SVM

REST API reference

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SVM

SVM overview

Overview

Storage Virtual Machine (SVM) APIs enable you to manage SVMs and their attributes, including the configuration of the CIFS and NFS protocols, export policies, name mappings between CIFS and NFS users, and network services.

SVMs contain data volumes and one or more network interfaces through which they serve data to the clients. SVMs securely isolate the shared virtualized data storage and network, and each SVM appears as a single dedicated server to the clients. Each SVM has a separate administrator authentication domain, and each SVM can be managed independently by its SVM administrator.

In a cluster, SVMs facilitate data access. A cluster must have at least one SVM to serve data. Multiple SVMs can coexist in a single cluster without being bound to any particular node in the cluster. However, they are bound to the physical cluster on which they exist.

SVMs with volumes can contain files and LUNs. They provide file-level data access by using NFS and CIFS protocols for the NAS clients, and block-level data access by using iSCSI and Fibre Channel (FC) (FCoE included) for SAN hosts. The volumes within each NAS SVM are related to each other through junctions and they are mounted on junction paths. These junctions present the file system in each volume. The root volume of the SVM resides at the top level of the namespace hierarchy; additional volumes are mounted to the SVM root volume to extend the namespace. As volumes are created for the SVM, the root volume of the SVM contains junction paths.

The ONTAP REST APIs only expose data SVMs as an SVM. The information and configuration associated with the cluster and nodes are exposed from REST, but the cluster and nodes are not treated as if they are a type of SVM from REST APIs. Some APIs that expose both cluster-owned resources and SVM-owned resources from the same endpoint only return and support the "svm" sub-object for the resources that are within a data SVM. In those endpoints, the resources that are not in a data SVM do not return the "svm" sub-object. Generally, such endpoints have a "scope" attribute that returns either "svm" or "cluster" to identify the resource as either a cluster-level resource or one that is completely contained in a data SVM.

SVM migration

SVM migrations endpoint overview

Overview

You can use this API to migrate an SVM from a source cluster to a destination cluster. During the migration, you can pause, resume, or abort the operation, and retrieve the migration status and transfer status of volumes in the SVM. The migrations APIs are only accessible from the destination cluster.

Precondition

The cluster peering relationship should be created between the source and destination clusters prior to using this API.

SVM migration APIs

The following APIs are used to manage SVM migration:

- POST /api/svm/migrations
- PATCH /api/svm/migrations/{uuid}
- GET /api/svm/migrations/
- GET /api/svm/migrations/{uuid}
- GET /api/svm/migrations/{svm_migration.uuid}/volumes
- GET /api/svm/migrations/{svm_migration.uuid}/volumes/{volume.uuid}
- DELETE /api/svm/migrations/{uuid}

Starting a migration

To start a migration operation, issue a POST request to /svm/migrations. Parameters are provided in the body of the POST request to specify the source cluster and the source SVM.

Monitoring the status of the SVM migration

You can use GET /svm/migrations to retrieve the status of the SVM migration and GET /svm/migrations/{svm_migration.uuid}/volumes to retrieve the transfer status of the volumes in the SVM migration.

Possible errors before starting the migration

Configurations in the POST /svm/migrations request are validated before the SVM migration starts. If an invalid configuration is found or the migration pre-checks fail, an HTTP error code in the 4xx range is returned. No SVM migration operation is started.

Polling the migration operation

After a succesful POST /svm/migrations request is issued, an HTTP error code of 202 is returned along with a migration UUID and link in the body of the response. The SVM migration continues asynchronously and is monitored using the migration UUID and the GET /svm/migrations/{uuid} API.

Errors duing the migration operation

If a failure occurs during the SVM migration, the GET /svm/migrations response provides details of the error along with any error code fields.

Pausing the migration operation

You can use PATCH /svm/migrations/{uuid} with the action "pause" to pause the SVM migration to update the SVM configuration on the source SVM.

Resuming the migration operation

You can use PATCH /svm/migrations{uuid} with the action "resume" to resume the SVM migration from a paused state.

Aborting the migration operation

You can use DELETE /svm/migrations/{uuid} to delete the SVM on the destination cluster if the SVM migration has failed or is paused. Use the DELETE /svm/migrations/{uuid} request to remove the SVM on the source cluster; this might be used when communication between the source and destination cluster is reduced.

Retrieving the migration status

You can use GET /svm/migrations/{uuid} to retrieve the current status of your migration.

Retrieving the volume transfer status

You can use GET /svm/migrations/{svm_migration.uuid}/volumes to retrieve the current transfer status of all volumes in the migrating SVM.

Retrieving the volume transfer status of a specific volume

You can use GET /svm/migrations/{svm_migrations.uuid}/volumes/{volume.uuid} to retrieve the transfer status of a specific volume in the migrating SVM.

Examples

Starting a Migration

```
# API
/api/svm/migrations
```

POST body included from file

```
svm_migration_post_body.txt:
{
"source": {
  "svm": {
    "name": "vs1"
  },
  "cluster": {
    "name": "siteB"
  }
}
}
curl -X POST https://<mgmt-ip>/api/svm/migrations -H "Content-Type:
application+hal/json" -d "@svm_migration_post_body.txt"
```

Inline POST body

```
curl -X POST https://<mgmt-ip>/api/svm/migrations -H "Content-Type:
application+hal/json" -d '{"source": {"svm": {"name": "vs1"}, "cluster":
{"name": "siteB"}}}'
```

POST Response

```
Date: Wed, 25 Aug 2021 19:04:47 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Location: /api/svm/migrations/517c5e74-05d7-11ec-a40f-005056bba9a5
Content-Length: 189
Content-Type: application/hal+json
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
{
"job": {
  "uuid": "5184a3e1-05d7-11ec-a40f-005056bba9a5",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/5184a3e1-05d7-11ec-a40f-005056bba9a5"
    }
  }
}
}
```

Retrieving POST Job status

Use the link provided in the response to the POST request to fetch the status of the start operation

Request

```
curl -X GET https://<mgmt-ip>/api/cluster/jobs/5184a3e1-05d7-11ec-a40f-
005056bba9a5
```

Response

```
Date: Wed, 25 Aug 2021 19:05:04 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Type: application/hal+json
Vary: Accept-Encoding
Content-Encoding: gzip
Content-Length: 224
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
{
"uuid": "5184a3e1-05d7-11ec-a40f-005056bba9a5",
"description": "POST /api/svm/migrations/517c5e74-05d7-11ec-a40f-
005056bba9a5",
"state": "success",
"message": "success",
"code": 0,
"start_time": "2021-08-25T15:04:48-04:00",
"end_time": "2021-08-25T15:04:57-04:00",
"_links": {
  "self": {
    "href": "/api/cluster/jobs/5184a3e1-05d7-11ec-a40f-005056bba9a5"
  }
}
}
```

Retrieving all migrations

The location header in the POST operation provides the uuid of the migrate operation that was started using POST. Also, you can list all the migrate operations using the collection GET.

Request

```
curl -X GET https://<mgmt-ip>/api/svm/migrations
```

Response

```
Date: Wed, 25 Aug 2021 19:05:11 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Type: application/hal+json
Vary: Accept-Encoding
Content-Encoding: gzip
Content-Length: 170
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
{
"records": [
  {
    "uuid": "517c5e74-05d7-11ec-a40f-005056bba9a5",
    "_links": {
      "self": {
        "href": "/api/svm/migrations/517c5e74-05d7-11ec-a40f-005056bba9a5"
      }
    }
  }
],
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/svm/migrations/"
  }
}
}
```

Retrieving a specific migration

Request

```
curl -X GET https://<mgmt-ip>/api/svm/migrations/517c5e74-05d7-11ec-a40f-
005056bba9a5
```

Response

```
Date: Wed, 25 Aug 2021 19:05:33 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Type: application/hal+json
Vary: Accept-Encoding
```

```
Content-Encoding: gzip
Content-Length: 379
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
{
"uuid": "517c5e74-05d7-11ec-a40f-005056bba9a5",
"state": "setup_configuration",
"start_time": "2021-08-25T15:04:49-04:00",
"current_operation": "start",
"source": {
  "svm": {
    "uuid": "424b6002-fb1a-11eb-9383-005056bbcf32",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/424b6002-fb1a-11eb-9383-005056bbcf32"
      }
    }
  },
  "cluster": {
    "uuid": "b54babec-fb14-11eb-9383-005056bbcf32",
    "name": "siteB",
    "_links": {
      "self": {
        "href": "/api/cluster/peers/b54babec-fb14-11eb-9383-005056bbcf32"
      }
    }
  }
},
"destination": {
  "ipspace": {
    "uuid": "f305cf0b-fb14-11eb-829d-005056bba9a5",
    "name": "Default"
  }
},
"auto_cutover": false,
"auto_source_cleanup": false,
"_links": {
  "self": {
    "href": "/api/svm/migrations/517c5e74-05d7-11ec-a40f-005056bba9a5"
  }
}
}
```

Pausing a migration

To pause the migration use the PATCH request on the migration UUID.

Request

```
curl -X PATCH https://<mgmt-ip>/api/svm/migrations/517c5e74-05d7-11ec-
a40f-005056bba9a5?action=pase
```

Response

```
Date: Wed, 25 Aug 2021 19:06:11 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 189
Content-Type: application/hal+json
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
{
"job": {
  "uuid": "82dea7c7-05d7-11ec-a40f-005056bba9a5",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/82dea7c7-05d7-11ec-a40f-005056bba9a5"
    }
  }
}
}
```

Monitoring PATCH job status

Use the link provided in the response of the PATCH request to fetch the information of the patch job.

Request

```
curl -X GET https://<mgmt-ip>/api/cluster/jobs/82dea7c7-05d7-11ec-a40f-
005056bba9a5
```

Response

```
Date: Wed, 25 Aug 2021 21:40:06 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Type: application/hal+json
Vary: Accept-Encoding
Content-Encoding: gzip
Content-Length: 222
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
{
"uuid": "82dea7c7-05d7-11ec-a40f-005056bba9a5",
"description": "PATCH /api/svm/migrations/517c5e74-05d7-11ec-a40f-
005056bba9a5",
"state": "success",
"message": "success",
"code": 0,
"start_time": "2021-08-25T15:06:11-04:00",
"end_time": "2021-08-25T15:06:11-04:00",
"_links": {
  "self": {
    "href": "/api/cluster/jobs/82dea7c7-05d7-11ec-a40f-005056bba9a5"
  }
}
}
```

Aborting a migration

To abort the migration use the DELETE request on the migration UUID.

Request

```
curl -X DELETE https://<mgmt-ip>/api/svm/migrations/517c5e74-05d7-11ec-
a40f-005056bba9a5
```

Response

```
Date: Wed, 25 Aug 2021 22:57:23 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 189
Content-Type: application/hal+json
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
{
"job": {
  "uuid": "cf870f19-05f7-11ec-a40f-005056bba9a5",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/cf870f19-05f7-11ec-a40f-005056bba9a5"
    }
  }
}
}
```

Monitoring DELETE job status

Use the link provided in the response of the PATCH request to fetch the information of the patch job.

Request

```
curl -X GET https://<mgmt-ip>/api/cluster/jobs/cf870f19-05f7-11ec-a40f-
005056bba9a5
```

Response

```
Date: Wed, 25 Aug 2021 23:05:47 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Type: application/hal+json
Vary: Accept-Encoding
Content-Encoding: gzip
Content-Length: 228
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
{
"uuid": "cf870f19-05f7-11ec-a40f-005056bba9a5",
"description": "DELETE /api/svm/migrations/517c5e74-05d7-11ec-a40f-
005056bba9a5",
"state": "success",
"message": "success",
"code": 0,
"start_time": "2021-08-25T18:57:23-04:00",
"end_time": "2021-08-25T18:57:24-04:00",
"_links": {
  "self": {
    "href": "/api/cluster/jobs/cf870f19-05f7-11ec-a40f-005056bba9a5"
  }
}
}
```

Retrieve the SVM migration status

GET `/svm/migrations`

Introduced In: 9.10

Retrieves the SVM migration status.

Related ONTAP commands

- `vserver migrate show`

Parameters

Name	Type	In	Required	Description
time_metrics.start_time	string	query	False	Filter by time_metrics.start_time

Name	Type	In	Required	Description
time_metrics.cutover_complete_time	string	query	False	Filter by time_metrics.cutover_complete_time
time_metrics.last_resume_time	string	query	False	Filter by time_metrics.last_resume_time
time_metrics.last_pause_time	string	query	False	Filter by time_metrics.last_pause_time
time_metrics.cutover_start_time	string	query	False	Filter by time_metrics.cutover_start_time
time_metrics.cutover_trigger_time	string	query	False	Filter by time_metrics.cutover_trigger_time
time_metrics.end_time	string	query	False	Filter by time_metrics.end_time
source.cluster.name	string	query	False	Filter by source.cluster.name
source.cluster.uuid	string	query	False	Filter by source.cluster.uuid
source.svm.uuid	string	query	False	Filter by source.svm.uuid
source.svm.name	string	query	False	Filter by source.svm.name
auto_cutover	boolean	query	False	Filter by auto_cutover
state	string	query	False	Filter by state
auto_source_cleanup	boolean	query	False	Filter by auto_source_cleanup

Name	Type	In	Required	Description
restart_count	integer	query	False	Filter by restart_count
last_operation	string	query	False	Filter by last_operation
current_operation	string	query	False	Filter by current_operation
uuid	string	query	False	Filter by uuid
messages.code	integer	query	False	Filter by messages.code
messages.message	string	query	False	Filter by messages.message
last_failed_state	string	query	False	Filter by last_failed_state
point_of_no_return	boolean	query	False	Filter by point_of_no_return
destination.ipspace.name	string	query	False	Filter by destination.ipspace.name
destination.ipspace.uuid	string	query	False	Filter by destination.ipspace.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: 1 • 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[svm_migration]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "check_only": null,
      "current_operation": "string",
      "destination": {
        "ipspace": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "exchange",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      },
      "last_failed_state": "string",
      "last_operation": "string",
      "messages": [
        {
          "message": "string"
        }
      ],
      "restart_count": 0,
      "source": {
        "cluster": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "cluster1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "svm": {
          "_links": {
```

```
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "svm1",
          "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
        }
      },
      "state": "string",
      "time_metrics": {
        "cutover_complete_time": "2020-12-02T19:30:19-08:00",
        "cutover_start_time": "2020-12-02T18:20:19-08:00",
        "cutover_trigger_time": "2020-12-02T19:15:19-08:00",
        "end_time": "2020-12-02T19:36:19-08:00",
        "last_pause_time": "2020-12-02T18:50:19-08:00",
        "last_resume_time": "2020-12-02T18:54:19-08:00",
        "start_time": "2020-12-02T18:36:19-08:00"
      },
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
13172783	Migrate RDB lookup failed

Name	Type	Description
error	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	

ipspace

Optional property used to specify which IPspace to use for the SVM. By default, the "default" ipspace is used.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

aggregates

Name	Type	Description
_links	_links	
name	string	
uuid	string	

aggregate

Aggregate to use for volume creation.

Name	Type	Description
_links	_links	
name	string	

Name	Type	Description
uuid	string	

volume

Property indicating the source volume.

Name	Type	Description
_links	_links	
name	string	The name of the volume.
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

volume_aggregate_pairs

Volume-aggregate pair information.

Name	Type	Description
aggregate	aggregate	Aggregate to use for volume creation.
volume	volume	Property indicating the source volume.

volume_placement

Optional property to specify the source volume placement in the destination. It is input only and won't be returned by a subsequent GET.

Name	Type	Description
aggregates	array[aggregates]	Optional property used to specify the list of desired aggregates to use for volume creation in the destination.

Name	Type	Description
volume_aggregate_pairs	array[volume_aggregate_pairs]	Optional property used to specify the list of desired volume-aggregate pairs in the destination.

destination

Destination cluster details for the SVM migration.

Name	Type	Description
ipspace	ipspace	Optional property used to specify which IPspace to use for the SVM. By default, the "default" ipspace is used.

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

interface

Network interface on the source SVM.

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
name	string	Name of node on which the port is located.

port

Port to use for IP interface placement on the destination SVM.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

ip_interfaces

IP interface and network port pair information.

Name	Type	Description
interface	interface	Network interface on the source SVM.
port	port	Port to use for IP interface placement on the destination SVM.

svm_migration_ip_interface_placement

Optional property used to specify the list of source SVM's IP interface and network port pairs in the destination for migrating the source SVM IP interfaces. Note that the SVM migration does not perform any reachability checks on the IP interfaces provided.

Name	Type	Description
ip_interfaces	array[ip_interfaces]	List of source SVM's IP interface and port pairs on the destination for migrating the source SVM's IP interfaces.

messages

Specifies failure codes and messages.

Name	Type	Description
code	integer	Message code
message	string	Detailed message of warning or error.

cluster

Source cluster for the SVM migration.

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Source SVM

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

source

Source cluster details for the SVM migration.

Name	Type	Description
cluster	cluster	Source cluster for the SVM migration.
svm	svm	Source SVM

time_metrics

Various time metrics details

Name	Type	Description
cutover_complete_time	string	Cutover end time
cutover_start_time	string	Cutover start time
cutover_trigger_time	string	Cutover trigger time
end_time	string	Migration end time
last_pause_time	string	Last migration pause time
last_resume_time	string	Last migration resume time

Name	Type	Description
start_time	string	Migration start time

svm_migration

Provides information on SVM migration, default and user specified configurations, the state of the migration, and volume transfer metrics.

Name	Type	Description
auto_cutover	boolean	Optional property that when set to true automatically performs cutover when the migration state reaches "ready for cutover".
auto_source_cleanup	boolean	Optional property that when set to true automatically cleans up the SVM on the source cluster after the migration cutover.
current_operation	string	
destination	destination	Destination cluster details for the SVM migration.
last_failed_state	string	Indicates the state of the migration.
last_operation	string	
messages	array[messages]	Errors and warnings returned/displayed during migration.
point_of_no_return	boolean	Indicates if the migration has progressed beyond the point of no return. When true, the migration cannot be aborted or paused. When false, the migration can be paused or aborted.
restart_count	integer	Number of times SVM migration was restarted since initially started.
source	source	Source cluster details for the SVM migration.

Name	Type	Description
state	string	Indicates the state of the migration.
time_metrics	time_metrics	Various time metrics details
uuid	string	SVM migration UUID

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 SVM migration operation

POST `/svm/migrations`

Introduced In: 9.10

Creates an SVM migration operation. This API must be executed on the destination cluster. This API creates an SVM on the destination cluster and preserves the SVM's identity specified in the source cluster. Optionally, you can specify the aggregate list for creating the volumes, and IPspace. You can perform pre-checks to verify if SVM migration is possible, by setting the "check-only" option to "true". By default the values for auto-source-cleanup and auto-cutover is true.

Required properties

- `source.svm.name` or `source.svm.uuid` - Source SVM name or source SVM UUID.
- `source.cluster.name` or `source.cluster.uuid` - Source cluster name or source cluster UUID

Optional properties

- `destination.ipspace.name` or `destination.ipspace.uuid` - Destination IP Space name or UUID where the vserver will be migrated to.
- `destination.volume_placement.aggregates` - List of aggregates where the migrating volumes should go on the destination.
- `auto_cutover` - Option to specify whether to perform cutover automatically. Default is true.
- `auto_source_cleanup` - Option to specify whether to perform souce cleanup automatically. Default is true.
- `check_only` - Option to perform all the prechecks for migrate without actually starting the migrate. Default is false.

Related ONTAP commands

- `vserver migrate start`

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: 1 • 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
auto_cutover	boolean	Optional property that when set to true automatically performs cutover when the migration state reaches "ready for cutover".

Name	Type	Description
auto_source_cleanup	boolean	Optional property that when set to true automatically cleans up the SVM on the source cluster after the migration cutover.
check_only	boolean	Optional property that when set to true performs only migration pre-checks not the actual migration.
current_operation	string	
destination	destination	Destination cluster details for the SVM migration.
ip_interface_placement	svm_migration_ip_interface_placement	Optional property used to specify the list of source SVM's IP interface and network port pairs in the destination for migrating the source SVM IP interfaces. Note that the SVM migration does not perform any reachability checks on the IP interfaces provided.
last_failed_state	string	Indicates the state of the migration.
last_operation	string	
messages	array[messages]	Errors and warnings returned/displayed during migration.
point_of_no_return	boolean	Indicates if the migration has progressed beyond the point of no return. When true, the migration cannot be aborted or paused. When false, the migration can be paused or aborted.
restart_count	integer	Number of times SVM migration was restarted since initially started.
source	source	Source cluster details for the SVM migration.
state	string	Indicates the state of the migration.
time_metrics	time_metrics	Various time metrics details

Name	Type	Description
uuid	string	SVM migration UUID

Example request

```
{
  "current_operation": "string",
  "destination": {
    "ipspace": {
      "name": "exchange",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "volume_placement": {
      "aggregates": [
        {
          "name": "aggr1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "volume_aggregate_pairs": [
        {
          "aggregate": {
            "name": "aggr1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          },
          "volume": {
            "name": "volume1",
            "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
          }
        }
      ]
    }
  },
  "ip_interface_placement": {
    "ip_interfaces": [
      {
        "interface": {
          "name": "lif1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "port": {
          "name": "e1b",
          "node": {
            "name": "node1"
          },
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      }
    ]
```

```
  },
  "last_failed_state": "string",
  "last_operation": "string",
  "messages": [
    {
      "message": "string"
    }
  ],
  "restart_count": 0,
  "source": {
    "cluster": {
      "name": "cluster1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "svm": {
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "state": "string",
  "time_metrics": {
    "cutover_complete_time": "2020-12-02T19:30:19-08:00",
    "cutover_start_time": "2020-12-02T18:20:19-08:00",
    "cutover_trigger_time": "2020-12-02T19:15:19-08:00",
    "end_time": "2020-12-02T19:36:19-08:00",
    "last_pause_time": "2020-12-02T18:50:19-08:00",
    "last_resume_time": "2020-12-02T18:54:19-08:00",
    "start_time": "2020-12-02T18:36:19-08:00"
  },
  "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
```


Response

```
Status: 202, Accepted
```

Name	Type	Description
job	job_link	

Example response


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


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
262245	The value provided is invalid.
13172746	SVM migration cannot be started. This is a generic code, see the response message for details.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

ipspace

Optional property used to specify which IPspace to use for the SVM. By default, the "default" ipspace is used.

