



Name-services

ONTAP 9.9.1 REST API reference

NetApp
August 29, 2024

Table of Contents

- Name-services 1
 - Name-services overview 1
 - Manage DNS configurations 1
 - Manage LDAP server configurations 50
 - Manage name mappings for SVMs 115
 - Manage NIS server configurations 148
 - Manage UNIX group configurations 178
 - Manage UNIX group users 204

Name-services

Name-services overview

Overview

ONTAP uses name-services to obtain information about users and clients. This information is used to authenticate users accessing data on or administering the storage system, and to map user credentials in a mixed environment. If the user database is stored in NIS or LDAP servers, NIS and LDAP name services need to be configured in ONTAP. DNS is used for resolving the hostnames. ns-switch is used to configure the SVMs with sources to search for network information and the order in which to search them.

Manage DNS configurations

Name-services dns endpoint overview

Overview

Displays DNS information and controls the DNS subsystem. DNS domain name and DNS servers are required parameters.

Retrieving DNS information

The DNS GET endpoint retrieves all of the DNS configurations for all SVMs. DNS configuration for the cluster is retrieved via [/api/cluster](#) .

Examples

Retrieving all of the fields for all of the DNS configurations

```
# The API:
/api/name-services/dns

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/dns?fields=*" -H "accept:
application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "27eff5d8-22b2-11eb-8038-0050568ed32c",
        "name": "clust-1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
          }
        }
      }
    }
  ]
}
```

```

    }
  },
  "domains": [
    "domain.example.com"
  ],
  "servers": [
    "44.44.44.44"
  ],
  "timeout": 2,
  "attempts": 1,
  "scope": "cluster",
  "_links": {
    "self": {
      "href": "/api/name-services/dns/27eff5d8-22b2-11eb-8038-0050568ed32c"
    }
  }
},
{
  "svm": {
    "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
      }
    }
  },
  "domains": [
    "domainA.example.com"
  ],
  "servers": [
    "10.10.10.10"
  ],
  "timeout": 2,
  "attempts": 1,
  "dynamic_dns": {
    "enabled": false,
    "use_secure": false,
    "time_to_live": "PT1H"
  },
  "scope": "svm",
  "_links": {
    "self": {
      "href": "/api/name-services/dns/179d3c85-7053-11e8-b9b8-005056b41bd1"
    }
  }
}

```

```

    }
  },
  {
    "svm": {
      "uuid": "19076d35-6e27-11e8-b9b8-005056b41bd1",
      "name": "vs2",
      "_links": {
        "self": {
          "href": "/api/svm/svms/19076d35-6e27-11e8-b9b8-005056b41bd1"
        }
      }
    },
    "domains": [
      "sample.example.com"
    ],
    "servers": [
      "11.11.11.11",
      "22.22.22.22",
      "33.33.33.33"
    ],
    "timeout": 2,
    "attempts": 2,
    "dynamic_dns": {
      "enabled": true,
      "use_secure": false,
      "time_to_live": "PT3H"
    },
    "scope": "svm",
    "_links": {
      "self": {
        "href": "/api/name-services/dns/19076d35-6e27-11e8-b9b8-005056b41bd1"
      }
    }
  },
  ],
  "num_records": 3,
  "_links": {
    "self": {
      "href": "/api/name-services/dns?fields=*"
    }
  }
}

```

Retrieving all DNS configurations whose domain name starts with *dom**.

```
# The API:
/api/name-services/dns

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/dns?domains=dom*" -H
"accept: application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
          }
        }
      },
      "domains": [
        "domainA.example.com"
      ],
      "_links": {
        "self": {
          "href": "/api/name-services/dns/179d3c85-7053-11e8-b9b8-005056b41bd1"
        }
      }
    }
  ],
  "num_records": 1,
  "_links": {
    "self": {
      "href": "/api/name-services/dns?domains=dom*"
    }
  }
}
```

Retrieving the DNS configuration for a specific SVM

```
# The API:
/api/name-services/dns/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/dns/179d3c85-7053-11e8-
b9b8-005056b41bd1" -H "accept: application/hal+json"

# The response:
{
  "svm": {
    "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
      }
    }
  },
  "domains": [
    "domainA.example.com"
  ],
  "servers": [
    "10.10.10.10"
  ],
  "timeout":2,
  "attempts":1,
  "tld_query_enabled": true,
  "source_address_match": true,
  "packet_query_match": true,
  "dynamic_dns": {
    "enabled": false,
    "use_secure": false,
    "time_to_live": "P1D"
  },
  "scope": "svm",
  "_links": {
    "self": {
      "href": "/api/name-services/dns/179d3c85-7053-11e8-b9b8-005056b41bd1"
    }
  }
}
```

Retrieving the advanced fields "DNS status", "tld_query_enable", "source_address_match", and "packet_query_match" using wildcards **

```
# The API:
/api/name-services/dns/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/dns/179d3c85-7053-11e8-
b9b8-005056b41bd1?fileds=**" -H "accept: application/hal+json"

# The response:
{
  "svm": {
    "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
      }
    }
  },
  "domains": [
    "domainA.example.com"
  ],
  "servers": [
    "10.10.10.10"
  ],
  "timeout":2,
  "attempts":1,
  "tld_query_enabled": true,
  "source_address_match": true,
  "packet_query_match": true,
  "dynamic_dns": {
    "enabled": false,
    "use_secure": false,
    "time_to_live": "P1D"
  },
  "scope": "svm",
  "status": [
    {
      "name_server": "10.10.10.10",
      "state": "up",
      "message": "Response time (msec): ",
      "code": 0
    }
  ],
}
```



```
"_links": {
  "self": {
    "href": "/api/name-services/dns/179d3c85-7053-11e8-b9b8-005056b41bd1"
  }
}
}
```

Creating a DNS configuration

The DNS POST endpoint creates a DNS configuration for the specified SVM.

