	Specifies whether or not device creation is allowed.
allow_suid	boolean	Specifies whether or not SetUID bits in SETATTR Op is to be honored.
anonymous_user	string	User ID To Which Anonymous Users Are Mapped.
chown_mode	string	Specifies who is authorized to change the ownership mode of a file.
clients	array[export_clients]	Array of client matches
index	integer	Index of the rule within the export policy.
ntfs_unix_security	string	NTFS export UNIX security options.
protocols	array[string]	

Name	Type	Description
ro_rule	array[string]	Authentication flavors that the read-only access rule governs
rw_rule	array[string]	Authentication flavors that the read/write access rule governs
superuser	array[string]	Authentication flavors that the superuser security type governs
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve export policy rule clients

GET /protocols/nfs/export-policies/{policy.id}/rules/{index}/clients

Introduced In: 9.6

Retrieves export policy rule clients.

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
policy.id	integer	path	True	Export Policy ID
index	integer	path	True	Export Rule Index
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of export rule client records
records	array[export_client]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "index": 0,
      "match": "0.0.0.0/0",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
6691623	User is not authorized

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

policy

Name	Type	Description
id	integer	Export policy ID

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

export_client

Name	Type	Description
index	integer	Index of the rule within the export policy.

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com
policy	policy	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create an export policy rule client

POST /protocols/nfs/export-policies/{policy.id}/rules/{index}/clients

Introduced In: 9.6

Creates an export policy rule client

Required properties

- `policy.id` - Existing export policy that contains export policy rules for the client being added.
- `index` - Existing export policy rule for which to create an export client.
- `match` - Base name for the export policy client.

Related ONTAP commands

- `vserver export-policy rule add-clientmatches`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
policy.id	integer	path	True	Export Policy ID
index	integer	path	True	Export Rule Index
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
index	integer	Index of the rule within the export policy.
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com
policy	policy	
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "index": 0,
  "match": "0.0.0.0/0",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of export rule client records
records	array[export_client]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "index": 0,
      "match": "0.0.0.0/0",
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262196	Field 'svm.name' is not supported in the body of POST request
1703954	Export policy does not exist
1704036	Invalid clientmatch: missing domain name
1704037	Invalid clientmatch: missing network name
1704038	Invalid clientmatch: missing netgroup name
1704039	Invalid clientmatch
1704040	Invalid clientmatch: address bytes masked out by netmask are non-zero
1704041	Invalid clientmatch: address bytes masked to zero by netmask
1704042	Invalid clientmatch: too many bits in netmask
1704043	Invalid clientmatch: invalid netmask
1704044	Invalid clientmatch: invalid characters in host name
1704045	Invalid clientmatch: invalid characters in domain name
1704050	Invalid clientmatch: the clientmatch list contains a duplicate string. Duplicate strings in a clientmatch list are not supported
1704054	Invalid clientmatch: invalid characters in netgroup name. Valid characters for a netgroup name are 0-9, A-Z, a-z, ".", "_" and "-"
1704064	Clientmatch host name too long
1704065	Clientmatch domain name too long
6691623	User is not authorized

Definitions

See Definitions

policy

Name	Type	Description
id	integer	Export policy ID

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

export_client

Name	Type	Description
index	integer	Index of the rule within the export policy.

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com
policy	policy	
svm	svm	SVM, applies only to SVM-scoped objects.

export_client

Name	Type	Description
index	integer	Index of the rule within the export policy.

Name	Type	Description
match	string	Client Match Hostname, IP Address, Netgroup, or Domain. You can specify the match as a string value in any of the following formats: • As a hostname; for instance, host1 • As an IPv4 address; for instance, 10.1.12.24 • As an IPv6 address; for instance, fd20:8b1e:b255:4071::100:1 • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng • As a domain name preceded by the . character; for instance, .example.com
policy	policy	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete an export policy client

DELETE /protocols/nfs/export-policies/{policy.id}/rules/{index}/clients/{match}

Introduced In: 9.6

Deletes an export policy client

Related ONTAP commands

- `vserver export-policy rule remove-clientmatches`

Learn more

- [DOC /protocols/nfs/export-policies](#)

Parameters

Name	Type	In	Required	Description
policy.id	integer	path	True	Export Policy ID
index	integer	path	True	Export Rule Index
match	string	path	True	Export Client Match
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1703954	Export policy does not exist
1704036	Invalid clientmatch: missing domain name
1704037	Invalid clientmatch: missing network name
1704038	Invalid clientmatch: missing netgroup name
1704039	Invalid clientmatch
1704040	Invalid clientmatch: address bytes masked out by netmask are non-zero
1704041	Invalid clientmatch: address bytes masked to zero by netmask
1704042	Invalid clientmatch: too many bits in netmask
1704043	Invalid clientmatch: invalid netmask
1704044	Invalid clientmatch: invalid characters in host name
1704045	Invalid clientmatch: invalid characters in domain name
1704050	Invalid clientmatch: the clientmatch list contains a duplicate string. Duplicate strings in a clientmatch list are not supported
1704054	Invalid clientmatch: invalid characters in netgroup name. Valid characters for a netgroup name are 0-9, A-Z, a-z, ".", "_", and "-"
1704064	Clientmatch host name too long
1704065	Clientmatch domain name too long
6691623	User is not authorized

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View and update Kerberos interfaces

View and update Kerberos interfaces

Examples

Retrieving the Kerberos interface configuration details

```
# The API:
GET /api/protocols/nfs/kerberos/interfaces

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/nfs/kerberos/interfaces"
```

Updating the Kerberos interface configuration

```
# The API:
PATCH /api/protocols/nfs/kerberos/interfaces/{interface.uuid}

# The call:
curl -d "@test_patch_kerb_interface.txt" -X PATCH "https://<mgmt-ip>/api/protocols/nfs/kerberos/interfaces/e62936de-7342-11e8-9eb4-0050568be2b7"
test_patch_kerb_interface.txt (body):
{
  "enabled" : "true",
  "spn": "nfs/datalif1-vs3-d1.sim.netapp.com@NFS-NSR-W01.RTP.NETAPP.COM",
  "user" : "administrator",
  "password" : "Hello123!"
}
```

Retrieve Kerberos interfaces

GET /protocols/nfs/kerberos/interfaces

Introduced In: 9.6

Retrieves Kerberos interfaces.

Related ONTAP commands

- `vserver nfs kerberos interface show`

Learn more

- [DOC /protocols/nfs/kerberos/interfaces](#)

Parameters

Name	Type	In	Required	Description
spn	string	query	False	Filter by spn
encryption_types	string	query	False	Filter by encryption_types
enabled	boolean	query	False	Filter by enabled
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
machine_account	string	query	False	Filter by machine_account Introduced in: 9.12
interface.ip.address	string	query	False	Filter by interface.ip.address
interface.name	string	query	False	Filter by interface.name
interface.uuid	string	query	False	Filter by interface.uuid
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[kerberos_interface]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "encryption_types": [
        "string"
      ],
      "force": true,
      "interface": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "ip": {
          "address": "10.10.10.7"
        },
        "name": "lif1",
        "uuid": "1cd8a442-86d1-11e0-aelc-123478563412"
      },
      "machine_account": "string",
      "spn": "string",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```



```
}  
]  
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{  
  "error": {  
    "arguments": [  
      {  
        "code": "string",  
        "message": "string"  
      }  
    ],  
    "code": "4",  
    "message": "entry doesn't exist",  
    "target": "uuid"  
  }  
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

interface

Network interface

Name	Type	Description
_links	_links	
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

kerberos_interface

Name	Type	Description
_links	_links	
enabled	boolean	Specifies if Kerberos is enabled.
encryption_types	array[string]	
interface	interface	Network interface
machine_account	string	Specifies the machine account to create in Active Directory.
spn	string	Service principal name. Valid in PATCH.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Type	Description
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a Kerberos interface

GET /protocols/nfs/kerberos/interfaces/{interface.uuid}

Introduced In: 9.6

Retrieves a Kerberos interface.

Related ONTAP commands

- `vserver nfs kerberos interface show`

Learn more

- [DOC /protocols/nfs/kerberos/interfaces](#)

Parameters

Name	Type	In	Required	Description
interface.uuid	string	path	True	Network interface UUID • Introduced in: 9.7
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
enabled	boolean	Specifies if Kerberos is enabled.
encryption_types	array[string]	

Name	Type	Description
interface	interface	Network interface
machine_account	string	Specifies the machine account to create in Active Directory.
spn	string	Service principal name. Valid in PATCH.
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "encryption_types": [
    "string"
  ],
  "force": true,
  "interface": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "ip": {
    "address": "10.10.10.7"
  },
  "name": "lif1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"machine_account": "string",
"spn": "string",
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

interface

Network interface

Name	Type	Description
_links	_links	
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update Kerberos interface properties

PATCH /protocols/nfs/kerberos/interfaces/{interface.uuid}

Introduced In: 9.6

Updates the properties of a Kerberos interface.

Optional property

- **force** - Specifies whether the server should ignore any error encountered while deleting the corresponding machine account on the KDC and also disables Kerberos on the LIF. This is applicable only when disabling Kerberos.

Related ONTAP commands

- `vserver nfs kerberos interface modify`
- `vserver nfs kerberos interface enable`
- `vserver nfs kerberos interface disable`

Learn more

- [DOC /protocols/nfs/kerberos/interfaces](#)

Parameters

Name	Type	In	Required	Description
interface.uuid	string	path	True	Network interface UUID • Introduced in: 9.7

Request Body

Name	Type	Description
enabled	boolean	Specifies if Kerberos is enabled.
encryption_types	array[string]	
force	boolean	Specifies whether the server should ignore any error encountered while deleting the corresponding machine account on the KDC and also disables Kerberos on the LIF.
interface	interface	Network interface
keytab_uri	string	Load keytab from URI
machine_account	string	Specifies the machine account to create in Active Directory.
organizational_unit	string	Organizational unit
password	string	Account creation password
spn	string	Service principal name. Valid in PATCH.
svm	svm	SVM, applies only to SVM-scoped objects.
user	string	Account creation user name

Example request

```
{
  "encryption_types": [
    "string"
  ],
  "interface": {
    "name": "lif1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "keytab_uri": "string",
  "machine_account": "string",
  "organizational_unit": "string",
  "password": "string",
  "spn": "string",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "user": "string"
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response codes

Error codes	Description
4	The entry doesn't exist
3276801	Failed to bind service principal name on LIF.
3276809	Failed to disable NFS Kerberos on LIF.
3276832	Failed to insert Kerberos attributes to database.
3276842	Internal error. Failed to import Kerberos keytab file into the management databases. Contact technical support for assistance.

Error codes	Description
3276861	Kerberos is already enabled/disabled on this LIF.
3276862	Kerberos service principal name is required.
3276889	Failed to enable NFS Kerberos on LIF.
3276937	Failed to lookup the Vserver for the virtual interface.
3276941	Kerberos is a required field.
3276942	Service principal name is invalid. It must of the format:"nfs/<LIF-FQDN>@REALM"</LIF-FQDN>
3276943	Lookup of Kerberos realm failed. The entry doesn't exist.
3276944	Internal error. Reason: Failed to initialize the Kerberos context
3276945	Internal error. Reason: Failed to parse the service principal name
3276951	Warning: Skipping unsupported encryption type for service principal name
3276952	"organizational_unit" option cannot be used for "Other" vendor.
3276965	Account sharing across Vservers is not allowed. Use a different service principal name unique within the first 15 characters.
3277019	Cannot specify -force when enabling Kerberos.
3277020	Modifying the NFS Kerberos configuration for a LIF that is not configured for NFS is not supported.
3277043	Keytab import failed due to missing keys. Keys for encryption types are required for Vserver but found no matching keys for service principal name. Generate the keytab file with all required keys and try again.
3277133	The <i>machine_account</i> property can only be specified when the KDC vendor is Microsoft.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

ip

IP information

interface

Network interface

Name	Type	Description
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

kerberos_interface

Name	Type	Description
enabled	boolean	Specifies if Kerberos is enabled.
encryption_types	array[string]	

Name	Type	Description
force	boolean	Specifies whether the server should ignore any error encountered while deleting the corresponding machine account on the KDC and also disables Kerberos on the LIF.
interface	interface	Network interface
keytab_uri	string	Load keytab from URI
machine_account	string	Specifies the machine account to create in Active Directory.
organizational_unit	string	Organizational unit
password	string	Account creation password
spn	string	Service principal name. Valid in PATCH.
svm	svm	SVM, applies only to SVM-scoped objects.
user	string	Account creation user name

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

Manage Kerberos realms

Manage Kerberos realms

Examples

Retrieving the Kerberos realm details

```
# The API:
GET /api/protocols/nfs/kerberos/realms

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/nfs/kerberos/realms"
```

Creating the Kerberos realm for an SVM

```
# The API:
POST /api/protocols/nfs/kerberos/realms

# The call:
curl -d "@test_post_kerb_realm.txt" -X POST "https://<mgmt-ip>/api/protocols/nfs/kerberos/realms"
test_post_kerb_realm.txt (body):
{
  "svm.uuid": "05c90dc2-7343-11e8-9eb4-0050568be2b7",
  "name": "NFS-NSR-W02.RTP.NETAPP.COM",
  "kdc": {
    "vendor": "microsoft",
    "ip": "10.225.185.112",
    "port": 88
  },
  "comment": "realm",
  "ad_server": {
    "name": "nfs-nsr-w02.rtp.netapp.com",
    "address": "10.225.185.112"
  }
}
```

Updating the Kerberos realm for an SVM

```
# The API:
PATCH /api/protocols/nfs/kerberos/realms/{svm.uuid}/{name}

# The call:
curl -d "@test_patch_kerb_realm.txt" -X PATCH "https://<mgmt-
ip>/api/protocols/nfs/kerberos/realms/05c90dc2-7343-11e8-9eb4-
0050568be2b7/NFS-NSR-W02.RTP.NETAPP.COM"
test_patch_kerb_realm.txt(body):
{
  "kdc": {
    "vendor": "Microsoft",
    "ip": "100.225.185.112",
    "port": 88
  },
  "comment": "realm modify",
  "ad_server": {
    "name": "nfs.netapp.com",
    "address": "192.2.18.112"
  }
}
```

Deleting the Kerberos realm for an SVM

```
# The API:
DELETE /api/protocols/nfs/kerberos/realms/{svm.uuid}/{name}

# The call:
curl -X DELETE "https://<mgmt-
ip>/api/protocols/nfs/kerberos/realms/05c90dc2-7343-11e8-9eb4-
0050568be2b7/NFS-NSR-W02.RTP.NETAPP.COM"
```

Retrieve Kerberos realms

GET /protocols/nfs/kerberos/realms

Introduced In: 9.6

Retrieves Kerberos realms.

Related ONTAP commands

- `vserver nfs kerberos realm show`

Learn more

- [DOC /protocols/nfs/kerberos/realms](#)

Parameters

Name	Type	In	Required	Description
comment	string	query	False	Filter by comment
password_server.address	string	query	False	Filter by password_server.address • Introduced in: 9.13
password_server.port	integer	query	False	Filter by password_server.port • Introduced in: 9.13
kdc.vendor	string	query	False	Filter by kdc.vendor
kdc.ip	string	query	False	Filter by kdc.ip
kdc.port	integer	query	False	Filter by kdc.port • Max value: 65535 • Min value: 1
encryption_types	string	query	False	Filter by encryption_types
clock_skew	integer	query	False	Filter by clock_skew • Introduced in: 9.13
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
name	string	query	False	Filter by name

Name	Type	In	Required	Description
admin_server.address	string	query	False	Filter by admin_server.address • Introduced in: 9.13
admin_server.port	integer	query	False	Filter by admin_server.port • Introduced in: 9.13
ad_server.name	string	query	False	Filter by ad_server.name
ad_server.address	string	query	False	Filter by ad_server.address
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Max value: 120 • Min value: 0 • Default value: 15
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[kerberos_realm]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ad_server": {
        "address": "1.2.3.4",
        "name": "string"
      },
      "admin_server": {
        "address": "1.2.3.4"
      },
      "comment": "string",
      "encryption_types": [
        "string"
      ],
      "kdc": {
        "ip": "1.2.3.4",
        "port": 88,
        "vendor": "string"
      },
      "name": "string",
      "password_server": {
        "address": "1.2.3.4"
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
```

```
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

ad_server

Name	Type	Description
address	string	Active Directory server IP address
name	string	Active Directory server name

admin_server

Name	Type	Description
address	string	Admin server IP address.
port	integer	Specifies the port number of admin server.

kdc

Name	Type	Description
ip	string	KDC IP address
port	integer	KDC port

Name	Type	Description
vendor	string	Key Distribution Center (KDC) vendor. Following values are supported: • microsoft - Microsoft Active Directory KDC • other - MIT Kerberos KDC or other KDC

password_server

Name	Type	Description
address	string	Password server IP address.
port	integer	Specifies the port number of password server.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

kerberos_realm

Name	Type	Description
_links	_links	
ad_server	ad_server	
admin_server	admin_server	
clock_skew	integer	Specifies the allowed time of clock-skew between the server and clients, in minutes.
comment	string	Comment

Name	Type	Description
encryption_types	array[string]	
kdc	kdc	
name	string	Kerberos realm
password_server	password_server	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create a Kerberos realm

POST /protocols/nfs/kerberos/realms

Introduced In: 9.6

Creates a Kerberos realm.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM on which to create the Kerberos realm.
- `name` - Base name for the Kerberos realm.
- `kdc.vendor` - Vendor of the Key Distribution Center (KDC) server for this Kerberos realm. If the configuration uses a Microsoft Active Directory domain for authentication, this field must be `microsoft`.

- `kdc.ip` - IP address of the KDC server for this Kerberos realm.

Recommended optional properties

- `ad_server.name` - Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the `kdc-vendor` is `microsoft`.
- `ad_server.address` - IP address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the `kdc-vendor` is `microsoft`.

Default property values

If not specified in POST, the following default property value is assigned:

- `kdc.port` - *88*
- `admin_server.port` - *749*
- `password_server.port` - *464*
- `clock_skew` - *5*

Related ONTAP commands

- `vserver nfs kerberos realm create`

Learn more

- [DOC /protocols/nfs/kerberos/realms](#)

Parameters

Name	Type	In	Required	Description
<code>return_records</code>	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
<code>ad_server</code>	ad_server	
<code>admin_server</code>	admin_server	
<code>clock_skew</code>	integer	Specifies the allowed time of clock-skew between the server and clients, in minutes.
<code>comment</code>	string	Comment

Name	Type	Description
encryption_types	array[string]	
kdc	kdc	
name	string	Kerberos realm
password_server	password_server	
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "ad_server": {
    "address": "1.2.3.4",
    "name": "string"
  },
  "admin_server": {
    "address": "1.2.3.4"
  },
  "comment": "string",
  "encryption_types": [
    "string"
  ],
  "kdc": {
    "ip": "1.2.3.4",
    "port": 88,
    "vendor": "string"
  },
  "name": "string",
  "password_server": {
    "address": "1.2.3.4"
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response codes

Error codes	Description
2949121	Active Directory server name required.
2949122	Active Directory server address required
2949123	Failed to create Kerberos realm.
2949124	Failed to create hosts file entry.
3276949	Kerberos realm creation failed. Reason: The parameters "ad_server.name" and "ad_server.address" are only valid when "kdc.vendor" is Microsoft
3276976	"realm" is a required input
3276998	Only the data Vservers can own NFS Kerberos realms.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

ad_server

Name	Type	Description
address	string	Active Directory server IP address
name	string	Active Directory server name

admin_server

Name	Type	Description
address	string	Admin server IP address.
port	integer	Specifies the port number of admin server.

kdc

Name	Type	Description
ip	string	KDC IP address
port	integer	KDC port
vendor	string	Key Distribution Center (KDC) vendor. Following values are supported: • microsoft - Microsoft Active Directory KDC • other - MIT Kerberos KDC or other KDC

password_server

Name	Type	Description
address	string	Password server IP address.
port	integer	Specifies the port number of password server.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

kerberos_realm

Name	Type	Description
ad_server	ad_server	
admin_server	admin_server	
clock_skew	integer	Specifies the allowed time of clock-skew between the server and clients, in minutes.
comment	string	Comment
encryption_types	array[string]	
kdc	kdc	
name	string	Kerberos realm
password_server	password_server	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a Kerberos realm

DELETE /protocols/nfs/kerberos/realms/{svm.uuid}/{name}

Introduced In: 9.6

Deletes a Kerberos realm.

- `vserver nfs kerberos realm delete`

Learn more

- [DOC /protocols/nfs/kerberos/realms](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	SVM UUID
name	string	path	True	Kerberos realm

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response codes

Error codes	Description
1966125	Failed to remove hosts entry.
1966126	Failed to lookup hosts entry.
2949141	Failed to lookup Kerberos realm.
2949142	Failed to remove Kerberos realm.
3276942	Service principal name is invalid. It must of the format:"nfs/<LIF-FQDN>@REALM\\\\"</LIF-FQDN>
3276976	"realm" is a required input
3276998	Only the data Vservers can own NFS Kerberos realms.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve a Kerberos realm

GET /protocols/nfs/kerberos/realms/{svm.uuid}/{name}

Introduced In: 9.6

Retrieves a Kerberos realm.

- `vserver nfs kerberos realm show`

Learn more

- [DOC /protocols/nfs/kerberos/realms](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	SVM UUID
name	string	path	True	Kerberos realm
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
ad_server	ad_server	
admin_server	admin_server	
clock_skew	integer	Specifies the allowed time of clock-skew between the server and clients, in minutes.
comment	string	Comment
encryption_types	array[string]	
kdc	kdc	
name	string	Kerberos realm
password_server	password_server	
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ad_server": {
    "address": "1.2.3.4",
    "name": "string"
  },
  "admin_server": {
    "address": "1.2.3.4"
  },
  "comment": "string",
  "encryption_types": [
    "string"
  ],
  "kdc": {
    "ip": "1.2.3.4",
    "port": 88,
    "vendor": "string"
  },
  "name": "string",
  "password_server": {
    "address": "1.2.3.4"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

ad_server

Name	Type	Description
address	string	Active Directory server IP address
name	string	Active Directory server name

admin_server

Name	Type	Description
address	string	Admin server IP address.
port	integer	Specifies the port number of admin server.

kdc

Name	Type	Description
ip	string	KDC IP address
port	integer	KDC port
vendor	string	Key Distribution Center (KDC) vendor. Following values are supported: • microsoft - Microsoft Active Directory KDC • other - MIT Kerberos KDC or other KDC

password_server

Name	Type	Description
address	string	Password server IP address.
port	integer	Specifies the port number of password server.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update Kerberos realm properties

PATCH /protocols/nfs/kerberos/realms/{svm.uuid}/{name}

Introduced In: 9.6

Updates the properties of a Kerberos realm.

- `vserver nfs kerberos realm modify`

Learn more

- [DOC /protocols/nfs/kerberos/realms](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	SVM UUID
name	string	path	True	Kerberos realm

Request Body

Name	Type	Description
ad_server	ad_server	
admin_server	admin_server	
clock_skew	integer	Specifies the allowed time of clock-skew between the server and clients, in minutes.
comment	string	Comment
encryption_types	array[string]	
kdc	kdc	
name	string	Kerberos realm
password_server	password_server	
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "ad_server": {
    "address": "1.2.3.4",
    "name": "string"
  },
  "admin_server": {
    "address": "1.2.3.4"
  },
  "comment": "string",
  "encryption_types": [
    "string"
  ],
  "kdc": {
    "ip": "1.2.3.4",
    "port": 88,
    "vendor": "string"
  },
  "name": "string",
  "password_server": {
    "address": "1.2.3.4"
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response codes

Error codes	Description
1966125	Failed to remove hosts entry.

Error codes	Description
1966126	Failed to lookup hosts entry.
1966131	Failed to create hosts entry.
1966132	Failed to modify hosts entry.
2949121	Active Directory server name required.
2949122	Active Directory server address required
2949123	Failed to create Kerberos realm.
2949124	Failed to create hosts file entry.
2949141	Failed to lookup Kerberos realm.
2949148	Failed to modify Kerberos realm.
3276976	"realm" is a required input
3276998	Only the data Vservers can own NFS Kerberos realms.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

ad_server

Name	Type	Description
address	string	Active Directory server IP address
name	string	Active Directory server name

admin_server

Name	Type	Description
address	string	Admin server IP address.
port	integer	Specifies the port number of admin server.

kdc

Name	Type	Description
ip	string	KDC IP address
port	integer	KDC port
vendor	string	Key Distribution Center (KDC) vendor. Following values are supported: • microsoft - Microsoft Active Directory KDC • other - MIT Kerberos KDC or other KDC

password_server

Name	Type	Description
address	string	Password server IP address.
port	integer	Specifies the port number of password server.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

kerberos_realm

Name	Type	Description
ad_server	ad_server	
admin_server	admin_server	
clock_skew	integer	Specifies the allowed time of clock-skew between the server and clients, in minutes.
comment	string	Comment
encryption_types	array[string]	
kdc	kdc	
name	string	Kerberos realm
password_server	password_server	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage NFS services

Manage NFS services

Retrieving an NFS configuration

```
# The API:
GET /api/protocols/nfs/services

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/nfs/services"
```

Retrieving the mount permissions for a specified volume for a given IP address.

```
# The API:
GET /api/protocols/nfs/services

# The call:
curl -X GET curl -X GET "https://<mgmt-
ip>/api/protocols/nfs/services/{svm.uuid}?protocol_access_rules.volume=tes
tvoll12&protocol_access_rules.client_ip=1.2.3.4&protocol_access_rules.auth_
type=sys&fields=protocol_access_rules&return_timeout=15&return_records=tru
e"

#
Returns the protocol_access_rules structure and provides access
permissions for each protocol.
"protocol_access_rules": {
  "nfs3_access_type": "read_write",
  "nfs4_access_type": "read",
  "cifs_access_type": "read_write"
}
```

Creating an NFS configuration for an SVM

```
# The API:
POST /api/protocols/nfs/services

# The call:
curl -d "@test_nfs_post.txt" -X POST "https://<mgmt-
ip>/api/protocols/nfs/services"
test_nfs_post.txt(body):
{
  "svm": {
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "protocol": {
    "v4_id_domain": "nfs-nsr-w01.rtp.netapp.com"
  },
  "vstorage_enabled": "true"
}
```

Updating an NFS configuration for an SVM

```
# The API:
PATCH /api/protocols/nfs/services/{svm.uuid}

# The call:
curl -d "@test_nfs_patch.txt" -X PATCH "https://<mgmt-
ip>/api/protocols/nfs/services/4a415601-548c-11e8-a21d-0050568bcb9"
test_nfs_patch.txt (body) :
{
  "protocol": {
    "v4_id_domain": "nfs-nsr-w01.rtp.netapp.com"
  },
  "vstorage_enabled": "false"
}
```

Deleting an NFS configuration for an SVM

```
# The API:
DELETE /api/protocols/nfs/services/{svm.uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/nfs/services/4a415601-
548c-11e8-a21d-0050568bcb9"
```

Performance monitoring

Performance of the SVM can be monitored by the `metric.*` and `statistics.*` properties. These show the performance of the SVM in terms of IOPS, latency and throughput. The `metric.*` properties denote an average whereas `statistics.*` properties denote a real-time monotonically increasing value aggregated across all nodes.

Retrieve the NFS configuration for SVMs

GET /protocols/nfs/services

Introduced In: 9.6

Retrieves the NFS configuration of SVMs.

Expensive properties

There is an added computational cost to retrieving values for these properties. They are not included by default in GET results and must be explicitly requested using the `fields` query parameter. See [Requesting specific fields](#) to learn more.