Name	Type	Description
name	string	IPspace name
uuid	string	IPspace UUID

aggregates

Name	Type	Description
_links	_links	
name	string	
uuid	string	

aggregate

Aggregate to use for volume creation.

Name	Type	Description
name	string	
uuid	string	

volume

Property indicating the source volume.

Name	Type	Description
name	string	The name of the volume.

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

volume_aggregate_pairs

Volume-aggregate pair information.

Name	Type	Description
aggregate	aggregate	Aggregate to use for volume creation.
volume	volume	Property indicating the source volume.

volume_placement

Optional property to specify the source volume placement in the destination. It is input only and won't be returned by a subsequent GET.

Name	Type	Description
aggregates	array[aggregates]	Optional property used to specify the list of desired aggregates to use for volume creation in the destination.
volume_aggregate_pairs	array[volume_aggregate_pairs]	Optional property used to specify the list of desired volume-aggregate pairs in the destination.

destination

Destination cluster details for the SVM migration.

Name	Type	Description
ipspace	ipspace	Optional property used to specify which IPspace to use for the SVM. By default, the "default" ipspace is used.
volume_placement	volume_placement	Optional property to specify the source volume placement in the destination. It is input only and won't be returned by a subsequent GET.

ip

IP information

interface

Network interface on the source SVM.

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
name	string	Name of node on which the port is located.

port

Port to use for IP interface placement on the destination SVM.

Name	Type	Description
name	string	
node	node	
uuid	string	

ip_interfaces

IP interface and network port pair information.

Name	Type	Description
interface	interface	Network interface on the source SVM.
port	port	Port to use for IP interface placement on the destination SVM.

svm_migration_ip_interface_placement

Optional property used to specify the list of source SVM's IP interface and network port pairs in the destination for migrating the source SVM IP interfaces. Note that the SVM migration does not perform any reachability checks on the IP interfaces provided.

Name	Type	Description
ip_interfaces	array[ip_interfaces]	List of source SVM's IP interface and port pairs on the destination for migrating the source SVM's IP interfaces.

messages

Specifies failure codes and messages.

Name	Type	Description
code	integer	Message code
message	string	Detailed message of warning or error.

cluster

Source cluster for the SVM migration.

Name	Type	Description
name	string	
uuid	string	

svm

Source SVM

Name	Type	Description
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

source

Source cluster details for the SVM migration.

Name	Type	Description
cluster	cluster	Source cluster for the SVM migration.
svm	svm	Source SVM

time_metrics

Various time metrics details

Name	Type	Description
cutover_complete_time	string	Cutover end time
cutover_start_time	string	Cutover start time
cutover_trigger_time	string	Cutover trigger time
end_time	string	Migration end time
last_pause_time	string	Last migration pause time
last_resume_time	string	Last migration resume time
start_time	string	Migration start time

svm_migration

Provides information on SVM migration, default and user specified configurations, the state of the migration, and volume transfer metrics.

Name	Type	Description
auto_cutover	boolean	Optional property that when set to true automatically performs cutover when the migration state reaches "ready for cutover".

Name	Type	Description
auto_source_cleanup	boolean	Optional property that when set to true automatically cleans up the SVM on the source cluster after the migration cutover.
check_only	boolean	Optional property that when set to true performs only migration pre-checks not the actual migration.
current_operation	string	
destination	destination	Destination cluster details for the SVM migration.
ip_interface_placement	svm_migration_ip_interface_placement	Optional property used to specify the list of source SVM's IP interface and network port pairs in the destination for migrating the source SVM IP interfaces. Note that the SVM migration does not perform any reachability checks on the IP interfaces provided.
last_failed_state	string	Indicates the state of the migration.
last_operation	string	
messages	array[messages]	Errors and warnings returned/displayed during migration.
point_of_no_return	boolean	Indicates if the migration has progressed beyond the point of no return. When true, the migration cannot be aborted or paused. When false, the migration can be paused or aborted.
restart_count	integer	Number of times SVM migration was restarted since initially started.
source	source	Source cluster details for the SVM migration.

Name	Type	Description
state	string	Indicates the state of the migration.
time_metrics	time_metrics	Various time metrics details
uuid	string	SVM migration UUID

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

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 transfer status of volumes in an SVM

GET `/svm/migrations/{svm_migration.uuid}/volumes`

Introduced In: 9.10

Retrieves the transfer status of the volumes in the SVM.

Related ONTAP commands

- `vserver migrate show-volume`

Parameters

Name	Type	In	Required	Description
svm_migration.uuid	string	path	True	Migration 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: 1 • 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[svm_migration_volume]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "errors": [
        {
          "message": "string"
        }
      ],
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "transfer_state": "string",
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
```

```
            }
          },
          "name": "volume1",
          "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
        }
      }
    ]
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
13172783	Migrate RDB lookup failed

Name	Type	Description
error	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	

self_link

Name	Type	Description
self	href	

errors

Specifies failure codes and messages.

Name	Type	Description
code	integer	Message code
message	string	Detailed message of warning or error.

_links

Name	Type	Description
self	href	

node

Node in the destination cluster where the volume is hosted

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM information

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

volume

Volume information in the destination cluster

Name	Type	Description
_links	_links	
name	string	The name of the volume.
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

svm_migration_volume

Volume transfer information

Name	Type	Description
_links	self_link	
errors	array[errors]	List of transfer errors
healthy	boolean	Indicates whether the volume transfer relationship is healthy.
node	node	Node in the destination cluster where the volume is hosted
svm	svm	SVM information
transfer_state	string	Status of the transfer.
volume	volume	Volume information in the destination cluster

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 volume transfer status for a volume

GET `/svm/migrations/{svm_migration.uuid}/volumes/{volume.uuid}`

Introduced In: 9.10

Retrieves the volume transfer status of the specified volume.uuid.

Related ONTAP commands

- `vserver migrate show-volume`

Parameters

Name	Type	In	Required	Description
svm_migration.uuid	string	path	True	Migration UUID
volume.uuid	string	path	True	Volume UUID
errors.code	integer	query	False	Filter by errors.code
errors.message	string	query	False	Filter by errors.message
healthy	boolean	query	False	Filter by healthy

Name	Type	In	Required	Description
node.uuid	string	query	False	Filter by node.uuid
node.name	string	query	False	Filter by node.name
volume.name	string	query	False	Filter by volume.name
transfer_state	string	query	False	Filter by transfer_state
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
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: 1 • Max value: 120 • Min value: 0

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	self_link	
errors	array[errors]	List of transfer errors
healthy	boolean	Indicates whether the volume transfer relationship is healthy.
node	node	Node in the destination cluster where the volume is hosted
svm	svm	SVM information
transfer_state	string	Status of the transfer.
volume	volume	Volume information in the destination cluster

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "errors": [
    {
      "message": "string"
    }
  ],
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "transfer_state": "string",
  "volume": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  }
}
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
13172783	Migrate RDB lookup failed

Name	Type	Description
error	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	

errors

Specifies failure codes and messages.

Name	Type	Description
code	integer	Message code
message	string	Detailed message of warning or error.

_links

Name	Type	Description
self	href	

node

Node in the destination cluster where the volume is hosted

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM information

Name	Type	Description
_links	_links	
name	string	The name of the SVM.

Name	Type	Description
uuid	string	The unique identifier of the SVM.

volume

Volume information in the destination cluster

Name	Type	Description
_links	_links	
name	string	The name of the volume.
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

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 SVM migrations

DELETE `/svm/migrations/{uuid}`

Introduced In: 9.10

Deletes the SVM migration.

Related ONTAP commands

- `vserver migrate abort`

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SVM migration UUID.
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: 1 • Max value: 120 • Min value: 0

Response

```
Status: 202, Accepted
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
13172783	Migrate RDB lookup failed

Name	Type	Description
error	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

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 migration status for an SVM

GET `/svm/migrations/{uuid}`

Introduced In: 9.10

Retrieves the migration status of an individual SVM.

Important notes

- The "migrations" object includes a large set of fields and can be expensive to retrieve.
- REST APIs only expose a data SVM as an SVM.

Example

Retrieving an individual SVM migration status.

```
  GET "/api/svm/migrations/a14ae39f-8d85-11e9-b4a7-
00505682dc8b/svms/f16f0935-5281-11e8-b94d-005056b46485"
```

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Migration UUID
fields	array[string]	query	False	Specify the fields to return.

Response

```
Status: 200, Ok
```

Name	Type	Description
auto_cutover	boolean	Optional property that when set to true automatically performs cutover when the migration state reaches "ready for cutover".
auto_source_cleanup	boolean	Optional property that when set to true automatically cleans up the SVM on the source cluster after the migration cutover.
current_operation	string	
destination	destination	Destination cluster details for the SVM migration.
last_failed_state	string	Indicates the state of the migration.
last_operation	string	
messages	array[messages]	Errors and warnings returned/displayed during migration.
point_of_no_return	boolean	Indicates if the migration has progressed beyond the point of no return. When true, the migration cannot be aborted or paused. When false, the migration can be paused or aborted.
restart_count	integer	Number of times SVM migration was restarted since initially started.
source	source	Source cluster details for the SVM migration.

Name	Type	Description
state	string	Indicates the state of the migration.
time_metrics	time_metrics	Various time metrics details
uuid	string	SVM migration UUID

Example response


```
{
  "check_only": null,
  "current_operation": "string",
  "destination": {
    "ipspace": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "exchange",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "last_failed_state": "string",
  "last_operation": "string",
  "messages": [
    {
      "message": "string"
    }
  ],
  "restart_count": 0,
  "source": {
    "cluster": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "cluster1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "state": "string",
  "time_metrics": {
```

```
    "cutover_complete_time": "2020-12-02T19:30:19-08:00",
    "cutover_start_time": "2020-12-02T18:20:19-08:00",
    "cutover_trigger_time": "2020-12-02T19:15:19-08:00",
    "end_time": "2020-12-02T19:36:19-08:00",
    "last_pause_time": "2020-12-02T18:50:19-08:00",
    "last_resume_time": "2020-12-02T18:54:19-08:00",
    "start_time": "2020-12-02T18:36:19-08:00"
  },
  "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
```


Error

```
Status: Default, Error
```

Name	Type	Description
error	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	

ipspace

Optional property used to specify which IPspace to use for the SVM. By default, the "default" ipspace is used.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

aggregates

Name	Type	Description
_links	_links	
name	string	
uuid	string	

aggregate

Aggregate to use for volume creation.

Name	Type	Description
_links	_links	
name	string	
uuid	string	

volume

Property indicating the source volume.

Name	Type	Description
_links	_links	
name	string	The name of the volume.
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

volume_aggregate_pairs

Volume-aggregate pair information.

Name	Type	Description
aggregate	aggregate	Aggregate to use for volume creation.
volume	volume	Property indicating the source volume.

volume_placement

Optional property to specify the source volume placement in the destination. It is input only and won't be returned by a subsequent GET.

Name	Type	Description
aggregates	array[aggregates]	Optional property used to specify the list of desired aggregates to use for volume creation in the destination.
volume_aggregate_pairs	array[volume_aggregate_pairs]	Optional property used to specify the list of desired volume-aggregate pairs in the destination.

destination

Destination cluster details for the SVM migration.

Name	Type	Description
ipspace	ipspace	Optional property used to specify which IPspace to use for the SVM. By default, the "default" ipspace is used.

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

interface

Network interface on the source SVM.

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
name	string	Name of node on which the port is located.

port

Port to use for IP interface placement on the destination SVM.

Name	Type	Description
_links	_links	
name	string	
node	node	

Name	Type	Description
uuid	string	

ip_interfaces

IP interface and network port pair information.

Name	Type	Description
interface	interface	Network interface on the source SVM.
port	port	Port to use for IP interface placement on the destination SVM.

svm_migration_ip_interface_placement

Optional property used to specify the list of source SVM's IP interface and network port pairs in the destination for migrating the source SVM IP interfaces. Note that the SVM migration does not perform any reachability checks on the IP interfaces provided.

Name	Type	Description
ip_interfaces	array[ip_interfaces]	List of source SVM's IP interface and port pairs on the destination for migrating the source SVM's IP interfaces.

messages

Specifies failure codes and messages.

Name	Type	Description
code	integer	Message code
message	string	Detailed message of warning or error.

cluster

Source cluster for the SVM migration.

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Source SVM

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

source

Source cluster details for the SVM migration.

Name	Type	Description
cluster	cluster	Source cluster for the SVM migration.
svm	svm	Source SVM

time_metrics

Various time metrics details

Name	Type	Description
cutover_complete_time	string	Cutover end time
cutover_start_time	string	Cutover start time
cutover_trigger_time	string	Cutover trigger time
end_time	string	Migration end time
last_pause_time	string	Last migration pause time
last_resume_time	string	Last migration resume time
start_time	string	Migration start time

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

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 actions performed during an SVM migration

PATCH `/svm/migrations/{uuid}`

Introduced In: 9.10

Actions that can be performed during an SVM migration.

Related ONTAP commands

- `vserver migrate pause`
- `vserver migrate resume`
- `vserver migrate cutover`
- `vserver migrate source-cleanup`

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SVM migration UUID

Name	Type	In	Required	Description
action	string	query	False	The pause action pauses the SVM migration. This action stops data transfer and configuration replication. This operation must be performed on the destination cluster. The resume action resumes an SVM migration from a paused or failed state. This operation must be performed on the destination cluster. The cutover action triggers the cutover of an SVM from the source cluster to the destination cluster. The source_clean up action performs a clean up of the SVM on the source cluster. • enum: ["pause", "resume", "cutover", "source_cleanup "]
auto_cutover	boolean	query	False	Optional property that when set to true automatically performs cutover when the migration state reaches "ready for cutover". • Default value: 1

Name	Type	In	Required	Description
auto_source_cleanup	boolean	query	False	Optional property that when set to true automatically cleans up the SVM on the source cluster after the migration cutover. • Default value: 1
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: 1 • Max value: 120 • Min value: 0

Request Body

Name	Type	Description
current_operation	string	

Name	Type	Description
destination	destination	Destination cluster details for the SVM migration.
last_failed_state	string	Indicates the state of the migration.
last_operation	string	
messages	array[messages]	Errors and warnings returned/displayed during migration.
point_of_no_return	boolean	Indicates if the migration has progressed beyond the point of no return. When true, the migration cannot be aborted or paused. When false, the migration can be paused or aborted.
restart_count	integer	Number of times SVM migration was restarted since initially started.
source	source	Source cluster details for the SVM migration.
state	string	Indicates the state of the migration.
time_metrics	time_metrics	Various time metrics details
uuid	string	SVM migration UUID

Example request


```
{
  "auto_cutover": null,
  "auto_source_cleanup": null,
  "check_only": null,
  "current_operation": "string",
  "destination": {
    "volume_placement": {
      "volume_aggregate_pairs": [
        {
          "aggregate": {
            "name": "aggr1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          },
          "volume": {
            "name": "volume1",
            "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
          }
        }
      ]
    }
  },
  "last_failed_state": "string",
  "last_operation": "string",
  "messages": [
    {
      "message": "string"
    }
  ],
  "restart_count": 0,
  "state": "string",
  "time_metrics": {
    "cutover_complete_time": "2020-12-02T19:30:19-08:00",
    "cutover_start_time": "2020-12-02T18:20:19-08:00",
    "cutover_trigger_time": "2020-12-02T19:15:19-08:00",
    "end_time": "2020-12-02T19:36:19-08:00",
    "last_pause_time": "2020-12-02T18:50:19-08:00",
    "last_resume_time": "2020-12-02T18:54:19-08:00",
    "start_time": "2020-12-02T18:36:19-08:00"
  },
  "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
```

Response

```
Status: 202, Accepted
```

Name	Type	Description
job	job_link	

Example response


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


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
13172783	Migrate RDB lookup failed

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

ipspace

Optional property used to specify which IPspace to use for the SVM. By default, the "default" ipspace is used.

Name	Type	Description
name	string	IPspace name
uuid	string	IPspace UUID

aggregates

Name	Type	Description
_links	_links	
name	string	
uuid	string	

aggregate

Aggregate to use for volume creation.

Name	Type	Description
name	string	
uuid	string	

volume

Property indicating the source volume.

Name	Type	Description
name	string	The name of the volume.

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

volume_aggregate_pairs

Volume-aggregate pair information.

Name	Type	Description
aggregate	aggregate	Aggregate to use for volume creation.
volume	volume	Property indicating the source volume.

volume_placement

Optional property to specify the source volume placement in the destination. It is input only and won't be returned by a subsequent GET.

Name	Type	Description
volume_aggregate_pairs	array[volume_aggregate_pairs]	Optional property used to specify the list of desired volume-aggregate pairs in the destination.

destination

Destination cluster details for the SVM migration.

Name	Type	Description
volume_placement	volume_placement	Optional property to specify the source volume placement in the destination. It is input only and won't be returned by a subsequent GET.

ip

IP information

interface

Network interface on the source SVM.

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
name	string	Name of node on which the port is located.

port

Port to use for IP interface placement on the destination SVM.

Name	Type	Description
name	string	
node	node	
uuid	string	

ip_interfaces

IP interface and network port pair information.

Name	Type	Description
interface	interface	Network interface on the source SVM.
port	port	Port to use for IP interface placement on the destination SVM.

svm_migration_ip_interface_placement

Optional property used to specify the list of source SVM's IP interface and network port pairs in the destination for migrating the source SVM IP interfaces. Note that the SVM migration does not perform any reachability checks on the IP interfaces provided.

Name	Type	Description
ip_interfaces	array[ip_interfaces]	List of source SVM's IP interface and port pairs on the destination for migrating the source SVM's IP interfaces.

messages

Specifies failure codes and messages.

Name	Type	Description
code	integer	Message code
message	string	Detailed message of warning or error.

cluster

Source cluster for the SVM migration.

Name	Type	Description
name	string	
uuid	string	

svm

Source SVM

Name	Type	Description
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

source

Source cluster details for the SVM migration.

time_metrics

Various time metrics details

Name	Type	Description
cutover_complete_time	string	Cutover end time
cutover_start_time	string	Cutover start time
cutover_trigger_time	string	Cutover trigger time
end_time	string	Migration end time
last_pause_time	string	Last migration pause time
last_resume_time	string	Last migration resume time
start_time	string	Migration start time

svm_migration

Provides information on SVM migration, default and user specified configurations, the state of the migration, and volume transfer metrics.

Name	Type	Description
current_operation	string	
destination	destination	Destination cluster details for the SVM migration.
last_failed_state	string	Indicates the state of the migration.
last_operation	string	
messages	array[messages]	Errors and warnings returned/displayed during migration.
point_of_no_return	boolean	Indicates if the migration has progressed beyond the point of no return. When true, the migration cannot be aborted or paused. When false, the migration can be paused or aborted.
restart_count	integer	Number of times SVM migration was restarted since initially started.

Name	Type	Description
source	source	Source cluster details for the SVM migration.
state	string	Indicates the state of the migration.
time_metrics	time_metrics	Various time metrics details
uuid	string	SVM migration UUID

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

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 peer permissions

SVM peer-permissions endpoint overview

Managing SVM peer permissions

A cluster administrator can provide permissions for use during intercluster SVM peer relationship creation. Once this permission exists for a local SVM and peer cluster combination on a local cluster, no explicit SVM peer accept (or REST PATCH) API is required for any incoming SVM peer relationship creation requests from a remote cluster for that local SVM. Peer relationship directly changes the state to peered on both clusters. Use an SVM name as "*" to create permissions that apply to all local SVMs.

SVM peer permission APIs

The following APIs are used to manage SVM peer permissions:

- GET /api/svm/peer-permissions
- POST /api/svm/peer-permissions
- GET /api/svm/peer-permissions/{cluster_peer.uuid}/{svm.uuid}
- PATCH /api/svm/peer-permissions/{cluster_peer.uuid}/{svm.uuid}
- DELETE /api/svm/peer-permissions/{cluster_peer.uuid}/{svm.uuid}

Retrieve SVM peer permissions

GET `/svm/peer-permissions`

Introduced In: 9.6

Retrieves the list of SVM peer permissions.

Related ONTAP commands

- `vserver peer permission show`

Examples

The following examples show how to retrieve a collection of SVM peer permissions based on a query.

1. Retrieves a list of SVM peer permissions of a specific local SVM

```
GET "/api/svm/peer-permissions/?svm.name=VS1"
```

1. Retrieves a list of SVM peer permissions of a specific cluster peer

```
GET "/api/svm/peer-permissions/?cluster_peer.name=cluster2"
```

Learn more

- DOC /svm/peer-permissions

Parameters

Name	Type	In	Required	Description
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
applications	string	query	False	Filter by applications
cluster_peer.uuid	string	query	False	Filter by cluster_peer.uuid
cluster_peer.name	string	query	False	Filter by cluster_peer.name
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: 1 • 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[svm_peer_permission]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "applications": [
        "snapmirror",
        "flexcache"
      ],
      "cluster_peer": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cluster2",
        "uuid": "ebe27c49-1adf-4496-8335-ab862aebebf2"
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
26345574	Failed to find the SVM or volume name with UUID.

Name	Type	Description
error	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_peer

Peer cluster details

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Local SVM permitted for peer relation. To create peer permissions for all SVMs, specify the SVM name as "*".

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

svm_peer_permission

Manage SVM peer permissions.

Name	Type	Description
_links	_links	

Name	Type	Description
applications	array[string]	A list of applications for an SVM peer relation.
cluster_peer	cluster_peer	Peer cluster details
svm	svm	Local SVM permitted for peer relation. To create peer permissions for all SVMs, specify the SVM name as "*".

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 SVM peer permission

POST `/svm/peer-permissions`

Introduced In: 9.6

Creates an SVM peer permission.

Required properties

- `svm.name` or `svm.uuid` - SVM name
- `cluster_peer.uuid` or `cluster_peer.name` - Peer cluster name or peer cluster UUID
- `applications` - Peering applications

Related ONTAP commands

- `vserver peer permission create`

Examples

The following examples show how to create SVM peer permissions.

1. Creates an SVM peer permission entry with the local SVM and cluster peer names

```
 POST "/api/svm/peer-permissions" '{"cluster_peer":{"name":"cluster2"},
"svm":{"name":"VS1"}, "applications":["snapmirror"]}'
```

1. Creates an SVM peer permission entry with the local SVM and cluster peer UUID

```
 POST "/api/svm/peer-permissions" '{"cluster_peer":{"uuid":"d3268a74-ee76-
11e8-a9bb-005056ac6dc9"}, "svm":{"uuid":"8f467b93-f2f1-11e8-9027-
005056ac81fc"}, "applications":["snapmirror"]}'
```

1. Creates an SVM peer permission entry with all SVMs and the cluster peer name

```
 POST "/api/svm/peer-permissions" '{"cluster_peer":{"name":"cluster2"},
"svm":{"name":"*"}, "applications":["snapmirror"]}'
```

Learn more

- DOC /svm/peer-permissions

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
applications	array[string]	A list of applications for an SVM peer relation.

Name	Type	Description
cluster_peer	cluster_peer	Peer cluster details
svm	svm	Local SVM permitted for peer relation. To create peer permissions for all SVMs, specify the SVM name as "*".

Example request

```
{
  "applications": [
    "snapmirror",
    "flexcache"
  ],
  "cluster_peer": {
    "name": "cluster2",
    "uuid": "ebe27c49-1adf-4496-8335-ab862aebebf2"
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

```
Status: 201, Created
```

Name	Type	Description
applications	array[string]	A list of applications for an SVM peer relation.
cluster_peer	cluster_peer	Peer cluster details
svm	svm	Local SVM permitted for peer relation. To create peer permissions for all SVMs, specify the SVM name as "*".