Examples

Specifying only the required fields

```
# The API:
/api/name-services/dns

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/dns" -H "accept:
application/hal+json" -H "Content-Type: application/json" -d "{ \"svm\": {
\"uuid\": \"179d3c85-7053-11e8-b9b8-005056b41bd1\" }, \"domains\": [
\"domainA.example.com\" ], \"servers\": [ \"10.10.10.10\" ]}"
```

Specifying the optional fields as well

```
# The API:
/api/name-services/dns

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/dns" -H "accept:
application/hal+json" -H "Content-Type: application/json" -d "{ \"svm\": {
\"uuid\": \"179d3c85-7053-11e8-b9b8-005056b41bd1\" }, \"domains\": [
\"domainA.example.com\" ], \"servers\": [ \"10.10.10.10\" ],
\"timeout\":2, \"attempts\":3}"
```

Specifying the scope of the SVM

```
# The API:
/api/name-services/dns

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/dns" -H "accept:
application/hal+json" -H "Content-Type: application/json" -d "{ \"svm\": {
\"uuid\": \"179d3c85-7053-11e8-b9b8-005056b41bd1\" }, \"domains\": [
\"domainA.example.com\" ], \"servers\": [ \"10.10.10.10\" ],
\"timeout\":2, \"attempts\":3, \"scope\": \"svm\"}"
```

Updating a DNS configuration

The DNS PATCH endpoint updates the DNS configuration for the specified SVM.

Examples

Updating both the DNS domains and servers

```
# The API:
/api/name-services/dns/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/name-services/dns/179d3c85-7053-11e8-
b9b8-005056b41bd1" -H "accept: application/hal+json" -H "Content-Type:
application/json" -d "{ \"domains\": [ \"domainA.example.com\",
\"domainB.example.com\" ], \"servers\": [ \"10.10.10.10\", \"10.10.10.11\"
] }"
```

Updating the DNS servers only

```
# The API:
/api/name-services/dns/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/name-services/dns/179d3c85-7053-11e8-
b9b8-005056b41bd1" -H "accept: application/hal+json" -H "Content-Type:
application/json" -d "{ \"servers\": [ \"10.10.10.10\" ] }"
```

Updating the optional fields "timeout", "attempts", and "source_address_match"

```
# The API:
/api/name-services/dns/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/name-services/dns/179d3c85-7053-11e8-
b9b8-005056b41bd1" -H "accept: application/hal+json" -H "Content-Type:
application/json" -d "{ \"timeout\":2, \"attempts\":3,
\"source_address_match\":true}"
```

Updating the Dynamic DNS related fields

```
# The API:
/api/name-services/dns/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/name-services/dns/179d3c85-7053-11e8-
b9b8-005056b41bd1" -H "accept: application/hal+json" -H "Content-Type:
application/json" -d "{ \"timeout\":2, \"attempts\":3,
\"dynamic_dns.enabled\": \"true\", \"dynamic_dns.time_to_live\": \"20h\"}"
```

Deleting a DNS configuration

The DNS DELETE endpoint deletes the DNS configuration for the specified SVM.

Example

The following example shows a DELETE operation.

```
# The API:
/api/name-services/dns/{svm.uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/name-services/dns/179d3c85-7053-
11e8-b9b8-005056b41bd1" -H "accept: application/hal+json"
```

Retrieve DNS configurations for all SVMs

GET /name-services/dns

Introduced In: 9.6

Retrieves the DNS configurations of all SVMs. Specify 'scope' as 'svm' to retrieve the DNS configuration of all the data SVMs. Specify 'scope' as 'cluster' to retrieve the DNS configuration of the cluster.

Advanced properties

- 'tld_query_enabled'
- 'source_address_match'
- 'packet_query_match'
- 'status' property retrieves the status of each name server of the DNS configuration for an SVM.

Related ONTAP commands

- `vserver services name-service dns show`
- `vserver services name-service dns check`
- `vserver services name-service dns dynamic-update show`

Learn more

- [DOC /name-services/dns](#)

Parameters

Name	Type	In	Required	Description
dynamic_dns.enabled	boolean	query	False	Filter by dynamic_dns.enabled • Introduced in: 9.9
dynamic_dns.fqdn	string	query	False	Filter by dynamic_dns.fqdn • Introduced in: 9.9
dynamic_dns.time_t_o_live	string	query	False	Filter by dynamic_dns.time_t_o_live • Introduced in: 9.9
dynamic_dns.use_secure	boolean	query	False	Filter by dynamic_dns.use_secure • Introduced in: 9.9
domains	string	query	False	Filter by domains

Name	Type	In	Required	Description
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
servers	string	query	False	Filter by servers
attempts	integer	query	False	Filter by attempts • Introduced in: 9.9
source_address_match	boolean	query	False	Filter by source_address_match • Introduced in: 9.9
tld_query_enabled	boolean	query	False	Filter by tld_query_enabled • Introduced in: 9.9
status.name_server	string	query	False	Filter by status.name_server • Introduced in: 9.9
status.state	string	query	False	Filter by status.state • Introduced in: 9.9
status.message	string	query	False	Filter by status.message • Introduced in: 9.9
status.code	integer	query	False	Filter by status.code • Introduced in: 9.9

Name	Type	In	Required	Description
scope	string	query	False	Filter by scope <ul style="list-style-type: none"> • Introduced in: 9.9
timeout	integer	query	False	Filter by timeout <ul style="list-style-type: none"> • Introduced in: 9.9
packet_query_match	boolean	query	False	Filter by packet_query_match <ul style="list-style-type: none"> • Introduced in: 9.9
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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	_links	
num_records	integer	Number of DNS domain records.
records	array[dns]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "domains": [
        "example.com",
        "example2.example3.com"
      ],
      "dynamic_dns": {
        "fqdn": "example.com",
        "time_to_live": "P2D"
      },
      "scope": "string",
      "servers": [
        "10.224.65.20",
        "2001:db08:a0b:12f0::1"
      ],
      "status": [
        {
          "code": "6684732",
          "message": "string",
          "name_server": "10.10.10.10",
          "state": "up"
        }
      ],
      "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
next	href	
self	href	

_links

Name	Type	Description
self	href	

dynamic_dns

Name	Type	Description
enabled	boolean	Enable or disable Dynamic DNS (DDNS) updates for the specified SVM.
fqdn	string	Fully Qualified Domain Name (FQDN) to be used for dynamic DNS updates.
skip_fqdn_validation	boolean	Enable or disable FQDN validation.
time_to_live	string	Time to live value for the dynamic DNS updates, in an ISO-8601 duration formatted string. Maximum Time To Live is 720 hours(P30D in ISO-8601 format) and the default is 24 hours(P1D in ISO-8601 format).
use_secure	boolean	Enable or disable secure dynamic DNS updates for the specified SVM.

status

Status of each of the DNS name server configured for the specified SVM.