- `statistics.*`
- `metric.*`

Advanced properties

- security.rpcsec_context_idle
- security.ntfs_unix_security
- security.chown_mode
- security.nt_acl_display_permission
- protocol.v3_features.ejukebox_enabled
- protocol.v3_features.connection_drop
- protocol.v3_features.fsid_change
- protocol.v3_features.mount_daemon_port
- protocol.v3_features.network_lock_manager_port
- protocol.v3_features.network_status_monitor_port
- protocol.v3_features.rquota_daemon_port
- protocol.v3_features.hide_snapshot_enabled
- protocol.v41_features.implementation_domain
- protocol.v41_features.implementation_name
- protocol.v40_features.acl_max_aces
- windows.map_unknown_uid_to_default_user
- exports.netgroup_trust_any_nsswitch_no_match
- credential_cache.negative_ttl
- transport.tcp_max_transfer_size
- root.*
- protocol.v41_features.trunking_enabled
- protocol.v42_features.seclabel_enabled
- protocol.v42_features.sparsefile_ops_enabled
- protocol.v42_features.xattrs_enabled
- protocol.v40_features.referrals_enabled
- protocol.v41_features.referrals_enabled
- protocol.v4_lease_seconds
- protocol.v4_session_slots
- protocol.v4_session_slot_reply_cache_size
- protocol.v4_fsid_change

Diagnostic properties

- credential_cache.transient_error_ttl

- `access_cache_config.ttl_failure`
- `credential_cache.harvest_timeout`

Related ONTAP commands

- `vserver nfs show`
- `vserver nfs status`
- `vserver export-policy check-access`

Learn more

- [DOC /protocols/nfs/services](#)

Parameters

Name	Type	In	Required	Description
<code>protocol_access_rules.volume</code>	string	query	False	Volume on which access needs to be checked. • Introduced in: 9.10
<code>protocol_access_rules.client_ip</code>	string	query	False	IP address for the client for which access needs to be checked. • Introduced in: 9.10
<code>protocol_access_rules.auth_type</code>	string	query	False	Authentication method used to check the client's access to the volume. • Introduced in: 9.10 • Default value: 1
<code>root.ignore_nt_acl</code>	boolean	query	False	Filter by <code>root.ignore_nt_acl</code> • Introduced in: 9.11

Name	Type	In	Required	Description
root.skip_write_permission_check	boolean	query	False	Filter by root.skip_write_permission_check • Introduced in: 9.11
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
file_session_io_grouping_duration	integer	query	False	Filter by file_session_io_grouping_duration • Introduced in: 9.11 • Max value: 3600 • Min value: 60
extended_groups_limit	integer	query	False	Filter by extended_groups_limit • Introduced in: 9.8 • Max value: 1024 • Min value: 32
protocol_access_rules.nfs3_access_type	string	query	False	Filter by protocol_access_rules.nfs3_access_type • Introduced in: 9.10
protocol_access_rules.cifs_access_type	string	query	False	Filter by protocol_access_rules.cifs_access_type • Introduced in: 9.10

Name	Type	In	Required	Description
protocol_access_rules.nfs4_access_type	string	query	False	Filter by protocol_access_rules.nfs4_access_type • Introduced in: 9.10
transport.tcp_enabled	boolean	query	False	Filter by transport.tcp_enabled
transport.udp_enabled	boolean	query	False	Filter by transport.udp_enabled
transport.rdma_enabled	boolean	query	False	Filter by transport.rdma_enabled • Introduced in: 9.12
transport.tcp_max_transfer_size	integer	query	False	Filter by transport.tcp_max_transfer_size • Introduced in: 9.11 • Max value: 1048576 • Min value: 8192
security.permitted_encryption_types	string	query	False	Filter by security.permitted_encryption_types • Introduced in: 9.11
security.ntfs_unix_security	string	query	False	Filter by security.ntfs_unix_security • Introduced in: 9.11

Name	Type	In	Required	Description
security.rpcsec_cont ext_idle	integer	query	False	Filter by security.rpcsec_cont ext_idle • Introduced in: 9.11
security.chown_mod e	string	query	False	Filter by security.chown_mod e • Introduced in: 9.11
security.nt_acl_displ ay_permission	boolean	query	False	Filter by security.nt_acl_displ ay_permission • Introduced in: 9.11
qtree.validate_export	boolean	query	False	Filter by qtree.validate_expor t • Introduced in: 9.10
qtree.export_enable d	boolean	query	False	Filter by qtree.export_enable d • Introduced in: 9.10
auth_sys_extended_ groups_enabled	boolean	query	False	Filter by auth_sys_extended_ groups_enabled • Introduced in: 9.8
showmount_enabled	boolean	query	False	Filter by showmount_enabled • Introduced in: 9.8

Name	Type	In	Required	Description
rquota_enabled	boolean	query	False	Filter by rquota_enabled • Introduced in: 9.8
statistics.v3.latency_raw.other	integer	query	False	Filter by statistics.v3.latency_raw.other • Introduced in: 9.7
statistics.v3.latency_raw.total	integer	query	False	Filter by statistics.v3.latency_raw.total • Introduced in: 9.7
statistics.v3.latency_raw.write	integer	query	False	Filter by statistics.v3.latency_raw.write • Introduced in: 9.7
statistics.v3.latency_raw.read	integer	query	False	Filter by statistics.v3.latency_raw.read • Introduced in: 9.7
statistics.v3.iops_raw.other	integer	query	False	Filter by statistics.v3.iops_raw.other • Introduced in: 9.7
statistics.v3.iops_raw.total	integer	query	False	Filter by statistics.v3.iops_raw.total • Introduced in: 9.7

Name	Type	In	Required	Description
statistics.v3.iops_raw.write	integer	query	False	Filter by statistics.v3.iops_raw.write • Introduced in: 9.7
statistics.v3.iops_raw.read	integer	query	False	Filter by statistics.v3.iops_raw.read • Introduced in: 9.7
statistics.v3.status	string	query	False	Filter by statistics.v3.status • Introduced in: 9.7
statistics.v3.throughput_raw.write	integer	query	False	Filter by statistics.v3.throughput_raw.write • Introduced in: 9.7
statistics.v3.throughput_raw.read	integer	query	False	Filter by statistics.v3.throughput_raw.read • Introduced in: 9.7
statistics.v3.throughput_raw.total	integer	query	False	Filter by statistics.v3.throughput_raw.total • Introduced in: 9.7
statistics.v3.timestamp	string	query	False	Filter by statistics.v3.timestamp • Introduced in: 9.7

Name	Type	In	Required	Description
statistics.v41.latency_raw.other	integer	query	False	Filter by statistics.v41.latency_raw.other • Introduced in: 9.8
statistics.v41.latency_raw.total	integer	query	False	Filter by statistics.v41.latency_raw.total • Introduced in: 9.8
statistics.v41.latency_raw.write	integer	query	False	Filter by statistics.v41.latency_raw.write • Introduced in: 9.8
statistics.v41.latency_raw.read	integer	query	False	Filter by statistics.v41.latency_raw.read • Introduced in: 9.8
statistics.v41.iops_raw.other	integer	query	False	Filter by statistics.v41.iops_raw.other • Introduced in: 9.8
statistics.v41.iops_raw.total	integer	query	False	Filter by statistics.v41.iops_raw.total • Introduced in: 9.8
statistics.v41.iops_raw.write	integer	query	False	Filter by statistics.v41.iops_raw.write • Introduced in: 9.8

Name	Type	In	Required	Description
statistics.v41.iops_raw.read	integer	query	False	Filter by statistics.v41.iops_raw.read • Introduced in: 9.8
statistics.v41.status	string	query	False	Filter by statistics.v41.status • Introduced in: 9.8
statistics.v41.throughput_raw.write	integer	query	False	Filter by statistics.v41.throughput_raw.write • Introduced in: 9.8
statistics.v41.throughput_raw.read	integer	query	False	Filter by statistics.v41.throughput_raw.read • Introduced in: 9.8
statistics.v41.throughput_raw.total	integer	query	False	Filter by statistics.v41.throughput_raw.total • Introduced in: 9.8
statistics.v41.timestamp	string	query	False	Filter by statistics.v41.timestamp • Introduced in: 9.8
statistics.v4.latency_raw.other	integer	query	False	Filter by statistics.v4.latency_raw.other • Introduced in: 9.8

Name	Type	In	Required	Description
statistics.v4.latency_raw.total	integer	query	False	Filter by statistics.v4.latency_raw.total • Introduced in: 9.8
statistics.v4.latency_raw.write	integer	query	False	Filter by statistics.v4.latency_raw.write • Introduced in: 9.8
statistics.v4.latency_raw.read	integer	query	False	Filter by statistics.v4.latency_raw.read • Introduced in: 9.8
statistics.v4.iops_raw.other	integer	query	False	Filter by statistics.v4.iops_raw.other • Introduced in: 9.8
statistics.v4.iops_raw.total	integer	query	False	Filter by statistics.v4.iops_raw.total • Introduced in: 9.8
statistics.v4.iops_raw.write	integer	query	False	Filter by statistics.v4.iops_raw.write • Introduced in: 9.8
statistics.v4.iops_raw.read	integer	query	False	Filter by statistics.v4.iops_raw.read • Introduced in: 9.8

Name	Type	In	Required	Description
statistics.v4.status	string	query	False	Filter by statistics.v4.status • Introduced in: 9.8
statistics.v4.throughput_raw.write	integer	query	False	Filter by statistics.v4.throughput_raw.write • Introduced in: 9.8
statistics.v4.throughput_raw.read	integer	query	False	Filter by statistics.v4.throughput_raw.read • Introduced in: 9.8
statistics.v4.throughput_raw.total	integer	query	False	Filter by statistics.v4.throughput_raw.total • Introduced in: 9.8
statistics.v4.timestamp	string	query	False	Filter by statistics.v4.timestamp • Introduced in: 9.8
state	string	query	False	Filter by state
enabled	boolean	query	False	Filter by enabled
exports.name_service_lookup_protocol	string	query	False	Filter by exports.name_service_lookup_protocol • Introduced in: 9.11

Name	Type	In	Required	Description
exports.netgroup_trust_any_nsswitch_no_match	boolean	query	False	Filter by exports.netgroup_trust_any_nsswitch_no_match • Introduced in: 9.11
metric.v41.iops.other	integer	query	False	Filter by metric.v41.iops.other • Introduced in: 9.8
metric.v41.iops.total	integer	query	False	Filter by metric.v41.iops.total • Introduced in: 9.8
metric.v41.iops.write	integer	query	False	Filter by metric.v41.iops.write • Introduced in: 9.8
metric.v41.iops.read	integer	query	False	Filter by metric.v41.iops.read • Introduced in: 9.8
metric.v41.latency.other	integer	query	False	Filter by metric.v41.latency.other • Introduced in: 9.8
metric.v41.latency.total	integer	query	False	Filter by metric.v41.latency.total • Introduced in: 9.8

Name	Type	In	Required	Description
metric.v41.latency.write	integer	query	False	Filter by metric.v41.latency.write • Introduced in: 9.8
metric.v41.latency.read	integer	query	False	Filter by metric.v41.latency.read • Introduced in: 9.8
metric.v41.timestamp	string	query	False	Filter by metric.v41.timestamp • Introduced in: 9.8
metric.v41.throughput.write	integer	query	False	Filter by metric.v41.throughput.write • Introduced in: 9.8
metric.v41.throughput.read	integer	query	False	Filter by metric.v41.throughput.read • Introduced in: 9.8
metric.v41.throughput.total	integer	query	False	Filter by metric.v41.throughput.total • Introduced in: 9.8
metric.v41.status	string	query	False	Filter by metric.v41.status • Introduced in: 9.8

Name	Type	In	Required	Description
metric.v41.duration	string	query	False	Filter by metric.v41.duration • Introduced in: 9.8
metric.v3.iops.other	integer	query	False	Filter by metric.v3.iops.other • Introduced in: 9.7
metric.v3.iops.total	integer	query	False	Filter by metric.v3.iops.total • Introduced in: 9.7
metric.v3.iops.write	integer	query	False	Filter by metric.v3.iops.write • Introduced in: 9.7
metric.v3.iops.read	integer	query	False	Filter by metric.v3.iops.read • Introduced in: 9.7
metric.v3.latency.other	integer	query	False	Filter by metric.v3.latency.other • Introduced in: 9.7
metric.v3.latency.total	integer	query	False	Filter by metric.v3.latency.total • Introduced in: 9.7

Name	Type	In	Required	Description
metric.v3.latency.write	integer	query	False	Filter by metric.v3.latency.write • Introduced in: 9.7
metric.v3.latency.read	integer	query	False	Filter by metric.v3.latency.read • Introduced in: 9.7
metric.v3.timestamp	string	query	False	Filter by metric.v3.timestamp • Introduced in: 9.7
metric.v3.throughput.write	integer	query	False	Filter by metric.v3.throughput.write • Introduced in: 9.7
metric.v3.throughput.read	integer	query	False	Filter by metric.v3.throughput.read • Introduced in: 9.7
metric.v3.throughput.total	integer	query	False	Filter by metric.v3.throughput.total • Introduced in: 9.7
metric.v3.status	string	query	False	Filter by metric.v3.status • Introduced in: 9.7

Name	Type	In	Required	Description
metric.v3.duration	string	query	False	Filter by metric.v3.duration • Introduced in: 9.7
metric.v4.iops.other	integer	query	False	Filter by metric.v4.iops.other • Introduced in: 9.8
metric.v4.iops.total	integer	query	False	Filter by metric.v4.iops.total • Introduced in: 9.8
metric.v4.iops.write	integer	query	False	Filter by metric.v4.iops.write • Introduced in: 9.8
metric.v4.iops.read	integer	query	False	Filter by metric.v4.iops.read • Introduced in: 9.8
metric.v4.latency.other	integer	query	False	Filter by metric.v4.latency.other • Introduced in: 9.8
metric.v4.latency.total	integer	query	False	Filter by metric.v4.latency.total • Introduced in: 9.8

Name	Type	In	Required	Description
metric.v4.latency.write	integer	query	False	Filter by metric.v4.latency.write • Introduced in: 9.8
metric.v4.latency.read	integer	query	False	Filter by metric.v4.latency.read • Introduced in: 9.8
metric.v4.timestamp	string	query	False	Filter by metric.v4.timestamp • Introduced in: 9.8
metric.v4.throughput.write	integer	query	False	Filter by metric.v4.throughput.write • Introduced in: 9.8
metric.v4.throughput.read	integer	query	False	Filter by metric.v4.throughput.read • Introduced in: 9.8
metric.v4.throughput.total	integer	query	False	Filter by metric.v4.throughput.total • Introduced in: 9.8
metric.v4.status	string	query	False	Filter by metric.v4.status • Introduced in: 9.8

Name	Type	In	Required	Description
metric.v4.duration	string	query	False	Filter by metric.v4.duration • Introduced in: 9.8
windows.default_user	string	query	False	Filter by windows.default_user • Introduced in: 9.11
windows.v3_ms_dos_client_enabled	boolean	query	False	Filter by windows.v3_ms_dos_client_enabled • Introduced in: 9.11
windows.map_unknown_uid_to_default_user	boolean	query	False	Filter by windows.map_unknown_uid_to_default_user • Introduced in: 9.11
access_cache_config.ttl_failure	integer	query	False	Filter by access_cache_config.ttl_failure • Introduced in: 9.10
access_cache_config.ttl_negative	integer	query	False	Filter by access_cache_config.ttl_negative • Introduced in: 9.10
access_cache_config.isDnsTTLEnabled	boolean	query	False	Filter by access_cache_config.isDnsTTLEnabled • Introduced in: 9.10

Name	Type	In	Required	Description
access_cache_config.harvest_timeout	integer	query	False	Filter by access_cache_config.harvest_timeout • Introduced in: 9.10
access_cache_config.ttl_positive	integer	query	False	Filter by access_cache_config.ttl_positive • Introduced in: 9.10
protocol.v4_fsid_change	boolean	query	False	Filter by protocol.v4_fsid_change • Introduced in: 9.13
protocol.v4_id_domain	string	query	False	Filter by protocol.v4_id_domain
protocol.v40_enabled	boolean	query	False	Filter by protocol.v40_enabled
protocol.v4_grace_seconds	integer	query	False	Filter by protocol.v4_grace_seconds • Introduced in: 9.13
protocol.v3_64bit_identifiers_enabled	boolean	query	False	Filter by protocol.v3_64bit_identifiers_enabled • Introduced in: 9.8
protocol.v4_64bit_identifiers_enabled	boolean	query	False	Filter by protocol.v4_64bit_identifiers_enabled • Introduced in: 9.8

Name	Type	In	Required	Description
protocol.v4_lease_seconds	integer	query	False	Filter by protocol.v4_lease_seconds • Introduced in: 9.13
protocol.v4_subnet_filter_enabled	boolean	query	False	Filter by protocol.v4_subnet_filter_enabled • Introduced in: 9.18
protocol.v3_enabled	boolean	query	False	Filter by protocol.v3_enabled
protocol.v40_features.acl_preserve	boolean	query	False	Filter by protocol.v40_features.acl_preserve • Introduced in: 9.11
protocol.v40_features.write_delegation_enabled	boolean	query	False	Filter by protocol.v40_features.write_delegation_enabled
protocol.v40_features.read_delegation_enabled	boolean	query	False	Filter by protocol.v40_features.read_delegation_enabled
protocol.v40_features.acl_enabled	boolean	query	False	Filter by protocol.v40_features.acl_enabled
protocol.v40_features.referrals_enabled	boolean	query	False	Filter by protocol.v40_features.referrals_enabled • Introduced in: 9.13

Name	Type	In	Required	Description
protocol.v40_features.acl_max_aces	integer	query	False	Filter by protocol.v40_features.acl_max_aces • Introduced in: 9.11 • Max value: 1024 • Min value: 192
protocol.v4_session_slot_reply_cache_size	integer	query	False	Filter by protocol.v4_session_slot_reply_cache_size • Introduced in: 9.13 • Max value: 4096 • Min value: 512
protocol.v41_enabled	boolean	query	False	Filter by protocol.v41_enabled
protocol.v41_features.pnfs_enabled	boolean	query	False	Filter by protocol.v41_features.pnfs_enabled
protocol.v41_features.read_delegation_enabled	boolean	query	False	Filter by protocol.v41_features.read_delegation_enabled
protocol.v41_features.acl_enabled	boolean	query	False	Filter by protocol.v41_features.acl_enabled
protocol.v41_features.write_delegation_enabled	boolean	query	False	Filter by protocol.v41_features.write_delegation_enabled
protocol.v41_features.trunking_enabled	boolean	query	False	Filter by protocol.v41_features.trunking_enabled • Introduced in: 9.12

Name	Type	In	Required	Description
protocol.v41_features.referrals_enabled	boolean	query	False	Filter by protocol.v41_features.referrals_enabled Introduced in: 9.13
protocol.v41_features.implementation_name	string	query	False	Filter by protocol.v41_features.implementation_name Introduced in: 9.11
protocol.v41_features.implementation_domain	string	query	False	Filter by protocol.v41_features.implementation_domain Introduced in: 9.11
protocol.v3_features.network_status_monitor_port	integer	query	False	Filter by protocol.v3_features.network_status_monitor_port Introduced in: 9.11
protocol.v3_features.fsid_change	boolean	query	False	Filter by protocol.v3_features.fsid_change Introduced in: 9.11
protocol.v3_features.ejukebox_enabled	boolean	query	False	Filter by protocol.v3_features.ejukebox_enabled Introduced in: 9.11

Name	Type	In	Required	Description
protocol.v3_features.mount_daemon_port	integer	query	False	Filter by protocol.v3_features.mount_daemon_port • Introduced in: 9.11
protocol.v3_features.rquota_daemon_port	integer	query	False	Filter by protocol.v3_features.rquota_daemon_port • Introduced in: 9.11
protocol.v3_features.hide_snapshot_enabled	boolean	query	False	Filter by protocol.v3_features.hide_snapshot_enabled • Introduced in: 9.13
protocol.v3_features.connection_drop	boolean	query	False	Filter by protocol.v3_features.connection_drop • Introduced in: 9.11
protocol.v3_features.mount_root_only	boolean	query	False	Filter by protocol.v3_features.mount_root_only • Introduced in: 9.11
protocol.v3_features.network_lock_manager_port	integer	query	False	Filter by protocol.v3_features.network_lock_manager_port • Introduced in: 9.11

Name	Type	In	Required	Description
protocol.v42_features.xattrs_enabled	boolean	query	False	Filter by protocol.v42_features.xattrs_enabled • Introduced in: 9.12
protocol.v42_features.sparsefile_ops_enabled	boolean	query	False	Filter by protocol.v42_features.sparsefile_ops_enabled • Introduced in: 9.12
protocol.v42_features.seclabel_enabled	boolean	query	False	Filter by protocol.v42_features.seclabel_enabled • Introduced in: 9.12
protocol.v4_session_slots	integer	query	False	Filter by protocol.v4_session_slots • Introduced in: 9.13 • Max value: 2000 • Min value: 1
credential_cache.harvest_timeout	integer	query	False	Filter by credential_cache.harvest_timeout • Introduced in: 9.18 • Max value: 604800000 • Min value: 60000

Name	Type	In	Required	Description
credential_cache.transient_error_ttl	integer	query	False	Filter by credential_cache.transient_error_ttl • Introduced in: 9.11 • Max value: 300000 • Min value: 30000
credential_cache.negative_ttl	integer	query	False	Filter by credential_cache.negative_ttl • Introduced in: 9.11 • Max value: 604800000 • Min value: 60000
credential_cache.positive_ttl	integer	query	False	Filter by credential_cache.positive_ttl • Introduced in: 9.11 • Max value: 604800000 • Min value: 60000
file_session_io_grouping_count	integer	query	False	Filter by file_session_io_grouping_count • Introduced in: 9.11 • Max value: 120000 • Min value: 1000
vstorage_enabled	boolean	query	False	Filter by vstorage_enabled

Name	Type	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of NFS Server Records
records	array[nfs_service]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "access_cache_config": {
        "harvest_timeout": 3600,
        "ttl_failure": 1,
        "ttl_negative": 30,
        "ttl_positive": 60
      },
      "credential_cache": {
        "harvest_timeout": 86400000,
        "negative_ttl": 3600000,
        "positive_ttl": 3600000,
        "transient_error_ttl": 30000
      },
      "exports": {
        "name_service_lookup_protocol": "string"
      },
      "extended_groups_limit": 32,
      "file_session_io_grouping_count": 5000,
      "file_session_io_grouping_duration": 120,
      "metric": {
        "v3": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "duration": "PT15S",
          "iops": {
```



```

        "read": 200,
        "total": 1000,
        "write": 100
    },
    "latency": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "status": "ok",
    "throughput": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
},
"v4": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "duration": "PT15S",
    "iops": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "latency": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "status": "ok",
    "throughput": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
},
"v41": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    }
}

```

```

    }
  },
  "duration": "PT15S",
  "iops": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25 11:20:13 +0000"
}
},
"protocol": {
  "v40_features": {
    "acl_max_aces": 500
  },
  "v41_features": {
    "implementation_domain": "string",
    "implementation_name": "string"
  },
  "v4_id_domain": "string"
},
"protocol_access_rules": {
  "cifs_access_type": "string",
  "nfs3_access_type": "string",
  "nfs4_access_type": "string"
},
"security": {
  "chown_mode": "string",
  "ntfs_unix_security": "string",
  "permitted_encryption_types": [
    "string"
  ]
},
"state": "string",
"statistics": {

```

```

"v3": {
  "iops_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25 11:20:13 +0000"
},
"v4": {
  "iops_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25 11:20:13 +0000"
},
"v41": {
  "iops_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency_raw": {
    "read": 200,

```

```

        "total": 1000,
        "write": 100
    },
    "status": "ok",
    "throughput_raw": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
    },
    "svm": {
        "_links": {
            "self": {
                "href": "/api/resourcelink"
            }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "transport": {
        "tcp_max_transfer_size": 16384
    },
    "windows": {
        "default_user": "string"
    }
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

access_cache_config

Name	Type	Description
harvest_timeout	integer	Specifies the time after which an entry is deleted from the access cache, if unused.
isDnsTTLEnabled	boolean	Specifies whether Dns TTL is enabled.
ttl_failure	integer	Specifies the time to live value for entries for which a failure was encountered, in seconds.
ttl_negative	integer	Specifies the time to live value of a negative access cache, in seconds.
ttl_positive	integer	Specifies the time to live value of a positive access cache, in seconds.

credential_cache

Name	Type	Description
harvest_timeout	integer	Specifies the age of the unused cached entries, in milliseconds, after which they are cleared from the cache.
negative_ttl	integer	Specifies the age in milliseconds, of the negative cached credentials after which they are cleared from the cache.
positive_ttl	integer	Specifies the age in milliseconds, of the positive cached credentials after which they are cleared from the cache.
transient_error_ttl	integer	Specifies the age in milliseconds, of the cached entries during a transient error situation.

exports

Name	Type	Description
name_service_lookup_protocol	string	Specifies the protocol to use for doing name service lookups.
netgroup_trust_any_nsswitch_no_match	boolean	Specifies if you can consider a no-match result from any of the netgroup ns-switch sources to be authoritative. If this option is enabled, then a no-match response from any of the netgroup ns-switch sources is deemed conclusive even if other sources could not be searched.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

v3

The NFSv3 operations

Name	Type	Description
_links	_links	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

The NFSv4 operations

Name	Type	Description
_links	_links	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
timestamp	string	The timestamp of the performance data.

v41

The NFSv4.1 operations

Name	Type	Description
_links	_links	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.

Name	Type	Description
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

metric

Historical performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.

Name	Type	Description
v3	v3	The NFSv3 operations
v4	v4	The NFSv4 operations
v41	v41	The NFSv4.1 operations

v3_features

Name	Type	Description
connection_drop	boolean	Specifies whether the dropping of a connection when an NFSv3 request is dropped is enabled.
ejukebox_enabled	boolean	Specifies whether NFSv3 EJUKEBOX error is enabled.
fsid_change	boolean	Specifies whether the change in FSID as NFSv3 clients traverse filesystems should be shown.
hide_snapshot_enabled	boolean	Specifies whether hiding a snapshot directory under a NFSv3 mount point is enabled.
mount_daemon_port	integer	Specifies which port the NFS mount daemon (mountd) uses.
mount_root_only	boolean	Specifies whether the SVM allows MOUNT protocol calls only from privileged ports (port numbers less than 1024).

Name	Type	Description
network_lock_manager_port	integer	Specifies which port the Network lock manager uses.
network_status_monitor_port	integer	Specifies which port the Network status monitor port uses.
rquota_daemon_port	integer	Specifies which port the NFS quota daemon port uses.

v40_features

Name	Type	Description
acl_enabled	boolean	Specifies whether NFSv4.0 ACLs is enabled.
acl_max_aces	integer	Specifies the maximum number of aces in a NFSv4.0 ACL.
acl_preserve	boolean	Specifies if the NFSv4 ACL is preserved or dropped when chmod is performed. In unified security style, this parameter also specifies if NTFS file permissions are preserved or dropped when chmod, chgrp, or chown are performed.
read_delegation_enabled	boolean	Specifies whether NFSv4.0 Read Delegation is enabled.
referrals_enabled	boolean	Specifies whether NFSv4.0 referrals is enabled.
write_delegation_enabled	boolean	Specifies whether NFSv4.0 Write Delegation is enabled.

v41_features

Name	Type	Description
acl_enabled	boolean	Specifies whether NFSv4.1 or later ACLs is enabled.
implementation_domain	string	Specifies the NFSv4.1 or later implementation ID domain.