Example response


```
{
  "applications": [
    "snapmirror",
    "flexcache"
  ],
  "cluster_peer": {
    "name": "cluster2",
    "uuid": "ebe27c49-1adf-4496-8335-ab862aebebf2"
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
26345572	{field} is a required field.
26345573	Failed to find the SVM or volume UUID with name.
26345574	Failed to find the SVM or volume name with UUID.
26345575	The specified peer cluster name and peer cluster UUID do not match.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

cluster_peer

Peer cluster details

Name	Type	Description
name	string	
uuid	string	

svm

Local SVM permitted for peer relation. To create peer permissions for all SVMs, specify the SVM name as "*".

Name	Type	Description
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

svm_peer_permission

Manage SVM peer permissions.

Name	Type	Description
applications	array[string]	A list of applications for an SVM peer relation.
cluster_peer	cluster_peer	Peer cluster details
svm	svm	Local SVM permitted for peer relation. To create peer permissions for all SVMs, specify the SVM name as "*".

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 SVM peer permissions

DELETE `/svm/peer-permissions/{cluster_peer.uuid}/{svm.uuid}`

Introduced In: 9.6

Deletes the SVM peer permissions.

Related ONTAP commands

- `verver peer permission delete`

Example

Deletes an SVM peer permission.

```
DELETE "/api/svm/peer-permissions/d3268a74-ee76-11e8-a9bb-
005056ac6dc9/8f467b93-f2f1-11e8-9027-005056ac81fc"
```

Learn more

- DOC /svm/peer-permissions

Parameters

Name	Type	In	Required	Description
cluster_peer.uuid	string	path	True	Peer cluster UUID • Introduced in: 9.7
svm.uuid	string	path	True	SVM UUID

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
26345574	Failed to find the SVM or volume name with UUID.

Name	Type	Description
error	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

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 SVM peer permission instance

GET `/svm/peer-permissions/{cluster_peer.uuid}/{svm.uuid}`

Introduced In: 9.6

Retrieves the SVM peer permission instance.

Related ONTAP commands

- `vserver peer permission show`

Example

The following example shows how to retrieve the parameters for an SVM peer permission.

```
GET "/api/svm/peer-permissions/d3268a74-ee76-11e8-a9bb-
005056ac6dc9/8f467b93-f2f1-11e8-9027-005056ac81fc"
```

Learn more

- DOC /svm/peer-permissions

Parameters

Name	Type	In	Required	Description
cluster_peer.uuid	string	path	True	Peer cluster UUID • Introduced in: 9.7
svm.uuid	string	path	True	SVM UUID
fields	array[string]	query	False	Specify the fields to return.
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: 1 • Max value: 120 • Min value: 0

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
applications	array[string]	A list of applications for an SVM peer relation.
cluster_peer	cluster_peer	Peer cluster details

Name	Type	Description
svm	svm	Local SVM permitted for peer relation. To create peer permissions for all SVMs, specify the SVM name as "*".

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "applications": [
    "snapmirror",
    "flexcache"
  ],
  "cluster_peer": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cluster2",
    "uuid": "ebe27c49-1adf-4496-8335-ab862aebebf2"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
26345574	Failed to find the SVM or volume name with UUID.

Name	Type	Description
error	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_peer

Peer cluster details

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Local SVM permitted for peer relation. To create peer permissions for all SVMs, specify the SVM name as "*".

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 SVM peer permissions

PATCH `/svm/peer-permissions/{cluster_peer.uuid}/{svm.uuid}`

Introduced In: 9.6

Updates the SVM peer permissions.

Related ONTAP commands

- `vserver peer permission modify`

Example

Updates an SVM peer permission.

```
PATCH "/api/svm/peer-permissions/d3268a74-ee76-11e8-a9bb-
005056ac6dc9/8f467b93-f2f1-11e8-9027-005056ac81fc"
'{"applications":["flexcache"]}'
```

Learn more

- DOC /svm/peer-permissions

Parameters

Name	Type	In	Required	Description
cluster_peer.uuid	string	path	True	Peer cluster UUID • Introduced in: 9.7
svm.uuid	string	path	True	SVM UUID

Request Body

Name	Type	Description
applications	array[string]	A list of applications for an SVM peer relation.

Example request

```
{
  "applications": [
    "snapmirror",
    "flexcache"
  ]
}
```

Response

```
Status: 200, Ok
```

Name	Type	Description
applications	array[string]	A list of applications for an SVM peer relation.

Example response

```
{
  "applications": [
    "snapmirror",
    "flexcache"
  ]
}
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
26345572	{field} is a required field.

Error codes	Description
26345574	Failed to find the SVM or volume name with UUID.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

cluster_peer

Peer cluster details

Name	Type	Description
name	string	
uuid	string	

svm

Local SVM permitted for peer relation. To create peer permissions for all SVMs, specify the SVM name as "*".

Name	Type	Description
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

svm_peer_permission

Manage SVM peer permissions.

Name	Type	Description
applications	array[string]	A list of applications for an SVM peer relation.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 peer relationships

SVM peers endpoint overview

Managing SVM peers

The SVM peer commands allow you to create and manage SVM peering relationships.

SVM peer APIs

The following APIs are used to manage SVM peers:

- GET /api/svm/peers
- POST /api/svm/peers
- GET /api/svm/peers/{uuid}
- PATCH /api/svm/peers/{uuid}
- DELETE /api/svm/peers/{uuid}

Retrieve SVM peer relationships

GET `/svm/peers`

Introduced In: 9.6

Retrieves the list of SVM peer relationships.

Related ONTAP commands

- `vserver peer show`

Examples

The following examples show how to retrieve a collection of SVM peer relationships based on a query.

1. Retrieves a list of SVM peers of a specific local SVM

```
GET "/api/svm/peers/?svm.name=VS1"
```

1. Retrieves a list of SVM peers of a specific cluster peer

```
GET "/api/svm/peers/?peer.cluster.name=cluster2"
```

Learn more

- DOC /svm/peers

Parameters

Name	Type	In	Required	Description
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
uuid	string	query	False	Filter by uuid
applications	string	query	False	Filter by applications
name	string	query	False	Filter by name
peer.cluster.uuid	string	query	False	Filter by peer.cluster.uuid
peer.cluster.name	string	query	False	Filter by peer.cluster.name
peer.svm.uuid	string	query	False	Filter by peer.svm.uuid
peer.svm.name	string	query	False	Filter by peer.svm.name
state	string	query	False	Filter by state
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: 1 • 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[svm_peer]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "applications": [
        "snapmirror",
        "lun_copy"
      ],
      "force": null,
      "name": "string",
      "peer": {
        "cluster": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "cluster2",
          "uuid": "ebe27c49-1adf-4496-8335-ab862aebebf2"
        },
        "svm": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "svm1",
          "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
        }
      },
      "state": "peered",
      "svm": {
```

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


Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
26345578	Internal error. Unable to retrieve local or peer SVM name.

Name	Type	Description
error	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

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

peer

Details for a peer SVM object.

Name	Type	Description
cluster	cluster	
svm	svm	

svm

Local SVM details

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

svm_peer

An SVM peer relation object.

Name	Type	Description
_links	_links	
applications	array[string]	A list of applications for an SVM peer relation.
name	string	A peer SVM alias name to avoid a name conflict on the local cluster.
peer	peer	Details for a peer SVM object.
state	string	SVM peering state. To accept a pending SVM peer request, PATCH the state to "peered". To reject a pending SVM peer request, PATCH the state to "rejected". To suspend a peered SVM peer relation, PATCH the state to "suspended". To resume a suspended SVM peer relation, PATCH the state to "peered". The states "initiated", "pending", and "initializing" are system-generated and cannot be used for PATCH.
svm	svm	Local SVM details
uuid	string	SVM peer relation UUID

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

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 new SVM peer relationship

POST `/svm/peers`

Introduced In: 9.6

Creates a new SVM peer relationship.

Important notes

- The create request accepts peer SVM name as input instead of peer SVM UUID as the local cluster cannot validate peer SVM based on UUID.
- The input parameter `name` refers to the local name of the peer SVM. The `peer cluster name` parameter is optional for creating intracluster SVM peer relationships.

Required properties

- `svm.name` or `svm.uuid` - SVM name or SVM UUID
- `peer.svm.name` or `peer.svm.uuid` - Peer SVM name or Peer SVM UUID
- `peer.cluster.name` or `peer.cluster.uuid` - Peer cluster name or peer cluster UUID
- `applications` - Peering applications

Related ONTAP commands

- `vserver peer create`

Example

Creates a new SVM peer relationship.

```
POST "/api/svm/peers" '{"svm":{"name":"vs1"},
"peer.cluster.name":"cluster2", "peer.svm.name":"VS1",
"applications":["snapmirror"]}'
```

Learn more

- DOC /svm/peers

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: 1 • 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
applications	array[string]	A list of applications for an SVM peer relation.
force	boolean	Use this to suspend, resume or delete the SVM peer relationship even if the remote cluster is not accessible due to, for example, network connectivity issues.
name	string	A peer SVM alias name to avoid a name conflict on the local cluster.
peer	peer	Details for a peer SVM object.
svm	svm	Local SVM details
uuid	string	SVM peer relation UUID

Example request

```
{
  "applications": [
    "snapmirror",
    "lun_copy"
  ],
  "name": "string",
  "peer": {
    "cluster": {
      "name": "cluster2",
      "uuid": "ebe27c49-1adf-4496-8335-ab862aebebf2"
    },
    "svm": {
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "string"
}
```

Response

```
Status: 202, Accepted
```

Name	Type	Description
applications	array[string]	A list of applications for an SVM peer relation.
force	boolean	Use this to suspend, resume or delete the SVM peer relationship even if the remote cluster is not accessible due to, for example, network connectivity issues.
name	string	A peer SVM alias name to avoid a name conflict on the local cluster.
peer	peer	Details for a peer SVM object.

Name	Type	Description
svm	svm	Local SVM details
uuid	string	SVM peer relation UUID

Example response


```
{
  "applications": [
    "snapmirror",
    "lun_copy"
  ],
  "name": "string",
  "peer": {
    "cluster": {
      "name": "cluster2",
      "uuid": "ebe27c49-1adf-4496-8335-ab862aebebf2"
    },
    "svm": {
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "string"
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
13434889	Internal error. Wait and retry.
26345575	The specified peer cluster name and peer cluster UUID do not match.
26345579	The specified field is invalid.

Error codes	Description
26345580	SVM name or SVM UUID must be provided.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

cluster

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Name	Type	Description
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

peer

Details for a peer SVM object.

Name	Type	Description
cluster	cluster	
svm	svm	

svm

Local SVM details

Name	Type	Description
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

svm_peer

An SVM peer relation object.

Name	Type	Description
applications	array[string]	A list of applications for an SVM peer relation.
force	boolean	Use this to suspend, resume or delete the SVM peer relationship even if the remote cluster is not accessible due to, for example, network connectivity issues.
name	string	A peer SVM alias name to avoid a name conflict on the local cluster.
peer	peer	Details for a peer SVM object.
svm	svm	Local SVM details
uuid	string	SVM peer relation UUID

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 SVM peer relationship

DELETE `/svm/peers/{uuid}`

Introduced In: 9.6

Deletes the SVM peer relationship.

Related ONTAP commands

- `vserver peer delete`

Example

1. Deletes an SVM peer relationship.

```
DELETE "/api/svm/peers/d3268a74-ee76-11e8-a9bb-005056ac6dc9"
```

1. Deletes an SVM peer relationship using force flag

```
DELETE "/api/svm/peers/d3268a74-ee76-11e8-a9bb-005056ac6dc9" '{"force":
"true"}'
```

Learn more

- DOC /svm/peers

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SVM peer relationship UUID • Introduced in: 9.7

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: 1 • Max value: 120 • Min value: 0

Response

```
Status: 202, Accepted
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
26345578	Internal error. Unable to retrieve local or peer SVM name.

Name	Type	Description
error	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

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 SVM peer relationship instance

GET `/svm/peers/{uuid}`

Introduced In: 9.6

Retrieves the SVM peer relationship instance.

Related ONTAP commands

- `vserver peer show`

Example

Retrieves the parameters of an SVM peer relationship.

```
GET "/api/svm/peers/d3268a74-ee76-11e8-a9bb-005056ac6dc9"
```

Learn more

- DOC /svm/peers

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SVM peer relation UUID • Introduced in: 9.7
fields	array[string]	query	False	Specify the fields to return.

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: 1 • Max value: 120 • Min value: 0

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
applications	array[string]	A list of applications for an SVM peer relation.
name	string	A peer SVM alias name to avoid a name conflict on the local cluster.
peer	peer	Details for a peer SVM object.
state	string	SVM peering state. To accept a pending SVM peer request, PATCH the state to "peered". To reject a pending SVM peer request, PATCH the state to "rejected". To suspend a peered SVM peer relation, PATCH the state to "suspended". To resume a suspended SVM peer relation, PATCH the state to "peered". The states "initiated", "pending", and "initializing" are system-generated and cannot be used for PATCH.

Name	Type	Description
svm	svm	Local SVM details
uuid	string	SVM peer relation UUID

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "applications": [
    "snapmirror",
    "lun_copy"
  ],
  "force": null,
  "name": "string",
  "peer": {
    "cluster": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "cluster2",
      "uuid": "ebe27c49-1adf-4496-8335-ab862aebebf2"
    },
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "state": "peered",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "string"
}
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
26345578	Internal error. Unable to retrieve local or peer SVM name.

Name	Type	Description
error	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

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

peer

Details for a peer SVM object.

Name	Type	Description
cluster	cluster	
svm	svm	

svm

Local SVM details

Name	Type	Description
_links	_links	
name	string	The name of the SVM.

Name	Type	Description
uuid	string	The unique identifier of the SVM.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 SVM peer relationship

PATCH `/svm/peers/{uuid}`

Introduced In: 9.6

Updates the SVM peer relationship.

Related ONTAP commands

- `vserver peer modify`

Examples

The following examples show how to update an SVM peer relationship. The input parameter 'name' refers to the local name of the peer SVM.

1. Accepts an SVM peer relationship

```
 PATCH "/api/svm/peers/d3268a74-ee76-11e8-a9bb-005056ac6dc9"
'{"state":"peered"}'
```

1. Updates the local name of an SVM peer relationship

```
 PATCH "/api/svm/peers/d3268a74-ee76-11e8-a9bb-005056ac6dc9"
'{"name":"vs2"}'
```

1. Suspends an SVM peer relationship using force flag

```
 PATCH "/api/svm/peers/d3268a74-ee76-11e8-a9bb-005056ac6dc9"
'{"state":"suspended", "force": "true"}'
```

Learn more

- DOC /svm/peers

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SVM peer relationship UUID • Introduced in: 9.7

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: 1 • Max value: 120 • Min value: 0

Request Body

Name	Type	Description
applications	array[string]	A list of applications for an SVM peer relation.
force	boolean	Use this to suspend, resume or delete the SVM peer relationship even if the remote cluster is not accessible due to, for example, network connectivity issues.

Name	Type	Description
state	string	SVM peering state. To accept a pending SVM peer request, PATCH the state to "peered". To reject a pending SVM peer request, PATCH the state to "rejected". To suspend a peered SVM peer relation, PATCH the state to "suspended". To resume a suspended SVM peer relation, PATCH the state to "peered". The states "initiated", "pending", and "initializing" are system-generated and cannot be used for PATCH.
uuid	string	SVM peer relation UUID

Example request

```
{
  "applications": [
    "snapmirror",
    "lun_copy"
  ],
  "state": "peered",
  "uuid": "string"
}
```

Response

```
Status: 202, Accepted
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
13434889	Internal error. Wait and retry.
26345575	The specified peer cluster name and peer cluster UUID do not match.

Error codes	Description
26345576	Given peer state is invalid.
26345577	One of the following is required: applications, state, or name.
26345578	Internal error. Unable to retrieve local or peer SVM name.
26345579	The specified field is invalid.
26345581	Peer cluster name could not be retrieved or validated.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

cluster

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Name	Type	Description
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

peer

Details for a peer SVM object.

Name	Type	Description
cluster	cluster	
svm	svm	

svm

Local SVM details

Name	Type	Description
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

svm_peer

An SVM peer relation object.

Name	Type	Description
applications	array[string]	A list of applications for an SVM peer relation.
force	boolean	Use this to suspend, resume or delete the SVM peer relationship even if the remote cluster is not accessible due to, for example, network connectivity issues.
state	string	SVM peering state. To accept a pending SVM peer request, PATCH the state to "peered". To reject a pending SVM peer request, PATCH the state to "rejected". To suspend a peered SVM peer relation, PATCH the state to "suspended". To resume a suspended SVM peer relation, PATCH the state to "peered". The states "initiated", "pending", and "initializing" are system-generated and cannot be used for PATCH.
uuid	string	SVM peer relation UUID

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 SVMs

SVM svms endpoint overview

Managing SVMs

Cluster administrators can manage any SVM bound to the cluster. In addition, SVMs can also be managed by their SVM administrators. The SVM administrator manages the SVM resources, such as volumes, protocols and services, depending on the capabilities assigned by the cluster administrator. SVM administrators cannot create, modify, or delete SVMs. The cluster administrator manages SVM create, modify, or delete operations.

While configuring CIFS, you must also configure IP interfaces and DNS. No other protocol configuration is allowed when configuring NVMe. NFS, FCP, CIFS and iSCSI protocols can be configured together.

SVM administrators might have all or some of the following administration capabilities:

1. Data access protocol configuration Configures data access protocols, such as NFS, CIFS, iSCSI, and Fibre Channel (FC) protocol (Fibre Channel over Ethernet included).
2. Services configuration Configures services such as LDAP, NIS, and DNS.
3. Monitoring SVM Monitors jobs, network connections, network interfaces, and SVM health.
4. Updating the TLS certificate for this SVM.

Retrieve SVMs and SVM properties

GET `/svm/svms`

Introduced In: 9.6

Retrieves a list of SVMs and individual SVM properties. This includes protocol configurations such as CIFS and NFS, export policies, name service configurations, and network services.

Important notes

- The SVM object includes a large set of fields and can be expensive to retrieve. Use this API to list the collection of SVMs, and to retrieve only the full details of individual SVMs as needed.
- It is not recommended to create or delete more than five SVMs in parallel.
- REST APIs only expose a data SVM as an SVM.

Expensive properties

There is an added 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.