Name	Type	Description
code	integer	Code corresponding to the status message. Code is 0 when the state is 'up'.
message	string	Detailed description of the validation state if the state is 'down' or the response time of the DNS server if the state is 'up'.
name_server	string	The IP address of the DNS server. The address can be either an IPv4 or an IPv6 address.
state	string	The validation status of the DNS server.

svm

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

dns

Name	Type	Description
_links	_links	
attempts	integer	Number of attempts allowed when querying the DNS name servers.

Name	Type	Description
domains	array[string]	<p>A list of DNS domains. Domain names have the following requirements:</p> <ul style="list-style-type: none"> • 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".
dynamic_dns	dynamic_dns	
packet_query_match	boolean	Indicates whether or not the query section of the reply packet is equal to that of the query packet.
scope	string	Set to "svm" for DNS owned by an SVM, otherwise set to "cluster".
servers	array[string]	The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses.
skip_config_validation	boolean	Indicates whether or not the validation for the specified DNS configuration is disabled.

Name	Type	Description
source_address_match	boolean	Indicates whether or not the DNS responses are from a different IP address to the IP address the request was sent to.
status	array[status]	Status of all the DNS name servers configured for the specified SVM.
svm	svm	
timeout	integer	Timeout values for queries to the name servers, in seconds.
tld_query_enabled	boolean	Enable or disable top-level domain (TLD) queries.

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 DNS domain and server configurations

POST /name-services/dns

Introduced In: 9.6

Creates DNS domain and server configurations for an SVM.

Important notes

- Each SVM can have only one DNS configuration.
- The domain name and the servers fields cannot be empty.
- IPv6 must be enabled if IPv6 family addresses are specified in the `servers` field.
- Configuring more than one DNS server is recommended to avoid a single point of failure.
- The DNS server specified using the `servers` field is validated during this operation.

The validation fails in the following scenarios:

1. The server is not a DNS server.
2. The server does not exist.
3. The server is unreachable.
 - The DNS server validation can be skipped by setting the property "skip_config_validation" to "true".
 - Scope of the SVM can be specified using the "scope" parameter. "svm" scope refers to data SVMs and "cluster" scope refers to clusters.

The following parameters are optional:

- timeout
- attempts
- source_address_match
- packet_query_match
- tld_query_enabled
- skip_config_validation
- scope

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. <ul style="list-style-type: none">• Default value:

Request Body

Name	Type	Description
_links	_links	
attempts	integer	Number of attempts allowed when querying the DNS name servers.

Name	Type	Description
domains	array[string]	<p>A list of DNS domains. Domain names have the following requirements:</p> <ul style="list-style-type: none"> • 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".
dynamic_dns	dynamic_dns	
packet_query_match	boolean	Indicates whether or not the query section of the reply packet is equal to that of the query packet.
scope	string	Set to "svm" for DNS owned by an SVM, otherwise set to "cluster".
servers	array[string]	The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses.
skip_config_validation	boolean	Indicates whether or not the validation for the specified DNS configuration is disabled.
source_address_match	boolean	Indicates whether or not the DNS responses are from a different IP address to the IP address the request was sent to.

Name	Type	Description
status	array[status]	Status of all the DNS name servers configured for the specified SVM.
svm	svm	
timeout	integer	Timeout values for queries to the name servers, in seconds.
tld_query_enabled	boolean	Enable or disable top-level domain (TLD) queries.

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "domains": [
    "example.com",
    "example2.example3.com"
  ],
  "dynamic_dns": {
    "fqdn": "example.com",
    "time_to_live": "P2D"
  },
  "scope": "string",
  "servers": [
    "10.224.65.20",
    "2001:db08:a0b:12f0::1"
  ],
  "status": [
    {
      "code": "6684732",
      "message": "string",
      "name_server": "10.10.10.10",
      "state": "up"
    }
  ],
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

Name	Type	Description
_links	_links	
num_records	integer	Number of DNS domain records.
records	array[dns]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "domains": [
        "example.com",
        "example2.example3.com"
      ],
      "dynamic_dns": {
        "fqdn": "example.com",
        "time_to_live": "P2D"
      },
      "scope": "string",
      "servers": [
        "10.224.65.20",
        "2001:db08:a0b:12f0::1"
      ],
      "status": [
        {
          "code": "6684732",
          "message": "string",
          "name_server": "10.10.10.10",
          "state": "up"
        }
      ],
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",

```

```

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

```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
2621706	The specified SVM UUID is incorrect for the specified SVM name
8847360	Only admin or data SVMs allowed
8847361	Exceeded the maximum number of domains allowed. Maximum of six domains only
8847362	Exceeded the maximum number of name servers allowed. Maximum of three name servers only
8847392	Domain name cannot be an IP address
8847393	Top level domain name is invalid
8847399	One or more of the specified DNS servers do not exist or cannot be reached
8847394	FQDN name violated the limitations
8847403	Scope specified is invalid for the specified SVM
9240587	FQDN name cannot be empty
9240588	FQDN name is too long. Maximum supported length: 255 characters
9240590	FQDN name is reserved. Following names are reserved: "all", "local" and "localhost"
9240607	One of the FQDN labels is too long. Maximum supported length is 63 characters
13434916	The SVM is in the process of being created. Wait a few minutes, and then try the command again.
23724130	Cannot use an IPv6 name server address because there are no IPv6 LIFs

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	

dynamic_dns

Name	Type	Description
enabled	boolean	Enable or disable Dynamic DNS (DDNS) updates for the specified SVM.
fqdn	string	Fully Qualified Domain Name (FQDN) to be used for dynamic DNS updates.
skip_fqdn_validation	boolean	Enable or disable FQDN validation.
time_to_live	string	Time to live value for the dynamic DNS updates, in an ISO-8601 duration formatted string. Maximum Time To Live is 720 hours(P30D in ISO-8601 format) and the default is 24 hours(P1D in ISO-8601 format).
use_secure	boolean	Enable or disable secure dynamic DNS updates for the specified SVM.

status

Status of each of the DNS name server configured for the specified SVM.

Name	Type	Description
code	integer	Code corresponding to the status message. Code is 0 when the state is 'up'.

Name	Type	Description
message	string	Detailed description of the validation state if the state is 'down' or the response time of the DNS server if the state is 'up'.
name_server	string	The IP address of the DNS server. The address can be either an IPv4 or an IPv6 address.
state	string	The validation status of the DNS server.

svm

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

dns

Name	Type	Description
_links	_links	
attempts	integer	Number of attempts allowed when querying the DNS name servers.

Name	Type	Description
domains	array[string]	<p>A list of DNS domains. Domain names have the following requirements:</p> <ul style="list-style-type: none"> • 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".
dynamic_dns	dynamic_dns	
packet_query_match	boolean	Indicates whether or not the query section of the reply packet is equal to that of the query packet.
scope	string	Set to "svm" for DNS owned by an SVM, otherwise set to "cluster".
servers	array[string]	The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses.
skip_config_validation	boolean	Indicates whether or not the validation for the specified DNS configuration is disabled.

Name	Type	Description
source_address_match	boolean	Indicates whether or not the DNS responses are from a different IP address to the IP address the request was sent to.
status	array[status]	Status of all the DNS name servers configured for the specified SVM.
svm	svm	
timeout	integer	Timeout values for queries to the name servers, in seconds.
tld_query_enabled	boolean	Enable or disable top-level domain (TLD) queries.

_links

Name	Type	Description
next	href	
self	href	

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 a DNS domain configuration