Name	Type	Description
implementation_name	string	Specifies the NFSv4.1 or later implementation ID name.
pnfs_enabled	boolean	Specifies whether NFSv4.1 or later Parallel NFS is enabled.
read_delegation_enabled	boolean	Specifies whether NFSv4.1 or later Read Delegation is enabled.
referrals_enabled	boolean	Specifies whether NFSv4.1 referrals is enabled.
trunking_enabled	boolean	Specifies whether NFSv4.1 or later trunking is enabled.
write_delegation_enabled	boolean	Specifies whether NFSv4.1 or later Write Delegation is enabled.

v42_features

Name	Type	Description
seclabel_enabled	boolean	Specifies whether NFSv4.2 or later security label is enabled.
sparsefile_ops_enabled	boolean	Specifies whether NFSv4.2 or later sparsefile operation is enabled.
xattrs_enabled	boolean	Specifies whether NFSv4.2 or later extended attributes is enabled.

protocol

Name	Type	Description
v3_64bit_identifiers_enabled	boolean	Specifies whether 64-bit support for NFSv3 FSIDs and file IDs is enabled.
v3_enabled	boolean	Specifies whether NFSv3 protocol is enabled.
v3_features	v3_features	

Name	Type	Description
v40_enabled	boolean	Specifies whether NFSv4.0 protocol is enabled.
v40_features	v40_features	
v41_enabled	boolean	Specifies whether NFSv4.1 or later protocol is enabled.
v41_features	v41_features	
v42_features	v42_features	
v4_64bit_identifiers_enabled	boolean	Specifies whether 64-bit support for NFSv4.x FSIDs and file IDs is enabled.
v4_fsid_change	boolean	Specifies whether the change in FSID when NFSv4 clients traverse file systems is displayed.
v4_grace_seconds	integer	Specifies the grace period for clients to reclaim file locks after a server failure.
v4_id_domain	string	Specifies the domain portion of the string form of user and group names as defined by the NFSv4 protocol.
v4_lease_seconds	integer	Specifies the lease seconds of the NFSv4 clients. If it is inactive for more than the time displayed, all of the file lock states on a node might be lost.
v4_session_slot_reply_cache_size	integer	Specifies the number of bytes of the reply that is cached in each NFSv4.x session slot.
v4_session_slots	integer	Specifies the number of entries in NFSv4.x session slot table.
v4_subnet_filter_enabled	boolean	Specifies whether NFSv4 subnet filtering is enabled.

protocol_access_rules

Name	Type	Description
cifs_access_type	string	Access available for the CIFS protocol.
nfs3_access_type	string	Access available for the NFSv3 protocol.
nfs4_access_type	string	Access available for the NFSv4 protocol.

qtree

Name	Type	Description
export_enabled	boolean	Specifies whether qtree export is enabled.
validate_export	boolean	Specifies whether qtree export validation is enabled.

root

Name	Type	Description
ignore_nt_acl	boolean	Specifies whether Windows ACLs affect root access from NFS. If this option is enabled, root access from NFS ignores the NT ACL set on the file or directory.
skip_write_permission_check	boolean	Specifies if permission checks are to be skipped for NFS WRITE calls from root/owner. For copying read-only files to a destination folder which has inheritable ACLs, this option must be enabled.

security

Name	Type	Description
chown_mode	string	Specifies whether file ownership can be changed only by the superuser, or if a non-root user can also change file ownership. If you set this parameter to restricted, file ownership can be changed only by the superuser, even though the on-disk permissions allow a non-root user to change file ownership. If you set this parameter to unrestricted, file ownership can be changed by the superuser and by the non-root user, depending upon the access granted by on-disk permissions. If you set this parameter to use_export_policy, file ownership can be changed in accordance with the relevant export rules.
nt_acl_display_permission	boolean	Controls the permissions that are displayed to NFSv3 and NFSv4 clients on a file or directory that has an NT ACL set. When true, the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user.

Name	Type	Description
ntfs_unix_security	string	Specifies how NFSv3 security changes affect NTFS volumes. If you set this parameter to ignore, ONTAP ignores NFSv3 security changes. If you set this parameter to fail, this overrides the UNIX security options set in the relevant export rules. If you set this parameter to use_export_policy, ONTAP processes NFSv3 security changes in accordance with the relevant export rules. • Default value: 1 • enum: ["ignore", "fail", "use_export_policy"] • Introduced in: 9.11 • x-nullable: true
permitted_encryption_types	array[string]	Specifies the permitted encryption types for Kerberos over NFS.
rpcsec_context_idle	integer	Specifies, in seconds, the amount of time a RPCSEC_GSS context is permitted to remain unused before it is deleted.

iops_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.

Name	Type	Description
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

v3

The NFSv3 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

v4

The NFSv4 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

The NFSv4.1 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
timestamp	string	The timestamp of the performance data.

statistics

Realtime performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.

Name	Type	Description
v3	v3	The NFSv3 operations
v4	v4	The NFSv4 operations
v41	v41	The NFSv4.1 operations

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

transport

Name	Type	Description
rdma_enabled	boolean	Specifies whether RDMA transport is enabled for the NFS server.
tcp_enabled	boolean	Specifies whether TCP transports are enabled on the server.

Name	Type	Description
tcp_max_transfer_size	integer	Specifies the maximum transfer size in bytes, that the storage system negotiates with the client for TCP transport of data for NFSv3 and NFSv4.x protocols. The range is 8192 to 1048576.
udp_enabled	boolean	Specifies whether UDP transports are enabled on the server.

windows

Name	Type	Description
default_user	string	Specifies the default Windows user for the NFS server.
map_unknown_uid_to_default_user	boolean	Specifies whether or not the mapping of an unknown UID to the default Windows user is enabled.
v3_ms_dos_client_enabled	boolean	Specifies whether NFSv3 MS-DOS client support is enabled.

nfs_service

Name	Type	Description
_links	_links	
access_cache_config	access_cache_config	
auth_sys_extended_groups_enabled	boolean	Specifies whether or not extended groups support over AUTH_SYS is enabled.
credential_cache	credential_cache	
enabled	boolean	Specifies if the NFS service is administratively enabled.
exports	exports	
extended_groups_limit	integer	Specifies the maximum auxiliary groups supported over AUTH_SYS and RPCSEC_GSS.

Name	Type	Description
file_session_io_grouping_count	integer	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy.
file_session_io_grouping_duration	integer	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy.
metric	metric	Historical performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.
protocol	protocol	
protocol_access_rules	protocol_access_rules	
qtree	qtree	
root	root	
rquota_enabled	boolean	Specifies whether or not the remote quota feature is enabled.
security	security	
showmount_enabled	boolean	Specifies whether or not the showmount feature is enabled.
state	string	Specifies the state of the NFS service on the SVM. The following values are supported: * online - NFS server is ready to accept client requests. * offline - NFS server is not ready to accept client requests.
statistics	statistics	Realtime performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.
svm	svm	SVM, applies only to SVM-scoped objects.
transport	transport	

Name	Type	Description
vstorage_enabled	boolean	Specifies whether or not the VMware vstorage feature is enabled.
windows	windows	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create an NFS configuration for an SVM

POST /protocols/nfs/services

Introduced In: 9.6

Creates an NFS configuration for an SVM.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM for which to create the NFS configuration.

Default property values

If not specified in POST, the following default property values are assigned:

- `enabled` - *true*
- `state` - online
- `transport.udp_enabled` - *true*

- transport.tcp_enabled - *true*
- transport.rdma_enabled - *true*
- protocol.v3_enabled - *true*
- protocol.v3_64bit_identifiers_enabled - *false*
- protocol.v4_id_domain - defaultv4iddomain.com
- protocol.v4_64bit_identifiers_enabled - *true*
- protocol.v4_enabled - *false*
- protocol.v4l_enabled - *false*
- protocol.v40_features.acl_enabled - *false*
- protocol.v40_features.read_delegation_enabled - *false*
- protocol.v40_features.write_delegation_enabled - *false*
- protocol.v4l_features.acl_enabled - *false*
- protocol.v4l_features.read_delegation_enabled - *false*
- protocol.v4l_features.write_delegation_enabled - *false*
- protocol.v4l_features.pnfs_enabled - *false*
- protocol.v4_features.subnet_filter_enabled - *false*
- vstorage_enabled - *false*
- rquota_enabled - *false*
- showmount_enabled - *true*
- auth_sys_extended_groups_enabled - *false*
- extended_groups_limit - 32
- qtree.export_enabled - *false*
- qtree.validate_export - *true*
- access_cache_config.ttl_positive - 60
- access_cache_config.ttl_negative - 30
- access_cache_config.ttl_failure - 1
- access_cache_config.harvest_timeout - 3600
- access_cache_config.isDnsTTLEnabled - *false*
- file_session_io_grouping_count - 5000
- file_session_io_grouping_duration - 120
- security.nt_acl_display_permission - *false*
- exports.netgroup_trust_any_nsswitch_no_match - *false*
- exports.name_service_lookup_protocol - *udp*
- security.permitted_encryption_types - [aes-256,aes-128,des3,des]

- security.rpcsec_context_idle - *0*
- security.chown_mode - *use_export_policy*
- security.ntfs_unix_security - *use_export_policy*
- windows.v3_ms_dos_client_enabled - *false*
- windows.default_user - *""*
- windows.map_unknown_uid_to_default_user - *true*
- credential_cache.positive_ttl - *3600000*
- credential_cache.negative_ttl - *3600000*
- credential_cache.transient_error_ttl - *30000*
- credential_cache.harvest_timeout - *86400000*
- protocol.v40_features.acl_preserve - *true*
- protocol.v41_features.implementation_domain - *'netapp.com'*
- protocol.v40_features.acl_max_aces - *400*
- protocol.v3_features.ejukebox_enabled - *true*
- protocol.v3_features.connection_drop - *true*
- protocol.v3_features.fsid_change - *true*
- protocol.v3_features.mount_daemon_port - *635*
- protocol.v3_features.network_lock_manager_port - *4045*
- protocol.v3_features.network_status_monitor_port - *4046*
- protocol.v3_features.rquota_daemon_port - *4046*
- protocol.v3_features.mount_root_only - *true*
- transport.tcp_max_transfer_size - *65536*
- root.ignore_nt_acl - *false*
- root.skip_write_permission_check - *false*
- protocol.v40_features.referrals_enabled - *false*
- protocol.v41_features.referrals_enabled - *false*
- protocol.v4_fsid_change - *true*
- protocol.v4_lease_seconds - *30*
- protocol.v4_grace_seconds - *45*
- protocol.v4_session_slots - *180*
- protocol.v4_session_slot_reply_cache_size - *640*

Related ONTAP commands

- vserver nfs create

- `export-policy access-cache config show`

Learn more

- [DOC /protocols/nfs/services](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
access_cache_config	access_cache_config	
auth_sys_extended_groups_enabled	boolean	Specifies whether or not extended groups support over AUTH_SYS is enabled.
credential_cache	credential_cache	
enabled	boolean	Specifies if the NFS service is administratively enabled.
exports	exports	
extended_groups_limit	integer	Specifies the maximum auxiliary groups supported over AUTH_SYS and RPCSEC_GSS.
file_session_io_grouping_count	integer	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy.
file_session_io_grouping_duration	integer	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy.
protocol	protocol	
protocol_access_rules	protocol_access_rules	

Name	Type	Description
qtree	qtree	
root	root	
rquota_enabled	boolean	Specifies whether or not the remote quota feature is enabled.
security	security	
showmount_enabled	boolean	Specifies whether or not the showmount feature is enabled.
state	string	Specifies the state of the NFS service on the SVM. The following values are supported: * online - NFS server is ready to accept client requests. * offline - NFS server is not ready to accept client requests.
svm	svm	SVM, applies only to SVM-scoped objects.
transport	transport	
vstorage_enabled	boolean	Specifies whether or not the VMware vstorage feature is enabled.
windows	windows	

Example request

```
{
  "access_cache_config": {
    "harvest_timeout": 3600,
    "ttl_failure": 1,
    "ttl_negative": 30,
    "ttl_positive": 60
  },
  "credential_cache": {
    "harvest_timeout": 86400000,
    "negative_ttl": 3600000,
    "positive_ttl": 3600000,
    "transient_error_ttl": 30000
  },
  "exports": {
    "name_service_lookup_protocol": "string"
  },
  "extended_groups_limit": 32,
  "file_session_io_grouping_count": 5000,
  "file_session_io_grouping_duration": 120,
  "protocol": {
    "v40_features": {
      "acl_max_aces": 500
    },
    "v41_features": {
      "implementation_domain": "string",
      "implementation_name": "string"
    },
    "v4_id_domain": "string"
  },
  "protocol_access_rules": {
    "cifs_access_type": "string",
    "nfs3_access_type": "string",
    "nfs4_access_type": "string"
  },
  "security": {
    "chown_mode": "string",
    "ntfs_unix_security": "string",
    "permitted_encryption_types": [
      "string"
    ]
  },
  "state": "string",
  "svm": {
    "name": "svm1",
```

```
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "transport": {
    "tcp_max_transfer_size": 16384
  },
  "windows": {
    "default_user": "string"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of NFS Server Records
records	array[nfs_service]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "access_cache_config": {
        "harvest_timeout": 3600,
        "ttl_failure": 1,
        "ttl_negative": 30,
        "ttl_positive": 60
      },
      "credential_cache": {
        "harvest_timeout": 86400000,
        "negative_ttl": 3600000,
        "positive_ttl": 3600000,
        "transient_error_ttl": 30000
      },
      "exports": {
        "name_service_lookup_protocol": "string"
      },
      "extended_groups_limit": 32,
      "file_session_io_grouping_count": 5000,
      "file_session_io_grouping_duration": 120,
      "protocol": {
        "v40_features": {
          "acl_max_aces": 500
        },
        "v41_features": {
          "implementation_domain": "string",
          "implementation_name": "string"
        },
        "v4_id_domain": "string"
      },
      "protocol_access_rules": {
        "cifs_access_type": "string",
        "nfs3_access_type": "string",
        "nfs4_access_type": "string"
      },
      "security": {
        "chown_mode": "string",
        "ntfs_unix_security": "string",
        "permitted_encryption_types": [
          "string"
        ]
      }
    }
  ],
}
```

```

    "state": "string",
    "svm": {
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "transport": {
      "tcp_max_transfer_size": 16384
    },
    "windows": {
      "default_user": "string"
    }
  }
]
}

```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1534829	The port numbers allowed are 635 (the default) and 1024 through 9999
2621516	This operation is only supported on a data SVM
2621570	This operation is not permitted on an SVM that is configured as the destination for SVM DR.
2621574	This operation is not permitted on an SVM that is configured as the destination of a MetroCluster SVM relationship
2621706	The specified SVM UUID is incorrect for the specified SVM name
3276852	NFSv4.1 implementation name length for the SVM must be less than 256 bytes.
3276872	NFSv4 lease timeout value must not be less than 10.

Error Code	Description
3276873	NFSv4 lease timeout value must be between 10 and (protocol.v4_grace_seconds-1).
3276874	NFSv4 grace timeout value must not be greater than 180.
3276875	NFSv4 grace timeout value must be between (protocol.v4_lease_seconds+1) and 180.
3276900	NFSv4.1 implementation name cannot be an empty string
3276916	Vserver is not running
3277038	Cannot enable \"showmount\" feature because it requires an effective cluster version of Data ONTAP 8.3.0 or later
3277048	The port numbers allowed are 635 (the default) and 1024 through 9999
3277049	Cannot enable \"showmount\" feature on ID-Discard Vserver. Ensure that the Vserver is initialized and retry the command
3277052	NFSv4.x access to transitioned volumes in this Vserver could trigger conversion of non-Unicode directories to Unicode, which might impact data-serving performance. Before enabling NFSv4.x for this Vserver, refer to the Data and Configuration Transition Guide
3277069	Cannot disable TCP because the SnapDiff RPC server is in the \"on\" state
3277085	The port numbers allowed are 1024 through 9999
3277089	Attempting to create an NFS server using 64-bits for NFSv3 FSIDs and File IDs on Vserver. Older client software might not work with 64-bit identifiers
3277099	Domain name contains invalid characters or it is too short. Allowed characters are: alphabetical characters (A-Za-z), numeric characters (0-9), minus sign (-), and the period (.). The first character must be alphabetical or numeric, last character must not be a minus sign or a period. Minimum supported length: 2 characters, maximum of 256 characters
3277140	Cannot set \"transport.tcp_max_transfer_size\" to a value other than multiples of 4096
2621507	The NFS protocol is not allowed for the specified SVM.

Error Code	Description
2621519	SVM name is invalid. The SVM name must begin with a letter or an underscore. If the SVM is of type "sync-source", the maximum supported length is 41. Otherwise, the maximum supported length is 47.
262196	Field "access_cache_config.harvest_timeout" cannot be set in this operation.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

access_cache_config

Name	Type	Description
harvest_timeout	integer	Specifies the time after which an entry is deleted from the access cache, if unused.
isDnsTTLEnabled	boolean	Specifies whether Dns TTL is enabled.
ttl_failure	integer	Specifies the time to live value for entries for which a failure was encountered, in seconds.
ttl_negative	integer	Specifies the time to live value of a negative access cache, in seconds.
ttl_positive	integer	Specifies the time to live value of a positive access cache, in seconds.

credential_cache

Name	Type	Description
harvest_timeout	integer	Specifies the age of the unused cached entries, in milliseconds, after which they are cleared from the cache.
negative_ttl	integer	Specifies the age in milliseconds, of the negative cached credentials after which they are cleared from the cache.

Name	Type	Description
positive_ttl	integer	Specifies the age in milliseconds, of the positive cached credentials after which they are cleared from the cache.
transient_error_ttl	integer	Specifies the age in milliseconds, of the cached entries during a transient error situation.

exports

Name	Type	Description
name_service_lookup_protocol	string	Specifies the protocol to use for doing name service lookups.
netgroup_trust_any_nsswitch_no_match	boolean	Specifies if you can consider a no-match result from any of the netgroup ns-switch sources to be authoritative. If this option is enabled, then a no-match response from any of the netgroup ns-switch sources is deemed conclusive even if other sources could not be searched.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

v3

The NFSv3 operations

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.

Name	Type	Description
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

v4

The NFSv4 operations

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:

Name	Type	Description
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

v41

The NFSv4.1 operations

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

metric

Historical performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.

Name	Type	Description
v3	v3	The NFSv3 operations
v4	v4	The NFSv4 operations
v41	v41	The NFSv4.1 operations

v3_features

Name	Type	Description
connection_drop	boolean	Specifies whether the dropping of a connection when an NFSv3 request is dropped is enabled.
ejukebox_enabled	boolean	Specifies whether NFSv3 EJUKEBOX error is enabled.
fsid_change	boolean	Specifies whether the change in FSID as NFSv3 clients traverse filesystems should be shown.
hide_snapshot_enabled	boolean	Specifies whether hiding a snapshot directory under a NFSv3 mount point is enabled.
mount_daemon_port	integer	Specifies which port the NFS mount daemon (mountd) uses.
mount_root_only	boolean	Specifies whether the SVM allows MOUNT protocol calls only from privileged ports (port numbers less than 1024).
network_lock_manager_port	integer	Specifies which port the Network lock manager uses.
network_status_monitor_port	integer	Specifies which port the Network status monitor port uses.
rquota_daemon_port	integer	Specifies which port the NFS quota daemon port uses.

v40_features

Name	Type	Description
acl_enabled	boolean	Specifies whether NFSv4.0 ACLs is enabled.
acl_max_aces	integer	Specifies the maximum number of aces in a NFSv4.0 ACL.
acl_preserve	boolean	Specifies if the NFSv4 ACL is preserved or dropped when chmod is performed. In unified security style, this parameter also specifies if NTFS file permissions are preserved or dropped when chmod, chgrp, or chown are performed.
read_delegation_enabled	boolean	Specifies whether NFSv4.0 Read Delegation is enabled.
referrals_enabled	boolean	Specifies whether NFSv4.0 referrals is enabled.
write_delegation_enabled	boolean	Specifies whether NFSv4.0 Write Delegation is enabled.

v41_features

Name	Type	Description
acl_enabled	boolean	Specifies whether NFSv4.1 or later ACLs is enabled.
implementation_domain	string	Specifies the NFSv4.1 or later implementation ID domain.
implementation_name	string	Specifies the NFSv4.1 or later implementation ID name.
pnfs_enabled	boolean	Specifies whether NFSv4.1 or later Parallel NFS is enabled.
read_delegation_enabled	boolean	Specifies whether NFSv4.1 or later Read Delegation is enabled.
referrals_enabled	boolean	Specifies whether NFSv4.1 referrals is enabled.

Name	Type	Description
trunking_enabled	boolean	Specifies whether NFSv4.1 or later trunking is enabled.
write_delegation_enabled	boolean	Specifies whether NFSv4.1 or later Write Delegation is enabled.

v42_features

Name	Type	Description
seclabel_enabled	boolean	Specifies whether NFSv4.2 or later security label is enabled.
sparsefile_ops_enabled	boolean	Specifies whether NFSv4.2 or later sparsefile operation is enabled.
xattrs_enabled	boolean	Specifies whether NFSv4.2 or later extended attributes is enabled.

protocol

Name	Type	Description
v3_64bit_identifiers_enabled	boolean	Specifies whether 64-bit support for NFSv3 FSIDs and file IDs is enabled.
v3_enabled	boolean	Specifies whether NFSv3 protocol is enabled.
v3_features	v3_features	
v40_enabled	boolean	Specifies whether NFSv4.0 protocol is enabled.
v40_features	v40_features	
v41_enabled	boolean	Specifies whether NFSv4.1 or later protocol is enabled.
v41_features	v41_features	
v42_features	v42_features	
v4_64bit_identifiers_enabled	boolean	Specifies whether 64-bit support for NFSv4.x FSIDs and file IDs is enabled.

Name	Type	Description
v4_fsid_change	boolean	Specifies whether the change in FSID when NFSv4 clients traverse file systems is displayed.
v4_grace_seconds	integer	Specifies the grace period for clients to reclaim file locks after a server failure.
v4_id_domain	string	Specifies the domain portion of the string form of user and group names as defined by the NFSv4 protocol.
v4_lease_seconds	integer	Specifies the lease seconds of the NFSv4 clients. If it is inactive for more than the time displayed, all of the file lock states on a node might be lost.
v4_session_slot_reply_cache_size	integer	Specifies the number of bytes of the reply that is cached in each NFSv4.x session slot.
v4_session_slots	integer	Specifies the number of entries in NFSv4.x session slot table.
v4_subnet_filter_enabled	boolean	Specifies whether NFSv4 subnet filtering is enabled.

protocol_access_rules

Name	Type	Description
cifs_access_type	string	Access available for the CIFS protocol.
nfs3_access_type	string	Access available for the NFSv3 protocol.
nfs4_access_type	string	Access available for the NFSv4 protocol.

qtree

Name	Type	Description
export_enabled	boolean	Specifies whether qtree export is enabled.
validate_export	boolean	Specifies whether qtree export validation is enabled.

root

Name	Type	Description
ignore_nt_acl	boolean	Specifies whether Windows ACLs affect root access from NFS. If this option is enabled, root access from NFS ignores the NT ACL set on the file or directory.
skip_write_permission_check	boolean	Specifies if permission checks are to be skipped for NFS WRITE calls from root/owner. For copying read-only files to a destination folder which has inheritable ACLs, this option must be enabled.

security

Name	Type	Description
chown_mode	string	Specifies whether file ownership can be changed only by the superuser, or if a non-root user can also change file ownership. If you set this parameter to restricted, file ownership can be changed only by the superuser, even though the on-disk permissions allow a non-root user to change file ownership. If you set this parameter to unrestricted, file ownership can be changed by the superuser and by the non-root user, depending upon the access granted by on-disk permissions. If you set this parameter to use_export_policy, file ownership can be changed in accordance with the relevant export rules.

Name	Type	Description
nt_acl_display_permission	boolean	Controls the permissions that are displayed to NFSv3 and NFSv4 clients on a file or directory that has an NT ACL set. When true, the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user.
ntfs_unix_security	string	Specifies how NFSv3 security changes affect NTFS volumes. If you set this parameter to ignore, ONTAP ignores NFSv3 security changes. If you set this parameter to fail, this overrides the UNIX security options set in the relevant export rules. If you set this parameter to use_export_policy, ONTAP processes NFSv3 security changes in accordance with the relevant export rules. • Default value: 1 • enum: ["ignore", "fail", "use_export_policy"] • Introduced in: 9.11 • x-nullable: true
permitted_encryption_types	array[string]	Specifies the permitted encryption types for Kerberos over NFS.
rpcsec_context_idle	integer	Specifies, in seconds, the amount of time a RPCSEC_GSS context is permitted to remain unused before it is deleted.

iops_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

v3

The NFSv3 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

v4

The NFSv4 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

v41

The NFSv4.1 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

statistics

Realtime performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.

Name	Type	Description
v3	v3	The NFSv3 operations
v4	v4	The NFSv4 operations
v41	v41	The NFSv4.1 operations

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

transport

Name	Type	Description
rdma_enabled	boolean	Specifies whether RDMA transport is enabled for the NFS server.
tcp_enabled	boolean	Specifies whether TCP transports are enabled on the server.
tcp_max_transfer_size	integer	Specifies the maximum transfer size in bytes, that the storage system negotiates with the client for TCP transport of data for NFSv3 and NFSv4.x protocols. The range is 8192 to 1048576.
udp_enabled	boolean	Specifies whether UDP transports are enabled on the server.

windows

Name	Type	Description
default_user	string	Specifies the default Windows user for the NFS server.
map_unknown_uid_to_default_user	boolean	Specifies whether or not the mapping of an unknown UID to the default Windows user is enabled.
v3_ms_dos_client_enabled	boolean	Specifies whether NFSv3 MS-DOS client support is enabled.

nfs_service

Name	Type	Description
access_cache_config	access_cache_config	
auth_sys_extended_groups_enabled	boolean	Specifies whether or not extended groups support over AUTH_SYS is enabled.
credential_cache	credential_cache	
enabled	boolean	Specifies if the NFS service is administratively enabled.
exports	exports	
extended_groups_limit	integer	Specifies the maximum auxiliary groups supported over AUTH_SYS and RPCSEC_GSS.
file_session_io_grouping_count	integer	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy.
file_session_io_grouping_duration	integer	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy.
protocol	protocol	
protocol_access_rules	protocol_access_rules	
qtree	qtree	
root	root	

Name	Type	Description
rquota_enabled	boolean	Specifies whether or not the remote quota feature is enabled.
security	security	
showmount_enabled	boolean	Specifies whether or not the showmount feature is enabled.
state	string	Specifies the state of the NFS service on the SVM. The following values are supported: * online - NFS server is ready to accept client requests. * offline - NFS server is not ready to accept client requests.
svm	svm	SVM, applies only to SVM-scoped objects.
transport	transport	
vstorage_enabled	boolean	Specifies whether or not the VMware vstorage feature is enabled.
windows	windows	

nfs_service

Name	Type	Description
access_cache_config	access_cache_config	
auth_sys_extended_groups_enabled	boolean	Specifies whether or not extended groups support over AUTH_SYS is enabled.
credential_cache	credential_cache	
enabled	boolean	Specifies if the NFS service is administratively enabled.
exports	exports	
extended_groups_limit	integer	Specifies the maximum auxiliary groups supported over AUTH_SYS and RPCSEC_GSS.

Name	Type	Description
file_session_io_grouping_count	integer	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy.
file_session_io_grouping_duration	integer	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy.
protocol	protocol	
protocol_access_rules	protocol_access_rules	
qtree	qtree	
root	root	
rquota_enabled	boolean	Specifies whether or not the remote quota feature is enabled.
security	security	
showmount_enabled	boolean	Specifies whether or not the showmount feature is enabled.
state	string	Specifies the state of the NFS service on the SVM. The following values are supported: • online - NFS server is ready to accept client requests. • offline - NFS server is not ready to accept client requests.
svm	svm	SVM, applies only to SVM-scoped objects.
transport	transport	
vstorage_enabled	boolean	Specifies whether or not the VMware vstorage feature is enabled.
windows	windows	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete NFS configuration for an SVM

```
DELETE /protocols/nfs/services/{svm.uuid}
```

Introduced In: 9.6

Deletes the NFS configuration of an SVM.

Related ONTAP commands

- `vserver nfs delete`

Learn more

- [DOC /protocols/nfs/services](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
3276916	Vserver is not running
3277008	NFS Kerberos must be disabled on all LIFs of Vserver before deleting the NFS configuration. When all LIFs are disabled, try the operation
3277009	NFS Kerberos realms associated with the Vserver are deleted
3277111	Internal error. Failed to remove NFS-specific security trace filter for Vserver
3277112	Internal error. Failed to modify the protocols field of a security trace filter for Vserver

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve NFS configuration for an SVM

GET /protocols/nfs/services/{svm.uuid}

Introduced In: 9.6

Retrieves the NFS configuration of an SVM.