- `snapmirror.*`

Related ONTAP commands

- `vserver show`

Examples

1. Retrieves a list of SVMs in the cluster sorted by name

```
GET "/api/svm/svms?order_by=name"
```

1. Retrieves a list of SVMs in the cluster that have the NFS protocol enabled

```
GET "/api/svm/svms?nfs.enabled=true"
```

1. Retrieves a list of SVMs in the cluster that have the CIFS protocol enabled

```
GET "/api/svm/svms?cifs.enabled=true"
```

1. Retrieves a list of SVMs in the cluster that have the S3 protocol enabled

```
GET "/api/svm/svms?s3.enabled=true"
```

5 Retrieves a list of SVMs in the cluster that have the FCP protocol allowed

```
GET "/api/svm/svms?fcp.allowed=true"
```

1. Retrieves a list of SVMs in the cluster that have the CIFS protocol allowed

```
GET "/api/svm/svms?cifs.allowed=true"
```

1. Retrieves a list of SVMs in the cluster where the NDMP protocol is specified as allowed

```
GET "/api/svm/svms?ndmp.allowed=true"
```

Learn more

- DOC /svm/svms

Parameters

Name	Type	In	Required	Description
nis.enabled	boolean	query	False	Filter by nis.enabled
nis.servers	string	query	False	Filter by nis.servers

Name	Type	In	Required	Description
nis.domain	string	query	False	Filter by nis.domain
nvme.allowed	boolean	query	False	Filter by nvme.allowed • Introduced in: 9.9
nvme.enabled	boolean	query	False	Filter by nvme.enabled
language	string	query	False	Filter by language
nfs.allowed	boolean	query	False	Filter by nfs.allowed • Introduced in: 9.9
nfs.enabled	boolean	query	False	Filter by nfs.enabled
comment	string	query	False	Filter by comment
aggregates.name	string	query	False	Filter by aggregates.name
aggregates.uuid	string	query	False	Filter by aggregates.uuid
subtype	string	query	False	Filter by subtype
dns.servers	string	query	False	Filter by dns.servers
dns.domains	string	query	False	Filter by dns.domains
fcp.allowed	boolean	query	False	Filter by fcp.allowed • Introduced in: 9.9
fcp.enabled	boolean	query	False	Filter by fcp.enabled

Name	Type	In	Required	Description
iscsi.allowed	boolean	query	False	Filter by iscsi.allowed • Introduced in: 9.9
iscsi.enabled	boolean	query	False	Filter by iscsi.enabled
name	string	query	False	Filter by name
ipspace.uuid	string	query	False	Filter by ipspace.uuid
ipspace.name	string	query	False	Filter by ipspace.name
ldap.base_dn	string	query	False	Filter by ldap.base_dn
ldap.servers	string	query	False	Filter by ldap.servers
ldap.enabled	boolean	query	False	Filter by ldap.enabled
ldap.bind_dn	string	query	False	Filter by ldap.bind_dn
ldap.ad_domain	string	query	False	Filter by ldap.ad_domain
uuid	string	query	False	Filter by uuid
cifs.name	string	query	False	Filter by cifs.name
cifs.ad_domain.fqdn	string	query	False	Filter by cifs.ad_domain.fqdn
cifs.ad_domain.organizational_unit	string	query	False	Filter by cifs.ad_domain.organizational_unit

Name	Type	In	Required	Description
cifs.allowed	boolean	query	False	Filter by cifs.allowed • Introduced in: 9.9
cifs.enabled	boolean	query	False	Filter by cifs.enabled
s3.name	string	query	False	Filter by s3.name • Introduced in: 9.7
s3.enabled	boolean	query	False	Filter by s3.enabled • Introduced in: 9.7
ndmp.allowed	boolean	query	False	Filter by ndmp.allowed • Introduced in: 9.10
nsswitch.netgroup	string	query	False	Filter by nsswitch.netgroup
nsswitch.group	string	query	False	Filter by nsswitch.group
nsswitch.hosts	string	query	False	Filter by nsswitch.hosts
nsswitch.namemap	string	query	False	Filter by nsswitch.namemap
nsswitch.passwd	string	query	False	Filter by nsswitch.passwd
qos_policy.name	string	query	False	Filter qos_policy.name • Introduced in: 9.9

Name	Type	In	Required	Description
qos_policy.uuid	string	query	False	Filter qos_policy.uuid • Introduced in: 9.9
max_volumes	string	query	False	Filter max_volumes • Introduced in: 9.9
fc_interfaces.name	string	query	False	Filter by fc_interfaces.name • Introduced in: 9.7
fc_interfaces.data_protocol	string	query	False	Filter by fc_interfaces.data_protocol • Introduced in: 9.7
snapshot_policy.uuid	string	query	False	Filter by snapshot_policy.uuid
snapshot_policy.name	string	query	False	Filter by snapshot_policy.name
state	string	query	False	Filter by state
certificate.uuid	string	query	False	Filter by certificate.uuid • Introduced in: 9.7
anti_ransomware_default_volume_state	string	query	False	Filter by anti_ransomware_default_volume_state • Introduced in: 9.10

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: 1 • 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[svm]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "aggregates": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "aggr1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "anti_ransomware_default_volume_state": "string",
      "certificate": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cert1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "cifs": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "ad_domain": {
```

```
        "fqdn": "example.com",
        "organizational_unit": "string"
      },
      "name": "CIFS1"
    },
    "comment": "string",
    "dns": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "domains": [
        "example.com",
        "example2.example3.com"
      ],
      "servers": [
        "10.224.65.20",
        "2001:db08:a0b:12f0::1"
      ]
    },
    "fc_interfaces": [
      {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "data_protocol": "string",
        "name": "lif1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ],
    "fcp": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    },
    "ip_interfaces": [
      {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
```

```
        },
        "ip": {
          "address": "10.10.10.7"
        },
        "name": "lif1",
        "services": [
          "data_nfs"
        ],
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ],
    "ipspace": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "exchange",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "iscsi": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    },
    "language": "c.utf_8",
    "ldap": {
      "ad_domain": "string",
      "base_dn": "string",
      "bind_dn": "string",
      "servers": [
        "string"
      ]
    },
    "max_volumes": "string",
    "name": "svm1",
    "nfs": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    },
    "nis": {
```

```
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "domain": "string",
      "servers": [
        "string"
      ]
    },
    "nsswitch": {
      "group": [
        "string"
      ],
      "hosts": [
        "string"
      ],
      "namemap": [
        "string"
      ],
      "netgroup": [
        "string"
      ],
      "passwd": [
        "string"
      ]
    },
    "nvme": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    },
    "qos_policy": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "max_throughput_iops": 10000,
      "max_throughput_mbps": 500,
      "min_throughput_iops": 2000,
      "min_throughput_mbps": 500,
      "name": "performance",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
```

```
      },
      "s3": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "certificate": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "cert1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "name": "s3-server-1"
      },
      "snapmirror": {
        "protected_volumes_count": 0
      },
      "snapshot_policy": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "default",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "state": "running",
      "subtype": "string",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  ]
}
```


Error

```
Status: Default, Error
```

Name	Type	Description
error	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	

aggregates

Name	Type	Description
_links	_links	
name	string	
uuid	string	

certificate

Support for this field will be removed in a future release. Please use /svm/svms/{svm.uuid}/web for this field. Certificate for incoming TLS connection requests.

Name	Type	Description
_links	_links	
name	string	Certificate name
uuid	string	Certificate UUID

ad_domain

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.
organizational_unit	string	Specifies the organizational unit within the Active Directory domain to associate with the CIFS server.

cifs

Name	Type	Description
_links	_links	
ad_domain	ad_domain	
allowed	boolean	If this is set to true, an SVM administrator can manage the CIFS service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the CIFS service.
name	string	The NetBIOS name of the CIFS server.

dns

Name	Type	Description
_links	_links	

Name	Type	Description
domains	array[string]	A list of DNS domains. Domain names have the following requirements: • The name must contain only the following characters: A through Z, a through z, 0 through 9, ".", "-" or "_". • The first character of each label, delimited by ".", must be one of the following characters: A through Z or a through z or 0 through 9. • The last character of each label, delimited by ".", must be one of the following characters: A through Z, a through z, or 0 through 9. • The top level domain must contain only the following characters: A through Z, a through z. • The system reserves the following names:"all", "local", and "localhost".
servers	array[string]	The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses.

node

The node on which the FC port is located.

Name	Type	Description
name	string	The name of the node on which the FC port is located.

fc_port_reference

An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	The name of the FC port.
node	node	The node on which the FC port is located.
uuid	string	The unique identifier of the FC port.

location

The location of the Fibre Channel interface is defined by the location of its port.

Name	Type	Description
port	fc_port_reference	An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

fc_interface_svm

Name	Type	Description
_links	_links	
data_protocol	string	The data protocol for which the Fibre Channel interface is configured.
name	string	The name of the Fibre Channel interface.
uuid	string	The unique identifier of the Fibre Channel interface.

fcp

Name	Type	Description
_links	_links	
allowed	boolean	If this is set to true, an SVM administrator can manage the FCP service. If it is false, only the cluster administrator can manage the service.

Name	Type	Description
enabled	boolean	If allowed, setting to true enables the FCP service.

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

broadcast_domain

Name	Type	Description
_links	_links	
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

home_node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

location

Home_node is optional.

Name	Type	Description
broadcast_domain	broadcast_domain	
home_node	home_node	

ip_interface_svm

Interface parameters. Name and home_node are optional.

Name	Type	Description
_links	_links	
ip	ip	IP information

Name	Type	Description
name	string	The name of the interface (optional).
services	array[string]	The services associated with the interface.
uuid	string	The UUID that uniquely identifies the interface.

ipspace

Either the UUID or name may be supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

iscsi

Name	Type	Description
_links	_links	
allowed	boolean	If this is set to true, an SVM administrator can manage the iSCSI service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the ISCSI service.

ldap

Name	Type	Description
ad_domain	string	This parameter specifies the name of the Active Directory domain used to discover LDAP servers for use by this client. This is mutually exclusive with `servers` during POST.

Name	Type	Description
base_dn	string	Specifies the default base DN for all searches.
bind_dn	string	Specifies the user that binds to the LDAP servers. SVM API supports anonymous binding. For Simple and SASL LDAP binding, use the LDAP API endpoint.
enabled	boolean	Enable LDAP? Setting to true creates a configuration if not already created.
servers	array[string]	

ndmp

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the NDMP service. If it is false, only the cluster administrator can manage the service.

nfs

Name	Type	Description
_links	_links	
allowed	boolean	If this is set to true, an SVM administrator can manage the NFS service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the NFS service.

nis

Name	Type	Description
_links	_links	
domain	string	The NIS domain to which this configuration belongs.

Name	Type	Description
enabled	boolean	Enable NIS? Setting to true creates a configuration if not already created.
servers	array[string]	A list of hostnames or IP addresses of NIS servers used by the NIS domain configuration.

nsswitch

Name service switch configuration

Name	Type	Description
group	array[string]	Group sources
hosts	array[string]	Host sources
namemap	array[string]	NameMap sources
netgroup	array[string]	NetGroup sources
passwd	array[string]	Password sources

nvme

Name	Type	Description
_links	_links	
allowed	boolean	If this is set to true, an SVM administrator can manage the NVMe service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the NVMe service.

qos_policy

This optionally specifies which QoS policy group to apply to the Vserver. This policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated.

Name	Type	Description
_links	_links	

Name	Type	Description
max_throughput_iops	integer	Specifies the maximum throughput in IOPS, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
max_throughput_mbps	integer	Specifies the maximum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_iops	integer	Specifies the minimum throughput in IOPS, 0 means none. Setting "min_throughput" is supported on AFF platforms only, unless FabricPool tiering policies are set. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_mbps	integer	Specifies the minimum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
name	string	The QoS policy group name. This is mutually exclusive with UUID and other QoS attributes during POST and PATCH.
uuid	string	The QoS policy group UUID. This is mutually exclusive with name and other QoS attributes during POST and PATCH.

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
family	string	IPv4 or IPv6

Name	Type	Description
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, the default value is 64 with a valid range of 1 to 127. Output is always netmask length.

network_route_for_svm

Name	Type	Description
destination	ip_info	IP information
gateway	string	The IP address of the gateway router leading to the destination.

certificate

Specifies the certificate that will be used for creating HTTPS connections to the S3 server.

Name	Type	Description
_links	_links	
name	string	Certificate name
uuid	string	Certificate UUID

s3

Name	Type	Description
_links	_links	
certificate	certificate	Specifies the certificate that will be used for creating HTTPS connections to the S3 server.
enabled	boolean	Specifies whether or not to enable S3. Setting this value to true creates a service if one is not yet created.
is_http_enabled	boolean	Specifies whether HTTP is enabled on the S3 server. By default, HTTP is disabled on the S3 server.

Name	Type	Description
is_https_enabled	boolean	Specifies whether HTTPS is enabled on the S3 server. By default, HTTPS is enabled on the S3 server.
name	string	Specifies the name of the S3 server. A server name length can range from 1 to 253 characters and can only contain the following combination of characters 0-9, A-Z, a-z, ".", and "-".
port	integer	Specifies the HTTP listener port for the S3 server. By default, HTTP is enabled on port 80.
secure_port	integer	Specifies the HTTPS listener port for the S3 server. By default, HTTPS is enabled on port 443.

snapmirror

Specifies attributes for SVM DR protection.

Name	Type	Description
is_protected	boolean	Specifies whether the SVM is a SnapMirror source SVM, using SnapMirror to protect its data.
protected_volumes_count	integer	Specifies the number of SVM DR protected volumes in the SVM.

snapshot_policy

This is a reference to the Snapshot copy policy.

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Name	Type	Description
_links	_links	

Name	Type	Description
aggregates	array[aggregates]	List of allowed aggregates for SVM volumes. An administrator is allowed to create volumes on these aggregates.
aggregates_delegated	boolean	This property is true when the administrator has delegated the aggregates for the SVM volumes.
anti_ransomware_default_volume_state	string	Specifies the default Anti-ransomware state of the volumes in the SVM. Default "anti_ransomware_default_volume_state" property is disabled for POST operation. If this value is "disabled", Anti-ransomware protection is disabled by default on the new volumes that are created in the SVM. If this value is "dry_run", Anti-ransomware protection is in learning mode by default on the new volumes that are created in the SVM. When the Anti-ransomware license is not present, this property is ignored and volumes will be created with the "disabled" state.
certificate	certificate	Support for this field will be removed in a future release. Please use /svm/svms/{svm.uuid}/web for this field. Certificate for incoming TLS connection requests.
cifs	cifs	
comment	string	Comment
dns	dns	
fc_interfaces	array[fc_interface_svm]	FC Interface for the SVM
fcp	fcp	
ip_interfaces	array[ip_interface_svm]	IP interfaces for the SVM
ipspace	ipspace	Either the UUID or name may be supplied on input.

Name	Type	Description
is_space_enforcement_logical	boolean	Indicates whether logical space enforcement for the SVM is enabled.
is_space_reporting_logical	boolean	Indicates whether logical space reporting for the SVM is enabled.
iscsi	iscsi	
language	string	Default volume language code. UTF-8 encoded languages are valid in POST or PATCH. Non UTF-8 language encodings are for backward compatibility and are not valid input for POST and PATCH requests.
ldap	ldap	
max_volumes	string	This property is used by cluster administrator to specify the limit on maximum number of volumes allowed in the SVM. The value can be either the string "unlimited" or a number.
name	string	The name of the SVM.
ndmp	ndmp	
nfs	nfs	
nis	nis	
nsswitch	nsswitch	Name service switch configuration
nvme	nvme	
qos_policy	qos_policy	This optionally specifies which QoS policy group to apply to the Vserver. This policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated.

Name	Type	Description
retention_period	integer	Volume delete retention period specifies the default duration, in hours that deleted volumes are retained in the recovery queue for possible future recovery.
s3	s3	
snapmirror	snapmirror	Specifies attributes for SVM DR protection.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
state	string	SVM State
subtype	string	SVM subtype. The SVM subtype sync_destination is created automatically when an SVM of subtype sync_source is created on the source MetroCluster cluster. A POST request with sync_destination as SVM subtype is invalid.
uuid	string	The unique identifier of the SVM.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 and provision an SVM

POST `/svm/svms`

Introduced In: 9.6

Creates and provisions an SVM. If no IPspace is provided, then the SVM is created on the `Default` IPspace.

- The number of parallel SVMs that can be created must not be greater than five.
- If a sixth SVM POST request is issued, the following error message is generated: "Maximum allowed SVM jobs exceeded. Wait for the existing SVM jobs to complete and try again."

Required properties

- `name` - Name of the SVM to be created.

Recommended optional properties

- `ipspace.name` or `ipspace.uuid` - IPspace of the SVM
- `is_space_reporting_logical` - Logical Space Reporting parameter of the SVM
- `is_space_enforcement_logical` - Logical Space Enforcement parameter of the SVM
- `ip_interfaces` - If provided, the following fields are required:
- `ip_interfaces.name` - Name of the interface
- `ip_interfaces.ip.address` - IP address
- `ip_interfaces.ip.netmask` - Netmask length or IP address
- `ip_interfaces.location.broadcast_domain.uuid` or `ip_interfaces.location.broadcast_domain.name` - Broadcast domain name or UUID belonging to the same IPspace of the SVM.
- `routes` - If provided, the following field is required:
  - `routes.gateway` - Gateway IP address
- `cifs` - If provided, interfaces, routes and DNS must be provided. The following fields are also required:
  - `cifs.name` - Name of the CIFS server to be created for the SVM.
  - `cifs.ad_domain.fqdn` - Fully qualified domain name
  - `cifs.ad_domain.user` - Administrator username
  - `cifs.ad_domain.password` - User password
- `ldap` - If provided, the following fields are required:
  - `ldap.servers` or `ldap.ad_domain` - LDAP server list or Active Directory domain
  - `ldap.bind_dn` - Bind DN
  - `ldap.base_dn` - Base DN
- `nis` - If provided, the following fields are required:
  - `nis.servers` - NIS servers

- `nis.domain` - NIS domain

- `dns` - If provided, the following fields are required:
  - `dns.servers` - Name servers
  - `dns.domains` - Domains
- `fc_interfaces` - If provided, the following fields are required:
  - `fc_interfaces.name` - Fibre Channel interface name
  - `fc_interfaces.data_protocol` - Fibre Channel interface data protocol
  - `fc_interfaces.location.port.uuid` or `fc_interfaces.location.port.name` and `fc_interfaces.location.port.node.name` - Either port UUID or port name and node name together must be provided.
- `s3` - If provided, the following field should also be specified:
  - <code>s3.name</code> - Name of the S3 server. If <code>s3.name' is not specified while </code>s3.enabled` is set to 'true', the S3 server will be created with the default name '<svm.name>_S3Server'.</svm.name>

Default property values

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

- `language` - *C.UTF-8*
- `ipspace.name` - *Default*
- `snapshot_policy.name` - *Default*
- `subtype` - *Default* (*sync-source* if MetroCluster configuration)
- `anti_ransomware_default_volume_state` - *disabled*

Related ONTAP commands

- `vserver create`
- `vserver add-aggregates`
- `network interface create`
- `network route create`
- `vserver services name-service dns create`
- `vserver nfs create`
- `vserver services name-service ldap client create`
- `vserver cifs create`
- `vserver services name-service nis-domain create`
- `vserver iscsi create`
- `vserver nvme create`
- `vserver fcp create`

- vserver services name-service ns-switch create
- vserver object-store-server create
- vserver add-protocols
- vserver remove-protocols

Examples

1. Creates an SVM with default "snapshot_policy"

```
  POST "/api/svm/svms" '{"name":"testVs",
"snapshot_policy":{"name":"default"}}'
```

1. Creates an SVM and configures NFS, ISCSI and FCP

```
  POST "/api/svm/svms" '{"name":"testVs", "nfs":{"enabled":"true"},
"fcp":{"enabled":"true"}, "iscsi":{"enabled":"true"}}'
```

1. Creates an SVM and configures NVMe

```
  POST "/api/svm/svms" '{"name":"testVs", "nvme":{"enabled":"true"}}'
```

1. Creates an SVM and configures LDAP

```
  POST "/api/svm/svms" '{"name":"testVs",
"snapshot_policy":{"name":"default"},
"ldap":{"servers":["10.140.101.1","10.140.101.2"], "ad_domain":"abc.com",
"base_dn":"dc=netapp,dc=com", "bind_dn":"dc=netapp,dc=com"}}'
```

1. Creates an SVM and configures NIS

```
  POST "/api/svm/svms" '{"name":"testVs",
"snapshot_policy":{"name":"default"}, "nis":{"enabled":"true",
"domain":"def.com","servers":["10.224.223.130", "10.224.223.131"]}}'
```

1. Creates an SVM and configures DNS

```
  POST "/api/svm/svms" '{"name":"testVs",
"snapshot_policy":{"name":"default"},
"dns":{"domains":["abc.com","def.com"], "servers":["10.224.223.130",
"10.224.223.131"]}}'
```

1. Creates an SVM and configures a LIF

```
  POST "/api/svm/svms" '{"name":"testVs", "ip_interfaces":
[{"name":"lif1", "ip":{"address":"10.10.10.7", "netmask":
"255.255.255.0"}, "location":{"broadcast_domain":{"name":"bd1"},
"home_node":{"name":"node1"}}, "service_policy": "default-management"}]}'
```

1. Creates an SVM and configures a LIF with IPV6 address

```
  POST "/api/svm/svms" '{"name":"testVs", "ip_interfaces":
[{"name":"lif2", "ip":{"address":"fd22:8b1e:b255:202:2a0:98ff:fe01:7d5b",
"netmask":"24"}, "location":{"broadcast_domain":{"name":"bd1"},
"home_node":{"name":"node1"}}, "service_policy": "default-management"}]}'
```

1. Creates an SVM and configures CIFS

```
  POST "/api/svm/svms" '{"name":"testVs", "cifs":{"name":"CIFDOC",
"ad_domain":{"fqdn":"abc.def.com", "organizational_unit":"CN=Computers",
"user":"cif_admin", "password":"abc123"}},
"ip_interfaces":[{"name":"lif1", "ip":{"address":"10.10.10.7", "netmask":
"255.255.255.0"}, "location":{"broadcast_domain":{"name":"bd1"},
"home_node":{"name":"node1"}}, "service_policy": "default-
management"}],"routes": [{"destination": {"address": "0.0.0.0", "netmask":
"0"}, "gateway": "10.10.10.7"}], "dns":{"domains":["abc.def.com",
"def.com"], "servers":["10.224.223.130", "10.224.223.131"]}}'
```

1. Creates an SVM and configures an S3 server

```
  POST "/api/svm/svms" '{"name":"svm5", "s3":{"name":"s3-server-1",
"enabled":true}}'
```

1. Creates an SVM and disallows NVMe service for the SVM

```
  POST "/api/svm/svms" '{"name":"testVs", "nvme":{"allowed":"false"}}'
```

1. Creates an SVM, allows and configures the NFS service for the SVM

```
  POST "/api/svm/svms" '{"name":"testVs", "nfs":{"allowed":"true",
"enabled":true}}'
```

1. Create an SVM and set the max volume limit for the SVM

```
POST "/api/svm/svms/" '{"name":"testVs", "max_volumes":"200"}'
```

1. Creates an SVM and disallows the NDMP service for the SVM.