```
DELETE /name-services/dns/{svm.uuid}
```

Introduced In: 9.6

Deletes DNS domain configuration of the specified SVM.

Related ONTAP commands

- `vserver services name-service dns delete`

Learn more

- [DOC /name-services/dns](#)

Parameters

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

Response

```
Status: 200, Ok
```

Error

```
Status: Default, 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

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 DNS domain and server configurations

GET /name-services/dns/{svm.uuid}

Introduced In: 9.6

Retrieves DNS domain and server configuration of an SVM. By default, both DNS domains and servers are displayed.

Advanced properties

- 'tld_query_enabled'
- 'source_address_match'
- 'packet_query_match'
- 'status' property retrieves the status of each name server of the DNS configuration for an SVM.

Related ONTAP commands

- `vserver services name-service dns show`
- `vserver services name-service dns check`
- `vserver services name-service dns dynamic-update show`

Learn more

- [DOC /name-services/dns](#)

Parameters

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

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
attempts	integer	Number of attempts allowed when querying the DNS name servers.

Name	Type	Description
domains	array[string]	<p>A list of DNS domains. Domain names have the following requirements:</p> <ul style="list-style-type: none"> • 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".
dynamic_dns	dynamic_dns	
packet_query_match	boolean	Indicates whether or not the query section of the reply packet is equal to that of the query packet.
scope	string	Set to "svm" for DNS owned by an SVM, otherwise set to "cluster".
servers	array[string]	The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses.
skip_config_validation	boolean	Indicates whether or not the validation for the specified DNS configuration is disabled.
source_address_match	boolean	Indicates whether or not the DNS responses are from a different IP address to the IP address the request was sent to.

Name	Type	Description
status	array[status]	Status of all the DNS name servers configured for the specified SVM.
svm	svm	
timeout	integer	Timeout values for queries to the name servers, in seconds.
tld_query_enabled	boolean	Enable or disable top-level domain (TLD) queries.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "domains": [
    "example.com",
    "example2.example3.com"
  ],
  "dynamic_dns": {
    "fqdn": "example.com",
    "time_to_live": "P2D"
  },
  "scope": "string",
  "servers": [
    "10.224.65.20",
    "2001:db08:a0b:12f0::1"
  ],
  "status": [
    {
      "code": "6684732",
      "message": "string",
      "name_server": "10.10.10.10",
      "state": "up"
    }
  ],
  "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	

dynamic_dns

Name	Type	Description
enabled	boolean	Enable or disable Dynamic DNS (DDNS) updates for the specified SVM.
fqdn	string	Fully Qualified Domain Name (FQDN) to be used for dynamic DNS updates.
skip_fqdn_validation	boolean	Enable or disable FQDN validation.
time_to_live	string	Time to live value for the dynamic DNS updates, in an ISO-8601 duration formatted string. Maximum Time To Live is 720 hours(P30D in ISO-8601 format) and the default is 24 hours(P1D in ISO-8601 format).
use_secure	boolean	Enable or disable secure dynamic DNS updates for the specified SVM.

status

Status of each of the DNS name server configured for the specified SVM.

Name	Type	Description
code	integer	Code corresponding to the status message. Code is 0 when the state is 'up'.

Name	Type	Description
message	string	Detailed description of the validation state if the state is 'down' or the response time of the DNS server if the state is 'up'.
name_server	string	The IP address of the DNS server. The address can be either an IPv4 or an IPv6 address.
state	string	The validation status of the DNS server.

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

Update DNS domain and server configurations

PATCH /name-services/dns/{svm.uuid}

Introduced In: 9.6

Updates DNS domain and server configurations of an SVM.

Important notes

- Both DNS domains and servers can be modified.
- The domains and servers fields cannot be empty.
- IPv6 must be enabled if IPv6 family addresses are specified for the `servers` field.
- The DNS server specified using the `servers` field is validated during this operation.

The validation fails in the following scenarios:

1. The server is not a DNS server.
2. The server does not exist.
3. The server is unreachable.
 - The DNS server validation can be skipped by setting the property "skip_config_validation" to "true".
 - Dynamic DNS configuration can be modified.
 - If both DNS and Dynamic DNS parameters are modified, DNS parameters are updated first followed by Dynamic DNS parameters. If updating Dynamic DNS fails, then the updated DNS configuration is not reverted.

The following parameters are optional:

- timeout
- attempts
- source_address_match
- packet_query_match
- tld_query_enabled
- skip_config_validation
- dynamic_dns.enabled
- dynamic_dns.use_secure
- dynamic_dns.time_to_live

Related ONTAP commands

- `vserver services name-service dns modify`
- `vserver services name-service dns dynamic-update modify`

Learn more

- [DOC /name-services/dns](#)

Parameters

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

Request Body

Name	Type	Description
_links	_links	
attempts	integer	Number of attempts allowed when querying the DNS name servers.
domains	array[string]	<p>A list of DNS domains. Domain names have the following requirements:</p> <ul style="list-style-type: none">• 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".
dynamic_dns	dynamic_dns	

Name	Type	Description
packet_query_match	boolean	Indicates whether or not the query section of the reply packet is equal to that of the query packet.
scope	string	Set to "svm" for DNS owned by an SVM, otherwise set to "cluster".
servers	array[string]	The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses.
skip_config_validation	boolean	Indicates whether or not the validation for the specified DNS configuration is disabled.
source_address_match	boolean	Indicates whether or not the DNS responses are from a different IP address to the IP address the request was sent to.
status	array[status]	Status of all the DNS name servers configured for the specified SVM.
svm	svm	
timeout	integer	Timeout values for queries to the name servers, in seconds.
tld_query_enabled	boolean	Enable or disable top-level domain (TLD) queries.