Related ONTAP commands

- `vserver nfs show`
- `vserver nfs status`

Learn more

- [DOC /protocols/nfs/services](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
access_cache_config	access_cache_config	
auth_sys_extended_groups_enabled	boolean	Specifies whether or not extended groups support over AUTH_SYS is enabled.
credential_cache	credential_cache	
enabled	boolean	Specifies if the NFS service is administratively enabled.
exports	exports	
extended_groups_limit	integer	Specifies the maximum auxiliary groups supported over AUTH_SYS and RPCSEC_GSS.
file_session_io_grouping_count	integer	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy.
file_session_io_grouping_duration	integer	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy.
metric	metric	Historical performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.
protocol	protocol	
protocol_access_rules	protocol_access_rules	
qtree	qtree	
root	root	
rquota_enabled	boolean	Specifies whether or not the remote quota feature is enabled.
security	security	

Name	Type	Description
showmount_enabled	boolean	Specifies whether or not the showmount feature is enabled.
state	string	Specifies the state of the NFS service on the SVM. The following values are supported: • online - NFS server is ready to accept client requests. • offline - NFS server is not ready to accept client requests.
statistics	statistics	Realtime performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.
svm	svm	SVM, applies only to SVM-scoped objects.
transport	transport	
vstorage_enabled	boolean	Specifies whether or not the VMware vstorage feature is enabled.
windows	windows	

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "access_cache_config": {
    "harvest_timeout": 3600,
    "ttl_failure": 1,
    "ttl_negative": 30,
    "ttl_positive": 60
  },
  "credential_cache": {
    "harvest_timeout": 86400000,
    "negative_ttl": 3600000,
    "positive_ttl": 3600000,
    "transient_error_ttl": 30000
  },
  "exports": {
    "name_service_lookup_protocol": "string"
  },
  "extended_groups_limit": 32,
  "file_session_io_grouping_count": 5000,
  "file_session_io_grouping_duration": 120,
  "metric": {
    "v3": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "duration": "PT15S",
      "iops": {
        "read": 200,
        "total": 1000,
        "write": 100
      },
      "latency": {
        "read": 200,
        "total": 1000,
        "write": 100
      },
      "status": "ok",
      "throughput": {
```

```

        "read": 200,
        "total": 1000,
        "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
},
"v4": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "duration": "PT15S",
    "iops": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "latency": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "status": "ok",
    "throughput": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
},
"v41": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "duration": "PT15S",
    "iops": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "latency": {
        "read": 200,
        "total": 1000,

```



```

        "write": 100
    },
    "status": "ok",
    "throughput": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
}
},
"protocol": {
    "v40_features": {
        "acl_max_aces": 500
    },
    "v41_features": {
        "implementation_domain": "string",
        "implementation_name": "string"
    },
    "v4_id_domain": "string"
},
"protocol_access_rules": {
    "cifs_access_type": "string",
    "nfs3_access_type": "string",
    "nfs4_access_type": "string"
},
"security": {
    "chown_mode": "string",
    "ntfs_unix_security": "string",
    "permitted_encryption_types": [
        "string"
    ]
},
"state": "string",
"statistics": {
    "v3": {
        "iops_raw": {
            "read": 200,
            "total": 1000,
            "write": 100
        },
        "latency_raw": {
            "read": 200,
            "total": 1000,
            "write": 100
        }
    },

```

```

    "status": "ok",
    "throughput_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
  },
  "v4": {
    "iops_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "throughput_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
  },
  "v41": {
    "iops_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "throughput_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
  }
}

```

```

},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"transport": {
  "tcp_max_transfer_size": 16384
},
"windows": {
  "default_user": "string"
}
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```

{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```


See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

access_cache_config

Name	Type	Description
harvest_timeout	integer	Specifies the time after which an entry is deleted from the access cache, if unused.
isDnsTTLEnabled	boolean	Specifies whether Dns TTL is enabled.
ttl_failure	integer	Specifies the time to live value for entries for which a failure was encountered, in seconds.
ttl_negative	integer	Specifies the time to live value of a negative access cache, in seconds.
ttl_positive	integer	Specifies the time to live value of a positive access cache, in seconds.

credential_cache

Name	Type	Description
harvest_timeout	integer	Specifies the age of the unused cached entries, in milliseconds, after which they are cleared from the cache.
negative_ttl	integer	Specifies the age in milliseconds, of the negative cached credentials after which they are cleared from the cache.

Name	Type	Description
positive_ttl	integer	Specifies the age in milliseconds, of the positive cached credentials after which they are cleared from the cache.
transient_error_ttl	integer	Specifies the age in milliseconds, of the cached entries during a transient error situation.

exports

Name	Type	Description
name_service_lookup_protocol	string	Specifies the protocol to use for doing name service lookups.
netgroup_trust_any_nsswitch_no_match	boolean	Specifies if you can consider a no-match result from any of the netgroup ns-switch sources to be authoritative. If this option is enabled, then a no-match response from any of the netgroup ns-switch sources is deemed conclusive even if other sources could not be searched.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

v3

The NFSv3 operations

Name	Type	Description
_links	_links	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:

Name	Type	Description
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

v4

The NFSv4 operations

Name	Type	Description
_links	_links	

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

v41

The NFSv4.1 operations

Name	Type	Description
_links	_links	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

metric

Historical performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.

Name	Type	Description
v3	v3	The NFSv3 operations
v4	v4	The NFSv4 operations
v41	v41	The NFSv4.1 operations

v3_features

Name	Type	Description
connection_drop	boolean	Specifies whether the dropping of a connection when an NFSv3 request is dropped is enabled.
ejukebox_enabled	boolean	Specifies whether NFSv3 EJUKEBOX error is enabled.
fsid_change	boolean	Specifies whether the change in FSID as NFSv3 clients traverse filesystems should be shown.
hide_snapshot_enabled	boolean	Specifies whether hiding a snapshot directory under a NFSv3 mount point is enabled.
mount_daemon_port	integer	Specifies which port the NFS mount daemon (mountd) uses.
mount_root_only	boolean	Specifies whether the SVM allows MOUNT protocol calls only from privileged ports (port numbers less than 1024).
network_lock_manager_port	integer	Specifies which port the Network lock manager uses.
network_status_monitor_port	integer	Specifies which port the Network status monitor port uses.
rquota_daemon_port	integer	Specifies which port the NFS quota daemon port uses.

v40_features

Name	Type	Description
acl_enabled	boolean	Specifies whether NFSv4.0 ACLs is enabled.
acl_max_aces	integer	Specifies the maximum number of aces in a NFSv4.0 ACL.
acl_preserve	boolean	Specifies if the NFSv4 ACL is preserved or dropped when chmod is performed. In unified security style, this parameter also specifies if NTFS file permissions are preserved or dropped when chmod, chgrp, or chown are performed.
read_delegation_enabled	boolean	Specifies whether NFSv4.0 Read Delegation is enabled.
referrals_enabled	boolean	Specifies whether NFSv4.0 referrals is enabled.
write_delegation_enabled	boolean	Specifies whether NFSv4.0 Write Delegation is enabled.

v41_features

Name	Type	Description
acl_enabled	boolean	Specifies whether NFSv4.1 or later ACLs is enabled.
implementation_domain	string	Specifies the NFSv4.1 or later implementation ID domain.
implementation_name	string	Specifies the NFSv4.1 or later implementation ID name.
pnfs_enabled	boolean	Specifies whether NFSv4.1 or later Parallel NFS is enabled.
read_delegation_enabled	boolean	Specifies whether NFSv4.1 or later Read Delegation is enabled.
referrals_enabled	boolean	Specifies whether NFSv4.1 referrals is enabled.

Name	Type	Description
trunking_enabled	boolean	Specifies whether NFSv4.1 or later trunking is enabled.
write_delegation_enabled	boolean	Specifies whether NFSv4.1 or later Write Delegation is enabled.

v42_features

Name	Type	Description
seclabel_enabled	boolean	Specifies whether NFSv4.2 or later security label is enabled.
sparsefile_ops_enabled	boolean	Specifies whether NFSv4.2 or later sparsefile operation is enabled.
xattrs_enabled	boolean	Specifies whether NFSv4.2 or later extended attributes is enabled.

protocol

Name	Type	Description
v3_64bit_identifiers_enabled	boolean	Specifies whether 64-bit support for NFSv3 FSIDs and file IDs is enabled.
v3_enabled	boolean	Specifies whether NFSv3 protocol is enabled.
v3_features	v3_features	
v40_enabled	boolean	Specifies whether NFSv4.0 protocol is enabled.
v40_features	v40_features	
v41_enabled	boolean	Specifies whether NFSv4.1 or later protocol is enabled.
v41_features	v41_features	
v42_features	v42_features	
v4_64bit_identifiers_enabled	boolean	Specifies whether 64-bit support for NFSv4.x FSIDs and file IDs is enabled.

Name	Type	Description
v4_fsid_change	boolean	Specifies whether the change in FSID when NFSv4 clients traverse file systems is displayed.
v4_grace_seconds	integer	Specifies the grace period for clients to reclaim file locks after a server failure.
v4_id_domain	string	Specifies the domain portion of the string form of user and group names as defined by the NFSv4 protocol.
v4_lease_seconds	integer	Specifies the lease seconds of the NFSv4 clients. If it is inactive for more than the time displayed, all of the file lock states on a node might be lost.
v4_session_slot_reply_cache_size	integer	Specifies the number of bytes of the reply that is cached in each NFSv4.x session slot.
v4_session_slots	integer	Specifies the number of entries in NFSv4.x session slot table.
v4_subnet_filter_enabled	boolean	Specifies whether NFSv4 subnet filtering is enabled.

protocol_access_rules

Name	Type	Description
cifs_access_type	string	Access available for the CIFS protocol.
nfs3_access_type	string	Access available for the NFSv3 protocol.
nfs4_access_type	string	Access available for the NFSv4 protocol.

qtree

Name	Type	Description
export_enabled	boolean	Specifies whether qtree export is enabled.
validate_export	boolean	Specifies whether qtree export validation is enabled.

root

Name	Type	Description
ignore_nt_acl	boolean	Specifies whether Windows ACLs affect root access from NFS. If this option is enabled, root access from NFS ignores the NT ACL set on the file or directory.
skip_write_permission_check	boolean	Specifies if permission checks are to be skipped for NFS WRITE calls from root/owner. For copying read-only files to a destination folder which has inheritable ACLs, this option must be enabled.

security

Name	Type	Description
chown_mode	string	Specifies whether file ownership can be changed only by the superuser, or if a non-root user can also change file ownership. If you set this parameter to restricted, file ownership can be changed only by the superuser, even though the on-disk permissions allow a non-root user to change file ownership. If you set this parameter to unrestricted, file ownership can be changed by the superuser and by the non-root user, depending upon the access granted by on-disk permissions. If you set this parameter to use_export_policy, file ownership can be changed in accordance with the relevant export rules.

Name	Type	Description
nt_acl_display_permission	boolean	Controls the permissions that are displayed to NFSv3 and NFSv4 clients on a file or directory that has an NT ACL set. When true, the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user.
ntfs_unix_security	string	Specifies how NFSv3 security changes affect NTFS volumes. If you set this parameter to ignore, ONTAP ignores NFSv3 security changes. If you set this parameter to fail, this overrides the UNIX security options set in the relevant export rules. If you set this parameter to use_export_policy, ONTAP processes NFSv3 security changes in accordance with the relevant export rules. • Default value: 1 • enum: ["ignore", "fail", "use_export_policy"] • Introduced in: 9.11 • x-nullable: true
permitted_encryption_types	array[string]	Specifies the permitted encryption types for Kerberos over NFS.
rpcsec_context_idle	integer	Specifies, in seconds, the amount of time a RPCSEC_GSS context is permitted to remain unused before it is deleted.

iops_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

v3

The NFSv3 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

v4

The NFSv4 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

v41

The NFSv4.1 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

statistics

Realtime performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.

Name	Type	Description
v3	v3	The NFSv3 operations
v4	v4	The NFSv4 operations
v41	v41	The NFSv4.1 operations

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

transport

Name	Type	Description
rdma_enabled	boolean	Specifies whether RDMA transport is enabled for the NFS server.
tcp_enabled	boolean	Specifies whether TCP transports are enabled on the server.
tcp_max_transfer_size	integer	Specifies the maximum transfer size in bytes, that the storage system negotiates with the client for TCP transport of data for NFSv3 and NFSv4.x protocols. The range is 8192 to 1048576.
udp_enabled	boolean	Specifies whether UDP transports are enabled on the server.

windows

Name	Type	Description
default_user	string	Specifies the default Windows user for the NFS server.
map_unknown_uid_to_default_user	boolean	Specifies whether or not the mapping of an unknown UID to the default Windows user is enabled.
v3_ms_dos_client_enabled	boolean	Specifies whether NFSv3 MS-DOS client support is enabled.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update NFS configuration for an SVM

PATCH /protocols/nfs/services/{svm.uuid}

Introduced In: 9.6

Updates the NFS configuration of an SVM.

Related ONTAP commands

- `vserver nfs modify`
- `vserver nfs on`
- `vserver nfs off`

- `vserver nfs start`
- `vserver nfs stop`

Learn more

- [DOC /protocols/nfs/services](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	

Request Body

Name	Type	Description
access_cache_config	access_cache_config	
auth_sys_extended_groups_enabled	boolean	Specifies whether or not extended groups support over AUTH_SYS is enabled.
credential_cache	credential_cache	
enabled	boolean	Specifies if the NFS service is administratively enabled.
exports	exports	
extended_groups_limit	integer	Specifies the maximum auxiliary groups supported over AUTH_SYS and RPCSEC_GSS.
file_session_io_grouping_count	integer	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy.
file_session_io_grouping_duration	integer	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy.
protocol	protocol	
protocol_access_rules	protocol_access_rules	
qtree	qtree	
root	root	

Name	Type	Description
rquota_enabled	boolean	Specifies whether or not the remote quota feature is enabled.
security	security	
showmount_enabled	boolean	Specifies whether or not the showmount feature is enabled.
state	string	Specifies the state of the NFS service on the SVM. The following values are supported: • online - NFS server is ready to accept client requests. • offline - NFS server is not ready to accept client requests.
svm	svm	SVM, applies only to SVM-scoped objects.
transport	transport	
vstorage_enabled	boolean	Specifies whether or not the VMware vstorage feature is enabled.
windows	windows	

Example request

```
{
  "access_cache_config": {
    "harvest_timeout": 3600,
    "ttl_failure": 1,
    "ttl_negative": 30,
    "ttl_positive": 60
  },
  "credential_cache": {
    "harvest_timeout": 86400000,
    "negative_ttl": 3600000,
    "positive_ttl": 3600000,
    "transient_error_ttl": 30000
  },
  "exports": {
    "name_service_lookup_protocol": "string"
  },
  "extended_groups_limit": 32,
  "file_session_io_grouping_count": 5000,
  "file_session_io_grouping_duration": 120,
  "protocol": {
    "v40_features": {
      "acl_max_aces": 500
    },
    "v41_features": {
      "implementation_domain": "string",
      "implementation_name": "string"
    },
    "v4_id_domain": "string"
  },
  "protocol_access_rules": {
    "cifs_access_type": "string",
    "nfs3_access_type": "string",
    "nfs4_access_type": "string"
  },
  "security": {
    "chown_mode": "string",
    "ntfs_unix_security": "string",
    "permitted_encryption_types": [
      "string"
    ]
  },
  "state": "string",
  "svm": {
    "name": "svm1",
```

```

    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "transport": {
    "tcp_max_transfer_size": 16384
  },
  "windows": {
    "default_user": "string"
  }
}

```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1534829	The port numbers allowed are 635 (the default) and 1024 through 9999
2621516	This operation is only supported on a data SVM
2621574	This operation is not permitted on a SVM that is configured as the destination of a MetroCluster SVM relationship
3276852	NFSv4.1 implementation name length for the SVM must be less than 256 bytes.
3276872	NFSv4 lease timeout value must not be less than 10.
3276873	NFSv4 lease timeout value must be between 10 and (protocol.v4_grace_seconds-1).
3276874	NFSv4 grace timeout value must not be greater than 180.
3276875	NFSv4 grace timeout value must be between (protocol.v4_lease_seconds+1) and 180.
3276916	Vserver is not running
3276969	Ports cannot be modified when NFS access is enabled. Disable NFS access before changing port settings

Error Code	Description
3276994	Kerberos must be disabled on all LIFs on the SVM before adding or removing any encryption. Disable Kerberos on the LIF and retry the operation.
3277048	The port numbers allowed are 635 (the default) and 1024 through 9999
3277069	Cannot disable TCP because the SnapDiff RPC server is in the \"on\" state
3277085	The port numbers allowed are 1024 through 9999.
3277087	Attempting to reduce the number of bits used for NFSv3 FSIDs and File IDs from 64 to 32 on Vserver. This could result in collisions between different File IDs and is not recommended
3277088	Attempting to increase the number of bits used for NFSv3 FSIDs and File IDs from 32 to 64 on Vserver. This could result in older client software no longer working with the volumes owned by Vserver
3277090	Attempting to disallow multiple FSIDs per mount point on Vserver. Since this Vserver currently uses 32-bit NFSv3 FSIDs and File IDs, this could result in collisions between different File IDs and is not recommended
3277099	Domain name contains invalid characters or its too short. Allowed characters are: alphabetical characters (A-Za-z), numeric characters (0-9), minus sign (-), and the period (.). The first character must be alphabetical or numeric, last character must not be a minus sign or a period. Minimum supported length: 2 characters, maximum of 256 characters
3277140	Cannot set "transport.tcp_max_transfer_size" to a value other than multiples of 4096

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

access_cache_config

Name	Type	Description
harvest_timeout	integer	Specifies the time after which an entry is deleted from the access cache, if unused.
isDnsTTLEnabled	boolean	Specifies whether Dns TTL is enabled.
ttl_failure	integer	Specifies the time to live value for entries for which a failure was encountered, in seconds.
ttl_negative	integer	Specifies the time to live value of a negative access cache, in seconds.
ttl_positive	integer	Specifies the time to live value of a positive access cache, in seconds.

credential_cache

Name	Type	Description
harvest_timeout	integer	Specifies the age of the unused cached entries, in milliseconds, after which they are cleared from the cache.
negative_ttl	integer	Specifies the age in milliseconds, of the negative cached credentials after which they are cleared from the cache.

Name	Type	Description
positive_ttl	integer	Specifies the age in milliseconds, of the positive cached credentials after which they are cleared from the cache.
transient_error_ttl	integer	Specifies the age in milliseconds, of the cached entries during a transient error situation.

exports

Name	Type	Description
name_service_lookup_protocol	string	Specifies the protocol to use for doing name service lookups.
netgroup_trust_any_nsswitch_no_match	boolean	Specifies if you can consider a no-match result from any of the netgroup ns-switch sources to be authoritative. If this option is enabled, then a no-match response from any of the netgroup ns-switch sources is deemed conclusive even if other sources could not be searched.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

v3

The NFSv3 operations

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.

Name	Type	Description
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

v4

The NFSv4 operations

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:

Name	Type	Description
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

v41

The NFSv4.1 operations

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

metric

Historical performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.

Name	Type	Description
v3	v3	The NFSv3 operations
v4	v4	The NFSv4 operations
v41	v41	The NFSv4.1 operations

v3_features

Name	Type	Description
connection_drop	boolean	Specifies whether the dropping of a connection when an NFSv3 request is dropped is enabled.
ejukebox_enabled	boolean	Specifies whether NFSv3 EJUKEBOX error is enabled.
fsid_change	boolean	Specifies whether the change in FSID as NFSv3 clients traverse filesystems should be shown.
hide_snapshot_enabled	boolean	Specifies whether hiding a snapshot directory under a NFSv3 mount point is enabled.
mount_daemon_port	integer	Specifies which port the NFS mount daemon (mountd) uses.
mount_root_only	boolean	Specifies whether the SVM allows MOUNT protocol calls only from privileged ports (port numbers less than 1024).
network_lock_manager_port	integer	Specifies which port the Network lock manager uses.
network_status_monitor_port	integer	Specifies which port the Network status monitor port uses.
rquota_daemon_port	integer	Specifies which port the NFS quota daemon port uses.

v40_features

Name	Type	Description
acl_enabled	boolean	Specifies whether NFSv4.0 ACLs is enabled.
acl_max_aces	integer	Specifies the maximum number of aces in a NFSv4.0 ACL.
acl_preserve	boolean	Specifies if the NFSv4 ACL is preserved or dropped when chmod is performed. In unified security style, this parameter also specifies if NTFS file permissions are preserved or dropped when chmod, chgrp, or chown are performed.
read_delegation_enabled	boolean	Specifies whether NFSv4.0 Read Delegation is enabled.
referrals_enabled	boolean	Specifies whether NFSv4.0 referrals is enabled.
write_delegation_enabled	boolean	Specifies whether NFSv4.0 Write Delegation is enabled.

v41_features

Name	Type	Description
acl_enabled	boolean	Specifies whether NFSv4.1 or later ACLs is enabled.
implementation_domain	string	Specifies the NFSv4.1 or later implementation ID domain.
implementation_name	string	Specifies the NFSv4.1 or later implementation ID name.
pnfs_enabled	boolean	Specifies whether NFSv4.1 or later Parallel NFS is enabled.
read_delegation_enabled	boolean	Specifies whether NFSv4.1 or later Read Delegation is enabled.
referrals_enabled	boolean	Specifies whether NFSv4.1 referrals is enabled.

Name	Type	Description
trunking_enabled	boolean	Specifies whether NFSv4.1 or later trunking is enabled.
write_delegation_enabled	boolean	Specifies whether NFSv4.1 or later Write Delegation is enabled.

v42_features

Name	Type	Description
seclabel_enabled	boolean	Specifies whether NFSv4.2 or later security label is enabled.
sparsefile_ops_enabled	boolean	Specifies whether NFSv4.2 or later sparsefile operation is enabled.
xattrs_enabled	boolean	Specifies whether NFSv4.2 or later extended attributes is enabled.

protocol

Name	Type	Description
v3_64bit_identifiers_enabled	boolean	Specifies whether 64-bit support for NFSv3 FSIDs and file IDs is enabled.
v3_enabled	boolean	Specifies whether NFSv3 protocol is enabled.
v3_features	v3_features	
v40_enabled	boolean	Specifies whether NFSv4.0 protocol is enabled.
v40_features	v40_features	
v41_enabled	boolean	Specifies whether NFSv4.1 or later protocol is enabled.
v41_features	v41_features	
v42_features	v42_features	
v4_64bit_identifiers_enabled	boolean	Specifies whether 64-bit support for NFSv4.x FSIDs and file IDs is enabled.

Name	Type	Description
v4_fsid_change	boolean	Specifies whether the change in FSID when NFSv4 clients traverse file systems is displayed.
v4_grace_seconds	integer	Specifies the grace period for clients to reclaim file locks after a server failure.
v4_id_domain	string	Specifies the domain portion of the string form of user and group names as defined by the NFSv4 protocol.
v4_lease_seconds	integer	Specifies the lease seconds of the NFSv4 clients. If it is inactive for more than the time displayed, all of the file lock states on a node might be lost.
v4_session_slot_reply_cache_size	integer	Specifies the number of bytes of the reply that is cached in each NFSv4.x session slot.
v4_session_slots	integer	Specifies the number of entries in NFSv4.x session slot table.
v4_subnet_filter_enabled	boolean	Specifies whether NFSv4 subnet filtering is enabled.

protocol_access_rules

Name	Type	Description
cifs_access_type	string	Access available for the CIFS protocol.
nfs3_access_type	string	Access available for the NFSv3 protocol.
nfs4_access_type	string	Access available for the NFSv4 protocol.

qtree

Name	Type	Description
export_enabled	boolean	Specifies whether qtree export is enabled.
validate_export	boolean	Specifies whether qtree export validation is enabled.

root

Name	Type	Description
ignore_nt_acl	boolean	Specifies whether Windows ACLs affect root access from NFS. If this option is enabled, root access from NFS ignores the NT ACL set on the file or directory.
skip_write_permission_check	boolean	Specifies if permission checks are to be skipped for NFS WRITE calls from root/owner. For copying read-only files to a destination folder which has inheritable ACLs, this option must be enabled.

security

Name	Type	Description
chown_mode	string	Specifies whether file ownership can be changed only by the superuser, or if a non-root user can also change file ownership. If you set this parameter to restricted, file ownership can be changed only by the superuser, even though the on-disk permissions allow a non-root user to change file ownership. If you set this parameter to unrestricted, file ownership can be changed by the superuser and by the non-root user, depending upon the access granted by on-disk permissions. If you set this parameter to use_export_policy, file ownership can be changed in accordance with the relevant export rules.

Name	Type	Description
nt_acl_display_permission	boolean	Controls the permissions that are displayed to NFSv3 and NFSv4 clients on a file or directory that has an NT ACL set. When true, the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user.
ntfs_unix_security	string	Specifies how NFSv3 security changes affect NTFS volumes. If you set this parameter to ignore, ONTAP ignores NFSv3 security changes. If you set this parameter to fail, this overrides the UNIX security options set in the relevant export rules. If you set this parameter to use_export_policy, ONTAP processes NFSv3 security changes in accordance with the relevant export rules. • Default value: 1 • enum: ["ignore", "fail", "use_export_policy"] • Introduced in: 9.11 • x-nullable: true
permitted_encryption_types	array[string]	Specifies the permitted encryption types for Kerberos over NFS.
rpcsec_context_idle	integer	Specifies, in seconds, the amount of time a RPCSEC_GSS context is permitted to remain unused before it is deleted.

iops_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

v3

The NFSv3 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

v4

The NFSv4 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

v41

The NFSv4.1 operations

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

statistics

Realtime performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.

Name	Type	Description
v3	v3	The NFSv3 operations
v4	v4	The NFSv4 operations
v41	v41	The NFSv4.1 operations

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

transport

Name	Type	Description
rdma_enabled	boolean	Specifies whether RDMA transport is enabled for the NFS server.
tcp_enabled	boolean	Specifies whether TCP transports are enabled on the server.
tcp_max_transfer_size	integer	Specifies the maximum transfer size in bytes, that the storage system negotiates with the client for TCP transport of data for NFSv3 and NFSv4.x protocols. The range is 8192 to 1048576.
udp_enabled	boolean	Specifies whether UDP transports are enabled on the server.

windows

Name	Type	Description
default_user	string	Specifies the default Windows user for the NFS server.
map_unknown_uid_to_default_user	boolean	Specifies whether or not the mapping of an unknown UID to the default Windows user is enabled.
v3_ms_dos_client_enabled	boolean	Specifies whether NFSv3 MS-DOS client support is enabled.

nfs_service

Name	Type	Description
access_cache_config	access_cache_config	
auth_sys_extended_groups_enabled	boolean	Specifies whether or not extended groups support over AUTH_SYS is enabled.
credential_cache	credential_cache	
enabled	boolean	Specifies if the NFS service is administratively enabled.
exports	exports	
extended_groups_limit	integer	Specifies the maximum auxiliary groups supported over AUTH_SYS and RPCSEC_GSS.
file_session_io_grouping_count	integer	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy.
file_session_io_grouping_duration	integer	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy.
protocol	protocol	
protocol_access_rules	protocol_access_rules	
qtree	qtree	
root	root	

Name	Type	Description
rquota_enabled	boolean	Specifies whether or not the remote quota feature is enabled.
security	security	
showmount_enabled	boolean	Specifies whether or not the showmount feature is enabled.
state	string	Specifies the state of the NFS service on the SVM. The following values are supported: • online - NFS server is ready to accept client requests. • offline - NFS server is not ready to accept client requests.
svm	svm	SVM, applies only to SVM-scoped objects.
transport	transport	
vstorage_enabled	boolean	Specifies whether or not the VMware vstorage feature is enabled.
windows	windows	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

Retrieve NFS protocol historical performance metrics

GET /protocols/nfs/services/{svm.uuid}/metrics

Introduced In: 9.7

Retrieves historical performance metrics for the NFS protocol of an SVM.