```
POST "/api/svm/svms" '{"name":"testVs", "ndmp":{"allowed":"false"}}'
```

Learn more

- DOC /svm/svms

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:

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: 1 • Max value: 120 • Min value: 0

Request Body

Name	Type	Description
aggregates	array[aggregates]	List of allowed aggregates for SVM volumes. An administrator is allowed to create volumes on these aggregates.
aggregates_delegated	boolean	This property is true when the administrator has delegated the aggregates for the SVM volumes.

Name	Type	Description
anti_ransomware_default_volume_state	string	Specifies the default Anti-ransomware state of the volumes in the SVM. Default "anti_ransomware_default_volume_state" property is disabled for POST operation. If this value is "disabled", Anti-ransomware protection is disabled by default on the new volumes that are created in the SVM. If this value is "dry_run", Anti-ransomware protection is in learning mode by default on the new volumes that are created in the SVM. When the Anti-ransomware license is not present, this property is ignored and volumes will be created with the "disabled" state.
cifs	cifs	
comment	string	Comment
dns	dns	
fc_interfaces	array[fc_interface_svm]	FC Interface for the SVM
fcp	fcp	
ip_interfaces	array[ip_interface_svm]	IP interfaces for the SVM
ipspace	ipspace	Either the UUID or name may be supplied on input.
is_space_enforcement_logical	boolean	Indicates whether logical space enforcement for the SVM is enabled.
is_space_reporting_logical	boolean	Indicates whether logical space reporting for the SVM is enabled.
iscsi	iscsi	
language	string	Default volume language code. UTF-8 encoded languages are valid in POST or PATCH. Non UTF-8 language encodings are for backward compatibility and are not valid input for POST and PATCH requests.

Name	Type	Description
ldap	ldap	
max_volumes	string	This property is used by cluster administrator to specify the limit on maximum number of volumes allowed in the SVM. The value can be either the string "unlimited" or a number.
name	string	The name of the SVM.
ndmp	ndmp	
nfs	nfs	
nis	nis	
nsswitch	nsswitch	Name service switch configuration
nvme	nvme	
routes	array[network_route_for_svm]	Optional array of routes for the SVM
s3	s3	
snapmirror	snapmirror	Specifies attributes for SVM DR protection.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
subtype	string	SVM subtype. The SVM subtype sync_destination is created automatically when an SVM of subtype sync_source is created on the source MetroCluster cluster. A POST request with sync_destination as SVM subtype is invalid.
uuid	string	The unique identifier of the SVM.

Example request


```
{
  "aggregates": [
    {
      "name": "aggr1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "anti_ransomware_default_volume_state": "string",
  "cifs": {
    "ad_domain": {
      "fqdn": "example.com",
      "organizational_unit": "string",
      "password": "string",
      "user": "string"
    },
    "name": "CIFS1"
  },
  "comment": "string",
  "dns": {
    "domains": [
      "example.com",
      "example2.example3.com"
    ],
    "servers": [
      "10.224.65.20",
      "2001:db08:a0b:12f0::1"
    ]
  },
  "fc_interfaces": [
    {
      "data_protocol": "string",
      "location": {
        "port": {
          "name": "0a",
          "node": {
            "name": "node1"
          },
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      },
      "name": "lif1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
```

```
  "ip_interfaces": [
    {
      "ip": {
        "address": "10.10.10.7",
        "netmask": "24"
      },
      "location": {
        "broadcast_domain": {
          "name": "bd1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "home_node": {
          "name": "node1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      },
      "name": "lif1",
      "service_policy": "string",
      "services": [
        "data_nfs"
      ],
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "ipspace": {
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "language": "c.utf_8",
  "ldap": {
    "ad_domain": "string",
    "base_dn": "string",
    "bind_dn": "string",
    "servers": [
      "string"
    ]
  },
  "max_volumes": "string",
  "name": "svm1",
  "nis": {
    "domain": "string",
    "servers": [
      "string"
    ]
  },
  "nsswitch": {
```

```
      "group": [
        "string"
      ],
      "hosts": [
        "string"
      ],
      "namemap": [
        "string"
      ],
      "netgroup": [
        "string"
      ],
      "passwd": [
        "string"
      ]
    },
    "routes": [
      {
        "destination": {
          "address": "10.10.10.7",
          "netmask": "24"
        },
        "gateway": "10.1.1.1"
      }
    ],
    "s3": {
      "certificate": {
        "name": "cert1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "name": "s3-server-1"
    },
    "snapmirror": {
      "protected_volumes_count": 0
    },
    "snapshot_policy": {
      "name": "default",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "subtype": "string",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
```

Response

```
Status: 202, Accepted
```

Name	Type	Description
job	job_link	

Example response


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


Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
2621580	Cannot specify options other than SVM name, comment and ipspace for a Vserver that is being configured as the destination for SVM DR.
2621634	"sync-source" SVM can only be created in a MetroCluster configuration.
2621657	"sync-destination" SVM can only be created by the system.
13434884	Cannot create an SVM because of incorrect fields.
13434885	Non-UTF8 language(s) not supported.
13434888	IPspace UUID and IPspace name mismatch.
13434889	Internal Error. Wait and retry.
13434894	Maximum allowed SVM jobs exceeded. Wait for the existing SVM jobs to complete and try again.
13434908	Invalid SVM name. The name is already in use by another SVM, IPSpace or cluster.
13434909	Internal Error. Failed to identify the aggregate to host SVM root volume.

Error codes	Description
13434910	Internal Error. Failed to allocate new SVM ID.
13434911	Invalid SVM name. Maximum supported length is 41 if SVM is of type \"sync-source\", otherwise 47.
13434912	Failed to find IPspace.
13434913	Internal error: Failed to check if an SVM create operation is in progress. Contact technical support for assistance.
13434914	Request to create the root volume of the SVM failed because there is not enough space in specified aggregate.
13434915	Failed to unlock the SVM because SVM create or delete job is in progress. Wait a few minutes, and then try the command again.
13434916	SVM is in the process of being created. Wait a few minutes, and then try the command again.
13434917	SVM creation successful.
13434918	IPspace name not provided for creating an SVM.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

aggregates

Name	Type	Description
name	string	
uuid	string	

certificate

Support for this field will be removed in a future release. Please use /svm/svms/{svm.uuid}/web for this field. Certificate for incoming TLS connection requests.

Name	Type	Description
name	string	Certificate name
uuid	string	Certificate UUID

ad_domain

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.
organizational_unit	string	Specifies the organizational unit within the Active Directory domain to associate with the CIFS server.
password	string	The account password used to add this CIFS server to the Active Directory. This is not audited. Valid in POST only.

Name	Type	Description
user	string	The user account used to add this CIFS server to the Active Directory. Valid in POST only.

cifs

Name	Type	Description
ad_domain	ad_domain	
allowed	boolean	If this is set to true, an SVM administrator can manage the CIFS service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the CIFS service.
name	string	The NetBIOS name of the CIFS server.

dns

Name	Type	Description
domains	array[string]	A list of DNS domains. Domain names have the following requirements: • The name must contain only the following characters: A through Z, a through z, 0 through 9, ".", "-" or "_". • The first character of each label, delimited by ".", must be one of the following characters: A through Z or a through z or 0 through 9. • The last character of each label, delimited by ".", must be one of the following characters: A through Z, a through z, or 0 through 9. • The top level domain must contain only the following characters: A through Z, a through z. • The system reserves the following names:"all", "local", and "localhost".
servers	array[string]	The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses.

node

The node on which the FC port is located.

Name	Type	Description
name	string	The name of the node on which the FC port is located.

fc_port_reference

An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

Name	Type	Description
name	string	The name of the FC port.

Name	Type	Description
node	node	The node on which the FC port is located.
uuid	string	The unique identifier of the FC port.

location

The location of the Fibre Channel interface is defined by the location of its port.

Name	Type	Description
port	fc_port_reference	An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

fc_interface_svm

Name	Type	Description
data_protocol	string	The data protocol for which the Fibre Channel interface is configured.
location	location	The location of the Fibre Channel interface is defined by the location of its port.
name	string	The name of the Fibre Channel interface.
uuid	string	The unique identifier of the Fibre Channel interface.

fcp

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the FCP service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the FCP service.

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0).

broadcast_domain

Name	Type	Description
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

home_node

Name	Type	Description
name	string	
uuid	string	

location

Home_node is optional.

Name	Type	Description
broadcast_domain	broadcast_domain	
home_node	home_node	

ip_interface_svm

Interface parameters. Name and home_node are optional.

Name	Type	Description
ip	ip	IP information
location	location	Home_node is optional.
name	string	The name of the interface (optional).

Name	Type	Description
service_policy	string	Built-in service policies for SVMs.
services	array[string]	The services associated with the interface.
uuid	string	The UUID that uniquely identifies the interface.

ipspace

Either the UUID or name may be supplied on input.

Name	Type	Description
name	string	IPspace name
uuid	string	IPspace UUID

iscsi

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the iSCSI service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the ISCSI service.

ldap

Name	Type	Description
ad_domain	string	This parameter specifies the name of the Active Directory domain used to discover LDAP servers for use by this client. This is mutually exclusive with `servers` during POST.
base_dn	string	Specifies the default base DN for all searches.

Name	Type	Description
bind_dn	string	Specifies the user that binds to the LDAP servers. SVM API supports anonymous binding. For Simple and SASL LDAP binding, use the LDAP API endpoint.
enabled	boolean	Enable LDAP? Setting to true creates a configuration if not already created.
servers	array[string]	

ndmp

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the NDMP service. If it is false, only the cluster administrator can manage the service.

nfs

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the NFS service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the NFS service.

nis

Name	Type	Description
domain	string	The NIS domain to which this configuration belongs.
enabled	boolean	Enable NIS? Setting to true creates a configuration if not already created.

Name	Type	Description
servers	array[string]	A list of hostnames or IP addresses of NIS servers used by the NIS domain configuration.

nsswitch

Name service switch configuration

Name	Type	Description
group	array[string]	Group sources
hosts	array[string]	Host sources
namemap	array[string]	NameMap sources
netgroup	array[string]	NetGroup sources
passwd	array[string]	Password sources

nvme

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the NVMe service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the NVMe service.

qos_policy

This optionally specifies which QoS policy group to apply to the Vserver. This policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated.

Name	Type	Description
max_throughput_iops	integer	Specifies the maximum throughput in IOPS, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.

Name	Type	Description
max_throughput_mbps	integer	Specifies the maximum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_iops	integer	Specifies the minimum throughput in IOPS, 0 means none. Setting "min_throughput" is supported on AFF platforms only, unless FabricPool tiering policies are set. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_mbps	integer	Specifies the minimum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
name	string	The QoS policy group name. This is mutually exclusive with UUID and other QoS attributes during POST and PATCH.
uuid	string	The QoS policy group UUID. This is mutually exclusive with name and other QoS attributes during POST and PATCH.

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, the default value is 64 with a valid range of 1 to 127. Output is always netmask length.

network_route_for_svm

Name	Type	Description
destination	ip_info	IP information
gateway	string	The IP address of the gateway router leading to the destination.

certificate

Specifies the certificate that will be used for creating HTTPS connections to the S3 server.

Name	Type	Description
name	string	Certificate name
uuid	string	Certificate UUID

s3

Name	Type	Description
certificate	certificate	Specifies the certificate that will be used for creating HTTPS connections to the S3 server.
enabled	boolean	Specifies whether or not to enable S3. Setting this value to true creates a service if one is not yet created.
is_http_enabled	boolean	Specifies whether HTTP is enabled on the S3 server. By default, HTTP is disabled on the S3 server.
is_https_enabled	boolean	Specifies whether HTTPS is enabled on the S3 server. By default, HTTPS is enabled on the S3 server.
name	string	Specifies the name of the S3 server. A server name length can range from 1 to 253 characters and can only contain the following combination of characters 0-9, A-Z, a-z, ".", and "-".

Name	Type	Description
port	integer	Specifies the HTTP listener port for the S3 server. By default, HTTP is enabled on port 80.
secure_port	integer	Specifies the HTTPS listener port for the S3 server. By default, HTTPS is enabled on port 443.

snapmirror

Specifies attributes for SVM DR protection.

Name	Type	Description
is_protected	boolean	Specifies whether the SVM is a SnapMirror source SVM, using SnapMirror to protect its data.
protected_volumes_count	integer	Specifies the number of SVM DR protected volumes in the SVM.

snapshot_policy

This is a reference to the Snapshot copy policy.

Name	Type	Description
name	string	
uuid	string	

svm

Name	Type	Description
aggregates	array[aggregates]	List of allowed aggregates for SVM volumes. An administrator is allowed to create volumes on these aggregates.
aggregates_delegated	boolean	This property is true when the administrator has delegated the aggregates for the SVM volumes.

Name	Type	Description
anti_ransomware_default_volume_state	string	Specifies the default Anti-ransomware state of the volumes in the SVM. Default "anti_ransomware_default_volume_state" property is disabled for POST operation. If this value is "disabled", Anti-ransomware protection is disabled by default on the new volumes that are created in the SVM. If this value is "dry_run", Anti-ransomware protection is in learning mode by default on the new volumes that are created in the SVM. When the Anti-ransomware license is not present, this property is ignored and volumes will be created with the "disabled" state.
cifs	cifs	
comment	string	Comment
dns	dns	
fc_interfaces	array[fc_interface_svm]	FC Interface for the SVM
fcp	fcp	
ip_interfaces	array[ip_interface_svm]	IP interfaces for the SVM
ipspace	ipspace	Either the UUID or name may be supplied on input.
is_space_enforcement_logical	boolean	Indicates whether logical space enforcement for the SVM is enabled.
is_space_reporting_logical	boolean	Indicates whether logical space reporting for the SVM is enabled.
iscsi	iscsi	
language	string	Default volume language code. UTF-8 encoded languages are valid in POST or PATCH. Non UTF-8 language encodings are for backward compatibility and are not valid input for POST and PATCH requests.

Name	Type	Description
ldap	ldap	
max_volumes	string	This property is used by cluster administrator to specify the limit on maximum number of volumes allowed in the SVM. The value can be either the string "unlimited" or a number.
name	string	The name of the SVM.
ndmp	ndmp	
nfs	nfs	
nis	nis	
nsswitch	nsswitch	Name service switch configuration
nvme	nvme	
routes	array[network_route_for_svm]	Optional array of routes for the SVM
s3	s3	
snapmirror	snapmirror	Specifies attributes for SVM DR protection.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
subtype	string	SVM subtype. The SVM subtype sync_destination is created automatically when an SVM of subtype sync_source is created on the source MetroCluster cluster. A POST request with sync_destination as SVM subtype is invalid.
uuid	string	The unique identifier of the SVM.

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

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 SVM

DELETE `/svm/svms/{uuid}`

Introduced In: 9.6

Deletes an SVM. As a prerequisite, SVM objects must be deleted first. SnapMirror relationships must be deleted and data volumes must be offline and deleted.

- The number of parallel SVMs that can be created must not be greater than five.
- If a sixth SVM POST request is issued, the following error message is generated: "Maximum allowed SVM jobs exceeded. Wait for the existing SVM jobs to complete and try again."

Related ONTAP commands

- `vserver delete`

Example

Deleting an individual SVM in the cluster.

```
DELETE "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
```

Learn more

- DOC /svm/svms

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Filter by UUID
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: 1 • Max value: 120 • Min value: 0

Response

```
Status: 202, Accepted
```

Name	Type	Description
job	job_link	

Example response


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


Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
13434894	Maximum allowed SVM jobs exceeded. Wait and retry.

Name	Type	Description
error	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

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 SVM properties

GET `/svm/svms/{uuid}`

Introduced In: 9.6

Retrieves the properties for an individual SVM. This includes protocol configurations such as CIFS and NFS, export policies, name service configurations, and network services.

Important notes

- The SVM object includes a large set of fields and can be expensive to retrieve.
- REST APIs only expose a data SVM as an SVM.

Expensive properties

There is an added 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.

- `snapmirror.*`

Example

Retrieving an individual SVM in the cluster

```
GET "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
```

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Filter by UUID
fields	array[string]	query	False	Specify the fields to return.

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
aggregates	array[aggregates]	List of allowed aggregates for SVM volumes. An administrator is allowed to create volumes on these aggregates.

Name	Type	Description
aggregates_delegated	boolean	This property is true when the administrator has delegated the aggregates for the SVM volumes.
anti_ransomware_default_volume_state	string	Specifies the default Anti-ransomware state of the volumes in the SVM. Default "anti_ransomware_default_volume_state" property is disabled for POST operation. If this value is "disabled", Anti-ransomware protection is disabled by default on the new volumes that are created in the SVM. If this value is "dry_run", Anti-ransomware protection is in learning mode by default on the new volumes that are created in the SVM. When the Anti-ransomware license is not present, this property is ignored and volumes will be created with the "disabled" state.
certificate	certificate	Support for this field will be removed in a future release. Please use /svm/svms/{svm.uuid}/web for this field. Certificate for incoming TLS connection requests.
cifs	cifs	
comment	string	Comment
dns	dns	
fc_interfaces	array[fc_interface_svm]	FC Interface for the SVM
fcp	fcp	
ip_interfaces	array[ip_interface_svm]	IP interfaces for the SVM
ipspace	ipspace	Either the UUID or name may be supplied on input.
is_space_enforcement_logical	boolean	Indicates whether logical space enforcement for the SVM is enabled.

Name	Type	Description
is_space_reporting_logical	boolean	Indicates whether logical space reporting for the SVM is enabled.
iscsi	iscsi	
language	string	Default volume language code. UTF-8 encoded languages are valid in POST or PATCH. Non UTF-8 language encodings are for backward compatibility and are not valid input for POST and PATCH requests.
ldap	ldap	
max_volumes	string	This property is used by cluster administrator to specify the limit on maximum number of volumes allowed in the SVM. The value can be either the string "unlimited" or a number.
name	string	The name of the SVM.
ndmp	ndmp	
nfs	nfs	
nis	nis	
nsswitch	nsswitch	Name service switch configuration
nvme	nvme	
qos_policy	qos_policy	This optionally specifies which QoS policy group to apply to the Vserver. This policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated.
retention_period	integer	Volume delete retention period specifies the default duration, in hours that deleted volumes are retained in the recovery queue for possible future recovery.
s3	s3	

Name	Type	Description
snapmirror	snapmirror	Specifies attributes for SVM DR protection.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
state	string	SVM State
subtype	string	SVM subtype. The SVM subtype sync_destination is created automatically when an SVM of subtype sync_source is created on the source MetroCluster cluster. A POST request with sync_destination as SVM subtype is invalid.
uuid	string	The unique identifier of the SVM.

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "aggregates": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "aggr1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "anti_ransomware_default_volume_state": "string",
  "certificate": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cert1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "cifs": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "ad_domain": {
      "fqdn": "example.com",
      "organizational_unit": "string"
    },
    "name": "CIFS1"
  },
  "comment": "string",
  "dns": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
```

```
      }
    },
    "domains": [
      "example.com",
      "example2.example3.com"
    ],
    "servers": [
      "10.224.65.20",
      "2001:db08:a0b:12f0::1"
    ]
  },
  "fc_interfaces": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "data_protocol": "string",
      "name": "lif1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "fcp": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "ip_interfaces": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ip": {
        "address": "10.10.10.7"
      },
      "name": "lif1",
      "services": [
        "data_nfs"
      ],
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
```

```
  ],
  "ipspace": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "iscsi": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "language": "c.utf_8",
  "ldap": {
    "ad_domain": "string",
    "base_dn": "string",
    "bind_dn": "string",
    "servers": [
      "string"
    ]
  },
  "max_volumes": "string",
  "name": "svm1",
  "nfs": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "nis": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "domain": "string",
    "servers": [
      "string"
    ]
  },
```

```
  "nsswitch": {
    "group": [
      "string"
    ],
    "hosts": [
      "string"
    ],
    "namemap": [
      "string"
    ],
    "netgroup": [
      "string"
    ],
    "passwd": [
      "string"
    ]
  },
  "nvme": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "qos_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "max_throughput_iops": 10000,
    "max_throughput_mbps": 500,
    "min_throughput_iops": 2000,
    "min_throughput_mbps": 500,
    "name": "performance",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "s3": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "certificate": {
      "_links": {
        "self": {
```

```
          "href": "/api/resourcelink"
        }
      },
      "name": "cert1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "name": "s3-server-1"
  },
  "snapmirror": {
    "protected_volumes_count": 0
  },
  "snapshot_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "default",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "state": "running",
  "subtype": "string",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
```


Error

```
Status: Default, Error
```

Name	Type	Description
error	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	

aggregates

Name	Type	Description
_links	_links	
name	string	
uuid	string	

certificate

Support for this field will be removed in a future release. Please use /svm/svms/{svm.uuid}/web for this field. Certificate for incoming TLS connection requests.

Name	Type	Description
_links	_links	
name	string	Certificate name
uuid	string	Certificate UUID

ad_domain

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.
organizational_unit	string	Specifies the organizational unit within the Active Directory domain to associate with the CIFS server.

cifs

Name	Type	Description
_links	_links	
ad_domain	ad_domain	
allowed	boolean	If this is set to true, an SVM administrator can manage the CIFS service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the CIFS service.
name	string	The NetBIOS name of the CIFS server.

dns

Name	Type	Description
_links	_links	
domains	array[string]	A list of DNS domains. Domain names have the following requirements: • The name must contain only the following characters: A through Z, a through z, 0 through 9, ".", "-" or "_". • The first character of each label, delimited by ".", must be one of the following characters: A through Z or a through z or 0 through 9. • The last character of each label, delimited by ".", must be one of the following characters: A through Z, a through z, or 0 through 9. • The top level domain must contain only the following characters: A through Z, a through z. • The system reserves the following names:"all", "local", and "localhost".

Name	Type	Description
servers	array[string]	The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses.

node

The node on which the FC port is located.

Name	Type	Description
name	string	The name of the node on which the FC port is located.

fc_port_reference

An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

Name	Type	Description
_links	_links	
name	string	The name of the FC port.
node	node	The node on which the FC port is located.
uuid	string	The unique identifier of the FC port.

location

The location of the Fibre Channel interface is defined by the location of its port.

Name	Type	Description
port	fc_port_reference	An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

fc_interface_svm

Name	Type	Description
_links	_links	

Name	Type	Description
data_protocol	string	The data protocol for which the Fibre Channel interface is configured.
name	string	The name of the Fibre Channel interface.
uuid	string	The unique identifier of the Fibre Channel interface.

fcp

Name	Type	Description
_links	_links	
allowed	boolean	If this is set to true, an SVM administrator can manage the FCP service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the FCP service.

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

broadcast_domain

Name	Type	Description
_links	_links	
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

home_node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

location

Home_node is optional.

Name	Type	Description
broadcast_domain	broadcast_domain	
home_node	home_node	

ip_interface_svm

Interface parameters. Name and home_node are optional.