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "domains": [
    "example.com",
    "example2.example3.com"
  ],
  "dynamic_dns": {
    "fqdn": "example.com",
    "time_to_live": "P2D"
  },
  "scope": "string",
  "servers": [
    "10.224.65.20",
    "2001:db08:a0b:12f0::1"
  ],
  "status": [
    {
      "code": "6684732",
      "message": "string",
      "name_server": "10.10.10.10",
      "state": "up"
    }
  ],
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
8847360	Only admin or data SVMs allowed
8847361	Exceeded the maximum number of domains allowed. Maximum of six domains only
8847362	Exceeded the maximum number of name servers allowed. Maximum of three name servers only
8847376	FQDN is mandatory if dynamic DNS update is being enabled.
8847380	Secure updates can be enabled only after a CIFS server or an Active Directory account has been created for the SVM.
8847381	A unique FQDN must be specified for each SVM.
8847383	The specified TTL exceeds the maximum supported value of 720 hours.
8847392	Domain name cannot be an IP address
8847393	Top level domain name is invalid
8847394	FQDN name violated the limitations
8847399	One or more of the specified DNS servers do not exist or cannot be reached
8847404	Dynamic DNS is applicable only for data SVMs
8847405	DNS parameters updated successfully; however the update of Dynamic DNS-related parameters has failed.
9240587	FQDN name cannot be empty
9240588	FQDN name is too long. Maximum supported length: 255 characters
9240590	FQDN name is reserved. Following names are reserved: "all", "local" and "localhost"
9240607	One of the FQDN labels is too long. Maximum supported length is 63 characters
9240608	FQDN does not contain a ".". At least one "." is mandatory for an FQDN.
9240607	A label of the FQDN is too long (73 characters). Maximum supported length for each label is 63 characters.

Error Code	Description
23724130	Cannot use an IPv6 name server address because there are no IPv6 LIFs

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	

dynamic_dns

Name	Type	Description
enabled	boolean	Enable or disable Dynamic DNS (DDNS) updates for the specified SVM.
fqdn	string	Fully Qualified Domain Name (FQDN) to be used for dynamic DNS updates.
skip_fqdn_validation	boolean	Enable or disable FQDN validation.
time_to_live	string	Time to live value for the dynamic DNS updates, in an ISO-8601 duration formatted string. Maximum Time To Live is 720 hours(P30D in ISO-8601 format) and the default is 24 hours(P1D in ISO-8601 format).
use_secure	boolean	Enable or disable secure dynamic DNS updates for the specified SVM.

status

Status of each of the DNS name server configured for the specified SVM.

Name	Type	Description
code	integer	Code corresponding to the status message. Code is 0 when the state is 'up'.

Name	Type	Description
message	string	Detailed description of the validation state if the state is 'down' or the response time of the DNS server if the state is 'up'.
name_server	string	The IP address of the DNS server. The address can be either an IPv4 or an IPv6 address.
state	string	The validation status of the DNS server.

svm

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

dns

Name	Type	Description
_links	_links	
attempts	integer	Number of attempts allowed when querying the DNS name servers.

Name	Type	Description
domains	array[string]	<p>A list of DNS domains. Domain names have the following requirements:</p> <ul style="list-style-type: none"> • 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".
dynamic_dns	dynamic_dns	
packet_query_match	boolean	Indicates whether or not the query section of the reply packet is equal to that of the query packet.
scope	string	Set to "svm" for DNS owned by an SVM, otherwise set to "cluster".
servers	array[string]	The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses.
skip_config_validation	boolean	Indicates whether or not the validation for the specified DNS configuration is disabled.

Name	Type	Description
source_address_match	boolean	Indicates whether or not the DNS responses are from a different IP address to the IP address the request was sent to.
status	array[status]	Status of all the DNS name servers configured for the specified SVM.
svm	svm	
timeout	integer	Timeout values for queries to the name servers, in seconds.
tld_query_enabled	boolean	Enable or disable top-level domain (TLD) queries.

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 LDAP server configurations

Name-services LDAP endpoint overview

Overview

LDAP servers are used to centrally maintain user information. LDAP configurations must be set up to lookup

information stored in the LDAP directory on the external LDAP servers. This API is used to retrieve and manage LDAP server configurations.

Retrieving LDAP information

The LDAP GET endpoint retrieves all of the LDAP configurations in the cluster.

Examples

Retrieving all of the fields for all LDAP configurations

```
# The API:
/api/name-services/ldap

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/ldap?fields=*" -H
"accept: application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
          }
        }
      }
    },
    "servers": [
      "10.10.10.10",
      "domainB.example.com"
    ],
    "schema": "ad_idmu",
    "port": 389,
    "ldaps_enabled": false,
    "min_bind_level": "anonymous",
    "bind_dn": "cn=Administrators,cn=users,dc=domainA,dc=example,dc=com",
    "base_dn": "dc=domainA,dc=example,dc=com",
    "base_scope": "subtree",
    "use_start_tls": true,
    "session_security": "none",
    "referral_enabled": false,
    "bind_as_cifs_server": false,
```

```

"query_timeout": 3,
"is_owner": true,
"user_scope": "subtree",
"group_scope": "subtree",
"netgroup_scope": "subtree",
"is_netgroup_byhost_enabled": false,
"netgroup_byhost_scope": "subtree",
"group_membership_filter": "",
"status": {
  "state": "down",
  "message": "The LDAP configuration is invalid. Verify that the AD
domain or servers are reachable and that the network configuration is
correct",
  "dn_message": [
    "No LDAP DN configured"
  ],
  "code": 4915258
},
"_links": {
  "self": {
    "href": "/api/name-services/ldap/179d3c85-7053-11e8-b9b8-
005056b41bd1"
  }
},
{
  "svm": {
    "uuid": "6a52023b-7066-11e8-b9b8-005056b41bd1",
    "name": "vs2",
    "_links": {
      "self": {
        "href": "/api/svm/svms/6a52023b-7066-11e8-b9b8-005056b41bd1"
      }
    }
  },
  "servers": [
    "11.11.11.11"
  ],
  "schema": "rfc_2307",
  "port": 389,
  "ldaps_enabled": false,
  "min_bind_level": "simple",
  "bind_dn": "cn=Administrators,cn=users,dc=domainB,dc=example,dc=com",
  "base_dn": "dc=domainB,dc=example,dc=com",
  "base_scope": "subtree",
  "use_start_tls": true,