Parameters

Name	Type	In	Required	Description
v4.status	string	query	False	Filter by v4.status Introduced in: 9.8
v4.duration	string	query	False	Filter by v4.duration Introduced in: 9.8
v4.throughput.write	integer	query	False	Filter by v4.throughput.write Introduced in: 9.8
v4.throughput.read	integer	query	False	Filter by v4.throughput.read Introduced in: 9.8
v4.throughput.total	integer	query	False	Filter by v4.throughput.total Introduced in: 9.8
v4.latency.other	integer	query	False	Filter by v4.latency.other Introduced in: 9.8

Name	Type	In	Required	Description
v4.latency.total	integer	query	False	Filter by v4.latency.total • Introduced in: 9.8
v4.latency.write	integer	query	False	Filter by v4.latency.write • Introduced in: 9.8
v4.latency.read	integer	query	False	Filter by v4.latency.read • Introduced in: 9.8
v4.iops.other	integer	query	False	Filter by v4.iops.other • Introduced in: 9.8
v4.iops.total	integer	query	False	Filter by v4.iops.total • Introduced in: 9.8
v4.iops.write	integer	query	False	Filter by v4.iops.write • Introduced in: 9.8
v4.iops.read	integer	query	False	Filter by v4.iops.read • Introduced in: 9.8
timestamp	string	query	False	Filter by timestamp
v41.throughput.write	integer	query	False	Filter by v41.throughput.write • Introduced in: 9.8

Name	Type	In	Required	Description
v41.throughput.read	integer	query	False	Filter by v41.throughput.read • Introduced in: 9.8
v41.throughput.total	integer	query	False	Filter by v41.throughput.total • Introduced in: 9.8
v41.iops.other	integer	query	False	Filter by v41.iops.other • Introduced in: 9.8
v41.iops.total	integer	query	False	Filter by v41.iops.total • Introduced in: 9.8
v41.iops.write	integer	query	False	Filter by v41.iops.write • Introduced in: 9.8
v41.iops.read	integer	query	False	Filter by v41.iops.read • Introduced in: 9.8
v41.latency.other	integer	query	False	Filter by v41.latency.other • Introduced in: 9.8
v41.latency.total	integer	query	False	Filter by v41.latency.total • Introduced in: 9.8

Name	Type	In	Required	Description
v41.latency.write	integer	query	False	Filter by v41.latency.write • Introduced in: 9.8
v41.latency.read	integer	query	False	Filter by v41.latency.read • Introduced in: 9.8
v41.duration	string	query	False	Filter by v41.duration • Introduced in: 9.8
v41.status	string	query	False	Filter by v41.status • Introduced in: 9.8
v3.iops.other	integer	query	False	Filter by v3.iops.other
v3.iops.total	integer	query	False	Filter by v3.iops.total
v3.iops.write	integer	query	False	Filter by v3.iops.write
v3.iops.read	integer	query	False	Filter by v3.iops.read
v3.latency.other	integer	query	False	Filter by v3.latency.other
v3.latency.total	integer	query	False	Filter by v3.latency.total
v3.latency.write	integer	query	False	Filter by v3.latency.write
v3.latency.read	integer	query	False	Filter by v3.latency.read

Name	Type	In	Required	Description
v3.throughput.write	integer	query	False	Filter by v3.throughput.write
v3.throughput.read	integer	query	False	Filter by v3.throughput.read
v3.throughput.total	integer	query	False	Filter by v3.throughput.total
v3.duration	string	query	False	Filter by v3.duration
v3.status	string	query	False	Filter by v3.status
svm.uuid	string	path	True	Unique identifier of the SVM.

Name	Type	In	Required	Description
interval	string	query	False	The time range for the data. Examples can be 1h, 1d, 1m, 1w, 1y. The period for each time range is as follows: • 1h: Metrics over the most recent hour sampled over 15 seconds. • 1d: Metrics over the most recent day sampled over 5 minutes. • 1w: Metrics over the most recent week sampled over 30 minutes. • 1m: Metrics over the most recent month sampled over 2 hours. • 1y: Metrics over the most recent year sampled over a day. • Default value: 1 • enum: ["1h", "1d", "1w", "1m", "1y"]

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
order_by	array[string]	query	False	Order results by specified fields and optional [asc
desc] direction. Default direction is 'asc' for ascending.	return_records	boolean	query	False

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[records]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "v3": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "duration": "PT15S",
        "iops": {
          "read": 200,
          "total": 1000,
          "write": 100
        },
        "latency": {
          "read": 200,
          "total": 1000,
          "write": 100
        },
        "status": "ok",
        "throughput": {
          "read": 200,
          "total": 1000,
          "write": 100
        },
        "timestamp": "2017-01-25 11:20:13 +0000"
      },
      "v4": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "duration": "PT15S",
```



```

    "iops": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "throughput": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
  },
  "v41": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "duration": "PT15S",
    "iops": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "throughput": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "timestamp": "2017-01-25 11:20:13 +0000"
  }
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

v3

The NFSv3 operations

Name	Type	Description
_links	_links	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.

Name	Type	Description
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

v4

The NFSv4 operations

Name	Type	Description
_links	_links	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:

Name	Type	Description
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

v41

The NFSv4.1 operations

Name	Type	Description
_links	_links	

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

records

Historical performance numbers, such as IOPS latency and throughput, for SVM-NFS protocol.

Name	Type	Description
v3	v3	The NFSv3 operations
v4	v4	The NFSv4 operations
v41	v41	The NFSv4.1 operations

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage NFS over TLS interface configuration details

Manage NFS over TLS interface configuration details

Examples

Retrieving the NFS over TLS interface configuration details

```
# The API:
GET /api/protocols/nfs/tls/interfaces

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/nfs/tls/interfaces"
```


Updating the NFS over TLS interface configuration

```
# The API:
PATCH /api/protocols/nfs/tls/interfaces/{interface.uuid}

# The call:
curl -d "@test_patch_nfs_tls_interface.txt" -X PATCH "https://<mgmt-
ip>/api/protocols/nfs/tls/interfaces/e62936de-7342-11e8-9eb4-0050568be2b7"
test_patch_nfs_tls_interface.txt (body) :
{
  "enabled" : "true"
}
```

Retrieve NFS over TLS interface configurations

GET /protocols/nfs/tls/interfaces

Introduced In: 9.15

Retrieves NFS over TLS interfaces.

Related ONTAP commands

- `vserver nfs tls interface show`

Learn more

- [DOC /protocols/nfs/tls/interfaces](#)

Parameters

Name	Type	In	Required	Description
interface.ip.address	string	query	False	Filter by interface.ip.address
interface.name	string	query	False	Filter by interface.name
interface.uuid	string	query	False	Filter by interface.uuid
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
certificate.name	string	query	False	Filter by certificate.name

Name	Type	In	Required	Description
certificate.uuid	string	query	False	Filter by certificate.uuid
enabled	boolean	query	False	Filter by enabled
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records.
records	array[nfs_tls_interface]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "certificate": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "string",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "interface": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "ip": {
          "address": "10.10.10.7"
        },
        "name": "lif1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    },
  ],
}
```

```
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  }
]
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

certificate

Specifies the certificate that is used for creating NFS over TLS connections.

Name	Type	Description
_links	_links	
name	string	Certificate name
uuid	string	Certificate UUID

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

interface

Network interface.

Name	Type	Description
_links	_links	
ip	ip	IP information

Name	Type	Description
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

nfs_tls_interface

Name	Type	Description
_links	_links	
certificate	certificate	Specifies the certificate that is used for creating NFS over TLS connections.
enabled	boolean	Indicates whether NFS over TLS is enabled.
interface	interface	Network interface.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve an NFS over TLS interface configuration

GET /protocols/nfs/tls/interfaces/{interface.uuid}

Introduced In: 9.15

Retrieves an NFS over TLS interface.

Related ONTAP commands

- `vserver nfs tls interface show`

Learn more

- [DOC /protocols/nfs/tls/interfaces](#)

Parameters

Name	Type	In	Required	Description
interface.uuid	string	path	True	Network interface UUID.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
certificate	certificate	Specifies the certificate that is used for creating NFS over TLS connections.
enabled	boolean	Indicates whether NFS over TLS is enabled.
interface	interface	Network interface.
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "certificate": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "string",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "interface": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "ip": {
      "address": "10.10.10.7"
    },
    "name": "lif1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default

ONTAP Error Response codes

Error codes	Description
262197	The value provided is invalid for field "fields".

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

certificate

Specifies the certificate that is used for creating NFS over TLS connections.

Name	Type	Description
_links	_links	
name	string	Certificate name
uuid	string	Certificate UUID

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

interface

Network interface.

Name	Type	Description
_links	_links	
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update the properties of an NFS over TLS interface

PATCH /protocols/nfs/tls/interfaces/{interface.uuid}

Introduced In: 9.15

Updates the properties of an NFS over TLS interface.

Optional query parameter

- `skip-san-validation` - Specifies whether the server should ignore validating the certificate for Subject Alternate Name.

Related ONTAP commands

- `vserver nfs tls interface modify`
- `vserver nfs tls interface enable`
- `vserver nfs tls interface disable`

Learn more

- [DOC /protocols/nfs/tls/interfaces](#)

Parameters

Name	Type	In	Required	Description
interface.uuid	string	path	True	Network interface UUID.
skip_san_validation	boolean	query	False	Indicates whether Subject Alternate Name (SAN) validation has to be skipped. • Introduced in: 9.17

Request Body

Name	Type	Description
certificate	certificate	Specifies the certificate that is used for creating NFS over TLS connections.
enabled	boolean	Indicates whether NFS over TLS is enabled.
interface	interface	Network interface.
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "certificate": {
    "name": "string",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "interface": {
    "name": "lif1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response codes

Error codes	Description
2	The value provided is an invalid value for field "interface.uuid".
4	The entry doesn't exist
3277204	TLS already enabled/disabled on this LIF.
3277205	Cannot enable TLS because no certificate was provided.
3277206	The "enabled" is a required field.
3277210	The FQDN of the LIF IP address and the common name present in the certificate do not match. Update the certificate so that the common name and LIF FQDN match and retry the operation.

Error codes	Description
3277217	Failed to enable TLS on LIF on vserver because the certificate does not have LIF as subject alternate name.
92405900	Certificate not found for the SVM.
92406020	Only certificates of type 'server' are supported on the SVM.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

certificate

Specifies the certificate that is used for creating NFS over TLS connections.

Name	Type	Description
name	string	Certificate name
uuid	string	Certificate UUID

ip

IP information

interface

Network interface.

Name	Type	Description
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

nfs_tls_interface

Name	Type	Description
certificate	certificate	Specifies the certificate that is used for creating NFS over TLS connections.
enabled	boolean	Indicates whether NFS over TLS is enabled.
interface	interface	Network interface.
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

View and create Vscan configuration

View and create Vscan configuration

Overview

Use Vscan to protect data from being compromised by viruses or other malicious code. Vscan combines best-in-class third party antivirus software with ONTAP features that give you the flexibility you need to control which files get scanned and when. Storage systems offload scanning operations to external servers hosting antivirus software from third party vendors. An Antivirus Connector on the external server handles communications between the storage system and the antivirus software. Vscan is not supported on continuous availability (CA) shares.

Examples

Retrieving all of the Vscan configurations

```
# The API:
/api/protocols/vscan

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/vscan?fields=*&return_records=true&return_timeout=15" -H
"accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "03ce5c36-f269-11e8-8852-0050568e5298",
        "name": "vs1"
      },
      "enabled": true,
      "scanner_pools": [
        {
          "name": "scanner-1",
          "servers": [
            "1.1.1.1",
            "10.72.204.27"
          ],
          "privileged_users": [
            "cifs\\u1",
            "cifs\\u2"
          ],
          "role": "primary",
          "cluster": {
            "name": "Cluster1",
            "uuid": "0228714d-f268-11e8-8851-0050568e5298"
          }
        }
      ]
    }
  ]
}
```

```

    },
    {
      "name": "scanner-2",
      "servers": [
        "1.1.1.1",
        "10.72.204.27"
      ],
      "privileged_users": [
        "cifs\\u1",
        "cifs\\u2"
      ],
      "role": "primary",
      "cluster": {
        "name": "Cluster1",
        "uuid": "0228714d-f268-11e8-8851-0050568e5298"
      }
    }
  ],
  "on_access_policies": [
    {
      "name": "default_CIFS",
      "vsName": "vs1",
      "enabled": true,
      "mandatory": true,
      "scope": {
        "max_file_size": 2147483648,
        "include_extensions": [
          "*"
        ],
        "scan_without_extension": true,
        "scan_readonly_volumes": false,
        "only_execute_access": false
      },
      "protocol": "CIFS",
      "owner": "cluster"
    },
    {
      "name": "on-access-test1",
      "vsName": "vs1",
      "enabled": false,
      "mandatory": true,
      "scope": {
        "max_file_size": 10000,
        "exclude_paths": [
          "\\dir"
        ],
      },
    }
  ],

```

```

        "include_extensions": [
            "mp*",
            "txt"
        ],
        "exclude_extensions": [
            "mp*",
            "txt"
        ],
        "scan_without_extension": true,
        "scan_readonly_volumes": false,
        "only_execute_access": false
    },
    "protocol": "CIFS",
    "owner": "vserver"
},
{
    "name": "on-access-test2",
    "vsName": "vs1",
    "enabled": false,
    "mandatory": true,
    "scope": {
        "max_file_size": 10000,
        "exclude_paths": [
            "\\dir"
        ],
        "include_extensions": [
            "mp*",
            "txt"
        ],
        "exclude_extensions": [
            "mp*",
            "txt"
        ],
        "scan_without_extension": true,
        "scan_readonly_volumes": false,
        "only_execute_access": false
    },
    "protocol": "CIFS",
    "owner": "vserver"
}
],
"on_demand_policies": [
    {
        "name": "task-1",
        "scan_paths": [
            "/vol1"

```

```

    ],
    "log_path": "/vol1",
    "scope": {
        "max_file_size": 10000,
        "exclude_paths": [
            "/vol1"
        ],
        "include_extensions": [
            "vmdk",
            "mp*"
        ],
        "exclude_extensions": [
            "mp3",
            "mp4"
        ],
        "scan_without_extension": true
    }
},
{
    "name": "task-2",
    "scan_paths": [
        "/vol1"
    ],
    "log_path": "/vol2",
    "scope": {
        "max_file_size": 10000,
        "exclude_paths": [
            "/vol2"
        ],
        "include_extensions": [
            "vmdk",
            "mp*"
        ],
        "exclude_extensions": [
            "mp3",
            "mp4"
        ],
        "scan_without_extension": true
    }
}
],
},
{
    "svm": {
        "uuid": "24c2567a-f269-11e8-8852-0050568e5298",
        "name": "vs2"
    }
}

```

```

},
"enabled": false,
"scanner_pools": [
  {
    "name": "sp2",
    "servers": [
      "1.1.1.1"
    ],
    "privileged_users": [
      "cifs\\u1"
    ],
    "role": "idle"
  }
],
"on_access_policies": [
  {
    "name": "default_CIFS",
    "vsName": "vs2",
    "enabled": true,
    "mandatory": true,
    "scope": {
      "max_file_size": 2147483648,
      "include_extensions": [
        "*"
      ],
      "scan_without_extension": true,
      "scan_readonly_volumes": false,
      "only_execute_access": false
    }
  },
  {
    "name": "ap1",
    "vsName": "vs2",
    "enabled": false,
    "mandatory": true,
    "scope": {
      "max_file_size": 2147483648,
      "include_extensions": [
        "*"
      ],
      "scan_without_extension": true,
      "scan_readonly_volumes": false,
      "only_execute_access": false
    }
  }
],

```

```

    "on_demand_policies": [
      {
        "name": "t1",
        "scan_paths": [
          "/vol1"
        ],
        "log_path": "/vol1",
        "scope": {
          "max_file_size": 10737418240,
          "include_extensions": [
            "*"
          ],
          "scan_without_extension": true
        }
      }
    ]
  },
  "num_records": 2
}

```

Retrieving all Vscan configurations for a particular SVM

```

# The API:
/api/protocols/vscan/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/24c2567a-f269-11e8-8852-0050568e5298?fields=*" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "24c2567a-f269-11e8-8852-0050568e5298",
    "name": "vs2"
  },
  "enabled": false,
  "scanner_pools": [
    {
      "name": "sp2",
      "servers": [
        "1.1.1.1"
      ],
      "privileged_users": [
        "cifs\\u1"
      ]
    }
  ]
}

```



```

    ],
    "role": "idle"
  }
],
"on_access_policies": [
  {
    "name": "default_CIFS",
    "vsName": "vs2",
    "enabled": true,
    "mandatory": true,
    "scope": {
      "max_file_size": 2147483648,
      "include_extensions": [
        "*"
      ],
      "scan_without_extension": true,
      "scan_readonly_volumes": false,
      "only_execute_access": false
    },
    "protocol": "CIFS",
    "owner": "cluster"
  },
  {
    "name": "ap1",
    "vsName": "vs2",
    "enabled": false,
    "mandatory": true,
    "scope": {
      "max_file_size": 2147483648,
      "include_extensions": [
        "*"
      ],
      "scan_without_extension": true,
      "scan_readonly_volumes": false,
      "only_execute_access": false
    },
    "protocol": "CIFS",
    "owner": "vserver"
  }
],
"on_demand_policies": [
  {
    "name": "t1",
    "scan_paths": [
      "/vol1"
    ],
  },

```

```

    "log_path": "/vol1",
    "scope": {
        "max_file_size": 10737418240,
        "include_extensions": [
            "*"
        ],
        "scan_without_extension": true
    }
}
]
}

```

Creating a Vscan configuration

```

# The API:
/api/protocols/vscan

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/vscan?return_records=true"
-H "accept: application/json" -H "Content-Type: application/json" -d "{
  \"enabled\": true, \"on_access_policies\": [ { \"enabled\": true,
  \"mandatory\": true, \"name\": \"on-access-test\", \"scope\": {
  \"exclude_extensions\": [ \"mp*\", \"txt\" ], \"exclude_paths\": [
  \"\\\\\\\\\\\\vol\" ], \"include_extensions\": [ \"mp*\", \"txt\" ],
  \"max_file_size\": 21474, \"only_execute_access\": false,
  \"scan_readonly_volumes\": false, \"scan_without_extension\": true } } ],
  \"on_demand_policies\": [ { \"log_path\": \"/vol\", \"name\": \"task-1\",
  \"scan_paths\": [ \"/vol\" ], \"schedule\": { \"name\": \"daily\",
  \"uuid\": \"d4984822-17b7-11e9-b450-0050568ecd85\" }, \"scope\": {
  \"exclude_extensions\": [ \"mp3\", \"mp4\" ], \"exclude_paths\": [
  \"/vol\" ], \"include_extensions\": [ \"vmdk\", \"mp*\" ],
  \"max_file_size\": 10737, \"scan_without_extension\": true } } ],
  \"scanner_pools\": [ { \"cluster\": { \"name\": \"Cluster1\", \"uuid\":
  \"ab746d77-17b7-11e9-b450-0050568ecd85\" }, \"name\": \"scanner-1\",
  \"privileged_users\": [ \"cifs\\\\\\\\u1\", \"cifs\\\\\\\\u2\" ], \"role\":
  \"primary\", \"servers\": [ \"1.1.1.1\", \"10.72.204.27\" ] } ], \"svm\":
  { \"name\": \"vs1\", \"uuid\": \"b103be27-17b8-11e9-b451-0050568ecd85\"
  } } }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {

```

```

"uuid": "b103be27-17b8-11e9-b451-0050568ecd85",
"name": "vs1"
},
"enabled": true,
"scanner_pools": [
  {
    "name": "scanner-1",
    "servers": [
      "1.1.1.1",
      "10.72.204.27"
    ],
    "privileged_users": [
      "cifs\\u1",
      "cifs\\u2"
    ],
    "role": "primary",
    "cluster": {
      "name": "Cluster1",
      "uuid": "ab746d77-17b7-11e9-b450-0050568ecd85"
    }
  }
],
"on_access_policies": [
  {
    "name": "on-access-test",
    "enabled": true,
    "mandatory": true,
    "scope": {
      "max_file_size": 21474,
      "exclude_paths": [
        "\\vol"
      ],
      "include_extensions": [
        "mp*",
        "txt"
      ],
      "exclude_extensions": [
        "mp*",
        "txt"
      ],
      "scan_without_extension": true,
      "scan_readonly_volumes": false,
      "only_execute_access": false
    }
  }
],

```

```

    "on_demand_policies": [
      {
        "name": "task-1",
        "scan_paths": [
          "/vol"
        ],
        "log_path": "/vol",
        "schedule": {
          "uuid": "d4984822-17b7-11e9-b450-0050568ecd85",
          "name": "daily"
        },
        "scope": {
          "max_file_size": 10737,
          "exclude_paths": [
            "/"
          ],
          "include_extensions": [
            "vmdk",
            "mp*"
          ],
          "exclude_extensions": [
            "mp3",
            "mp4"
          ],
          "scan_without_extension": true
        }
      }
    ]
  }
}

```

Creating multiple Vscan scanner-pools for the specified SVM

```

# The API:
/api/protocols/vscan

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/vscan?return_records=true"
-H "accept: application/json" -H "Content-Type: application/json" -d "{
  \"scanner_pools\": [ { \"cluster\": { \"name\": \"Cluster1\", \"uuid\":
  \"ab746d77-17b7-11e9-b450-0050568ecd85\" }, \"name\": \"scanner-1\",
  \"privileged_users\": [ \"cifs\\\\\\\\u1\", \"cifs\\\\\\\\u2\" ], \"role\":
  \"primary\", \"servers\": [ \"1.1.1.1\", \"10.72.204.27\" ] }, {
  \"cluster\": { \"name\": \"Cluster1\", \"uuid\": \"ab746d77-17b7-11e9-

```

```
b450-0050568ecd85\" }, \"name\": \"scanner-2\", \"privileged_users\": [
  \"cifs\\\\\\u3\", \"cifs\\\\\\u4\" ], \"role\": \"primary\", \"servers\": [
  \"1.1.1.5\", \"10.72.3.27\" ] } ], \"svm\": { \"name\": \"vs1\", \"uuid\":
  \"b103be27-17b8-11e9-b451-0050568ecd85\" } }"
```

The response:

```
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "b103be27-17b8-11e9-b451-0050568ecd85",
        "name": "vs1"
      },
      "scanner_pools": [
        {
          "name": "scanner-1",
          "servers": [
            "1.1.1.1",
            "10.72.204.27"
          ],
          "privileged_users": [
            "cifs\\\\u1",
            "cifs\\\\u2"
          ],
          "role": "primary",
          "cluster": {
            "name": "Cluster1",
            "uuid": "ab746d77-17b7-11e9-b450-0050568ecd85"
          }
        },
        {
          "name": "scanner-2",
          "servers": [
            "1.1.1.5",
            "10.72.3.27"
          ],
          "privileged_users": [
            "cifs\\\\u3",
            "cifs\\\\u4"
          ],
          "role": "primary",
          "cluster": {
            "name": "Cluster1",
            "uuid": "ab746d77-17b7-11e9-b450-0050568ecd85"
          }
        }
      ]
    }
  ]
}
```

```

    }
  ]
}
]
}

```

Creating multiple Vscan On-access policies for a specified SVM

```

# The API:
/api/protocols/vscan

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/vscan?return_records=true"
-H "accept: application/json" -H "Content-Type: application/json" -d "{
  \"on_access_policies\": [ { \"enabled\": false, \"mandatory\": true,
  \"name\": \"on-access-test11\", \"scope\": { \"exclude_extensions\": [
  \"mp*\", \"txt\" ], \"exclude_paths\": [ \"\\\\\\\\vol\" ],
  \"include_extensions\": [ \"mp*\", \"txt\" ], \"max_file_size\": 214748,
  \"only_execute_access\": false, \"scan_readonly_volumes\": false,
  \"scan_without_extension\": true } }, { \"enabled\": false, \"mandatory\":
true, \"name\": \"on-access-test10\", \"scope\": { \"exclude_extensions\":
[ \"mp*\", \"txt\" ], \"exclude_paths\": [ \"\\\\\\\\vol\" ],
  \"include_extensions\": [ \"mp*\", \"txt\" ], \"max_file_size\": 21474,
  \"only_execute_access\": false, \"scan_readonly_volumes\": false,
  \"scan_without_extension\": true } } ], \"svm\": { \"name\": \"vs1\",
  \"uuid\": \"b103be27-17b8-11e9-b451-0050568ecd85\" } }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "b103be27-17b8-11e9-b451-0050568ecd85",
        "name": "vs1"
      },
      "on_access_policies": [
        {
          "name": "on-access-test11",
          "enabled": false,
          "mandatory": true,
          "scope": {
            "max_file_size": 214748,
            "exclude_paths": [
              "\\vol"
            ]
          }
        }
      ]
    }
  ]
}

```

```

    ],
    "include_extensions": [
        "mp*",
        "txt"
    ],
    "exclude_extensions": [
        "mp*",
        "txt"
    ],
    "scan_without_extension": true,
    "scan_readonly_volumes": false,
    "only_execute_access": false
}
},
{
    "name": "on-access-test10",
    "enabled": false,
    "mandatory": true,
    "scope": {
        "max_file_size": 21474,
        "exclude_paths": [
            "\\vol"
        ],
        "include_extensions": [
            "mp*",
            "txt"
        ],
        "exclude_extensions": [
            "mp*",
            "txt"
        ],
        "scan_without_extension": true,
        "scan_readonly_volumes": false,
        "only_execute_access": false
    }
}
]
}
]
}

```

Creating multiple Vscan On-demand policies for a specified SVM

```

# The API:
/api/protocols/vscan

```

```
# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/vscan?return_records=true"
-H "accept: application/json" -H "Content-Type: application/json" -d "{
  \"on_demand_policies\": [ { \"log_path\": \"/vol\", \"name\": \"task-1\",
  \"scan_paths\": [ \"/vol\" ], \"schedule\": { \"name\": \"daily\",
  \"uuid\": \"d4984822-17b7-11e9-b450-0050568ecd85\" }, \"scope\": {
  \"exclude_extensions\": [ \"mp3\", \"mp4\" ], \"exclude_paths\": [
  \"/vol1\" ], \"include_extensions\": [ \"vmdk\", \"mp*\" ],
  \"max_file_size\": 107374, \"scan_without_extension\": true } }, {
  \"log_path\": \"/vol\", \"name\": \"task-2\", \"scan_paths\": [ \"/vol\"
  ], \"scope\": { \"exclude_extensions\": [ \"mp3\", \"mp4\" ],
  \"exclude_paths\": [ \"/vol1\" ], \"include_extensions\": [ \"vmdk\",
  \"mp*\" ], \"max_file_size\": 107374, \"scan_without_extension\": true } }
  ], \"svm\": { \"name\": \"vs1\", \"uuid\": \"b103be27-17b8-11e9-b451-
  0050568ecd85\" } }"
```

```
# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "b103be27-17b8-11e9-b451-0050568ecd85",
        "name": "vs1"
      },
      "on_demand_policies": [
        {
          "name": "task-1",
          "scan_paths": [
            "/vol"
          ],
          "log_path": "/vol",
          "schedule": {
            "uuid": "d4984822-17b7-11e9-b450-0050568ecd85",
            "name": "daily"
          },
          "scope": {
            "max_file_size": 107374,
            "exclude_paths": [
              "/vol1"
            ],
            "include_extensions": [
              "vmdk",
              "mp*"
            ],
          ],
        }
      ]
    }
  ]
}
```



```

        "exclude_extensions": [
            "mp3",
            "mp4"
        ],
        "scan_without_extension": true
    }
},
{
    "name": "task-2",
    "scan_paths": [
        "/vol"
    ],
    "log_path": "/vol",
    "scope": {
        "max_file_size": 107374,
        "exclude_paths": [
            "/vol1"
        ],
        "include_extensions": [
            "vmdk",
            "mp*"
        ],
        "exclude_extensions": [
            "mp3",
            "mp4"
        ],
        "scan_without_extension": true
    }
}
]
}
]
}

```

Enabling Vscan for a specified SVM

```

# The API:
/api/protocols/vscan/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/vscan/03ce5c36-f269-11e8-8852-0050568e5298" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"enabled\": true}"

```

Clearing the Vscan cache for the specified SVM

```
# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/vscan/03ce5c36-f269-11e8-8852-0050568e5298" -H "accept: application/json" -H "Content-Type: application/json" -d '{"cache_clear": true}'
```

Deleting the Vscan configuration for a specified SVM

```
# The API:
/api/protocols/vscan/{svm.uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/vscan/03ce5c36-f269-11e8-8852-0050568e5298" -H "accept: application/json"
```

Retrieve the Vscan configuration

GET /protocols/vscan

Introduced In: 9.6

Retrieves the Vscan configuration. This includes scanner-pools, On-Access policies, On-Demand policies, and information about whether a Vscan is enabled or disabled on an SVM.

Important notes:

- You can enable only one Vscan configuration at a time for an SVM.
- You can only query using `svm.uuid` or `svm.name`.