Name	Type	Description
_links	_links	
ip	ip	IP information
name	string	The name of the interface (optional).
services	array[string]	The services associated with the interface.
uuid	string	The UUID that uniquely identifies the interface.

ipspace

Either the UUID or name may be supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

iscsi

Name	Type	Description
_links	_links	
allowed	boolean	If this is set to true, an SVM administrator can manage the iSCSI service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the ISCSI service.

ldap

Name	Type	Description
ad_domain	string	This parameter specifies the name of the Active Directory domain used to discover LDAP servers for use by this client. This is mutually exclusive with `servers` during POST.
base_dn	string	Specifies the default base DN for all searches.
bind_dn	string	Specifies the user that binds to the LDAP servers. SVM API supports anonymous binding. For Simple and SASL LDAP binding, use the LDAP API endpoint.
enabled	boolean	Enable LDAP? Setting to true creates a configuration if not already created.
servers	array[string]	

ndmp

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the NDMP service. If it is false, only the cluster administrator can manage the service.

nfs

Name	Type	Description
_links	_links	
allowed	boolean	If this is set to true, an SVM administrator can manage the NFS service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the NFS service.

nis

Name	Type	Description
_links	_links	
domain	string	The NIS domain to which this configuration belongs.
enabled	boolean	Enable NIS? Setting to true creates a configuration if not already created.
servers	array[string]	A list of hostnames or IP addresses of NIS servers used by the NIS domain configuration.

nsswitch

Name service switch configuration

Name	Type	Description
group	array[string]	Group sources
hosts	array[string]	Host sources
namemap	array[string]	NameMap sources
netgroup	array[string]	NetGroup sources
passwd	array[string]	Password sources

nvme

Name	Type	Description
_links	_links	
allowed	boolean	If this is set to true, an SVM administrator can manage the NVMe service. If it is false, only the cluster administrator can manage the service.
enabled	boolean	If allowed, setting to true enables the NVMe service.

qos_policy

This optionally specifies which QoS policy group to apply to the Vserver. This policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated.

Name	Type	Description
_links	_links	
max_throughput_iops	integer	Specifies the maximum throughput in IOPS, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
max_throughput_mbps	integer	Specifies the maximum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_iops	integer	Specifies the minimum throughput in IOPS, 0 means none. Setting "min_throughput" is supported on AFF platforms only, unless FabricPool tiering policies are set. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_mbps	integer	Specifies the minimum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.

Name	Type	Description
name	string	The QoS policy group name. This is mutually exclusive with UUID and other QoS attributes during POST and PATCH.
uuid	string	The QoS policy group UUID. This is mutually exclusive with name and other QoS attributes during POST and PATCH.

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
family	string	IPv4 or IPv6
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, the default value is 64 with a valid range of 1 to 127. Output is always netmask length.

network_route_for_svm

Name	Type	Description
destination	ip_info	IP information
gateway	string	The IP address of the gateway router leading to the destination.

certificate

Specifies the certificate that will be used for creating HTTPS connections to the S3 server.

Name	Type	Description
_links	_links	
name	string	Certificate name
uuid	string	Certificate UUID

s3

Name	Type	Description
_links	_links	
certificate	certificate	Specifies the certificate that will be used for creating HTTPS connections to the S3 server.
enabled	boolean	Specifies whether or not to enable S3. Setting this value to true creates a service if one is not yet created.
is_http_enabled	boolean	Specifies whether HTTP is enabled on the S3 server. By default, HTTP is disabled on the S3 server.
is_https_enabled	boolean	Specifies whether HTTPS is enabled on the S3 server. By default, HTTPS is enabled on the S3 server.
name	string	Specifies the name of the S3 server. A server name length can range from 1 to 253 characters and can only contain the following combination of characters 0-9, A-Z, a-z, ".", and "-".
port	integer	Specifies the HTTP listener port for the S3 server. By default, HTTP is enabled on port 80.
secure_port	integer	Specifies the HTTPS listener port for the S3 server. By default, HTTPS is enabled on port 443.

snapmirror

Specifies attributes for SVM DR protection.

Name	Type	Description
is_protected	boolean	Specifies whether the SVM is a SnapMirror source SVM, using SnapMirror to protect its data.
protected_volumes_count	integer	Specifies the number of SVM DR protected volumes in the SVM.

snapshot_policy

This is a reference to the Snapshot copy policy.

Name	Type	Description
_links	_links	
name	string	
uuid	string	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 SVM properties

PATCH `/svm/svms/{uuid}`

Introduced In: 9.6

Updates one or more of the following properties of an individual SVM: SVM name, SVM default volume language code, SVM comment, and SVM state.

Related ONTAP commands

- `vserver modify`
- `vserver rename`
- `vserver start`
- `vserver stop`

- `security ssl modify`
- `vserver add-protocols`
- `vserver remove-protocols`

Examples

1. Stops an SVM and updates the "comment" field for an individual SVM

```
  PATCH "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
'{"state":"stopped", "comment":"This SVM is stopped."}'
```

1. Starts an SVM and updates the "comment" field for an individual SVM

```
  PATCH "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
'{"state":"running", "comment":"This SVM is running."}'
```

1. Updates the "language" field for an individual SVM

```
  PATCH "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
'{"language":"en.UTF-8"}'
```

1. Updates the "name" field for an SVM or renames the SVM

```
  PATCH "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
'{"name":"svm_new"}'
```

1. Updates the aggregates for an individual SVM

```
  PATCH "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
'{"aggregates":{"name":["aggr1","aggr2","aggr3"]}}'
```

1. Updates the Snapshot copy policy for an individual SVM

```
  PATCH "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
'{"snapshot_policy":{"name":"custom1"}}'
```

1. Updates the TLS certificate for an individual SVM

```
  PATCH "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
'{"certificate":{"uuid":"1cd8a442-86d1-11e0-ae1c-123478563412"}}'
```

1. Updates the QoS policy for the SVM

```
  PATCH "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
'{"qos_policy_group":{"name":"qpolicy1"}}'
```

1. Allows NFS protocol which was previously disallowed for the SVM

```
  PATCH "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
'{"nfs":{"allowed":"true"}}'
```

1. Updates the max volume limit for the SVM

```
  PATCH "/api/svm/svms/f16f0935-5281-11e8-b94d-005056b46485"
'{"max_volumes":"200"}'
```

Learn more

- DOC /svm/svms

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Filter by UUID

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: 1 • Max value: 120 • Min value: 0

Request Body

Name	Type	Description
aggregates	array[aggregates]	List of allowed aggregates for SVM volumes. An administrator is allowed to create volumes on these aggregates.
aggregates_delegated	boolean	This property is true when the administrator has delegated the aggregates for the SVM volumes.

Name	Type	Description
anti_ransomware_default_volume_state	string	Specifies the default Anti-ransomware state of the volumes in the SVM. Default "anti_ransomware_default_volume_state" property is disabled for POST operation. If this value is "disabled", Anti-ransomware protection is disabled by default on the new volumes that are created in the SVM. If this value is "dry_run", Anti-ransomware protection is in learning mode by default on the new volumes that are created in the SVM. When the Anti-ransomware license is not present, this property is ignored and volumes will be created with the "disabled" state.
certificate	certificate	Support for this field will be removed in a future release. Please use /svm/svms/{svm.uuid}/web for this field. Certificate for incoming TLS connection requests.
cifs	cifs	
comment	string	Comment
fc_interfaces	array[fc_interface_svm]	FC Interface for the SVM
fcp	fcp	
ip_interfaces	array[ip_interface_svm]	IP interfaces for the SVM
is_space_enforcement_logical	boolean	Indicates whether logical space enforcement for the SVM is enabled.
is_space_reporting_logical	boolean	Indicates whether logical space reporting for the SVM is enabled.
iscsi	iscsi	

Name	Type	Description
language	string	Default volume language code. UTF-8 encoded languages are valid in POST or PATCH. Non UTF-8 language encodings are for backward compatibility and are not valid input for POST and PATCH requests.
max_volumes	string	This property is used by cluster administrator to specify the limit on maximum number of volumes allowed in the SVM. The value can be either the string "unlimited" or a number.
name	string	The name of the SVM.
ndmp	ndmp	
nfs	nfs	
nsswitch	nsswitch	Name service switch configuration
nvme	nvme	
qos_policy	qos_policy	This optionally specifies which QoS policy group to apply to the Vserver. This policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated.
retention_period	integer	Volume delete retention period specifies the default duration, in hours that deleted volumes are retained in the recovery queue for possible future recovery.
snapmirror	snapmirror	Specifies attributes for SVM DR protection.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
state	string	SVM State
uuid	string	The unique identifier of the SVM.

Example request


```
{
  "aggregates": [
    {
      "name": "aggr1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "anti_ransomware_default_volume_state": "string",
  "certificate": {
    "name": "cert1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "cifs": {
    "enabled": null
  },
  "comment": "string",
  "fc_interfaces": [
    {
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "fcp": {
    "enabled": null
  },
  "ip_interfaces": [
    {
      "services": [
        "data_nfs"
      ],
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "iscsi": {
    "enabled": null
  },
  "language": "c.utf_8",
  "max_volumes": "string",
  "name": "svm1",
  "nfs": {
    "enabled": null
  },
  "nsswitch": {
    "group": [
      "string"
```

```
    ],
    "hosts": [
      "string"
    ],
    "namemap": [
      "string"
    ],
    "netgroup": [
      "string"
    ],
    "passwd": [
      "string"
    ]
  },
  "nvme": {
    "enabled": null
  },
  "qos_policy": {
    "max_throughput_iops": 10000,
    "max_throughput_mbps": 500,
    "min_throughput_iops": 2000,
    "min_throughput_mbps": 500,
    "name": "performance",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "snapmirror": {
    "protected_volumes_count": 0
  },
  "snapshot_policy": {
    "name": "default",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "state": "running",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
```


Response

```
Status: 202, Accepted
```

Name	Type	Description
job	job_link	

Example response


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


Error

```
Status: Default
```

ONTAP Error Response Codes

Error codes	Description
13434880	Failed to modify SVM parameters.
13434881	Failed to rename SVM.
13434883	SVM parameters except name modified successfully.
13434885	Non-UTF8 language(s) not supported.
13434886	Invalid Snapshot copy policy.
13434902	Modification of NSSwitch parameters failed for the SVM.
13434906	Operation not supported for an SVM of type sync-destination.
12451843	Certificate does not exist.
13434908	Invalid SVM name. The name is already in use by another SVM, IPSpace or cluster.
13434916	SVM is in the process of being created. Wait a few minutes, and then try the command again.
13434915	Failed to unlock the SVM because SVM create or delete job is in progress. Wait a few minutes, and then try the command again.
13434911	Invalid SVM name. Maximum supported length is 41 if SVM is of type \"sync-source\", otherwise 47.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

aggregates

Name	Type	Description
name	string	
uuid	string	

certificate

Support for this field will be removed in a future release. Please use /svm/svms/{svm.uuid}/web for this field. Certificate for incoming TLS connection requests.

Name	Type	Description
name	string	Certificate name
uuid	string	Certificate UUID

ad_domain

cifs

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the CIFS service. If it is false, only the cluster administrator can manage the service.

dns

Name	Type	Description
domains	array[string]	A list of DNS domains. Domain names have the following requirements: • The name must contain only the following characters: A through Z, a through z, 0 through 9, ".", "-" or "_". • The first character of each label, delimited by ".", must be one of the following characters: A through Z or a through z or 0 through 9. • The last character of each label, delimited by ".", must be one of the following characters: A through Z, a through z, or 0 through 9. • The top level domain must contain only the following characters: A through Z, a through z. • The system reserves the following names:"all", "local", and "localhost".
servers	array[string]	The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses.

node

The node on which the FC port is located.

Name	Type	Description
name	string	The name of the node on which the FC port is located.

fc_port_reference

An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

Name	Type	Description
name	string	The name of the FC port.

Name	Type	Description
node	node	The node on which the FC port is located.
uuid	string	The unique identifier of the FC port.

location

The location of the Fibre Channel interface is defined by the location of its port.

Name	Type	Description
port	fc_port_reference	An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

fc_interface_svm

Name	Type	Description
uuid	string	The unique identifier of the Fibre Channel interface.

fcp

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the FCP service. If it is false, only the cluster administrator can manage the service.

ip

IP information

broadcast_domain

Name	Type	Description
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

home_node

Name	Type	Description
name	string	
uuid	string	

location

Home_node is optional.

Name	Type	Description
broadcast_domain	broadcast_domain	
home_node	home_node	

ip_interface_svm

Interface parameters. Name and home_node are optional.

Name	Type	Description
ip	ip	IP information
services	array[string]	The services associated with the interface.
uuid	string	The UUID that uniquely identifies the interface.

ipspace

Either the UUID or name may be supplied on input.

Name	Type	Description
name	string	IPspace name
uuid	string	IPspace UUID

iscsi

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the iSCSI service. If it is false, only the cluster administrator can manage the service.

ldap

Name	Type	Description
ad_domain	string	This parameter specifies the name of the Active Directory domain used to discover LDAP servers for use by this client. This is mutually exclusive with `servers` during POST.
base_dn	string	Specifies the default base DN for all searches.
bind_dn	string	Specifies the user that binds to the LDAP servers. SVM API supports anonymous binding. For Simple and SASL LDAP binding, use the LDAP API endpoint.
enabled	boolean	Enable LDAP? Setting to true creates a configuration if not already created.
servers	array[string]	

ndmp

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the NDMP service. If it is false, only the cluster administrator can manage the service.

nfs

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the NFS service. If it is false, only the cluster administrator can manage the service.

nis

Name	Type	Description
domain	string	The NIS domain to which this configuration belongs.

Name	Type	Description
enabled	boolean	Enable NIS? Setting to true creates a configuration if not already created.
servers	array[string]	A list of hostnames or IP addresses of NIS servers used by the NIS domain configuration.

nsswitch

Name service switch configuration

Name	Type	Description
group	array[string]	Group sources
hosts	array[string]	Host sources
namemap	array[string]	NameMap sources
netgroup	array[string]	NetGroup sources
passwd	array[string]	Password sources

nvme

Name	Type	Description
allowed	boolean	If this is set to true, an SVM administrator can manage the NVMe service. If it is false, only the cluster administrator can manage the service.

qos_policy

This optionally specifies which QoS policy group to apply to the Vserver. This policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated.

Name	Type	Description
max_throughput_iops	integer	Specifies the maximum throughput in IOPS, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.

Name	Type	Description
max_throughput_mbps	integer	Specifies the maximum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_iops	integer	Specifies the minimum throughput in IOPS, 0 means none. Setting "min_throughput" is supported on AFF platforms only, unless FabricPool tiering policies are set. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_mbps	integer	Specifies the minimum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
name	string	The QoS policy group name. This is mutually exclusive with UUID and other QoS attributes during POST and PATCH.
uuid	string	The QoS policy group UUID. This is mutually exclusive with name and other QoS attributes during POST and PATCH.

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, the default value is 64 with a valid range of 1 to 127. Output is always netmask length.

network_route_for_svm

Name	Type	Description
destination	ip_info	IP information
gateway	string	The IP address of the gateway router leading to the destination.

certificate

Specifies the certificate that will be used for creating HTTPS connections to the S3 server.

Name	Type	Description
name	string	Certificate name
uuid	string	Certificate UUID

s3

Name	Type	Description
certificate	certificate	Specifies the certificate that will be used for creating HTTPS connections to the S3 server.
enabled	boolean	Specifies whether or not to enable S3. Setting this value to true creates a service if one is not yet created.
is_http_enabled	boolean	Specifies whether HTTP is enabled on the S3 server. By default, HTTP is disabled on the S3 server.
is_https_enabled	boolean	Specifies whether HTTPS is enabled on the S3 server. By default, HTTPS is enabled on the S3 server.
name	string	Specifies the name of the S3 server. A server name length can range from 1 to 253 characters and can only contain the following combination of characters 0-9, A-Z, a-z, ".", and "-".

Name	Type	Description
port	integer	Specifies the HTTP listener port for the S3 server. By default, HTTP is enabled on port 80.
secure_port	integer	Specifies the HTTPS listener port for the S3 server. By default, HTTPS is enabled on port 443.

snapmirror

Specifies attributes for SVM DR protection.

Name	Type	Description
is_protected	boolean	Specifies whether the SVM is a SnapMirror source SVM, using SnapMirror to protect its data.
protected_volumes_count	integer	Specifies the number of SVM DR protected volumes in the SVM.

snapshot_policy

This is a reference to the Snapshot copy policy.

Name	Type	Description
name	string	
uuid	string	

svm

Name	Type	Description
aggregates	array[aggregates]	List of allowed aggregates for SVM volumes. An administrator is allowed to create volumes on these aggregates.
aggregates_delegated	boolean	This property is true when the administrator has delegated the aggregates for the SVM volumes.

Name	Type	Description
anti_ransomware_default_volume_state	string	Specifies the default Anti-ransomware state of the volumes in the SVM. Default "anti_ransomware_default_volume_state" property is disabled for POST operation. If this value is "disabled", Anti-ransomware protection is disabled by default on the new volumes that are created in the SVM. If this value is "dry_run", Anti-ransomware protection is in learning mode by default on the new volumes that are created in the SVM. When the Anti-ransomware license is not present, this property is ignored and volumes will be created with the "disabled" state.
certificate	certificate	Support for this field will be removed in a future release. Please use /svm/svms/{svm.uuid}/web for this field. Certificate for incoming TLS connection requests.
cifs	cifs	
comment	string	Comment
fc_interfaces	array[fc_interface_svm]	FC Interface for the SVM
fcp	fcp	
ip_interfaces	array[ip_interface_svm]	IP interfaces for the SVM
is_space_enforcement_logical	boolean	Indicates whether logical space enforcement for the SVM is enabled.
is_space_reporting_logical	boolean	Indicates whether logical space reporting for the SVM is enabled.
iscsi	iscsi	

Name	Type	Description
language	string	Default volume language code. UTF-8 encoded languages are valid in POST or PATCH. Non UTF-8 language encodings are for backward compatibility and are not valid input for POST and PATCH requests.
max_volumes	string	This property is used by cluster administrator to specify the limit on maximum number of volumes allowed in the SVM. The value can be either the string "unlimited" or a number.
name	string	The name of the SVM.
ndmp	ndmp	
nfs	nfs	
nsswitch	nsswitch	Name service switch configuration
nvme	nvme	
qos_policy	qos_policy	This optionally specifies which QoS policy group to apply to the Vserver. This policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated.
retention_period	integer	Volume delete retention period specifies the default duration, in hours that deleted volumes are retained in the recovery queue for possible future recovery.
snapmirror	snapmirror	Specifies attributes for SVM DR protection.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
state	string	SVM State
uuid	string	The unique identifier of the SVM.

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

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 clients

SVM svms svm.uuid top-metrics clients endpoint overview

Overview

You can use this API to retrieve a list of clients with the most IO activity for FlexVol and FlexGroup volumes belonging to a specified SVM. To obtain this list, only the volumes which have the activity tracking feature enabled are considered.

This API is used to provide insight into IO activity and supports ordering by IO activity types, namely `iops` and `throughput` metrics. Use the `top_metric` parameter to specify which type of IO activity to filter for. This API supports returning only one IO activity type per request.

Enabling and disabling activity tracking feature

The following APIs can be used to enable, disable, and retrieve the activity tracking state for a FlexVol or a FlexGroup volume.

– PATCH /api/storage/volumes/{uuid} -d '{"activity_tracking.state":"on"}'

– PATCH /api/storage/volumes/{uuid} -d '{"activity_tracking.state":"off"}'

– GET /api/storage/volumes/{uuid}/?fields=activity_tracking

Excluded volumes list

Optionally, the API returns an excluded list of activity tracking-enabled volumes, which were not accounted for when obtaining the list of clients with the most IO activity for the SVM. This excluded list contains both the volume information and the reason for exclusion.

Failure to return list of clients with most IO activity

The API can sometimes fail to return the list of clients with the most IO activity, due to the following reasons:

– The volumes belonging to the SVM do not have the activity tracking feature enabled.

– The volumes belonging to the SVM do not have read/write traffic.

– The read traffic is served by the NFS/CIFS client filesystem cache.

– On rare occasions, the incoming traffic pattern is not suitable to obtain the list of clients with the most IO activity.

Retrieve a list of the clients with the most IO activity

For a report on the clients with the most IO activity returned in descending order, specify the IO activity type you want to filter for by passing the `iops` or `throughput` IO activity type into the top_metric parameter. If the IO activity type is not specified, by default the API returns a list of clients with the greatest number of average read operations per second. The maximum number of clients returned by the API for an IO activity type is 25.

– GET /api/svm/svms/{svm.uuid}/top-metrics/clients

Examples

Retrieving a list of the clients with the greatest average number of write operations per second:

```
# The API:
GET /api/svm/svms/{svm.uuid}/top-metrics/clients

# The Call:
curl -X GET "https://<mgmt-ip>/api/svm/svms/{svm.uuid}/top-
metrics/clients?top_metric=iops.write"

# The Response:
{
"records": [
  {
    "svm": {
```

```
      "name": "vs1"
    },
    "iops": {
      "write": 1495,
      "error": {
        "lower_bound": 1495,
        "upper_bound": 1505
      }
    },
    "client_ip": "172.28.71.128"
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "write": 1022,
      "error": {
        "lower_bound": 1022,
        "upper_bound": 1032
      }
    },
    "client_ip": "172.28.71.179"
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "write": 345,
      "error": {
        "lower_bound": 345,
        "upper_bound": 355
      }
    },
    "client_ip": "172.28.51.62"
  }
],
"num_records": 3,
"excluded_volumes": [
  {
    "volume": {
      "uuid": "5bbfc226-3fd8-42c9-a651-fa6167c2cf84",
      "name": "vol10",
      "_links": {
        "self": {
```

```
          "href": "/api/storage/volumes/5bbfc226-3fd8-42c9-a651-
fa6167c2cf84"
        }
      }
    },
    "reason": {
      "message": "resource limit exceeded",
      "code": "12345"
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc226-3fd8-42c9-a651-
fa6167c2cf84"
      }
    }
  },
  {
    "volume": {
      "uuid": "5bbfc227-3fd8-42c9-a651-fa6167c2cf85",
      "name": "vol22",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc227-3fd8-42c9-a651-
fa6167c2cf85"
        }
      }
    },
    "reason": {
      "message": "The volume is offline.",
      "code": "23456"
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc227-3fd8-42c9-a651-
fa6167c2cf85"
      }
    }
  }
],
"_links": {
  "self": {
    "href": "/api/svm/svms/572361f3-e769-439d-9c04-2ba48a08ff43/top-
metrics/clients?top_metric=iops.write"
  }
}
}
```

Example showing the behavior of the API when there is no read/write traffic:

```
# The Call:
curl -X GET "https://<mgmt-ip>/api/svm/svms/{svm.uuid}/top-
metrics/clients?top_metric=throughput.write"

# The Response:
{
"records": [
],
"num_records": 0,
"notice": {
  "message": "The activity tracking report for SVM \"vs1\" returned zero
records. Check whether the volumes belonging to the SVM have read/write
traffic. Refer to the REST API documentation for more information on why
there might be no records.",
  "code": "124519405",
},
"_links": {
  "self": {
    "href": "/api/svm/svms/572361f3-e769-439d-9c04-2ba48a08ff43/top-
metrics/clients?top_metric=throughput.write"
  }
}
}
```

List clients with the most I/O activity

GET `/svm/svms/{svm.uuid}/top-metrics/clients`

Introduced In: 9.11

Retrieves a list of clients with the most IO activity.