```

```

"session_security": "sign",
"referral_enabled": false,
"bind_as_cifs_server": false,
"query_timeout": 0,
"is_owner": true,
"user_scope": "subtree",
"group_scope": "subtree",
"netgroup_scope": "subtree",
"is_netgroup_byhost_enabled": false,
"netgroup_byhost_scope": "subtree",
"group_membership_filter": "",
"status": {
  "state": "up",
  "message": "Successfully connected to LDAP server
\"172.20.192.44\".",
  "dn_message": [
    "All the configured DN's are available."
  ],
  "code": 0
},
"_links": {
  "self": {
    "href": "/api/name-services/ldap/6a52023b-7066-11e8-b9b8-
005056b41bd1"
  }
}
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/name-services/ldap?fields=*"
  }
}
}
}

```

Retrieving all of the LDAP configurations that have the *use_start_tls* set to *true*

```
# The API:
/api/name-services/ldap

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/ldap?use_start_tls=true"
-H "accept: application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "6a52023b-7066-11e8-b9b8-005056b41bd1",
        "name": "vs2",
        "_links": {
          "self": {
            "href": "/api/svm/svms/6a52023b-7066-11e8-b9b8-005056b41bd1"
          }
        }
      },
      "use_start_tls": true,
      "_links": {
        "self": {
          "href": "/api/name-services/ldap/6a52023b-7066-11e8-b9b8-005056b41bd1"
        }
      }
    }
  ],
  "num_records": 1,
  "_links": {
    "self": {
      "href": "/api/name-services/ldap?use_start_tls=true"
    }
  }
}
```

Retrieving the LDAP configuration of a specific SVM

```
# The API:
/api/name-services/ldap/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/ldap/179d3c85-7053-11e8-
b9b8-005056b41bd1" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
      }
    }
  },
  "servers": [
    "10.10.10.10",
    "domainB.example.com"
  ],
  "schema": "ad_idmu",
  "port": 389,
  "ldaps_enabled": false,
  "min_bind_level": "anonymous",
  "bind_dn": "cn=Administrators,cn=users,dc=domainA,dc=example,dc=com",
  "base_dn": "dc=domainA,dc=example,dc=com",
  "base_scope": "subtree",
  "use_start_tls": true,
  "referral_enabled": false,
  "session_security": "none",
  "bind_as_cifs_server": true,
  "query_timeout": 3,
  "is_owner": true,
  "_links": {
    "self": {
      "href": "/api/name-services/ldap/179d3c85-7053-11e8-b9b8-005056b41bd1"
    }
  }
}
```

Retrieving all the fields of the LDAP configuration of a specific SVM

```
# The API:
/api/name-services/ldap/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/ldap/179d3c85-7053-11e8-b9b8-005056b41bd1?fields=*" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
      }
    }
  },
  "servers": [
    "10.10.10.10",
    "domainB.example.com"
  ],
  "schema": "ad_idmu",
  "port": 389,
  "ldaps_enabled": false,
  "min_bind_level": "anonymous",
  "bind_dn": "cn=Administrators,cn=users,dc=domainA,dc=example,dc=com",
  "base_dn": "dc=domainA,dc=example,dc=com",
  "base_scope": "subtree",
  "use_start_tls": true,
  "referral_enabled": false,
  "session_security": "none",
  "bind_as_cifs_server": true,
  "query_timeout": 3,
  "is_owner": true,
  "user_scope": "subtree",
  "group_scope": "subtree",
  "netgroup_scope": "subtree",
  "is_netgroup_byhost_enabled": false,
  "netgroup_byhost_scope": "subtree",
  "group_membership_filter": "",
  "status": {
    "state": "down",
```

```

    "message": "The LDAP configuration is invalid. Verify that the AD domain
or servers are reachable and that the network configuration is correct",
    "dn_message": [
        "No LDAP DN configured"
    ],
    "code": 4915258
},
"_links": {
    "self": {
        "href": "/api/name-services/ldap/179d3c85-7053-11e8-b9b8-005056b41bd1"
    }
}
}
}

```

Retrieving the LDAP server status of a specific SVM

```

# The API:
/api/name-services/ldap/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/ldap/9e4a2e3b-f66f-11ea-
aec8-0050568e155c?fields=status" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "9e4a2e3b-f66f-11ea-aec8-0050568e155c",
    "name": "vs2"
  },
  "status": {
    "state": "up",
    "message": "Successfully connected to LDAP server \"172.20.192.44\".",
    "code": 0
  }
}

```

Creating an LDAP configuration

The LDAP POST endpoint creates an LDAP configuration for the specified SVM.

Examples

Creating an LDAP configuration with all the fields specified

```
# The API:
/api/name-services/ldap

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/ldap" -H "accept:
application/hal+json" -H "Content-Type: application/json" -d "{ \"svm\": {
 \"uuid\": \"179d3c85-7053-11e8-b9b8-005056b41bd1\" }, \"servers\": [
 \"10.10.10.10\", \"domainB.example.com\" ], \"schema\": \"ad_idmu\",
 \"port\": 389, \"ldaps_enabled\": false, \"min_bind_level\":
 \"anonymous\", \"bind_dn\":
 \"cn=Administrators,cn=users,dc=domainA,dc=example,dc=com\",
 \"bind_password\": \"abc\", \"base_dn\": \"dc=domainA,dc=example,dc=com\",
 \"base_scope\": \"subtree\", \"use_start_tls\": false,
 \"session_security\": \"none\", \"referral_enabled\": false,
 \"bind_as_cifs_server\": false, \"query_timeout\": 4, \"user_dn\":
 \"cn=abc,users,dc=com\", \"user_scope\": \"subtree\", \"group_dn\":
 \"cn=abc,users,dc=com\", \"group_scope\": \"subtree\", \"netgroup_dn\":
 \"cn=abc,users,dc=com\", \"netgroup_scope\": \"subtree\",
 \"netgroup_byhost_dn\": \"cn=abc,users,dc=com\",
 \"netgroup_byhost_scope\": \"subtree\", \"is_netgroup_byhost_enabled\":
 false, \"group_membership_filter\": \"\", \"skip_config_validation\":
 false } "
```