Related ONTAP commands

- `vserver vscan show`
- `vserver vscan scanner-pool show`
- `vserver vscan scanner-pool servers show`
- `vserver vscan scanner-pool privileged-users show`
- `vserver vscan on-access-policy show`
- `vserver vscan on-access-policy file-ext-to-exclude show`
- `vserver vscan on-access-policy file-ext-to-include show`
- `vserver vscan on-access-policy paths-to-exclude show`
- `vserver vscan on-demand-task show`

Learn more

- [DOC /protocols/vscan](#)
- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

Parameters

Name	Type	In	Required	Description
scanner_pools.role	string	query	False	Filter by scanner_pools.role
scanner_pools.name	string	query	False	Filter by scanner_pools.name • maxLength: 256 • minLength: 1
scanner_pools.cluster.name	string	query	False	Filter by scanner_pools.cluster.name
scanner_pools.cluster.uuid	string	query	False	Filter by scanner_pools.cluster.uuid
scanner_pools.privileged_users	string	query	False	Filter by scanner_pools.privileged_users
scanner_pools.servers	string	query	False	Filter by scanner_pools.servers
on_demand_policies.scan_paths	string	query	False	Filter by on_demand_policies.scan_paths
on_demand_policies.scope.exclude_extensions	string	query	False	Filter by on_demand_policies.scope.exclude_extensions
on_demand_policies.scope.include_extensions	string	query	False	Filter by on_demand_policies.scope.include_extensions

Name	Type	In	Required	Description
on_demand_policies.scope.max_file_size	integer	query	False	Filter by on_demand_policies.scope.max_file_size • Max value: 1099511627776 • Min value: 1024
on_demand_policies.scope.exclude_paths	string	query	False	Filter by on_demand_policies.scope.exclude_paths • maxLength: 255 • minLength: 1
on_demand_policies.scope.scan_without_extension	boolean	query	False	Filter by on_demand_policies.scope.scan_without_extension
on_demand_policies.log_path	string	query	False	Filter by on_demand_policies.log_path
on_demand_policies.schedule.name	string	query	False	Filter by on_demand_policies.schedule.name
on_demand_policies.schedule.uuid	string	query	False	Filter by on_demand_policies.schedule.uuid
on_demand_policies.name	string	query	False	Filter by on_demand_policies.name • maxLength: 256 • minLength: 1
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid

Name	Type	In	Required	Description
on_access_policies.name	string	query	False	Filter by on_access_policies.name • maxLength: 256 • minLength: 1
on_access_policies.scope.max_file_size	integer	query	False	Filter by on_access_policies.scope.max_file_size • Max value: 1099511627776 • Min value: 1024
on_access_policies.scope.only_execute_access	boolean	query	False	Filter by on_access_policies.scope.only_execute_access
on_access_policies.scope.include_extensions	string	query	False	Filter by on_access_policies.scope.include_extensions
on_access_policies.scope.scan_readonly_volumes	boolean	query	False	Filter by on_access_policies.scope.scan_readonly_volumes
on_access_policies.scope.exclude_extensions	string	query	False	Filter by on_access_policies.scope.exclude_extensions
on_access_policies.scope.scan_without_extension	boolean	query	False	Filter by on_access_policies.scope.scan_without_extension
on_access_policies.scope.exclude_paths	string	query	False	Filter by on_access_policies.scope.exclude_paths • maxLength: 255 • minLength: 1

Name	Type	In	Required	Description
on_access_policies.mandatory	boolean	query	False	Filter by on_access_policies.mandatory
on_access_policies.enabled	boolean	query	False	Filter by on_access_policies.enabled
on_access_policies.protocol	string	query	False	Filter by on_access_policies.protocol • Introduced in: 9.18
enabled	boolean	query	False	Filter by enabled
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Max value: 120 • Min value: 0 • Default value: 15

Name	Type	In	Required	Description
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[vscan]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "on_access_policies": [
        {
          "name": "on-access-test",
          "protocol": "string",
          "scope": {
            "exclude_extensions": [
              "mp*",
              "txt"
            ],
            "exclude_paths": [
              "\\dir1\\dir2\\name",
              "\\vol\\a b",
              "\\vol\\a,b\\"
            ],
            "include_extensions": [
              "mp*",
              "txt"
            ],
            "max_file_size": 2147483648
          }
        }
      ],
      "on_demand_policies": [
        {
          "log_path": "/vol0/report_dir",
          "name": "task-1",
          "scan_paths": [
```



```

        "/vol1/",
        "/vol2/cifs/"
    ],
    "schedule": {
        "_links": {
            "self": {
                "href": "/api/resourcelink"
            }
        },
        "name": "weekly",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "scope": {
        "exclude_extensions": [
            "mp3",
            "mp4"
        ],
        "exclude_paths": [
            "/vol1/cold-files/",
            "/vol1/cifs/names"
        ],
        "include_extensions": [
            "vmdk",
            "mp*"
        ],
        "max_file_size": 10737418240
    }
}
],
"scanner_pools": [
    {
        "cluster": {
            "_links": {
                "self": {
                    "href": "/api/resourcelink"
                }
            },
            "name": "cluster1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "name": "scanner-1",
        "privileged_users": [
            "cifs\\u1",
            "cifs\\u2"
        ],
        "role": "string",

```

```

        "servers": [
            "1.1.1.1",
            "10.72.204.27",
            "vmwin204-27.fsct.nb"
        ]
    },
],
"svm": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
only_execute_access	boolean	Scan only files opened with execute-access.
scan_readonly_volumes	boolean	Specifies whether or not read-only volume can be scanned.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_access_policy

An On-Access policy that defines the scope of an On-Access scan. Use On-Access scanning to check for

viruses when clients open, read, rename, or close files over CIFS. By default, ONTAP creates an On-Access policy named "default_CIFS" and enables it for all the SVMs in a cluster.

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
name	string	On-Access policy name
protocol	string	Specifies the file access protocol for the on-access policy. The following lists the possible protocols. CIFS - SMB protocol
scope	scope	

schedule

Schedule of the task.

Name	Type	Description
_links	_links	
name	string	Job schedule name
uuid	string	Job schedule UUID

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.

Name	Type	Description
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_demand_policy

Use On-Demand scanning to check files for viruses on a schedule. An On-Demand policy defines the scope of an On-Demand scan.

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
name	string	On-Demand task name
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	

cluster_reference

Name	Type	Description
_links	_links	
name	string	
uuid	string	

scanner_pool

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and external virus-scanning server, or "Vscan server".

Name	Type	Description
cluster	cluster_reference	
name	string	Specifies the name of the scanner pool. Scanner pool name can be up to 256 characters long and is a string that can only contain any combination of ASCII-range alphanumeric characters a-z, A-Z, 0-9), "_", "-", and ".".

Name	Type	Description
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remediating and quarantining operations. • example: ["cifs\u1", "cifs\u2"] • Introduced in: 9.10
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"] • Introduced in: 9.10

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan

Vscan can be used to protect data from being compromised by viruses or other malicious code. This combines best-in-class third-party antivirus software with ONTAP features that give you the flexibility you need to control which files get scanned and when. Storage systems offload scanning operations to external servers hosting antivirus software from third-party vendors. An Antivirus Connector on the external server handles communications between the storage system and the antivirus software.

Name	Type	Description
_links	_links	
cache_clear	boolean	Discards the cached information of the files that have been successfully scanned. Once the cache is cleared, files are scanned again when they are accessed. PATCH only
enabled	boolean	Specifies whether or not Vscan is enabled on the SVM.
on_access_policies	array[vscan_on_access_policy]	
on_demand_policies	array[vscan_on_demand_policy]	
scanner_pools	array[scanner_pool]	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments

Name	Type	Description
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create a Vscan configuration

POST /protocols/vscan

Introduced In: 9.6

Creates a Vscan configuration, which includes a list of scanner-pools, Vscan On-Access policies and Vscan On-Demand policies. Defines whether the Vscan configuration you create is enabled or disabled for a specified SVM.

Important notes:

- You can enable only one Vscan configuration at a time for an SVM.
- There needs to be at least one active scanner-pool and one enabled On-Access policy to enable Vscan successfully.
- By default, a Vscan is enabled when it's created.
- By default, the Vscan On-Access policies created from this endpoint are in the disabled state. You can use the On-Access policy PATCH endpoint to enable a particular On-Access policy. In ONTAP 9.6, only one Vscan On-Access policy can be enabled and only one Vscan On-Demand policy can be scheduled on an SVM.
- Vscan is not supported on continuous availability (CA) shares.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the Vscan configuration.

Recommended optional properties

- `scanner_pools` - There must be at least one active scanner-pool for Vscan configuration. Created either through Vscan POST operation or scanner-pools POST operation.

Default property values

If not specified in POST, the following default property value is assigned:

- `enabled` - *true*

Related ONTAP commands

- `vserver vscan enable`

- `vserver vscan scanner-pool create`
- `vserver vscan scanner-pool apply-policy`
- `vserver vscan scanner-pool servers add`
- `vserver vscan scanner-pool privileged-users add`
- `vserver vscan on-access-policy create`
- `vserver vscan on-access-policy file-ext-to-exclude add`
- `vserver vscan on-access-policy file-ext-to-include add`
- `vserver vscan on-access-policy paths-to-exclude add`
- `vserver vscan on-demand-task create`

Learn more

- [DOC /protocols/vscan](#)
- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
cache_clear	boolean	Discards the cached information of the files that have been successfully scanned. Once the cache is cleared, files are scanned again when they are accessed. PATCH only
enabled	boolean	Specifies whether or not Vscan is enabled on the SVM.
on_access_policies	array[vscan_on_access_policy]	
on_demand_policies	array[vscan_on_demand_policy]	
scanner_pools	array[scanner_pool]	

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "on_access_policies": [
    {
      "name": "on-access-test",
      "protocol": "string",
      "scope": {
        "exclude_extensions": [
          "mp*",
          "txt"
        ],
        "exclude_paths": [
          "\\dir1\\dir2\\name",
          "\\vol\\a b",
          "\\vol\\a,b\\"
        ],
        "include_extensions": [
          "mp*",
          "txt"
        ],
        "max_file_size": 2147483648
      }
    }
  ],
  "on_demand_policies": [
    {
      "log_path": "/vol0/report_dir",
      "name": "task-1",
      "scan_paths": [
        "/vol1/",
        "/vol2/cifs/"
      ],
      "schedule": {
        "name": "weekly",
        "uuid": "1cd8a442-86d1-11e0-aelc-123478563412"
      },
      "scope": {
        "exclude_extensions": [
          "mp3",
          "mp4"
        ],
        "exclude_paths": [
          "/vol1/cold-files/",
          "/vol1/cifs/names"
        ]
      }
    }
  ]
}
```

```

        "include_extensions": [
            "vmdk",
            "mp*"
        ],
        "max_file_size": 10737418240
    }
},
"scanner_pools": [
    {
        "cluster": {
            "name": "cluster1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "name": "scanner-1",
        "privileged_users": [
            "cifs\\u1",
            "cifs\\u2"
        ],
        "role": "string",
        "servers": [
            "1.1.1.1",
            "10.72.204.27",
            "vmwin204-27.fsct.nb"
        ]
    }
],
"svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}

```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of records
records	array[vscan]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "on_access_policies": [
        {
          "name": "on-access-test",
          "protocol": "string",
          "scope": {
            "exclude_extensions": [
              "mp*",
              "txt"
            ],
            "exclude_paths": [
              "\\dir1\\dir2\\name",
              "\\vol\\a b",
              "\\vol\\a,b\\"
            ],
            "include_extensions": [
              "mp*",
              "txt"
            ],
            "max_file_size": 2147483648
          }
        }
      ],
      "on_demand_policies": [
        {
          "log_path": "/vol0/report_dir",
          "name": "task-1",
          "scan_paths": [
            "/vol1/",
            "/vol2/cifs/"
          ],
          "schedule": {
            "name": "weekly",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          },
          "scope": {
            "exclude_extensions": [
              "mp3",
              "mp4"
            ],
            "exclude_paths": [
```

```

        "/vol1/cold-files/",
        "/vol1/cifs/names"
    ],
    "include_extensions": [
        "vmdk",
        "mp*"
    ],
    "max_file_size": 10737418240
    }
}
],
"scanner_pools": [
    {
        "cluster": {
            "name": "cluster1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "name": "scanner-1",
        "privileged_users": [
            "cifs\\u1",
            "cifs\\u2"
        ],
        "role": "string",
        "servers": [
            "1.1.1.1",
            "10.72.204.27",
            "vmwin204-27.fsct.nb"
        ]
    }
],
"svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}
]
}

```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027259	A scanner-pool, an On-Access policy, or an On-Demand policy might fail to get created due to either a systematic error or some hardware failure. The error code returned details the failure along with the reason for the failure. For example, if a scanner-pool fails due to an incorrect cluster name, then the error might read: "Failed to create scanner-pool "scanner-1". Reason: "Cluster uuid points to different cluster name instead of the cluster-name supplied.". Retry the operation."
10027260	If a scanner-pool, an On-Access policy or an On-Demand policy specified in the input already exists, then a duplicate error is returned. For example, if a scanner-pool "scanner-1" already exists for an SVM and is again specified in the input, the error message will read: " Failed to create scanner-pool "scanner-1" as the specified entry already exists. Delete the entry and retry the POST operation."
2621462	The specified SVM name is invalid
2621706	The specified svm.uuid is either invalid or belongs to a different SVM
10027015	Attempting to enable a Vscan but no active scanner-pool exists for the specified SVM
10027011	Attempting to enable a Vscan for an SVM for which no CIFS server exists
10027023	Attempting to enable a Vscan for an SVM for which no active Vscan On-Access policy exist
10027086	DNS resolution failed for one or more hostnames
10027012	Cannot enable Vscan on an administrative SVM.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
only_execute_access	boolean	Scan only files opened with execute-access.
scan_readonly_volumes	boolean	Specifies whether or not read-only volume can be scanned.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_access_policy

An On-Access policy that defines the scope of an On-Access scan. Use On-Access scanning to check for viruses when clients open, read, rename, or close files over CIFS. By default, ONTAP creates an On-Access policy named "default_CIFS" and enables it for all the SVMs in a cluster.

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy

Name	Type	Description
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
name	string	On-Access policy name
protocol	string	Specifies the file access protocol for the on-access policy. The following lists the possible protocols. CIFS - SMB protocol
scope	scope	

schedule

Schedule of the task.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_demand_policy

Use On-Demand scanning to check files for viruses on a schedule. An On-Demand policy defines the

scope of an On-Demand scan.

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
name	string	On-Demand task name
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	

cluster_reference

Name	Type	Description
name	string	
uuid	string	

scanner_pool

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and external virus-scanning server, or "Vscan server".

Name	Type	Description
cluster	cluster_reference	
name	string	Specifies the name of the scanner pool. Scanner pool name can be up to 256 characters long and is a string that can only contain any combination of ASCII-range alphanumeric characters a-z, A-Z, 0-9), "_", "-", and ".".

Name	Type	Description
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remedying and quarantining operations. • example: ["cifs\u1", "cifs\u2"] • Introduced in: 9.10
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"] • Introduced in: 9.10

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan

Vscan can be used to protect data from being compromised by viruses or other malicious code. This combines best-in-class third-party antivirus software with ONTAP features that give you the flexibility you need to control which files get scanned and when. Storage systems offload scanning operations to external servers hosting antivirus software from third-party vendors. An Antivirus Connector on the external server handles communications between the storage system and the antivirus software.

Name	Type	Description
cache_clear	boolean	Discards the cached information of the files that have been successfully scanned. Once the cache is cleared, files are scanned again when they are accessed. PATCH only
enabled	boolean	Specifies whether or not Vscan is enabled on the SVM.
on_access_policies	array[vscan_on_access_policy]	
on_demand_policies	array[vscan_on_demand_policy]	
scanner_pools	array[scanner_pool]	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Type	Description
message	string	Error message
target	string	The target parameter that caused the error.

Manage Vscan configuration

Manage Vscan configuration

Overview

This API is used to display connection status information for the external virus-scanning servers or "Vscan servers".

Examples

Retrieving all fields for the Vscan server status

```
# The API:
/api/protocols/vscan/server-status/

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/server-status?fields=*"
-H "accept: application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "66f8564d-ae5c-11eb-bd8c-0050568e8ed1",
        "name": "vs1"
      },
      "node": {
        "uuid": "ce2463d9-ae5c-11eb-bd8c-0050568e8ed1",
        "name": "user-vs1"
      },
      "ip": "10.140.132.141",
      "type": "primary",
      "state": "connected",
      "update_time": "2021-05-07T21:35:02+05:30",
      "vendor": "mighty master anti-evil scanner",
    }
  ]
}
```

```

"version": "5.643",
"extended_stats": [
  "ts=10:15:28 PM May 07,2021",
  "scans=sent:0,compok:0,comperr:0,compnotfnd:0,ms/comp:0",
  "avshim-version=1.0.5.0",
  "mempage/s=0, procs=52, threads=2063, %cpu=0.22, procqlen=0,
diskio/s=0, smbbytes/s=52, ",
  "ifmac=FA:16:3E:F0:70:88,
tcpstat=retrans:7538,connfail:2137,connreset:52018,inerr:0",
  "cfg=Host Name:SCSPB2271817001",
  "OS Name:Microsoft Windows Server 2012 R2 Standard",
  "OS Version:6.3.9600 N/A Build 9600",
  "System Boot Time:5/6/2021, 9:01:42 PM",
  "System Manufacturer:RDO",
  "System Model:OpenStack Compute",
  "System Type:x64-based PC",
  "Processor(s):2 Processor(s) Installed.",
  "[01]:Intel64 Family 6 Model 94 Stepping 3 GenuineIntel ~2400 Mhz"
],
"interface": {
  "name": "vsl.data",
  "uuid": "6911e7c6-aefc-11eb-bd8c-0050568e8ed1",
  "ip": {
    "address": "10.140.69.165"
  }
},
{
  "svm": {
    "uuid": "a776e8f2-aef9-11eb-8530-0050568e8ed1",
    "name": "vs2"
  },
  "node": {
    "uuid": "ce2463d9-aef6-11eb-bd8c-0050568e8ed1",
    "name": "user-vsim1"
  },
  "ip": "10.140.128.163",
  "type": "primary",
  "state": "connected",
  "update_time": "2021-05-07T21:35:43+05:30",
  "vendor": "mighty master anti-evil scanner",
  "version": "5.643",
  "extended_stats": [
    "ts=10:15:26 PM May 07,2021",
    "scans=sent:0,compok:0,comperr:0,compnotfnd:0,ms/comp:0",
    "avshim-version=1.0.5.0",

```

```

    "mempage/s=0, procs=46, threads=1947, %cpu=0.07, procqlen=0,
diskio/s=1, smbbytes/s=181, ",
    "ifmac=FA:16:3E:06:9F:D6,
tcpstat=retrans:123453,connfail:6864,connreset:13188,inerr:0",
    "cfg=Host Name:SCSPB2271815001",
    "OS Name:Microsoft Windows Server 2012 R2 Standard",
    "OS Version:6.3.9600 N/A Build 9600",
    "System Boot Time:4/20/2021, 5:23:29 PM",
    "System Manufacturer:RDO",
    "System Model:OpenStack Compute",
    "System Type:x64-based PC",
    "Processor(s):2 Processor(s) Installed.",
    "[01]:Intel64 Family 6 Model 94 Stepping 3 GenuineIntel ~2400 Mhz"
],
"interface": {
    "name": "vs2.data",
    "uuid": "c070b4c2-aef9-11eb-8530-0050568e8ed1",
    "ip": {
        "address": "10.140.70.154"
    }
}
},
"num_records": 2
}

```

Retrieving the server status information for the server with IP address 10.141.46.173

```

# The API:
/api/protocols/vscan/server-status

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/server-
status?ip=10.140.132.141&fields=*" -H "accept: application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "66f8564d-aefc-11eb-bd8c-0050568e8ed1",
        "name": "vs1"
      }
    }
  ]
}

```



```

    },
    "node": {
      "uuid": "ce2463d9-aef6-11eb-bd8c-0050568e8ed1",
      "name": "user-vsimpl"
    },
    },
    "ip": "10.140.132.141",
    "type": "primary",
    "state": "connected",
    "update_time": "2021-05-07T23:08:21+05:30",
    "vendor": "mighty master anti-evil scanner",
    "version": "5.643",
    "extended_stats": [
      "ts=12:07:30 AM May 08,2021",
      "scans=sent:0,compok:0,comperr:0,compnotfnd:0,ms/comp:0",
      "avshim-version=1.0.5.0",
      "mempage/s=0, procs=52, threads=2108, %cpu=0.07, procqlen=0,
diskio/s=0, smbbytes/s=230, ",
      "ifmac=FA:16:3E:F0:70:88,
tcpstat=retrans:8249,connfail:2174,connreset:52243,inerr:0",
      "cfg=Host Name:SCSPB2271817001",
      "OS Name:Microsoft Windows Server 2012 R2 Standard",
      "OS Version:6.3.9600 N/A Build 9600",
      "System Boot Time:5/6/2021, 9:01:42 PM",
      "System Manufacturer:RDO",
      "System Model:OpenStack Compute",
      "System Type:x64-based PC",
      "Processor(s):2 Processor(s) Installed.",
      "[01]:Intel64 Family 6 Model 94 Stepping 3 GenuineIntel ~2400 Mhz"
    ],
    "interface": {
      "name": "vs1.data",
      "uuid": "6911e7c6-aefc-11eb-bd8c-0050568e8ed1",
      "ip": {
        "address": "10.140.69.165"
      }
    }
  },
  "num_records": 1
}

```

Retrieve the Vscan server status

GET /protocols/vscan/server-status

Introduced In: 9.6

Retrieves a Vscan server status.

Related ONTAP commands

- `vserver vscan connection-status show-all`

Learn more

- [DOC /protocols/vscan/server-status](#)

Parameters

Name	Type	In	Required	Description
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
type	string	query	False	Filter by type
vendor	string	query	False	Filter by vendor
update_time	string	query	False	Filter by update_time
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
interface.ip.address	string	query	False	Filter by interface.ip.address • Introduced in: 9.10
interface.name	string	query	False	Filter by interface.name • Introduced in: 9.10
interface.uuid	string	query	False	Filter by interface.uuid • Introduced in: 9.10

Name	Type	In	Required	Description
state	string	query	False	Filter by state
disconnected_reason	string	query	False	Filter by disconnected_reason
ip	string	query	False	Filter by ip
version	string	query	False	Filter by version
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[vscan_server_status]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "disconnected_reason": "string",
      "interface": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "ip": {
          "address": "10.10.10.7"
        },
        "name": "lif1",
        "uuid": "1cd8a442-86d1-11e0-aelc-123478563412"
      },
      "ip": "string",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-aelc-123478563412"
      },
      "state": "string",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

```

    },
    "type": "string",
    "update_time": "string",
    "vendor": "string",
    "version": "string"
  }
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```

{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

interface

Address of the interface used for the Vscan connection.

Name	Type	Description
_links	_links	
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_server_status

Displays the connection status information of the external virus-scanning servers.

Name	Type	Description
disconnected_reason	string	Specifies the server disconnected reason. The following is a list of the possible reasons: • unknown - Disconnected, unknown reason. • vscan_disabled - Disconnected, Vscan is disabled on the SVM. • no_data_lif - Disconnected, SVM does not have data LIF. • session_uninitialized - Disconnected, session is not initialized. • remote_closed - Disconnected, server has closed the connection. • invalid_protocol_msg - Disconnected, invalid protocol message received. • invalid_session_id - Disconnected, invalid session ID received. • inactive_connection - Disconnected, no activity on connection. • invalid_user - Connection request by an invalid user. • server_removed - Disconnected, server has been removed from the active Scanners List. enum: • unknown • vscan_disabled • no_data_lif • session_uninitialized • remote_closed • invalid_protocol_msg • invalid_session_id • inactive_connection • invalid_user • server_removed

Name	Type	Description
interface	interface	Address of the interface used for the Vscan connection.
ip	string	IP address of the Vscan server.
node	node	
state	string	Specifies the server connection state indicating if it is in the connected or disconnected state. The following is a list of the possible states: • connected - Connected • disconnected - Disconnected enum: • connected • disconnected
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	Server type. The possible values are: • primary - Primary server • backup - Backup server
update_time	string	Specifies the time the server is in the connected or disconnected state.
vendor	string	Name of the connected virus-scanner vendor.
version	string	Version of the connected virus-scanner.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a Vscan configuration

```
DELETE /protocols/vscan/{svm.uuid}
```

Introduced In: 9.6

Deletes a Vscan configuration.

Important notes:

- The Vscan DELETE endpoint deletes all of the Vscan configuration of an SVM. It first disables the Vscan and then deletes all of the SVM scanner-pools, On-Access policies, and On-Demand policies.
- Disable the active Vscan On-Access policy on an SVM before performing the Vscan delete operation on that SVM.

Related ONTAP commands

- `vserver vscan scanner-pool delete`
- `vserver vscan on-access-policy delete`
- `vserver vscan on-demand-policy delete`

Learn more

- [DOC /protocols/vscan](#)
- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027259	A scanner-pool, an On-Access policy, or an On-Demand policy might fail to get deleted due to either a systematic error or some hardware failure. The error code returned details the failure along with the reason for the failure. For example, "Failed to delete On-Access policy "sp1". Reason: "Failed to delete policy. Reason: policy must be disabled before being deleted.". Retry the operation."

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve the Vscan configuration for an SVM

GET /protocols/vscan/{svm.uuid}

Introduced In: 9.6

Retrieves the Vscan configuration for a specified SVM. This includes scanner-pools, On-Access policies, On-Demand policies, and information about whether a Vscan is enabled or disabled on an SVM.

Important note:

- You can enable only one Vscan configuration at a time for an SVM.

Related ONTAP commands

- `vserver vscan show`
- `vserver vscan scanner-pool show`
- `vserver vscan scanner-pool servers show`
- `vserver vscan scanner-pool privileged-users show`
- `vserver vscan on-access-policy show`
- `vserver vscan on-access-policy file-ext-to-exclude show`
- `vserver vscan on-access-policy file-ext-to-include show`

- `vserver vscan on-access-policy paths-to-exclude show`
- `vserver vscan on-demand-task show`

Learn more

- [DOC /protocols/vscan](#)
- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
cache_clear	boolean	Discards the cached information of the files that have been successfully scanned. Once the cache is cleared, files are scanned again when they are accessed. PATCH only
enabled	boolean	Specifies whether or not Vscan is enabled on the SVM.
on_access_policies	array[vscan_on_access_policy]	
on_demand_policies	array[vscan_on_demand_policy]	
scanner_pools	array[scanner_pool]	
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "on_access_policies": [
    {
      "name": "on-access-test",
      "protocol": "string",
      "scope": {
        "exclude_extensions": [
          "mp*",
          "txt"
        ],
        "exclude_paths": [
          "\\dir1\\dir2\\name",
          "\\vol\\a b",
          "\\vol\\a,b\\"
        ],
        "include_extensions": [
          "mp*",
          "txt"
        ],
        "max_file_size": 2147483648
      }
    }
  ],
  "on_demand_policies": [
    {
      "log_path": "/vol0/report_dir",
      "name": "task-1",
      "scan_paths": [
        "/vol1/",
        "/vol2/cifs/"
      ],
      "schedule": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "weekly",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    }
  ]
}
```

```

    },
    "scope": {
      "exclude_extensions": [
        "mp3",
        "mp4"
      ],
      "exclude_paths": [
        "/voll/cold-files/",
        "/voll/cifs/names"
      ],
      "include_extensions": [
        "vmdk",
        "mp*"
      ],
      "max_file_size": 10737418240
    }
  },
  ],
  "scanner_pools": [
    {
      "cluster": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "name": "scanner-1",
      "privileged_users": [
        "cifs\\u1",
        "cifs\\u2"
      ],
      "role": "string",
      "servers": [
        "1.1.1.1",
        "10.72.204.27",
        "vmwin204-27.fsct.nb"
      ]
    }
  ],
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  }
}