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	SVM UUID

Name	Type	In	Required	Description
top_metric	string	query	False	IO activity type • Default value: 1 • enum: ["iops.read", "iops.write", "throughput.read", "throughput.write"]
svm.name	string	query	False	Filter by svm.name
iops.read	integer	query	False	Filter by iops.read
iops.write	integer	query	False	Filter by iops.write
iops.error.lower_bound	integer	query	False	Filter by iops.error.lower_bound
iops.error.upper_bound	integer	query	False	Filter by iops.error.upper_bound
client_ip	string	query	False	Filter by client_ip
throughput.error.lower_bound	integer	query	False	Filter by throughput.error.lower_bound
throughput.error.upper_bound	integer	query	False	Filter by throughput.error.upper_bound
throughput.write	integer	query	False	Filter by throughput.write
throughput.read	integer	query	False	Filter by throughput.read
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: 1 • 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	
excluded_volumes	array[top_metrics_svm_client_excluded_volume]	List of volumes that are not included in the SVM activity tracking REST API.
notice	notice	Optional field that indicates why no records are returned by the SVM activity tracking REST API.
num_records	integer	Number of records.

Name	Type	Description
records	array[top_metrics_svm_client]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "excluded_volumes": [
    {
      "reason": {
        "code": "111411207",
        "message": "The volume is offline."
      },
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    }
  ],
  "notice": {
    "code": "111411207",
    "message": "The volume is offline."
  },
  "records": [
    {
      "client_ip": "192.168.185.170",
      "iops": {
        "error": {
          "lower_bound": 34,
          "upper_bound": 54
        },
        "read": 5,
        "write": 10
      },
      "svm": {
        "_links": {
          "self": {
```

```
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "throughput": {
        "error": {
          "lower_bound": 34,
          "upper_bound": 54
        },
        "read": 12,
        "write": 2
      }
    }
  ]
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
124519405	The activity tracking report for SVM svm.name returned zero records. Check whether the volumes belonging to the SVM have read/write traffic. Refer to the REST API documentation for more information on why there might be no records.
124519406	Failed to get the activity tracking report for SVM svm.name. Reason:<Reason for="" failure="">.</Reason>
124519407	SVM wildcard queries are not supported for activity tracking reports.
124519408	Activity tracking is not supported on SVM svm.name, because it is configured as a destination for SVM DR.
124519409	Activity tracking is not supported on SVM svm.name, because it is configured as a destination of a MetroCluster SVM relationship and the SVM admin state is stopped.

Name	Type	Description
error	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	

reason

Name	Type	Description
code	string	Warning code indicating why the volume is not included in the SVM activity tracking REST API.
message	string	Details why the volume is not included in the SVM activity tracking REST API.

_links

Name	Type	Description
self	href	

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume.
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

top_metrics_svm_client_excluded_volume

List of volumes and their details as to why they are not included in the SVM activity tracking REST API.

Name	Type	Description
reason	reason	
volume	volume	

notice

Optional field that indicates why no records are returned by the SVM activity tracking REST API.

Name	Type	Description
code	string	Warning code indicating why no records are returned.
message	string	Details why no records are returned.

top_metric_value_error_bounds

Name	Type	Description
lower_bound	integer	Lower bound of the nominal value of a metric.
upper_bound	integer	Upper bound of the nominal value of a metric.

iops

Name	Type	Description
error	top_metric_value_error_bounds	
read	integer	Average number of read operations per second.
write	integer	Average number of write operations per second.

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.

Name	Type	Description
uuid	string	The unique identifier of the SVM.

throughput

Name	Type	Description
error	top_metric_value_error_bounds	
read	integer	Average number of read bytes received per second.
write	integer	Average number of write bytes received per second.

top_metrics_svm_client

Aggregated information about a client's IO activity at a SVM scope.

Name	Type	Description
client_ip	string	IP address of the client. Both IPv4 and IPv6 IP addresses are supported.
iops	iops	
svm	svm	
throughput	throughput	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 directories

SVM svms svm.uuid top-metrics directories endpoint overview

Overview

You can use this API to retrieve a list of directories with the most IO activity for FlexVol and FlexGroup volumes belonging to a specified SVM. To obtain this list, only the volumes which have the activity tracking feature enabled are considered.

This API is used to provide insight into IO activity and supports ordering by IO activity types, namely `iops` and `throughput` metrics. Use the `top_metric` parameter to specify which type of IO activity to filter for. This API supports returning only one IO activity type per request.

Enabling and disabling activity tracking feature

The following APIs can be used to enable, disable, and retrieve the activity tracking state for a FlexVol or a FlexGroup volume.

– PATCH /api/storage/volumes/{uuid} -d '{"activity_tracking.state":"on"}'

– PATCH /api/storage/volumes/{uuid} -d '{"activity_tracking.state":"off"}'

– GET /api/storage/volumes/{uuid}/?fields=activity_tracking

Excluded volumes list

Optionally, the API returns an excluded list of activity tracking-enabled volumes, which were not accounted for when obtaining the list of clients with the most IO activity for the SVM. This excluded list contains both the volume information and the reason for exclusion.

Failure to return list of directories with most IO activity

The API can sometimes fail to return the list of directories with the most IO activity, due to the following reasons:

– The volumes belonging to the SVM do not have the activity tracking feature enabled.

– The volumes belonging to the SVM do not have read/write traffic.

– The read traffic is served by the NFS/CIFS client filesystem cache.

– On rare occasions, the incoming traffic pattern is not suitable to obtain the list of directories with the most IO activity.

Failure to return the pathnames

The API can sometimes fail to obtain the filesystem pathnames for the list of directory entries, due to internal transient errors. In such cases, instead of the pathname, the API will return "<volume_instance_uuid>.<fileid>" for every directory entry. You can get more information about the directory entry by invoking the GET on the below API using the above obtained fileid. "GET /api/storage/volumes/{<volume_instance_uuid>}/files/{path}?inode_number=<fileid>"</fileid></volume_instance_uuid></fileid></volume_instance_uuid>

Retrieve a list of the directories with the most IO activity

For a report on the directories with the most IO activity returned in descending order, specify the IO activity type you want to filter for by passing the `iops` or `throughput` property into the top_metric parameter. If the IO activity type is not specified, by default the API returns a list of directories with the greatest number of average read operations per second. The maximum number of directories returned by the API for an IO activity type is 25.

– GET /api/svm/svms/{svm.uuid}/top-metrics/directories

Examples

Retrieving a list of the directories with the greatest average number of read operations per second:

```
# The API:
GET /api/svm/svms/{svm.uuid}/top-metrics/directories

# The Call:
curl -X GET "https://<mgmt-ip>/api/svm/svms/{svm.uuid}/top-
metrics/directories?top_metric=iops.read"

# The Response:
{
"records": [
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "read": 1495,
      "error": {
        "lower_bound": 1495,
        "upper_bound": 1505
      }
    },
    "path": "/vol/fv1/dir1/dir2",
    "junction-path": "/fv1",
    "volume": {
        "name": "fv1",
```

```
        "uuid": "73b293df-e9d7-46cc-a9ce-2df8e52ef86",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef86"
          }
        }
    },
    "_links": {
      "directory": {
        "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef864/files/dir1%2Fdir2"
      },
      "metadata": {
        "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef864/files/dir1%2Fdir2?return_metadata=true"
      }
    }
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "read": 1022,
      "error": {
        "lower_bound": 1022,
        "upper_bound": 1032
      }
    },
    "path": "/vol/fv2/dir3/dir4",
    "junction-path": "/fv2",
    "volume": {
        "name": "fv2",
        "uuid": "11b293df-e9d7-46cc-a9ce-2df8e52ef811",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/11b293df-e9d7-46cc-a9ce-
2df8e52ef811"
          }
        }
    },
    "_links": {
      "directory": {
        "href": "/api/storage/volumes/11b293df-e9d7-46cc-a9ce-
2df8e52ef811/files/dir3%2Fdir4"
```

```
      },
      "metadata": {
        "href": "/api/storage/volumes/11b293df-e9d7-46cc-a9ce-
2df8e52ef811/files/dir3%2Fdir4?return_metadata=true"
      }
    }
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "read": 345,
      "error": {
        "lower_bound": 345,
        "upper_bound": 355
      }
    },
    "path": "/vol/fv1/dir12",
    "junction-path": "/fv1",
    "volume": {
        "name": "fv1",
        "uuid": "73b293df-e9d7-46cc-a9ce-2df8e52ef864",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef864"
          }
        }
    },
    "_links": {
      "directory": {
        "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef864/files/dir12"
      },
      "metadata": {
        "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef864/files/dir12?return_metadata=true"
      }
    }
  }
],
"num_records": 3,
"excluded_volumes": [
  {
    "volume": {
```

```
      "uuid": "5bbfc226-3fd8-42c9-a651-fa6167c2cf84",
      "name": "vol10",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc226-3fd8-42c9-a651-
fa6167c2cf84"
        }
      }
    },
    "reason": {
      "message": "The volume is offline.",
      "code": 12345
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc226-3fd8-42c9-a651-
fa6167c2cf84"
      }
    }
  },
  {
    "volume": {
      "uuid": "5bbfc227-3fd8-42c9-a651-fa6167c2cf85",
      "name": "vol22",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc227-3fd8-42c9-a651-
fa6167c2cf85"
        }
      }
    },
    "reason": {
      "message": "The volume is offline.",
      "code": 23456
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc227-3fd8-42c9-a651-
fa6167c2cf85"
      }
    }
  }
],
"_links": {
  "self": {
    "href": "/api/svm/svms/572361f3-e769-439d-9c04-2ba48a08ff43/top-
```

```
metrics/directories?top_metric=iops.read"
  }
}
}
```

Retrieving a list of the directories with the most read traffic, with failure to obtain pathnames

```
# The Call:
curl -X GET "https://<mgmt-ip>/api/svm/svms/{svm.uuid}/top-
metrics/directories?top_metric=iops.read"

# The Response:
{
"records": [
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "read": 1495,
      "error": {
        "lower_bound": 1495,
        "upper_bound": 1505
      }
    },
    "path": "73b293df-e9d7-46cc-a9ce-2df8e52ef86.1232",
    "junction-path": "/fv1",
    "volume": {
        "name": "fv1",
        "uuid": "73b293df-e9d7-46cc-a9ce-2df8e52ef86",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef86"
          }
        }
    }
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "read": 1022,
```

```
      "error": {
        "lower_bound": 1022,
        "upper_bound": 1032
      }
    },
    "path": "11b293df-e9d7-46cc-a9ce-2df8e52ef811.6574",
    "junction-path": "/fv2",
    "volume": {
        "name": "fv2",
        "uuid": "11b293df-e9d7-46cc-a9ce-2df8e52ef811",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/11b293df-e9d7-46cc-a9ce-
2df8e52ef811"
          }
        }
    }
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "read": 345,
      "error": {
        "lower_bound": 345,
        "upper_bound": 355
      }
    },
    "path": "73b293df-e9d7-46cc-a9ce-2df8e52ef864.7844",
    "junction-path": "/fv1",
    "volume": {
        "name": "fv1",
        "uuid": "73b293df-e9d7-46cc-a9ce-2df8e52ef864",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef864"
          }
        }
    }
  }
],
"num_records": 3,
"excluded_volumes": [
  {
```

```
    "volume": {
      "uuid": "5bbfc226-3fd8-42c9-a651-fa6167c2cf84",
      "name": "vol10",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc226-3fd8-42c9-a651-
fa6167c2cf84"
        }
      }
    },
    "reason": {
      "message": "The volume is offline.",
      "code": 12345
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc226-3fd8-42c9-a651-
fa6167c2cf84"
      }
    }
  },
  {
    "volume": {
      "uuid": "5bbfc227-3fd8-42c9-a651-fa6167c2cf85",
      "name": "vol22",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc227-3fd8-42c9-a651-
fa6167c2cf85"
        }
      }
    },
    "reason": {
      "message": "The volume is offline.",
      "code": 23456
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc227-3fd8-42c9-a651-
fa6167c2cf85"
      }
    }
  }
],
"_links": {
  "self": {
```

```
    "href": "/api/svm/svms/572361f3-e769-439d-9c04-2ba48a08ff43/top-
metrics/directories?top_metric=iops.read"
  }
}
}
```

Example showing the behavior of the API where there is no read/write traffic:

```
# The Call:
curl -X GET "https://<mgmt-ip>/api/svm/svms/{svm.uuid}/top-
metrics/directories?top_metric=throughput.write"

# The Response:
{
"records": [
],
"num_records": 0,
"notice": {
  "message": "The activity tracking report for SVM \"vs1\" returned zero
records. Check whether the volumes belonging to the SVM have read/write
traffic. Refer to the REST API documentation for more information on why
there might be no records.",
  "code": "124519405",
},
"_links": {
  "self": {
    "href": "/api/svm/svms/572361f3-e769-439d-9c04-2ba48a08ff43/top-
metrics/directories?top_metric=throughput.write"
  }
}
}
```

List directories with the most I/O activity

GET `/svm/svms/{svm.uuid}/top-metrics/directories`

Introduced In: 9.11

Retrieves a list of directories with the most IO activity.

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	SVM UUID
top_metric	string	query	False	IO activity type • Default value: 1 • enum: ["iops.read", "iops.write", "throughput.read", "throughput.write"]
max_records_per_svm	integer	query	False	Max records per svm.
path	string	query	False	Filter by path
throughput.error.lower_bound	integer	query	False	Filter by throughput.error.lower_bound
throughput.error.upper_bound	integer	query	False	Filter by throughput.error.upper_bound
throughput.write	integer	query	False	Filter by throughput.write
throughput.read	integer	query	False	Filter by throughput.read
iops.error.lower_bound	integer	query	False	Filter by iops.error.lower_bound
iops.error.upper_bound	integer	query	False	Filter by iops.error.upper_bound
iops.write	integer	query	False	Filter by iops.write
iops.read	integer	query	False	Filter by iops.read
junction-path	string	query	False	Filter by junction-path

Name	Type	In	Required	Description
volume.name	string	query	False	Filter by volume.name
volume.uuid	string	query	False	Filter by volume.uuid
svm.name	string	query	False	Filter by svm.name
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: 1 • 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	
excluded_volumes	array[top_metrics_svm_directory_excluded_volume]	List of volumes that are not included in the SVM activity tracking REST API.
notice	notice	Optional field that indicates why no records are returned by the SVM activity tracking REST API.
num_records	integer	Number of records.
records	array[top_metrics_svm_directory]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "excluded_volumes": [
    {
      "reason": {
        "code": "111411",
        "message": "The volume is offline."
      },
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    }
  ],
  "notice": {
    "code": "111411207",
    "message": "No read/write traffic on svm."
  },
  "records": [
    {
      "_links": {
        "metadata": {
          "href": "/api/resourcelink"
        },
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "iops": {
        "error": {
          "lower_bound": 34,
          "upper_bound": 54
```

```
        },
        "read": 10,
        "write": 5
      },
      "junction-path": "/fv",
      "path": "/vol/fv/dir_abc/dir_123/dir_20",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "throughput": {
        "error": {
          "lower_bound": 34,
          "upper_bound": 54
        },
        "read": 3,
        "write": 20
      },
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
124519405	The activity tracking report for SVM svm.name returned zero records. Check whether the volumes belonging to the SVM have read/write traffic. Refer to the REST API documentation for more information on why there might be no records.
124519406	Failed to get the activity tracking report for SVM svm.name. Reason:<Reason for="" failure="">.</Reason>
124519407	SVM wildcard queries are not supported for activity tracking reports.
124519408	Activity tracking is not supported on SVM svm.name, because it is configured as a destination for SVM DR.
124519409	Activity tracking is not supported on SVM svm.name, because it is configured as a destination of a MetroCluster SVM relationship and the SVM admin state is stopped.

Name	Type	Description
error	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	

reason

Name	Type	Description
code	string	Warning code indicating why the volume is not included in the SVM activity tracking REST API.
message	string	Details why the volume is not included in the SVM activity tracking REST API.

_links

Name	Type	Description
self	href	

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume.
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

top_metrics_svm_directory_excluded_volume

List of volumes and their details as to why they are not included in the SVM activity tracking REST API.

Name	Type	Description
reason	reason	
volume	volume	

notice

Optional field that indicates why no records are returned by the SVM activity tracking REST API.

Name	Type	Description
code	string	Warning code indicating why no records are returned.
message	string	Details why no records are returned.

_links

Name	Type	Description
metadata	href	
self	href	

top_metric_value_error_bounds

Name	Type	Description
lower_bound	integer	Lower bound of the nominal value of a metric.
upper_bound	integer	Upper bound of the nominal value of a metric.

iops

Name	Type	Description
error	top_metric_value_error_bounds	
read	integer	Average number of read operations per second.
write	integer	Average number of write operations per second.

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

throughput

Name	Type	Description
error	top_metric_value_error_bounds	
read	integer	Average number of read bytes received per second.
write	integer	Average number of write bytes received per second.

top_metrics_svm_directory

Information about a directory's IO activity.

Name	Type	Description
_links	_links	
iops	iops	
junction-path	string	Junction path of the file.
path	string	Path of the directory.
svm	svm	
throughput	throughput	
volume	volume	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 files

SVM svms svm.uuid top-metrics files endpoint overview

Overview

You can use this API to retrieve a list of files with the most IO activity for FlexVol and FlexGroup volumes belonging to a specified SVM. To obtain this list, only the volumes which have the activity tracking feature enabled are considered.

This API is used to provide insight into IO activity and supports ordering by IO activity types, namely `iops` and `throughput` metrics. Use the `top_metric` parameter to specify which type of IO activity to filter for. This API supports returning only one IO activity type per request.

Enabling and disabling activity tracking feature

The following APIs can be used to enable, disable, and retrieve the activity tracking state for a FlexVol or a FlexGroup volume.

– PATCH /api/storage/volumes/{uuid} -d '{"activity_tracking.state":"on"}'

– PATCH /api/storage/volumes/{uuid} -d '{"activity_tracking.state":"off"}'

– GET /api/storage/volumes/{uuid}/?fields=activity_tracking

Excluded volumes list

Optionally, the API returns an excluded list of activity tracking-enabled volumes, which were not accounted for when obtaining the list of clients with the most IO activity for the SVM. This excluded list contains both the volume information and the reason for exclusion.

Failure to return list of files with most IO activity

The API can sometimes fail to return the list of files with the most IO activity, due to the following reasons.

– The volumes belonging to the SVM do not have the activity tracking feature enabled.

– The volumes belonging to the SVM do not have read/write traffic.

– The read traffic is served by the NFS/CIFS client filesystem cache.

– On rare occasions, the incoming traffic pattern is not suitable to obtain the list of files with the most IO activity.

Failure to return the pathnames

The API can sometimes fail to obtain the filesystem pathnames for the list of file entries, due to internal transient errors. In such cases, instead of the pathname, the API will return "<volume_instance_uuid>.<fileid>" for every file entry. You can get more information about the file entry by invoking the GET on the below API using the above obtained fileid. "GET /api/storage/volumes/{<volume_instance_uuid>}/files/{path}?inode_number=<fileid>"</fileid></volume_instance_uuid></fileid></volume_instance_uuid>

Retrieve a list of the files with the most IO activity

For a report on the files with the most IO activity returned in descending order, specify the IO activity type you want to filter for by passing the `iops` or `throughput` property into the top_metric parameter. If the IO activity type is not specified, by default the API returns a list of the files with the greatest number of the average read operations per second. The maximum number of files returned by the API for an IO activity type is 25.