Creating an LDAP configuration with Active Directory domain and preferred Active Directory servers specified

```
# The API:
/api/name-services/ldap

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/ldap" -H "accept:
application/hal+json" -H "Content-Type: application/json" -d "{ \"svm\": {
\"name\": \"vs2\" }, \"ad_domain\": \"domainA.example.com\",
\"preferred_ad_servers\": [ \"11.11.11.11\" ], \"port\": 389,
\"ldaps_enabled\": false, \"bind_dn\":
\"cn=Administrators,cn=users,dc=domainA,dc=example,dc=com\",
\"bind_password\": \"abc\", \"base_dn\": \"dc=domainA,dc=example,dc=com\",
\"session_security\": \"none\", \"referral_enabled\": false,
\"query_timeout\": 3}"
```

Creating an LDAP configuration with a number of optional fields not specified

```
# The API:
/api/name-services/ldap

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/ldap" -H "accept:
application/hal+json" -H "Content-Type: application/json" -d "{ \"svm\": {
\"name\": \"vs2\" }, \"servers\": [ \"11.11.11.11\" ], \"port\": 389,
\"bind_dn\": \"cn=Administrators,cn=users,dc=domainA,dc=example,dc=com\",
\"bind_password\": \"abc\", \"base_dn\": \"dc=domainA,dc=example,dc=com\",
\"session_security\": \"none\"}"
```

Updating an LDAP configuration

The LDAP PATCH endpoint updates the LDAP configuration for the specified SVM. The following example shows a PATCH operation:

```
# The API:
/api/name-services/ldap/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/name-services/ldap/179d3c85-7053-11e8-b9b8-005056b41bd1" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"servers\": [ \"55.55.55.55\" ], \"schema\": \"ad_idmu\", \"port\": 636, \"ldaps_enabled\": true, \"use_start_tls\": false, \"referral_enabled\": false }"
```

Deleting an LDAP configuration

The LDAP DELETE endpoint deletes the LDAP configuration for the specified SVM. The following example shows a DELETE operation:

```
# The API:
/api/name-services/ldap/{svm.uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/name-services/ldap/179d3c85-7053-11e8-b9b8-005056b41bd1" -H "accept: application/hal+json"
```

Retrieve an LDAP configuration for all SVMs

GET /name-services/ldap

Introduced In: 9.6

Retrieves the LDAP configurations for all SVMs.

Parameters

Name	Type	In	Required	Description
netgroup_dn	string	query	False	Filter by netgroup_dn <ul style="list-style-type: none"> Introduced in: 9.9

Name	Type	In	Required	Description
session_security	string	query	False	Filter by session_security • Introduced in: 9.7
group_scope	string	query	False	Filter by group_scope • Introduced in: 9.9
schema	string	query	False	Filter by schema • Introduced in: 9.7
bind_dn	string	query	False	Filter by bind_dn • Introduced in: 9.7
base_scope	string	query	False	Filter by base_scope • Introduced in: 9.7
port	integer	query	False	Filter by port • Introduced in: 9.7
preferred_ad_servers	string	query	False	Filter by preferred_ad_servers • Introduced in: 9.7
referral_enabled	boolean	query	False	Filter by referral_enabled • Introduced in: 9.9

Name	Type	In	Required	Description
netgroup_byhost_scope	string	query	False	Filter by netgroup_byhost_scope • Introduced in: 9.9
query_timeout	integer	query	False	Filter by query_timeout • Introduced in: 9.9
is_netgroup_byhost_enabled	boolean	query	False	Filter by is_netgroup_byhost_enabled • Introduced in: 9.9
ldaps_enabled	boolean	query	False	Filter by ldaps_enabled • Introduced in: 9.9
min_bind_level	string	query	False	Filter by min_bind_level • Introduced in: 9.7
ad_domain	string	query	False	Filter by ad_domain • Introduced in: 9.7
status.code	integer	query	False	Filter by status.code • Introduced in: 9.9
status.dn_message	string	query	False	Filter by status.dn_message • Introduced in: 9.9

Name	Type	In	Required	Description
status.state	string	query	False	Filter by status.state • Introduced in: 9.9
status.message	string	query	False	Filter by status.message • Introduced in: 9.9
user_dn	string	query	False	Filter by user_dn • Introduced in: 9.9
user_scope	string	query	False	Filter by user_scope • Introduced in: 9.9
base_dn	string	query	False	Filter by base_dn • Introduced in: 9.7
netgroup_scope	string	query	False	Filter by netgroup_scope • Introduced in: 9.9
is_owner	boolean	query	False	Filter by is_owner • Introduced in: 9.9
use_start_tls	boolean	query	False	Filter by use_start_tls • Introduced in: 9.7
group_membership_filter	string	query	False	Filter by group_membership_filter • Introduced in: 9.9

Name	Type	In	Required	Description
netgroup_byhost_dn	string	query	False	Filter by netgroup_byhost_dn <ul style="list-style-type: none"> • Introduced in: 9.9
servers	string	query	False	Filter by servers <ul style="list-style-type: none"> • Introduced in: 9.7
bind_as_cifs_server	boolean	query	False	Filter by bind_as_cifs_server <ul style="list-style-type: none"> • Introduced in: 9.9
svm.uuid	string	query	False	Filter by svm.uuid <ul style="list-style-type: none"> • Introduced in: 9.7
svm.name	string	query	False	Filter by svm.name <ul style="list-style-type: none"> • Introduced in: 9.7
group_dn	string	query	False	Filter by group_dn <ul style="list-style-type: none"> • Introduced in: 9.9
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> • Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>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.</p> <ul style="list-style-type: none"> • 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 LDAP records.
records	array[ldap_service]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ad_domain": "string",
      "base_dn": "string",
      "base_scope": "string",
      "bind_dn": "string",
      "bind_password": "string",
      "group_dn": "string",
      "group_membership_filter": "string",
      "group_scope": "string",
      "min_bind_level": "string",
      "netgroup_byhost_dn": "string",
      "netgroup_byhost_scope": "string",
      "netgroup_dn": "string",
      "netgroup_scope": "string",
      "port": "389",
      "preferred_ad_servers": [
        "string"
      ],
      "schema": "string",
      "servers": [
        "string"
      ],
      "session_security": "string",
      "status": {
        "code": "65537300",
        "dn_message": [
          "string"
        ],
        "message": "string",

```