```



```
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
only_execute_access	boolean	Scan only files opened with execute-access.
scan_readonly_volumes	boolean	Specifies whether or not read-only volume can be scanned.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_access_policy

An On-Access policy that defines the scope of an On-Access scan. Use On-Access scanning to check for viruses when clients open, read, rename, or close files over CIFS. By default, ONTAP creates an On-Access policy named "default_CIFS" and enables it for all the SVMs in a cluster.

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy

Name	Type	Description
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
name	string	On-Access policy name
protocol	string	Specifies the file access protocol for the on-access policy. The following lists the possible protocols. CIFS - SMB protocol
scope	scope	

schedule

Schedule of the task.

Name	Type	Description
_links	_links	
name	string	Job schedule name
uuid	string	Job schedule UUID

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_demand_policy

Use On-Demand scanning to check files for viruses on a schedule. An On-Demand policy defines the scope of an On-Demand scan.

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
name	string	On-Demand task name
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	

cluster_reference

Name	Type	Description
_links	_links	
name	string	
uuid	string	

scanner_pool

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and external virus-scanning server, or "Vscan server".

Name	Type	Description
cluster	cluster_reference	
name	string	Specifies the name of the scanner pool. Scanner pool name can be up to 256 characters long and is a string that can only contain any combination of ASCII-range alphanumeric characters a-z, A-Z, 0-9), "_", "-", and ".".

Name	Type	Description
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remedying and quarantining operations. • example: ["cifs\u1", "cifs\u2"] • Introduced in: 9.10
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"] • Introduced in: 9.10

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update the Vscan configuration for an SVM

PATCH /protocols/vscan/{svm.uuid}

Introduced In: 9.6

Updates the Vscan configuration of an SVM. Allows you to either enable or disable a Vscan, and allows you to clear the Vscan cache that stores the past scanning data for an SVM.

Important note:

- The Vscan PATCH endpoint does not allow you to modify scanner-pools, On-Demand policies or On-Access policies. Those modifications can only be done through their respective endpoints.

Related ONTAP commands

- `vserver vscan enable`
- `vserver vscan disable`
- `vserver vscan reset`

Learn more

- [DOC /protocols/vscan](#)
- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
cache_clear	boolean	Discards the cached information of the files that have been successfully scanned. Once the cache is cleared, files are scanned again when they are accessed. PATCH only
enabled	boolean	Specifies whether or not Vscan is enabled on the SVM.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027015	Attempting to enable a Vscan but no active scanner-pool exists for the specified SVM
10027009	Attempting to enable a Vscan for an SVM for which it's already enabled
10027010	Attempting to disable a Vscan for an SVM for which it's already disabled

Error Code	Description
10027011	Attempting to enable a Vscan for an SVM for which no CIFS server exists
10027023	Attempting to enable a Vscan for an SVM for which no active Vscan On-Access policy exists
10027012	Cannot enable Vscan on an administrative SVM.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
only_execute_access	boolean	Scan only files opened with execute-access.
scan_readonly_volumes	boolean	Specifies whether or not read-only volume can be scanned.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_access_policy

An On-Access policy that defines the scope of an On-Access scan. Use On-Access scanning to check for viruses when clients open, read, rename, or close files over CIFS. By default, ONTAP creates an On-Access policy named "default_CIFS" and enables it for all the SVMs in a cluster.

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy

Name	Type	Description
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
protocol	string	Specifies the file access protocol for the on-access policy. The following lists the possible protocols. CIFS - SMB protocol
scope	scope	

schedule

Schedule of the task.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_demand_policy

Use On-Demand scanning to check files for viruses on a schedule. An On-Demand policy defines the scope of an On-Demand scan.

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	

cluster_reference

Name	Type	Description
name	string	
uuid	string	

scanner_pool

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and external virus-scanning server, or "Vscan server".

Name	Type	Description
cluster	cluster_reference	
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remediating and quarantining operations. • example: ["cifs\u1", "cifs\u2"] • Introduced in: 9.10

Name	Type	Description
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"] • Introduced in: 9.10

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan

Vscan can be used to protect data from being compromised by viruses or other malicious code. This combines best-in-class third-party antivirus software with ONTAP features that give you the flexibility you need to control which files get scanned and when. Storage systems offload scanning operations to external servers hosting antivirus software from third-party vendors. An Antivirus Connector on the external server handles communications between the storage system and the antivirus software.

Name	Type	Description
cache_clear	boolean	Discards the cached information of the files that have been successfully scanned. Once the cache is cleared, files are scanned again when they are accessed. PATCH only
enabled	boolean	Specifies whether or not Vscan is enabled on the SVM.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve Vscan events

GET /protocols/vscan/{svm.uuid}/events

Introduced In: 9.11

Retrieves Vscan events, which are generated by the cluster to capture important events.

Related ONTAP commands

- `vserver vscan show-events`

Parameters

Name	Type	In	Required	Description
scan_engine_status	integer	query	False	Filter by scan_engine_status • Introduced in: 9.18
type	string	query	False	Filter by type
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
vendor	string	query	False	Filter by vendor
server	string	query	False	Filter by server
consecutive_occurrence_count	integer	query	False	Filter by consecutive_occurrence_count • Introduced in: 9.18
event_time	string	query	False	Filter by event_time
svm.name	string	query	False	Filter by svm.name
interface.ip.address	string	query	False	Filter by interface.ip.address
interface.name	string	query	False	Filter by interface.name
interface.uuid	string	query	False	Filter by interface.uuid
version	string	query	False	Filter by version
disconnect_reason	string	query	False	Filter by disconnect_reason
file_path	string	query	False	Filter by file_path
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Name	Type	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[vscan_event]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "consecutive_occurrence_count": 2,
      "disconnect_reason": "string",
      "event_time": "2021-11-25 04:29:41 +0000",
      "file_path": "/1",
      "interface": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "ip": {
          "address": "10.10.10.7"
        },
        "name": "lif1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "scan_engine_status": 333300005,
      "server": "192.168.1.1",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    }
  ]
}
```



```

    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "string",
  "vendor": "mighty master anti-evil scanner",
  "version": "1.0"
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```

{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

interface

Address of the interface used for the Vscan connection.

Name	Type	Description
_links	_links	
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_event

Name	Type	Description
consecutive_occurrence_count	integer	Specifies the consecutive occurrence count of the event.

Name	Type	Description
disconnect_reason	string	Specifies the reason of the Vscan server disconnection. The available values are: • na Not applicable • vscan_disabled Vscan disabled on the SVM • no_data_lif SVM does not have data lif on the node • session_uninitialized Session not initialized • remote_closed Closure from Server • invalid_protocol_msg Invalid protocol-message received • invalid_session_id Invalid session-id received • inactive_connection No activity on connection • invalid_user Connection request by invalid user • server_removed Server removed from the active scanner-pool
event_time	string	Specifies the Timestamp of the event.
file_path	string	Specifies the file for which event happened.
interface	interface	Address of the interface used for the Vscan connection.
node	node	
scan_engine_status	integer	Specifies the status code of the scan-engine for the event. This field is only generated when there is a proper response from the scan-engine.
server	string	Specifies the IP address of the Vscan server.

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	Specifies the event type.
vendor	string	Specifies the scan-engine vendor.
version	string	Specifies the scan-engine version.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage Vscan On-Access policies

Manage Vscan On-Access policies

Overview

Use Vscan On-Access scanning to actively scan file objects for viruses when clients access files over SMB. To control which file operations trigger a vscan, use Vscan File-Operations Profile (vscan-fileop-profile) option in the CIFS share. The Vscan On-Access policy configuration defines the scope and status of On-Access scanning on file objects. Use this API to retrieve and manage Vscan On-Access policy configurations and Vscan On-Access policy statuses for the SVM.

Examples

Retrieving all fields for all policies of an SVM

```
# The API:
/api/protocols/vscan/{svm.uuid}/on-access-policies/

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/{svm.uuid}/on-access-
policies?fields=*" -H "accept: application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
          }
        }
      },
      "name": "default_CIFS",
      "enabled": true,
      "mandatory": true,
      "scope": {
        "max_file_size": 2147483648,
        "include_extensions": [
          "*"
        ],
        "scan_without_extension": true,
        "scan_readonly_volumes": false,
        "only_execute_access": false
      },
      "protocol": "CIFS",
      "owner": "cluster",
      "_links": {
        "self": {
          "href": "/api/protocols/vscan/179d3c85-7053-11e8-b9b8-005056b41bd1/on-access-policies/default_CIFS"
        }
      }
    }
  ],
}
```

```

{
  "svm": {
    "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
      }
    }
  },
  "name": "on-access-policy",
  "enabled": false,
  "mandatory": true,
  "scope": {
    "max_file_size": 3221225472,
    "exclude_paths": [
      "\\vol\\a b\\",
      "\\vol\\a,b\\"
    ],
    "include_extensions": [
      "mp*",
      "tx*"
    ],
    "exclude_extensions": [
      "mp3",
      "txt"
    ],
    "scan_without_extension": true,
    "scan_readonly_volumes": false,
    "only_execute_access": true
  },
  "protocol": "CIFS",
  "owner": "vserver",
  "_links": {
    "self": {
      "href": "/api/protocols/vscan/179d3c85-7053-11e8-b9b8-005056b41bd1/on-access-policies/on-access-policy"
    }
  }
},
{
  "num_records": 2,
  "_links": {
    "self": {
      "href": "/api/protocols/vscan/179d3c85-7053-11e8-b9b8-005056b41bd1/on-access-policies?fields=*"
    }
  }
}

```

```
}  
}  
}
```

Retrieving the specific On-Access policy associated with the specified SVM

```
# The API:  
/api/protocols/vscan/{svm.uuid}/on-access-policies/{name}  
  
# The call:  
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/179d3c85-7053-11e8-b9b8-005056b41bd1/on-access-policies/on-access-policy" -H "accept: application/json"  
  
# The response:  
{  
  "svm": {  
    "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",  
    "name": "vs1",  
    "_links": {  
      "self": {  
        "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"  
      }  
    }  
  },  
  "name": "on-access-policy",  
  "enabled": true,  
  "mandatory": true,  
  "scope": {  
    "max_file_size": 3221225472,  
    "exclude_paths": [  
      "\\vol\\a b\\",  
      "\\vol\\a,b\\"  
    ],  
    "include_extensions": [  
      "mp*",  
      "tx*"  
    ],  
    "exclude_extensions": [  
      "mp3",  
      "txt"  
    ],  
  },  
}
```



```

    "scan_without_extension": true,
    "scan_readonly_volumes": false,
    "only_execute_access": true
  },
  "_links": {
    "self": {
      "href": "/api/protocols/vscan/179d3c85-7053-11e8-b9b8-005056b41bd1/on-
access-policies/task1"
    }
  }
}

```

Creating a Vscan On-Access policy

The Vscan On-Access policy POST endpoint creates an On-Access policy for the specified SVM. Set enabled to "true" to enable scanning on the created policy.

```

# The API:
/api/protocols/vscan/{svm.uuid}/on-access-policies

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/vscan/86fbc414-f140-11e8-
8e22-0050568e0945/on-access-policies?return_records=true" -H "accept:
application/json" -H "Content-Type: application/json" -d "{ \"enabled\":
false, \"mandatory\": true, \"name\": \"on-access-policy\", \"scope\": {
\"exclude_extensions\": [ \"txt\", \"mp3\" ], \"exclude_paths\": [
\"\\\\\\\\dir1\\\\\\\\dir2\\\\\\\\ame\", \"\\\\\\\\vol\\\\\\\\a b\" ], \"include_extensions\":
[ \"mp*\", \"txt\" ], \"max_file_size\": 3221225472,
\"only_execute_access\": true, \"scan_readonly_volumes\": false,
\"scan_without_extension\": true }}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "name": "vs1"
      },
      "name": "on-access-policy",
      "enabled": false,
      "mandatory": true,
      "scope": {
        "max_file_size": 3221225472,

```

```
"exclude_paths": [  
    "\\dir1\\dir2\\ame",  
    "\\vol\\a b"  
],  
"include_extensions": [  
    "mp*",  
    "txt"  
],  
"exclude_extensions": [  
    "txt",  
    "mp3"  
],  
"scan_without_extension": true,  
"scan_readonly_volumes": false,  
"only_execute_access": true  
}  
}  
]  
}
```

Creating a Vscan On-Access policy where a number of optional fields are not specified

```
# The API:
/api/protocols/vscan/{svm.uuid}/on-access-policies

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-access-policies?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"enabled\": false, \"mandatory\": true, \"name\": \"on-access-policy\", \"scope\": { \"exclude_paths\": [ \"\\\\\\\\vol\\\\\\\\a b\", \"\\\\\\\\vol\\\\\\\\a,b\\\\\\\\\" ], \"max_file_size\": 1073741824, \"scan_without_extension\": true }}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "name": "vs1"
      },
      "name": "on-access-policy",
      "enabled": false,
      "mandatory": true,
      "scope": {
        "max_file_size": 1073741824,
        "exclude_paths": [
          "\\vol\\a b",
          "\\vol\\a,b\\"
        ],
        "scan_without_extension": true
      }
    }
  ]
}
```

Updating a Vscan On-Access policy

The policy being modified is identified by the UUID of the SVM and the policy name.

```
# The API:
/api/protocols/vscan/{svm.uuid}/on-access-policies/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-access-policies/on-access-policy" -H "accept: application/hal+json" -H "Content-Type: application/json" -d "{ \"scope\": { \"include_extensions\": [ \"txt\" ], \"only_execute_access\": true, \"scan_readonly_volumes\": false, \"scan_without_extension\": true }}"
```

Deleting a Vscan On-Access policy

The policy to be deleted is identified by the UUID of the SVM and the policy name.

```
# The API:
/api/protocols/vscan/{svm.uuid}/on-access-policies/{name}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-access-policies/on-access-policy" -H "accept: application/hal+json"
```

Retrieve a Vscan On-Access policy

GET /protocols/vscan/{svm.uuid}/on-access-policies

Introduced In: 9.6

Retrieves the Vscan On-Access policy.

Related ONTAP commands

- `vserver vscan on-access-policy show`
- `vserver vscan on-access-policy file-ext-to-include show`
- `vserver vscan on-access-policy file-ext-to-exclude show`
- `vserver vscan on-access-policy paths-to-exclude show`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/on-access-policies](#)

Parameters

Name	Type	In	Required	Description
protocol	string	query	False	Filter by protocol Introduced in: 9.18
mandatory	boolean	query	False	Filter by mandatory
enabled	boolean	query	False	Filter by enabled
scope.scan_readonly_volumes	boolean	query	False	Filter by scope.scan_readonly_volumes
scope.exclude_extensions	string	query	False	Filter by scope.exclude_extensions
scope.max_file_size	integer	query	False	Filter by scope.max_file_size - Max value: 1099511627776 - Min value: 1024
scope.only_execute_access	boolean	query	False	Filter by scope.only_execute_access
scope.include_extensions	string	query	False	Filter by scope.include_extensions
scope.exclude_paths	string	query	False	Filter by scope.exclude_paths - maxLength: 255 - minLength: 1
scope.scan_without_extension	boolean	query	False	Filter by scope.scan_without_extension

Name	Type	In	Required	Description
owner	string	query	False	Filter by owner Introduced in: 9.18
name	string	query	False	Filter by name - maxLength: 256 - minLength: 1
svm.name	string	query	False	Filter by svm.name Introduced in: 9.16
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Max value: 120 • Min value: 0 • Default value: 15
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[vscan_on_access]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "name": "on-access-test",
      "owner": "string",
      "protocol": "string",
      "scope": {
        "exclude_extensions": [
          "mp*",
          "txt"
        ],
        "exclude_paths": [
          "\\dir1\\dir2\\name",
          "\\vol\\a b",
          "\\vol\\a,b\\"
        ],
        "include_extensions": [
          "mp*",
          "txt"
        ],
        "max_file_size": 2147483648
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```


Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
only_execute_access	boolean	Scan only files opened with execute-access.
scan_readonly_volumes	boolean	Specifies whether or not read-only volume can be scanned.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_on_access

An On-Access policy that defines the scope of an On-Access scan. Use On-Access scanning to check for viruses when clients open, read, rename, or close files over CIFS. By default, ONTAP creates an On-Access policy named "default_CIFS" and enables it for all the SVMs in a cluster.

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
name	string	On-Access policy name
owner	string	Specifies the on-access policy owner.
protocol	string	Specifies the file access protocol for the on-access policy. The following lists the possible protocols. CIFS - SMB protocol
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create a Vscan On-Access policy

POST /protocols/vscan/{svm.uuid}/on-access-policies

Introduced In: 9.6

Creates a Vscan On-Access policy. **Important notes:**

- You must enable the policy on an SVM before its files can be scanned.
- You can enable only one On-Access policy at a time on an SVM. By default, the policy is enabled on creation. * If the Vscan On-Access policy has been created successfully on an SVM but cannot be enabled due to an error, the Vscan On-Access policy configurations are saved. The Vscan On-Access policy is then enabled using the PATCH operation.

Required properties

- `svm.uuid` - Existing SVM in which to create the Vscan On-Access policy.
- `name` - Name of the Vscan On-Access policy. Maximum length is 256 characters.

Default property values

If not specified in POST, the following default property values are assigned:

- `enabled` - *true*
- `mandatory` - *true*
- `include_extensions` - *
- `max_file_size` - *2147483648*
- `only_execute_access` - *false*
- `scan_readonly_volumes` - *false*

- `scan_without_extension` - *true*
- `protocol` - *CIFS*

Related ONTAP commands

- `vserver vscan on-access-policy create`
- `vserver vscan on-access-policy enable`
- `vserver vscan on-access-policy disable`
- `vserver vscan on-access-policy file-ext-to-include add`
- `vserver vscan on-access-policy file-ext-to-exclude add`
- `vserver vscan on-access-policy paths-to-exclude add`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/on-access-policies](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
name	string	On-Access policy name
owner	string	Specifies the on-access policy owner.

Name	Type	Description
protocol	string	Specifies the file access protocol for the on-access policy. The following lists the possible protocols. CIFS - SMB protocol
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "name": "on-access-test",
  "owner": "string",
  "protocol": "string",
  "scope": {
    "exclude_extensions": [
      "mp*",
      "txt"
    ],
    "exclude_paths": [
      "\\dir1\\dir2\\name",
      "\\vol\\a b",
      "\\vol\\a,b\\"
    ],
    "include_extensions": [
      "mp*",
      "txt"
    ],
    "max_file_size": 2147483648
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of records
records	array[vscan_on_access]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "name": "on-access-test",
      "owner": "string",
      "protocol": "string",
      "scope": {
        "exclude_extensions": [
          "mp*",
          "txt"
        ],
        "exclude_paths": [
          "\\dir1\\dir2\\name",
          "\\vol\\a b",
          "\\vol\\a,b\\"
        ],
        "include_extensions": [
          "mp*",
          "txt"
        ],
        "max_file_size": 2147483648
      },
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027043	The new On-Access policy cannot be created because the SVM has reached the maximum limit of 10 On-Access policies. Delete an existing policy in order to create a new policy
10027101	The file size must be in the range 1KB to 1TB
10027107	The include extensions list cannot be empty. Specify at least one extension for inclusion
10027109	The specified CIFS path is invalid. It must be in the form "\dir1\dir2" or "\dir1\dir2\"
10027249	The On-Access policy created successfully but failed to enable the policy. The reason for enable policy operation failure might be that another policy is enabled. Disable the enabled policy and then enable the newly created policy using the PATCH operation
10027253	The number of paths specified exceeds the configured number of maximum paths. You cannot specify more than the maximum number of configured paths
10027254	The number of extensions specified exceeds the configured maximum number of extensions. You cannot specify more than the maximum number of configured extensions

Definitions

See Definitions

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
only_execute_access	boolean	Scan only files opened with execute-access.
scan_readonly_volumes	boolean	Specifies whether or not read-only volume can be scanned.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_on_access

An On-Access policy that defines the scope of an On-Access scan. Use On-Access scanning to check for viruses when clients open, read, rename, or close files over CIFS. By default, ONTAP creates an On-Access policy named "default_CIFS" and enables it for all the SVMs in a cluster.

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
name	string	On-Access policy name
owner	string	Specifies the on-access policy owner.
protocol	string	Specifies the file access protocol for the on-access policy. The following lists the possible protocols. CIFS - SMB protocol
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

Delete an antivirus On-Access policy configuration

DELETE /protocols/vscan/{svm.uuid}/on-access-policies/{name}

Introduced In: 9.6

Deletes the anti-virus On-Access policy configuration.

Related ONTAP commands

- `vserver vscan on-access-policy delete`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/on-access-policies](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027034	An On-Access policy associated with a data SVM which was created by SVM owned by the cluster cannot be deleted.

Error Code	Description
10027040	An On-Access policy with a status enabled cannot be deleted. Disable the policy and then delete the policy.

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve the Vscan On-Access policy configuration for an SVM

GET /protocols/vscan/{svm.uuid}/on-access-policies/{name}

Introduced In: 9.6

Retrieves the Vscan On-Access policy configuration of an SVM.

Related ONTAP commands

- `vserver vscan on-access-policy show`
- `vserver vscan on-access-policy file-ext-to-include show`
- `vserver vscan on-access-policy file-ext-to-exclude show`
- `vserver vscan on-access-policy paths-to-exclude show`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/on-access-policies](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
name	string	On-Access policy name
owner	string	Specifies the on-access policy owner.
protocol	string	Specifies the file access protocol for the on-access policy. The following lists the possible protocols. CIFS - SMB protocol
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "name": "on-access-test",
  "owner": "string",
  "protocol": "string",
  "scope": {
    "exclude_extensions": [
      "mp*",
      "txt"
    ],
    "exclude_paths": [
      "\\dir1\\dir2\\name",
      "\\vol\\a b",
      "\\vol\\a,b\\"
    ],
    "include_extensions": [
      "mp*",
      "txt"
    ],
    "max_file_size": 2147483648
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
only_execute_access	boolean	Scan only files opened with execute-access.
scan_readonly_volumes	boolean	Specifies whether or not read-only volume can be scanned.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update the Vscan On-Access policy configuration for an SVM

PATCH /protocols/vscan/{svm.uuid}/on-access-policies/{name}

Introduced In: 9.6

Updates the Vscan On-Access policy configuration and/or enables/disables the Vscan On-Access policy of an SVM. You cannot modify the configurations for an On-Access policy associated with a data SVM which was created by SVM owned by the cluster, although you can enable and disable the policy associated with cluster SVM.

Related ONTAP commands

- `vserver vscan on-access-policy modify`
- `vserver vscan on-access-policy enable`
- `vserver vscan on-access-policy disable`

- `vserver vscan on-access-policy file-ext-to-include add`
- `vserver vscan on-access-policy file-ext-to-exclude add`
- `vserver vscan on-access-policy paths-to-exclude add`
- `vserver vscan on-access-policy file-ext-to-include remove`
- `vserver vscan on-access-policy file-ext-to-exclude remove`
- `vserver vscan on-access-policy paths-to-exclude remove`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/on-access-policies](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
owner	string	Specifies the on-access policy owner.
protocol	string	Specifies the file access protocol for the on-access policy. The following lists the possible protocols. CIFS - SMB protocol
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "owner": "string",
  "protocol": "string",
  "scope": {
    "exclude_extensions": [
      "mp*",
      "txt"
    ],
    "exclude_paths": [
      "\\dir1\\dir2\\name",
      "\\vol\\a b",
      "\\vol\\a,b\\"
    ],
    "include_extensions": [
      "mp*",
      "txt"
    ],
    "max_file_size": 2147483648
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027033	Configurations for an On-Access policy associated with a data SVM which was created by SVM owned by the cluster cannot be modified. However, the policy can be enabled or disabled.

Error Code	Description
10027046	The specified SVM is not the owner of the specified policy. Check for the correct SVM who owns the policy.
10027101	The file size must be in the range 1KB to 1TB
10027107	The include extensions list cannot be empty. Specify at least one extension for inclusion.
10027109	The specified CIFS path is invalid. It must be in the form " <code>dir1\dir2</code> " or " <code>dir1\dir2\</code> ".
10027249	The On-Access policy updated successfully but failed to enable/disable the policy. The reason for an enable policy operation failure might be that another policy is enabled. Disable the already enabled policy and then enable the policy. The reason for a disable policy operation failure might be that Vscan is enabled on the SVM. Disable the Vscan first and then disable the policy.
10027250	The On-Access policy cannot be enabled/disabled. The reason for an enable policy operation failure might be that another policy is enabled. Disable the already enabled policy and then enable the policy. The reason for a disable policy operation failure might be that Vscan is enabled on the SVM. Disable the Vscan and then disable the policy.
10027253	The number of paths specified exceeds the configured maximum number of paths. You cannot specify more than the maximum number of configured paths.
10027254	The number of extensions specified exceeds the configured maximum number of extensions. You cannot specify more than the maximum number of configured extensions.

Definitions

See Definitions

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
only_execute_access	boolean	Scan only files opened with execute-access.
scan_readonly_volumes	boolean	Specifies whether or not read-only volume can be scanned.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

href

Name	Type	Description
href	string	

_links

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_on_access

An On-Access policy that defines the scope of an On-Access scan. Use On-Access scanning to check for viruses when clients open, read, rename, or close files over CIFS. By default, ONTAP creates an On-Access policy named "default_CIFS" and enables it for all the SVMs in a cluster.

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
owner	string	Specifies the on-access policy owner.
protocol	string	Specifies the file access protocol for the on-access policy. The following lists the possible protocols. CIFS - SMB protocol
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

Manage Vscan On-Demand policies

Manage Vscan On-Demand policies

Overview

Vscan On-Demand scanning is used to check files for viruses on a schedule. For example, it can be used to run scans only in off-peak hours, or to scan very large files that are excluded from an on-access scan. Vscan On-Demand scanning can be used for any path in the SVM namespace.

Vscan On-Demand policy configurations define the scope of a Vscan On-Demand scan. The schedule parameter in the On-Demand policy configuration decides when to execute the task. Schedule can be created using the `/api/clusters/schedule` endpoint and can be assigned on policy create or policy modify. This API is used to retrieve and manage Vscan On-Demand policy configurations. It is also used to schedule the Vscan On-Demand scan.

Examples

Retrieving all fields for all policies of an SVM

```
# The API:
/api/protocols/vscan/{svm.uuid}/on-demand-policies/

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/{svm.uuid}/on-demand-policies?fields=*" -H "accept: application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "86fbc414-f140-11e8-8e22-0050568e0945",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/86fbc414-f140-11e8-8e22-0050568e0945"
          }
        }
      }
    }
  ],
}
```



```

    "name": "on-demand-policy1",
    "scan_paths": [
        "/vol1/",
        "/vol2/cifs/"
    ],
    "log_path": "/vol0/report_dir",
    "schedule": {
        "uuid": "f6d0843e-f159-11e8-8e22-0050568e0945",
        "name": "schedule",
        "_links": {
            "self": {
                "href": "/api/cluster/schedules/f6d0843e-f159-11e8-8e22-0050568e0945"
            }
        }
    },
    "scope": {
        "max_file_size": 10737418240,
        "exclude_paths": [
            "/vol1/cold-files/",
            "/vol1/cifs/names"
        ],
        "include_extensions": [
            "vmdk",
            "mp*"
        ],
        "exclude_extensions": [
            "mp3",
            "mp4"
        ],
        "scan_without_extension": false
    },
    "_links": {
        "self": {
            "href": "/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-demand-policies/policy1"
        }
    }
},
{
    "svm": {
        "uuid": "86fbc414-f140-11e8-8e22-0050568e0945",
        "name": "vs1",
        "_links": {
            "self": {
                "href": "/api/svm/svms/86fbc414-f140-11e8-8e22-0050568e0945"
            }
        }
    }
}

```

```

    }
  },
  "name": "on-demand-policy2",
  "scan_paths": [
    "/vol1/",
    "/vol2/cifs/"
  ],
  "log_path": "/report",
  "scope": {
    "max_file_size": 10737418240,
    "include_extensions": [
      "mp*"
    ],
    "scan_without_extension": true
  },
  "_links": {
    "self": {
      "href": "/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-demand-policies/policy2"
    }
  }
},
{
  "num_records": 2,
  "_links": {
    "self": {
      "href": "/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-demand-policies?fields=*"
    }
  }
}
}

```

Retrieving a specific On-Demand policy associated with a specified SVM

```
# The API:
/api/protocols/vscan/{svm.uuid}/on-demand-policies/{name}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-demand-policies/on-demand-task" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "86fbc414-f140-11e8-8e22-0050568e0945",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/86fbc414-f140-11e8-8e22-0050568e0945"
      }
    }
  },
  "name": "on-demand-policy",
  "scan_paths": [
    "/vol1/cifs"
  ],
  "log_path": "/report",
  "scope": {
    "max_file_size": 10737418240,
    "include_extensions": [
      "vmdk",
      "mp*"
    ],
    "scan_without_extension": true
  },
  "_links": {
    "self": {
      "href": "/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-demand-policies/policy2"
    }
  }
}
```

Creating a Vscan On-Demand policy

The Vscan On-Demand policy POST endpoint creates an On-Demand policy for the specified SVM. Specify the schedule parameter to schedule an On-Demand scan.