– GET /api/svm/svms/{svm.uuid}/top-metrics/files

Examples

Retrieving a list of the files with the greatest average number of write bytes received per second:

```
# The API:
GET /api/svm/svms/{svm.uuid}/top-metrics/files

# The Call:
curl -X GET "https://<mgmt-ip>/api/svm/svms/{svm.uuid}/top-
metrics/files?top_metric=throughput.write"

# The Response:
{
"records": [
  {
    "svm": {
      "name": "vs1"
    },
    "throughput": {
      "write": 24,
      "error": {
        "lower_bound": 24,
        "upper_bound": 29
      }
    },
    "path": "/vol/fv1/d5/f5",
    "junction-path": "/fv1",
```

```
    "volume": {
        "name": "fv1",
        "uuid": "73b293df-e9d7-46cc-a9ce-2df8e52ef864",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef864"
          }
        }
    },
    "_links": {
      "metadata": {
          "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef864/files/d5%2Ff5?return_metadata=true"
      }
    }
  },
  {
    "svm": {
      "name": "vs1"
    },
    "throughput": {
      "write": 12,
      "error": {
        "lower_bound": 12,
        "upper_bound": 22
      }
    },
    "path": "/vol/fv2/d6/f6",
    "junction-path": "/fv2",
    "volume": {
        "name": "fv2",
        "uuid": "2ea74c3e-d5ca-11eb-8fbb-005056ac0f33",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/2ea74c3e-d5ca-11eb-8fbb-
005056ac0f33"
          }
        }
    },
    "_links": {
      "metadata": {
        "href": "/api/storage/volumes/2ea74c3e-d5ca-11eb-8fbb-
005056ac0f33/files/d6%2Ff6?return_metadata=true"
      }
    }
```

```
  },
  {
    "svm": {
      "name": "vs1"
    },
    "throughput": {
      "write": 8,
      "error": {
        "lower_bound": 8,
        "upper_bound": 10
      }
    },
    "path": "/vol/fv3/d3/f3",
    "junction-path": "/fv3",
    "volume": {
        "name": "fv3",
        "uuid": "1ca74c3e-d5ca-11eb-8fbb-005056ac0f88",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/1ca74c3e-d5ca-11eb-8fbb-
005056ac0f88"
          }
        }
    },
    "_links": {
      "metadata": {
        "href": "/api/storage/volumes/1ca74c3e-d5ca-11eb-8fbb-
005056ac0f88/files/d3%2Ff3?return_metadata=true"
      }
    }
  }
],
"num_records": 3,
"excluded_volumes": [
  {
    "volume": {
      "uuid": "5bbfc224-3fd8-42c9-a651-fa6167c2cf84",
      "name": "vol1",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc224-3fd8-42c9-a651-
fa6167c2cf84"
        }
      }
    },
    "reason": {
```

```
      "message": "The volume is offline.",
      "code": 12345
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc224-3fd8-42c9-a651-
fa6167c2cf84"
      }
    }
  },
  {
    "volume": {
      "uuid": "5bbfc224-3fd8-42c9-a651-fa6167c2cf85",
      "name": "vol2",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc224-3fd8-42c9-a651-
fa6167c2cf85"
        }
      }
    },
    "reason": {
      "message": "The volume is offline.",
      "code": 23456
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc224-3fd8-42c9-a651-
fa6167c2cf85"
      }
    }
  }
],
"_links": {
  "self": {
    "href": "/api/svm/svms/4ec6d1ea-d5da-11eb-a25f-005056ac0f77/top-
metrics/files?top_metric=throughput.write"
  }
}
}
```

Retrieving a list of the files with the most read traffic, with failure to obtain pathnames

```
# The Call:
```

```
curl -X GET "https://<mgmt-ip>/api/svm/svms/{svm.uuid}/top-
metrics/files?top_metric=iops.read"

# The Response:
{
"records": [
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "read": 1495,
      "error": {
        "lower_bound": 1495,
        "upper_bound": 1505
      }
    },
    "path": "73b293df-e9d7-46cc-a9ce-2df8e52ef86.1232",
    "junction-path": "/fv1",
    "volume": {
        "name": "fv1",
        "uuid": "73b293df-e9d7-46cc-a9ce-2df8e52ef86",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef86"
          }
        }
    }
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "read": 1022,
      "error": {
        "lower_bound": 1022,
        "upper_bound": 1032
      }
    },
    "path": "11b293df-e9d7-46cc-a9ce-2df8e52ef811.6574",
    "junction-path": "/fv2",
    "volume": {
        "name": "fv2",
        "uuid": "11b293df-e9d7-46cc-a9ce-2df8e52ef811",
```

```
        "_links": {
          "self": {
              "href": "/api/storage/volumes/11b293df-e9d7-46cc-a9ce-
2df8e52ef811"
          }
        }
    }
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "read": 345,
      "error": {
        "lower_bound": 345,
        "upper_bound": 355
      }
    },
    "path": "73b293df-e9d7-46cc-a9ce-2df8e52ef864.7844",
    "junction-path": "/fv1",
    "volume": {
        "name": "fv1",
        "uuid": "73b293df-e9d7-46cc-a9ce-2df8e52ef864",
        "_links": {
          "self": {
              "href": "/api/storage/volumes/73b293df-e9d7-46cc-a9ce-
2df8e52ef864"
          }
        }
    }
  }
],
"num_records": 3,
"excluded_volumes": [
  {
    "volume": {
      "uuid": "5bbfc226-3fd8-42c9-a651-fa6167c2cf84",
      "name": "vol10",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc226-3fd8-42c9-a651-
fa6167c2cf84"
        }
      }
    },
```

```
    "reason": {
      "message": "The volume is offline.",
      "code": 12345
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc226-3fd8-42c9-a651-
fa6167c2cf84"
      }
    }
  },
  {
    "volume": {
      "uuid": "5bbfc227-3fd8-42c9-a651-fa6167c2cf85",
      "name": "vol22",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc227-3fd8-42c9-a651-
fa6167c2cf85"
        }
      }
    },
    "reason": {
      "message": "The volume is offline.",
      "code": 23456
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc227-3fd8-42c9-a651-
fa6167c2cf85"
      }
    }
  }
],
"_links": {
  "self": {
    "href": "/api/svm/svms/572361f3-e769-439d-9c04-2ba48a08ff43/top-
metrics/files?top_metric=iops.read"
  }
}
}
```

Example showing the behavior of the API where there is no read/write traffic:

```
# The Call:
curl -X GET "https://<mgmt-ip>/api/svm/svms/{svm.uuid}/top-
metrics/files?top_metric=throughput.write"

# The Response:
{
"records": [
],
"num_records": 0,
"notice": {
  "message": "The activity tracking report for SVM \"vs1\" returned zero
records. Check whether the volumes belonging to the SVM have read/write
traffic. Refer to the REST API documentation for more information on why
there might be no records.",
  "code": "124519405",
},
"_links": {
  "self": {
    "href": "/api/svm/svms/4ec6d1ea-d5da-11eb-a25f-005056ac0f77/top-
metrics/files?top_metric=throughput.write"
  }
}
}
```

List files with the most I/O activity

GET `/svm/svms/{svm.uuid}/top-metrics/files`

Introduced In: 9.11

Retrieves a list of files with the most IO activity.

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	SVM UUID

Name	Type	In	Required	Description
top_metric	string	query	False	IO activity type • Default value: 1 • enum: ["iops.read", "iops.write", "throughput.read", "throughput.write"]
max_records_per_svm	integer	query	False	Max records per svm.
path	string	query	False	Filter by path
throughput.error.lower_bound	integer	query	False	Filter by throughput.error.lower_bound
throughput.error.upper_bound	integer	query	False	Filter by throughput.error.upper_bound
throughput.read	integer	query	False	Filter by throughput.read
throughput.write	integer	query	False	Filter by throughput.write
iops.error.lower_bound	integer	query	False	Filter by iops.error.lower_bound
iops.error.upper_bound	integer	query	False	Filter by iops.error.upper_bound
iops.write	integer	query	False	Filter by iops.write
iops.read	integer	query	False	Filter by iops.read
volume.name	string	query	False	Filter by volume.name
volume.uuid	string	query	False	Filter by volume.uuid

Name	Type	In	Required	Description
svm.name	string	query	False	Filter by svm.name
junction-path	string	query	False	Filter by junction-path
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: 1 • 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	
excluded_volumes	array[top_metrics_svm_file_excluded_volume]	List of volumes that are not included in the SVM activity tracking REST API.
notice	notice	Optional field that indicates why no records are returned by the SVM activity tracking REST API.
num_records	integer	Number of records.
records	array[top_metrics_svm_file]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "excluded_volumes": [
    {
      "reason": {
        "code": "111411207",
        "message": "The volume is offline."
      },
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    }
  ],
  "notice": {
    "code": "111411207",
    "message": "The volume is offline."
  },
  "records": [
    {
      "_links": {
        "metadata": {
          "href": "/api/resourcelink"
        },
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "iops": {
        "error": {
          "lower_bound": 34,
          "upper_bound": 54
```

```
        },
        "read": 5,
        "write": 4
      },
      "junction-path": "/fv",
      "path": "/vol/fv/dir_abc/dir_123/file_1",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "throughput": {
        "error": {
          "lower_bound": 34,
          "upper_bound": 54
        },
        "read": 2,
        "write": 20
      },
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
124519405	The activity tracking report for SVM svm.name returned zero records. Check whether the volumes belonging to the SVM have read/write traffic. Refer to the REST API documentation for more information on why there might be no records.
124519406	Failed to get the activity tracking report for SVM svm.name. Reason:<Reason for="" failure="">.</Reason>
124519407	SVM wildcard queries are not supported for activity tracking reports.
124519408	Activity tracking is not supported on SVM svm.name, because it is configured as a destination for SVM DR.
124519409	Activity tracking is not supported on SVM svm.name, because it is configured as a destination of a MetroCluster SVM relationship and the SVM admin state is stopped.

Name	Type	Description
error	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	

reason

Name	Type	Description
code	string	Warning code indicating why the volume is not included in the SVM activity tracking REST API.
message	string	Details why the volume is not included in the SVM activity tracking REST API.

_links

Name	Type	Description
self	href	

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume.
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

top_metrics_svm_file_excluded_volume

List of volumes and their details as to why they are not included in the SVM activity tracking REST API.

Name	Type	Description
reason	reason	
volume	volume	

notice

Optional field that indicates why no records are returned by the SVM activity tracking REST API.

Name	Type	Description
code	string	Warning code indicating why no records are returned.
message	string	Details why no records are returned.

_links

Name	Type	Description
metadata	href	
self	href	

top_metric_value_error_bounds

Name	Type	Description
lower_bound	integer	Lower bound of the nominal value of a metric.
upper_bound	integer	Upper bound of the nominal value of a metric.

iops

Name	Type	Description
error	top_metric_value_error_bounds	
read	integer	Average number of read operations per second.
write	integer	Average number of write operations per second.

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

throughput

Name	Type	Description
error	top_metric_value_error_bounds	
read	integer	Average number of read bytes received per second.
write	integer	Average number of write bytes received per second.

top_metrics_svm_file

Information about a file's IO activity.

Name	Type	Description
_links	_links	
iops	iops	
junction-path	string	Junction path of the file.
path	string	Path of the file.
svm	svm	
throughput	throughput	
volume	volume	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 users

SVM svms svm.uuid top-metrics users endpoint overview

Overview

You can use this API to retrieve a list of users with the most IO activity for FlexVol and FlexGroup volumes belonging to a specified SVM. To obtain this list, only the volumes which have the activity tracking feature enabled are considered.

This API is used to provide insight into IO activity and supports ordering by IO activity types, namely `iops` and `throughput` metrics. Use the `top_metric` parameter to specify which type of IO activity to filter for. This API supports returning only one IO activity type per request.

Enabling and disabling activity tracking feature

The following APIs can be used to enable, disable, and retrieve the activity tracking state for a FlexVol or a FlexGroup volume.

– PATCH /api/storage/volumes/{uuid} -d '{"activity_tracking.state":"on"}'

– PATCH /api/storage/volumes/{uuid} -d '{"activity_tracking.state":"off"}'

– GET /api/storage/volumes/{uuid}/?fields=activity_tracking

Excluded volumes list

Optionally, the API returns an excluded list of activity tracking-enabled volumes, which were not accounted for when obtaining the list of clients with the most IO activity for the SVM. This excluded list contains both the volume information and the reason for exclusion.

Failure to return list of users with most IO activity

The API can sometimes fail to return the list of users with the most IO activity, due to the following reasons.

– The volumes belonging to the SVM do not have the activity tracking feature enabled.

– The volumes belonging to the SVM do not have read/write traffic.

– The read traffic is served by the NFS/CIFS client filesystem cache.

– On rare occasions, the incoming traffic pattern is not suitable to obtain the list of users with the most IO activity.

Failure to return the usernames

The API can sometimes fail to obtain the usernames for the list of userid entries, due to internal transient errors. In such cases, instead of the username, the API will return "{<user-id>}" for every user entry.</user-id>

Retrieve a list of the users with the most IO activity

For a report on the users with the most IO activity returned in descending order, specify the IO activity type you want to filter for by passing the `iops` or `throughput` property into the top_metric parameter. If the IO activity type is not specified, by default the API returns a list of the users with the greatest number of the average read operations per second. The maximum number of users returned by the API for an IO activity type is 25.

– GET /api/svm/svms/{svm.uuid}/top-metrics/users

Examples

Retrieving a list of the users with the greatest average number of read bytes received per second:

```
# The API:
GET /api/svm/svms/{svm.uuid}/top-metrics/users

# The Call:
curl -X GET "https://<mgmt-ip>/api/svm/svms/{svm.uuid}/top-
metrics/users?top_metric=throughput.read"

# The Response:
{
"records": [
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "write": 1495,
      "error": {
        "lower_bound": 1495,
        "upper_bound": 1505
      }
    },
    "user_id": "S-1-5-21-256008430-3394229847-3930036330-1001",
    "user_name": "user1"
  },
  {
    "svm": {
```

```
      "name": "vs1"
    },
    "iops": {
      "write": 1022,
      "error": {
        "lower_bound": 1022,
        "upper_bound": 1032
      }
    },
    "user_id": "S-1-5-21-256008430-3394229847-3930036330-1002",
    "user_name": "user2"
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "write": 345,
      "error": {
        "lower_bound": 345,
        "upper_bound": 355
      }
    },
    "user_id": "S-1-5-21-256008430-3394229847-3930036330-1003",
    "user_name": "user3"
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "write": 235,
      "error": {
        "lower_bound": 235,
        "upper_bound": 245
      }
    },
    "user_id": "S-1-5-21-256008430-3394229847-3930036330-1004",
    "user_name": "user4"
  },
  {
    "svm": {
      "name": "vs1"
    },
    "iops": {
      "write": 235,
```

```
      "error": {
        "lower_bound": 235,
        "upper_bound": 245
      }
    },
    "user_id": "S-1-5-21-256008430-3394229847-3930036330-1005",
    "user_name": "user5"
  }
],
"num_records": 5,
"excluded_volumes": [
  {
    "volume": {
      "uuid": "5bbfc224-3fd8-42c9-a651-fa6167c2cf84",
      "name": "vol1",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc224-3fd8-42c9-a651-
fa6167c2cf84"
        }
      }
    },
    "reason": {
      "message": "The volume is offline.",
      "code": 12345
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc224-3fd8-42c9-a651-
fa6167c2cf84"
      }
    }
  },
  {
    "volume": {
      "uuid": "5bbfc224-3fd8-42c9-a651-fa6167c2cf85",
      "name": "vol2",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc224-3fd8-42c9-a651-
fa6167c2cf85"
        }
      }
    },
    "reason": {
      "message": "The volume is offline.",
```

```
      "code": 23456
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc224-3fd8-42c9-a651-
fa6167c2cf85"
      }
    }
  }
],
"_links": {
  "self": {
    "href": "/api/svm/svms/f5516c44-3e61-11ec-9cd5-005056acae40/top-
metrics/users?top_metric=iops.write&fields=**"
  }
}
}
```

Example showing the behavior of the API where there is no read/write traffic:

```
# The Call:
curl -X GET "https://<mgmt-ip>/api/svm/svms/{svm.uuid}/top-
metrics/users?top_metric=throughput.write"

# The Response:
{
"records": [
],
"num_records": 0,
"notice": {
  "message": "The activity tracking report for SVM \"vs1\" returned zero
records. Check whether the volumes belonging to the SVM have read/write
traffic. Refer to the REST API documentation for more information on why
there might be no records.",
  "code": "124519405",
},
"_links": {
  "self": {
    "href": "/api/svm/svms/f5516c44-3e61-11ec-9cd5-005056acae40/top-
metrics/users?top_metric=throughput.write"
  }
}
}
```

List users with the most I/O activity

GET `/svm/svms/{svm.uuid}/top-metrics/users`

Introduced In: 9.11

Retrieves a list of users with the most IO activity.

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	SVM UUID
top_metric	string	query	False	IO activity type • Default value: 1 • enum: ["iops.read", "iops.write", "throughput.read", "throughput.write"]
svm.name	string	query	False	Filter by svm.name
user_id	string	query	False	Filter by user_id
iops.write	integer	query	False	Filter by iops.write
iops.read	integer	query	False	Filter by iops.read
iops.error.lower_bound	integer	query	False	Filter by iops.error.lower_bound
iops.error.upper_bound	integer	query	False	Filter by iops.error.upper_bound
user_name	string	query	False	Filter by user_name
throughput.error.lower_bound	integer	query	False	Filter by throughput.error.lower_bound

Name	Type	In	Required	Description
throughput.error.upper_bound	integer	query	False	Filter by throughput.error.upper_bound
throughput.write	integer	query	False	Filter by throughput.write
throughput.read	integer	query	False	Filter by throughput.read
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: 1 • 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	
excluded_volumes	array[top_metrics_svm_user_excluded_volume]	List of volumes that are not included in the SVM activity tracking REST API.
notice	notice	Optional field that indicates why no records are returned by the SVM activity tracking REST API.
num_records	integer	Number of records.
records	array[top_metrics_svm_user]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "excluded_volumes": [
    {
      "reason": {
        "code": "111411",
        "message": "The volume is offline."
      },
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    }
  ],
  "notice": {
    "code": "111411207",
    "message": "The volume is offline."
  },
  "records": [
    {
      "iops": {
        "error": {
          "lower_bound": 34,
          "upper_bound": 54
        },
        "read": 4,
        "write": 8
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
```

```
            }
          },
          "name": "svm1",
          "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
        },
        "throughput": {
          "error": {
            "lower_bound": 34,
            "upper_bound": 54
          },
          "read": 10,
          "write": 7
        },
        "user_id": "S-1-5-21-256008430-3394229847-3930036330-1001",
        "user_name": "James"
      }
    ]
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
124519405	The activity tracking report for SVM svm.name returned zero records. Check whether the volumes belonging to the SVM have read/write traffic. Refer to the REST API documentation for more information on why there might be no records.
124519406	Failed to get the activity tracking report for SVM svm.name. Reason:<Reason for="" failure="">.</Reason>
124519407	SVM wildcard queries are not supported for activity tracking reports.
124519408	Activity tracking is not supported on SVM svm.name, because it is configured as a destination for SVM DR.
124519409	Activity tracking is not supported on SVM svm.name, because it is configured as a destination of a MetroCluster SVM relationship and the SVM admin state is stopped.

Name	Type	Description
error	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	

reason

Name	Type	Description
code	string	Warning code indicating why the volume is not included in the SVM activity tracking REST API.
message	string	Details why the volume is not included in the SVM activity tracking REST API.

_links

Name	Type	Description
self	href	

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume.
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

top_metrics_svm_user_excluded_volume

List of volumes and their details as to why they are not included in the SVM activity tracking REST API.

Name	Type	Description
reason	reason	
volume	volume	

notice

Optional field that indicates why no records are returned by the SVM activity tracking REST API.

Name	Type	Description
code	string	Warning code indicating why no records are returned.
message	string	Details why no records are returned.

top_metric_value_error_bounds

Name	Type	Description
lower_bound	integer	Lower bound of the nominal value of a metric.
upper_bound	integer	Upper bound of the nominal value of a metric.

iops

Name	Type	Description
error	top_metric_value_error_bounds	
read	integer	Average number of read operations per second.
write	integer	Average number of write operations per second.

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.

Name	Type	Description
uuid	string	The unique identifier of the SVM.

throughput

Name	Type	Description
error	top_metric_value_error_bounds	
read	integer	Average number of read bytes received per second.
write	integer	Average number of write bytes received per second.

top_metrics_svm_user

Aggregated information about a user's IO activity at a SVM scope.

Name	Type	Description
iops	iops	
svm	svm	
throughput	throughput	
user_id	string	User ID of the user.
user_name	string	Name of the user.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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.

Web services security configuration

SVM svms svm.uuid web endpoint overview

You can use this API to update and retrieve the web services security configuration for each data SVM.

Updating the web services security configuration

The following fields can be used to update the web services security configuration:

- certificate.uuid
- client_enabled
- ocsp_enabled When updating the certificate, the certificate UUID of an existing certificate known to ONTAP must be provided. The certificate must be of type "server".

A "client-ca" certificate must be installed on ONTAP to enable "client_enabled".

Examples

Retrieving the web services security configuration

```
# API:
GET /api/svm/svms/{svm.uuid}/web

# The call:
curl -X GET "https://<mgmt-ip>/api/svm/svms/3c1b259d-5789-a2eb-9301-
10705682b34f/web" -H "accept: application/hal+json"

# The response:
{
"svm": {
  "uuid": "3c1b259d-5789-a2eb-9301-10705682b34f",
  "name": "svm2",
  "_links": {
    "self": {
      "href": "/api/svm/svms/3c1b259d-5789-a2eb-9301-10705682b34f"
    }
  }
},
"certificate": {
  "uuid": "a3bb219d-4382-1fe0-9c06-1070568ea23d",
  "name": "cert1",
  "_links": {
    "self": {
      "href": "/api/security/certificates/a3bb219d-4382-1fe0-9c06-
1070568ea23d"
    }
  }
},
"client_enabled": false,
"ocsp_enabled": false,
"_links": {
  "self": {
    "href": "/api/svm/svms/3c1b259d-5789-a2eb-9301-10705682b34f/web"
  }
}
}
```

Updating the web services security configuration

```
# The API:
PATCH /api/svm/svms/{svm.uuid}/web

# The call:
curl -X PATCH "https://<mgmt-ip>/api/svm/svms/3c1b259d-5789-a2eb-9301-
10705682b34f/web" -d '{ "certificate": {"uuid": "56da2799-13bc-2ae4-0c16-
0c71244ea2ca" }}' -H "accept: application/hal+json"

# The response:
HTTP/1.1 202 Accepted
Date: Fri, 28 May 2021 09:36:43 GMT
Server: libzapid-httpd
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 189
Content-Type: application/hal+json
```

Retrieve the web services security configuration

GET `/svm/svms/{svm.uuid}/web`

Introduced In: 9.10

Retrieves the web services security configuration.

Parameters

Name	Type	In	Required	Description
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
_links	_links	
certificate	certificate	Certificate used by cluster and node management interfaces for TLS connection requests.

Name	Type	Description
client_enabled	boolean	Indicates whether client authentication is enabled.
ocsp_enabled	boolean	Indicates whether online certificate status protocol verification is enabled.
svm	svm	

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "certificate": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cert1",
    "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	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

Certificate used by cluster and node management interfaces for TLS connection requests.

Name	Type	Description
_links	_links	
name	string	Certificate name
uuid	string	Certificate UUID

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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 the web services security configuration

PATCH `/svm/svms/{svm.uuid}/web`

Introduced In: 9.10

Updates the web services security configuration.

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: 1 • 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
certificate	certificate	Certificate used by cluster and node management interfaces for TLS connection requests.
client_enabled	boolean	Indicates whether client authentication is enabled.

Name	Type	Description
ocsp_enabled	boolean	Indicates whether online certificate status protocol verification is enabled.
svm	svm	

Example request

```
{
  "certificate": {
    "name": "cert1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

```
Status: 200, Ok
```

Response

```
Status: 202, Accepted
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
9830442	Client authentication cannot be enabled without a client ca certificate.
9830488	The certificate is not a "server" certificate.
9830489	The certificate does not exist for the given SVM.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

certificate

Certificate used by cluster and node management interfaces for TLS connection requests.

Name	Type	Description
name	string	Certificate name
uuid	string	Certificate UUID

svm

Name	Type	Description
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

web_svm

Name	Type	Description
certificate	certificate	Certificate used by cluster and node management interfaces for TLS connection requests.
client_enabled	boolean	Indicates whether client authentication is enabled.
ocsp_enabled	boolean	Indicates whether online certificate status protocol verification is enabled.
svm	svm	

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

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.

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