```

# The API:
/api/protocols/vscan/{svm.uuid}/on-demand-policies

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-demand-policies?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"log_path\": \"/vol0/report_dir\", \"name\": \"on-demand-policy\", \"scan_paths\": [ \"/vol1/\", \"/vol2/cifs/\" ], \"schedule\": { \"name\": \"weekly\", \"uuid\": \"1cd8a442-86d1-11e0-ae1c-123478563412\" }, \"scope\": { \"exclude_extensions\": [ \"mp3\" ], \"exclude_paths\": [ \"/vol/cold-files/\" ], \"include_extensions\": [ \"vmdk\", \"mp*\" ], \"max_file_size\": 1073741824, \"scan_without_extension\": true }}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "name": "vs1"
      },
      "name": "on-demand-policy",
      "scan_paths": [
        "/vol1/",
        "/vol2/cifs/"
      ],
      "log_path": "/vol0/report_dir",
      "schedule": {
        "name": "weekly"
      },
      "scope": {
        "max_file_size": 1073741824,
        "exclude_paths": [
          "/vol/cold-files/"
        ],
        "include_extensions": [
          "vmdk",
          "mp*"
        ],
        "exclude_extensions": [
          "mp3"
        ],
        "scan_without_extension": true
      }
    }
  ]
}

```

```
}  
]  
}
```

Creating a Vscan On-Demand policy where a number of optional fields are not specified

```
# The API:  
/api/protocols/vscan/{svm.uuid}/on-demand-policies  
  
# The call:  
curl -X POST "https://<mgmt-ip>/api/protocols/vscan/86fbc414-f140-11e8-  
8e22-0050568e0945/on-demand-policies?return_records=true" -H "accept:  
application/json" -H "Content-Type: application/json" -d "{ \"log_path\":  
\"/report\", \"name\": \"on-demand-policy\", \"scan_paths\": [  
\"/voll/cifs/\" ], \"scope\": { \"include_extensions\": [ \"mp*\" ],  
\"scan_without_extension\": true }}"  
  
# The response:  
{  
  "num_records": 1,  
  "records": [  
    {  
      "svm": {  
        "name": "vs1"  
      },  
      "name": "on-demand-policy",  
      "scan_paths": [  
        "voll/cifs/"  
      ],  
      "log_path": "/report",  
      "scope": {  
        "max_file_size": 10737418240,  
        "include_extensions": [  
          "vmdk",  
          "mp*"  
        ],  
        "scan_without_extension": true  
      }  
    }  
  ]  
}
```

Updating a Vscan On-Demand policy

The policy being modified is identified by the UUID of the SVM and the policy name.

```
# The API:
/api/protocols/vscan/{svm.uuid}/on-demand-policies/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-demand-policies/on-demand-policy" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"schedule\": { \"name\": \"weekly\" }, \"scope\": { \"exclude_extensions\": [ \"mp3\" ], \"exclude_paths\": [ \"/vol/\" ], \"include_extensions\": [ \"vmdk\", \"mp3\" ], \"scan_without_extension\": true }}"
```

Deleting a Vscan On-Demand policy

The policy to be deleted is identified by the UUID of the SVM and the policy name.

```
# The API:
/api/protocols/vscan/{svm.uuid}/on-demand-policies/{name}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/vscan/86fbc414-f140-11e8-8e22-0050568e0945/on-demand-policies/on-demand-policy" -H "accept: application/hal+json"
```

Retrieve a Vscan On-Demand policy

GET /protocols/vscan/{svm.uuid}/on-demand-policies

Introduced In: 9.6

Retrieves the Vscan On-Demand policy.

Related ONTAP commands

- `vserver vscan on-demand-task show`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/on-demand-policies](#)

Parameters

Name	Type	In	Required	Description
log_path	string	query	False	Filter by log_path
svm.name	string	query	False	Filter by svm.name Introduced in: 9.10
schedule.name	string	query	False	Filter by schedule.name
schedule.uuid	string	query	False	Filter by schedule.uuid
name	string	query	False	Filter by name - maxLength: 256 - minLength: 1
scan_paths	string	query	False	Filter by scan_paths
scope.include_extensions	string	query	False	Filter by scope.include_extensions
scope.max_file_size	integer	query	False	Filter by scope.max_file_size - Max value: 1099511627776 - Min value: 1024
scope.exclude_extensions	string	query	False	Filter by scope.exclude_extensions
scope.scan_without_extension	boolean	query	False	Filter by scope.scan_without_extension
scope.exclude_paths	string	query	False	Filter by scope.exclude_paths - maxLength: 255 - minLength: 1

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Max value: 120 • Min value: 0 • Default value: 15
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	

Name	Type	Description
num_records	integer	Number of records
records	array[vscan_on_demand]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "log_path": "/vol0/report_dir",
      "name": "task-1",
      "scan_paths": [
        "/vol1/",
        "/vol2/cifs/"
      ],
      "schedule": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "weekly",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "scope": {
        "exclude_extensions": [
          "mp3",
          "mp4"
        ],
        "exclude_paths": [
          "/vol1/cold-files/",
          "/vol1/cifs/names"
        ],
        "include_extensions": [
          "vmdk",
          "mp*"
        ],
        "max_file_size": 10737418240
      },
      "svm": {
        "_links": {
```

```
        "self": {
            "href": "/api/resourcelink"
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

schedule

Schedule of the task.

Name	Type	Description
_links	_links	
name	string	Job schedule name
uuid	string	Job schedule UUID

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.

Name	Type	Description
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_on_demand

Use On-Demand scanning to check files for viruses on a schedule. An On-Demand policy defines the scope of an On-Demand scan.

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
name	string	On-Demand task name
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create a Vscan On-Demand policy

POST /protocols/vscan/{svm.uuid}/on-demand-policies

Introduced In: 9.6

Creates a Vscan On-Demand policy. Created only on a data SVM.

Important notes:

- Only one policy can be scheduled at a time on an SVM. Use schedule name or schedule uuid to schedule an On-Demand policy.
- Scanning must be enabled on the SVM before the policy is scheduled to run.
- The `exclude_extensions` setting overrides the `include_extensions` setting. Set `scan_without_extension` to true to scan files without extensions.

Required properties

- `svm.uuid` - Existing SVM in which to create the Vscan On-Demand policy.
- `name` - Name of the Vscan On-Demand policy. Maximum length is 256 characters.
- `log_path` - Path from the Vserver root where the On-Demand policy report is created.
- `scan_paths` - List of paths that need to be scanned.

Recommended optional properties

- `schedule` - Scan schedule. It is recommended to set the schedule property, as it dictates when to scan for viruses.

Default property values

If not specified in POST, the following default property values are assigned:

- `include_extensions` - *
- `max_file_size` - *10737418240*
- `scan_without_extension` - *true*

Related ONTAP commands

- `vserver vscan on-demand-task create`
- `vserver vscan on-demand-task schedule`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/on-demand-policies](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
name	string	On-Demand task name
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "log_path": "/vol0/report_dir",
  "name": "task-1",
  "scan_paths": [
    "/vol1/",
    "/vol2/cifs/"
  ],
  "schedule": {
    "name": "weekly",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "scope": {
    "exclude_extensions": [
      "mp3",
      "mp4"
    ],
    "exclude_paths": [
      "/vol1/cold-files/",
      "/vol1/cifs/names"
    ],
    "include_extensions": [
      "vmdk",
      "mp*"
    ],
    "max_file_size": 10737418240
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of records
records	array[vscan_on_demand]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "log_path": "/vol0/report_dir",
      "name": "task-1",
      "scan_paths": [
        "/vol1/",
        "/vol2/cifs/"
      ],
      "schedule": {
        "name": "weekly",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "scope": {
        "exclude_extensions": [
          "mp3",
          "mp4"
        ],
        "exclude_paths": [
          "/vol1/cold-files/",
          "/vol1/cifs/names"
        ],
        "include_extensions": [
          "vmdk",
          "mp*"
        ],
        "max_file_size": 10737418240
      },
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027101	The file size must be in the range 1KB to 1TB
10027107	The include extensions list cannot be empty. Specify at least one extension for inclusion.
10027164	An On-Demand policy cannot be scheduled, as the Vscan is disabled. Enable the Vscan and retry the operation.
10027167	The specified schedule does not exist. Create the schedule or create a policy without specifying the schedule.
10027168	The specified scan path does not exist. The scan path must be specified from the root of the SVM, and must begin with UNIX path delimiters (use "/" not "\")
10027169	The specified scan path is not supported for scanning.
10027173	The new On-Demand policy cannot be created because the SVM has reached the maximum limit of 10 On-Demand policies. Delete an existing policy in order to create a new policy.
10027174	The specified exclude path is invalid. The path must be specified from the root of the SVM, and must begin with UNIX path delimiters (use "/" not "\")
10027175	An On-Demand policy cannot be scheduled as the Vserver is not in an operational state.
10027176	The log-path specified does not exist. The log path must be specified from the root of the SVM, and must begin with UNIX path delimiters (use "/" not "\").
10027177	The log path specified is not supported.

| 10027178 | The specified task-name is invalid. Valid characters are 0-9, A-Z, a-z, "_", ".", and "-" | 10027253 | The number of paths specified exceeds the configured maximum number of paths. You cannot specify more than the maximum number of configured paths. | | 10027254 | The number of extensions specified exceeds the configured maximum number of extensions. You cannot specify more than the maximum number of configured extensions. | | 10027255 | Another policy is already scheduled. Only one policy per SVM is allowed to be

scheduled at any one time. Create a policy without specifying a schedule. |

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

schedule

Schedule of the task.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_on_demand

Use On-Demand scanning to check files for viruses on a schedule. An On-Demand policy defines the scope of an On-Demand scan.

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
name	string	On-Demand task name
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a Vscan On-Demand configuration

DELETE /protocols/vscan/{svm.uuid}/on-demand-policies/{name}

Introduced In: 9.6

Deletes the Vscan On-Demand configuration.

Related ONTAP commands

- `vserver vscan on-demand-task delete`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/on-demand-policies](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve the Vscan On-Demand configuration for an SVM

GET /protocols/vscan/{svm.uuid}/on-demand-policies/{name}

Introduced In: 9.6

Retrieves the Vscan On-Demand configuration of an SVM.

Related ONTAP commands

- `vserver vscan on-demand-task show`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/on-demand-policies](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
name	string	On-Demand task name
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "log_path": "/vol0/report_dir",
  "name": "task-1",
  "scan_paths": [
    "/vol1/",
    "/vol2/cifs/"
  ],
  "schedule": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "weekly",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "scope": {
    "exclude_extensions": [
      "mp3",
      "mp4"
    ],
    "exclude_paths": [
      "/vol1/cold-files/",
      "/vol1/cifs/names"
    ],
    "include_extensions": [
      "vmdk",
      "mp*"
    ],
    "max_file_size": 10737418240
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

schedule

Schedule of the task.

Name	Type	Description
_links	_links	
name	string	Job schedule name
uuid	string	Job schedule UUID

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update the Vscan On-Demand policy configuration for an SVM

PATCH /protocols/vscan/{svm.uuid}/on-demand-policies/{name}

Introduced In: 9.6

Updates the Vscan On-Demand policy configuration of an SVM. Use schedule name or schedule UUID to schedule an On-Demand scan.

Related ONTAP commands

- `vserver vscan on-demand-task modify`
- `vserver vscan on-demand-task schedule`
- `vserver vscan on-demand-task unschedule`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/on-demand-policies](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "log_path": "/vol0/report_dir",
  "scan_paths": [
    "/vol1/",
    "/vol2/cifs/"
  ],
  "schedule": {
    "name": "weekly",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "scope": {
    "exclude_extensions": [
      "mp3",
      "mp4"
    ],
    "exclude_paths": [
      "/vol1/cold-files/",
      "/vol1/cifs/names"
    ],
    "include_extensions": [
      "vmdk",
      "mp*"
    ],
    "max_file_size": 10737418240
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027101	The file size must be in the range 1KB to 1TB
10027107	The include extensions list cannot be empty. Specify at least one extension for inclusion.
10027164	An On-Demand policy cannot be scheduled, as the Vscan is disabled. Enable the Vscan and retry the operation.
10027167	The specified schedule does not exist. Create the schedule or create a policy without specifying the schedule.
10027168	The specified scan path does not exist. The scan path must be specified from the root of the SVM, and must begin with UNIX path delimiters (use "/" not "\")
10027169	The specified scan path is not supported for scanning.
10027174	The specified exclude path is invalid. The path must be specified from the root of the SVM, and must begin with UNIX path delimiters (use "/" not "\")
10027175	An On-Demand policy cannot be scheduled as the SVM is not in an operational state.
10027176	The log-path specified does not exist. The log path must be specified from the root of the SVM, and must begin with UNIX path delimiters (use "/" not "\")
10027177	The log path specified is not supported.
10027253	The number of paths specified exceeds the configured maximum number of paths. You cannot specify more than the maximum number of configured paths.
10027254	The number of extensions specified exceeds the configured maximum number of extensions. You cannot specify more than the maximum number of configured extensions.
10027255	Another policy is already scheduled. Only one policy per SVM is allowed to be scheduled at any one time. Update a policy without specifying a schedule.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

schedule

Schedule of the task.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_on_demand

Use On-Demand scanning to check files for viruses on a schedule. An On-Demand policy defines the scope of an On-Demand scan.

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Manage Vscan scanner-pool configuration

Manage Vscan scanner-pool configuration

Overview

A scanner-pool defines the Vscan servers and privileged users that can connect to SVMs and a scanner policy or role determines whether a scanner-pool is active. You can configure a scanner-pool to be used on the local cluster or any other cluster in an MCC/DR setup.

Examples

Retrieving all fields for all scanner-pools of an SVM

```
# The API:
/api/protocols/vscan/{svm.uuid}/scanner-pools

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/<svm-uuid>/scanner-pools?fields=*&return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "1ccbefd6-6132-11ef-92d9-005056bbd354",
        "name": "vs1"
      },
      "name": "scanner-1",
      "servers": [
        "1.1.1.1",
        "10.72.204.27"
      ],
      "privileged_users": [
        "cifs\\u1",
        "cifs\\u2"
      ],
      "role": "primary",
      "cluster": {
        "uuid": "3af387d8-6131-11ef-92d9-005056bbd354",
        "name": "clus1"
      }
    },
    {
      "svm": {
```

```

    "uuid": "1ccbefd6-6132-11ef-92d9-005056bbd354",
    "name": "vs1"
  },
  "name": "scanner-2",
  "servers": [
    "1.1.1.1",
    "10.72.204.27"
  ],
  "privileged_users": [
    "cifs\\u1",
    "cifs\\u2"
  ],
  "role": "secondary",
  "cluster": {
    "uuid": "3af387d8-6131-11ef-92d9-005056bbd354",
    "name": "clus1"
  }
},
"num_records": 2
}

```

Retrieving all scanner-pools with *role* set as *secondary*

```

# The API:
/api/protocols/vscan/{svm.uuid}/scanner-pools

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/<svm-uuid>/scanner-pools?role=secondary&fields=*&return_records=true&return_timeout=15" -H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "0e2f7c91-f227-11e8-9601-0050568ecc06",
        "name": "vs1"
      },
      "name": "scanner-2",
      "servers": [
        "1.1.1.1",
        "10.72.204.27"
      ],
      "privileged_users": [
        "cifs\\u1",
        "cifs\\u2"
      ],
      "role": "secondary",
      "cluster": {
        "uuid": "0933f9b5-f226-11e8-9601-0050568ecc06",
        "name": "Cluster3"
      }
    }
  ],
  "num_records": 1
}

```

Retrieving the specified scanner-pool associated with an SVM

```

# The API:
/api/protocols/vscan/{svm.uuid}/scanner-pools/{name}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/0e2f7c91-f227-11e8-9601-0050568ecc06/scanner-pools/scanner-1?fields=*" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "0e2f7c91-f227-11e8-9601-0050568ecc06",
    "name": "vs1"
  },
  "name": "scanner-1",
  "servers": [
    "1.1.1.1",
    "10.72.204.27"
  ],
  "privileged_users": [
    "cifs\\u1",
    "cifs\\u2"
  ],
  "role": "primary",
  "cluster": {
    "uuid": "0933f9b5-f226-11e8-9601-0050568ecc06",
    "name": "Cluster3"
  }
}

```

Creating a scanner-pool for an SVM with all fields specified

```

# The API:
/api/protocols/vscan/{svm.uuid}/scanner-pools/

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/vscan/b103be27-17b8-11e9-b451-0050568ecd85/scanner-pools?return_records=true" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"cluster\": { \"name\": \"Cluster1\", \"uuid\": \"ab746d77-17b7-11e9-b450-0050568ecd85\" }, \"name\": \"test-scanner\", \"privileged_users\": [ \"cifs\\\\\\u1\", \"cifs\\\\\\u2\" ], \"role\": \"primary\", \"servers\": [ \"1.1.1.1\", \"10.72.204.27\" ] }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "test-scanner",
      "servers": [
        "1.1.1.1",
        "10.72.204.27"
      ],
      "privileged_users": [
        "cifs\\u1",
        "cifs\\u2"
      ],
      "role": "primary",
      "cluster": {
        "uuid": "ab746d77-17b7-11e9-b450-0050568ecd85",
        "name": "Cluster1"
      }
    }
  ]
}

```

Creating a scanner-pool for an SVM with an unspecified role and cluster

```
# The API:
/api/protocols/vscan/{svm.uuid}/scanner-pools/

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/vscan/b103be27-17b8-11e9-b451-0050568ecd85/scanner-pools" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"name\": \"test-scanner-1\", \"privileged_users\": [ \"cifs\\\\u1\", \"cifs\\\\u2\" ], \"servers\": [ \"1.1.1.1\", \"10.72.204.27\" ]}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "name": "test-scanner-1",
      "servers": [
        "1.1.1.1",
        "10.72.204.27"
      ],
      "privileged_users": [
        "cifs\\u1",
        "cifs\\u2"
      ]
    }
  ]
}
```

Updating a scanner-pool for an SVM with all of the fields specified

```
# The API:
/api/protocols/vscan/{svm.uuid}/scanner-pools/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/vscan/0e2f7c91-f227-11e8-9601-0050568ecc06/scanner-pools/test-scanner-1" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"cluster\": { \"name\": \"Cluster3\", \"uuid\": \"0933f9b5-f226-11e8-9601-0050568ecc06\" }, \"privileged_users\": [ \"cifs\\\\u1\", \"cifs\\\\u2\" ], \"role\": \"secondary\", \"servers\": [ \"1.1.1.1\", \"10.72.204.27\" ]}"
```

Updating the "role" of a scanner-pool for an SVM

```
# The API:
/api/protocols/vscan/{svm.uuid}/scanner-pools/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/vscan/0e2f7c91-f227-11e8-9601-0050568ecc06/scanner-pools/test-scanner-1" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"cluster\": { \"name\": \"Cluster3\", \"uuid\": \"0933f9b5-f226-11e8-9601-0050568ecc06\", \"role\": \"primary\"} }
```

Deleting a scanner-pool for a specified SVM

```
# The API:
/api/protocols/vscan/{svm.uuid}/scanner-pools/{name}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/vscan/0e2f7c91-f227-11e8-9601-0050568ecc06/scanner-pools/test-scanner-1" -H "accept: application/json"
```

Retrieve the Vscan scanner-pool configuration for an SVM

GET /protocols/vscan/{svm.uuid}/scanner-pools

Introduced In: 9.6

Retrieves the Vscan scanner-pool configuration of an SVM.

Related ONTAP commands

- `vserver vscan scanner-pool show`
- `vserver vscan scanner-pool privileged-users show`
- `vserver vscan scanner-pool servers show`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

Parameters

Name	Type	In	Required	Description
cluster.name	string	query	False	Filter by cluster.name

Name	Type	In	Required	Description
cluster.uuid	string	query	False	Filter by cluster.uuid
privileged_users	string	query	False	Filter by privileged_users
servers	string	query	False	Filter by servers
role	string	query	False	Filter by role
svm.name	string	query	False	Filter by svm.name • Introduced in: 9.10
name	string	query	False	Filter by name • maxLength: 256 • minLength: 1
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 15 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[vscan_scanner_pool]	

Example response

```

{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "cluster": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-aelc-123478563412"
      },
      "name": "scanner-1",
      "privileged_users": [
        "cifs\\u1",
        "cifs\\u2"
      ],
      "role": "string",
      "servers": [
        "1.1.1.1",
        "10.72.204.27",
        "vmwin204-27.fsct.nb"
      ],
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

cluster_reference

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_scanner_pool

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and external virus-scanning server, or "Vscan server".

Name	Type	Description
cluster	cluster_reference	
name	string	Specifies the name of the scanner pool. Scanner pool name can be up to 256 characters long and is a string that can only contain any combination of ASCII-range alphanumeric characters a-z, A-Z, 0-9), " _", "-" and ".".
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remedying and quarantining operations. • example: ["cifs\u1", "cifs\u2"] • Introduced in: 9.6
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"] • Introduced in: 9.6

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create the Vscan scanner-pool configuration for an SVM

POST /protocols/vscan/{svm.uuid}/scanner-pools

Introduced In: 9.6

Creates a Vscan scanner-pool configuration for a specified SVM. You can create a scanner-pool with all fields specified or only mandatory fields specified.

Important notes:

- A scanner-pool must have servers and privileged users specified.
- If the role or cluster is not specified, the scanner-pool is created on the local cluster with the role set as primary. *Only one of the fields cluster-uuid or cluster-name is required.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the Vscan configuration.
- `name` - Scanner-pool name.
- `privileged_users` - List of privileged users.

- `servers` - List of server IP addresses or FQDNs.

Recommended optional properties

- `role` - Setting a role for a scanner-pool is recommended.
- `cluster` - Passing the cluster name or UUID (or both) in a multi-cluster environment is recommended.

Default property values

If not specified in POST, the following default property values are assigned:

- `role` - *primary*
- `cluster.name` - Local cluster name.
- `cluster.uuid` - Local cluster UUID.

Related ONTAP commands

- `vserver vscan scanner-pool create`
- `vserver vscan scanner-pool apply-policy`
- `vserver vscan scanner-pool privileged-users add`
- `vserver vscan scanner-pool servers add`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

Parameters

Name	Type	In	Required	Description
<code>return_records</code>	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:
<code>svm.uuid</code>	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
<code>cluster</code>	cluster_reference	

Name	Type	Description
name	string	Specifies the name of the scanner pool. Scanner pool name can be up to 256 characters long and is a string that can only contain any combination of ASCII-range alphanumeric characters a-z, A-Z, 0-9), "_", "-" and ".".
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remediating and quarantining operations. • example: ["cifs\u1", "cifs\u2"] • Introduced in: 9.6
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"] • Introduced in: 9.6
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "cluster": {
    "name": "cluster1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "name": "scanner-1",
  "privileged_users": [
    "cifs\\u1",
    "cifs\\u2"
  ],
  "role": "string",
  "servers": [
    "1.1.1.1",
    "10.72.204.27",
    "vmwin204-27.fsct.nb"
  ],
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
num_records	integer	Number of records
records	array[vscan_scanner_pool]	

Example response

```
{
  "num_records": 1,
  "records": [
    {
      "cluster": {
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "name": "scanner-1",
      "privileged_users": [
        "cifs\\u1",
        "cifs\\u2"
      ],
      "role": "string",
      "servers": [
        "1.1.1.1",
        "10.72.204.27",
        "vmwin204-27.fsct.nb"
      ],
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027076	The new scanner-pool cannot be created because the SVM has reached the maximum limit of 20 scanner-pools. Delete an existing scanner-pool in order to create a new scanner-pool
10027086	The specified list of servers contains one or more entries that cannot be resolved
10027258	The specified cluster_name does not exist
10027256	The specified cluster_uuid does not exist
10027257	The specified cluster_name and cluster_uuid are valid but belong to different clusters
10027248	Scanner-pool created successfully but failed to activate
10027107	The list of privileged users or list of servers specified is empty
10027108	The list of privileged users specified contains an invalid entry
10027063	Attempting to modify a scanner-pool on an SVM owned by the cluster with a data SVM
10027086	DNS resolution failed for one or more hostnames
10027119	The privileged user contains characters that are not allowed
10027261	One of the specified IPv4 addresses in the "-hostnames" is either a multicast, loopback, broadcast, or '0.0.0.0' address.
10027262	One of the specified IPv6 addresses in the "-hostnames" is either a link-local, multicast, v4-compatible, v4-mapped, loopback or '::/0' address.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

cluster_reference

Name	Type	Description
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_scanner_pool

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and external virus-scanning server, or "Vscan server".

Name	Type	Description
cluster	cluster_reference	
name	string	Specifies the name of the scanner pool. Scanner pool name can be up to 256 characters long and is a string that can only contain any combination of ASCII-range alphanumeric characters a-z, A-Z, 0-9), " _ ", "- " and ". ".

Name	Type	Description
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remedying and quarantining operations. • example: ["cifs\u1", "cifs\u2"] • Introduced in: 9.6
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"] • Introduced in: 9.6
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete the Vscan scanner-pool configuration

```
DELETE /protocols/vscan/{svm.uuid}/scanner-pools/{name}
```

Introduced In: 9.6

Deletes a Vscan scanner-pool configuration.

Important notes:

- The Vscan scanner-pool DELETE endpoint deletes all of the Vscan scanner-pools for a specified SVM.
- If a Vscan is enabled, it requires at least one scanner-pool to be in the active state. Therefore, disable Vscan on the specified SVM so all the scanner-pools configured on that SVM can be deleted.

Related ONTAP commands

- `vserver vscan scanner-pool delete`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027070	Attempting to delete a scanner-pool but it is the only active scanner-pool for a Vscan enabled on the SVM
10027064	Attempting to delete a scanner-pool with a data SVM which was created by the SVM owned by the cluster

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieve the Vscan scanner-pool configuration for an SVM

GET /protocols/vscan/{svm.uuid}/scanner-pools/{name}

Introduced In: 9.6

Retrieves the configuration of a specified scanner-pool of an SVM.

Related ONTAP commands

- `vserver vscan scanner-pool show`
- `vserver vscan scanner-pool privileged-users show`
- `vserver vscan scanner-pool servers show`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
cluster	cluster_reference	
name	string	Specifies the name of the scanner pool. Scanner pool name can be up to 256 characters long and is a string that can only contain any combination of ASCII-range alphanumeric characters a-z, A-Z, 0-9), "_", "-" and ".".
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remediating and quarantining operations. • example: ["cifs\u1", "cifs\u2"] • Introduced in: 9.6

Name	Type	Description
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"] • Introduced in: 9.6
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "cluster": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cluster1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "name": "scanner-1",
  "privileged_users": [
    "cifs\\u1",
    "cifs\\u2"
  ],
  "role": "string",
  "servers": [
    "1.1.1.1",
    "10.72.204.27",
    "vmwin204-27.fsct.nb"
  ],
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

cluster_reference

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Update the Vscan scanner-pool configuration for an SVM

PATCH /protocols/vscan/{svm.uuid}/scanner-pools/{name}

Introduced In: 9.6

Updates the Vscan scanner-pool configuration of an SVM.

Important notes:

- Along with servers and privileged-users, the role of a scanner-pool can also be updated with the cluster on which a scanner-pool is allowed.
- If role is specified and cluster isn't, then role is applied to the local cluster.

Related ONTAP commands

- `vserver vscan scanner-pool modify`
- `vserver vscan scanner-pool apply-policy`
- `vserver vscan scanner-pool privileged-users add`
- `vserver vscan scanner-pool privileged-users remove`
- `vserver vscan scanner-pool servers remove`
- `vserver vscan scanner-pool servers add`

Learn more

- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
cluster	cluster_reference	
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remedying and quarantining operations. • example: ["cifs\u1", "cifs\u2"] • Introduced in: 9.6
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"] • Introduced in: 9.6
svm	svm	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "cluster": {
    "name": "cluster1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "privileged_users": [
    "cifs\\u1",
    "cifs\\u2"
  ],
  "role": "string",
  "servers": [
    "1.1.1.1",
    "10.72.204.27",
    "vmwin204-27.fsct.nb"
  ],
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
10027258	The specified cluster_name does not exist
10027256	The specified cluster_uuid does not exist
10027257	The specified cluster_name and cluster_uuid are valid but belong to different clusters
10027248	Scanner-pool updated successfully but failed to apply the specified role

Error Code	Description
10027107	The list of privileged users or list of servers specified is empty
10027108	The list of privileged users specified contains an invalid entry
10027063	Attempting to modify a scanner-pool on an SVM owned by the cluster with a data SVM
10027119	The privileged user contains characters that are not allowed
10027261	One of the specified IPv4 addresses in the "-hostnames" is either a multicast, loopback, broadcast, or '0.0.0.0' address.
10027262	One of the specified IPv6 addresses in the "-hostnames" is either a link-local, multicast, v4-compatible, v4-mapped, loopback or '::/0' address.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

cluster_reference

Name	Type	Description
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vscan_scanner_pool

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and external virus-scanning server, or "Vscan server".

Name	Type	Description
cluster	cluster_reference	

Name	Type	Description
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remediating and quarantining operations. • example: ["cifs\u1", "cifs\u2"] • Introduced in: 9.6
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"] • Introduced in: 9.6
svm	svm	SVM, applies only to SVM-scoped objects.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Copyright information

Copyright © 2026 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.