```

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

```

Error

Status: Default

Following error codes can be thrown as part of LDAP status information, if LDAP status is needed to be retrieved.

Error Code	Description
4915229	DNS resolution failed due to an internal error. Contact technical support if this issue persists
4915231	DNS resolution failed for one or more of the specified LDAP servers. Verify that a valid DNS server is configured
23724132	DNS resolution failed for all the specified LDAP servers. Verify that a valid DNS server is configured
4915258	The LDAP configuration is invalid. Verify that the Active Directory domain or servers are reachable and that the network configuration is correct
4915263	Failed to check the current status of LDAP server. Reason:<Reason for="" the="" failure=""></Reason>
4915234	The specified LDAP server or preferred Active Directory server is not supported because it is one of the following: multicast, loopback, 0.0.0.0, or broadcast
4915265	The specified bind password or bind DN is invalid

Error Code	Description
4915264	Certificate verification failed. Verify that a valid certificate is installed

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	

status

Name	Type	Description
code	integer	Code corresponding to the status message.
dn_message	array[string]	
message	string	Provides additional details on the status of the LDAP service.
state	string	Specifies the status of the LDAP service.

svm

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

ldap_service

Name	Type	Description
_links	_links	

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 <code>servers</code> during POST and PATCH.
base_dn	string	Specifies the default base DN for all searches.
base_scope	string	Specifies the default search scope for LDAP queries: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
bind_as_cifs_server	boolean	Specifies whether or not CIFS server's credentials are used to bind to the LDAP server.
bind_dn	string	Specifies the user that binds to the LDAP servers.
bind_password	string	Specifies the bind password for the LDAP servers.
group_dn	string	Specifies the group Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for group lookups.
group_membership_filter	string	Specifies the custom filter used for group membership lookups from an LDAP server.

Name	Type	Description
group_scope	string	Specifies the default search scope for LDAP for group lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
is_netgroup_byhost_enabled	boolean	Specifies whether or not netgroup by host querying is enabled.
is_owner	boolean	Specifies whether or not the SVM owns the LDAP client configuration.
ldaps_enabled	boolean	Specifies whether or not LDAPS is enabled.
min_bind_level	string	The minimum bind authentication level. Possible values are: <ul style="list-style-type: none"> • anonymous - anonymous bind • simple - simple bind • sasl - Simple Authentication and Security Layer (SASL) bind
netgroup_byhost_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup by host lookups.

Name	Type	Description
netgroup_byhost_scope	string	Specifies the default search scope for LDAP for netgroup by host lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
netgroup_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup lookups.
netgroup_scope	string	Specifies the default search scope for LDAP for netgroup lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	
query_timeout	integer	Specifies the maximum time to wait for a query response from the LDAP server, in seconds.
referral_enabled	boolean	Specifies whether or not LDAP referral is enabled.

Name	Type	Description
schema	string	<p>The name of the schema template used by the SVM.</p> <ul style="list-style-type: none"> • AD-IDMU - Active Directory Identity Management for UNIX • AD-SFU - Active Directory Services for UNIX • MS-AD-BIS - Active Directory Identity Management for UNIX • RFC-2307 - Schema based on RFC 2307 • Custom schema
servers	array[string]	
session_security	string	<p>Specifies the level of security to be used for LDAP communications:</p> <ul style="list-style-type: none"> • none - no signing or sealing • sign - sign LDAP traffic • seal - seal and sign LDAP traffic
skip_config_validation	boolean	<p>Indicates whether or not the validation for the specified LDAP configuration is disabled.</p>
status	status	
svm	svm	
use_start_tls	boolean	<p>Specifies whether or not to use Start TLS over LDAP connections.</p>
user_dn	string	<p>Specifies the user Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for user lookups.</p>

Name	Type	Description
user_scope	string	Specifies the default search scope for LDAP for user lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN

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 LDAP configuration for an SVM

POST /name-services/ldap

Introduced In: 9.6

Creates an LDAP configuration for an SVM.

Important notes

- Each SVM can have one LDAP configuration.
- The LDAP servers and Active Directory domain are mutually exclusive fields. These fields cannot be empty. At any point in time, either the LDAP servers or Active Directory domain must be populated.

- LDAP configuration with Active Directory domain cannot be created on an admin SVM.
- IPv6 must be enabled if IPv6 family addresses are specified.

The following parameters are optional:

- preferred AD servers
- schema
- port
- ldaps_enabled
- min_bind_level
- bind_password
- base_scope
- use_start_tls
- session_security
- referral_enabled
- bind_as_cifs_server
- query_timeout
- user_dn
- user_scope
- group_dn
- group_scope
- netgroup_dn
- netgroup_scope
- netgroup_byhost_dn
- netgroup_byhost_scope
- is_netgroup_byhost_enabled
- group_membership_filter
- skip_config_validation

Configuring more than one LDAP server is recommended to avoid a single point of failure. Both FQDNs and IP addresses are supported for the "servers" field. The Active Directory domain or LDAP servers are validated as part of this operation.

LDAP validation fails in the following scenarios:

1. The server does not have LDAP installed.
2. The server or Active Directory domain is invalid.
3. The server or Active Directory domain is unreachable.

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	<p>The default is false. If set to true, the records are returned.</p> <ul style="list-style-type: none"> • Default value:

Request Body

Name	Type	Description
_links	_links	
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 <code>servers</code> during POST and PATCH.
base_dn	string	Specifies the default base DN for all searches.
base_scope	string	<p>Specifies the default search scope for LDAP queries:</p> <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
bind_as_cifs_server	boolean	Specifies whether or not CIFS server's credentials are used to bind to the LDAP server.
bind_dn	string	Specifies the user that binds to the LDAP servers.
bind_password	string	Specifies the bind password for the LDAP servers.
group_dn	string	Specifies the group Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for group lookups.

Name	Type	Description
group_membership_filter	string	Specifies the custom filter used for group membership lookups from an LDAP server.
group_scope	string	<p>Specifies the default search scope for LDAP for group lookups:</p> <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
is_netgroup_byhost_enabled	boolean	Specifies whether or not netgroup by host querying is enabled.
is_owner	boolean	Specifies whether or not the SVM owns the LDAP client configuration.
ldaps_enabled	boolean	Specifies whether or not LDAPS is enabled.
min_bind_level	string	<p>The minimum bind authentication level. Possible values are:</p> <ul style="list-style-type: none"> • anonymous - anonymous bind • simple - simple bind • sasl - Simple Authentication and Security Layer (SASL) bind
netgroup_byhost_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup by host lookups.

Name	Type	Description
netgroup_byhost_scope	string	Specifies the default search scope for LDAP for netgroup by host lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
netgroup_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup lookups.
netgroup_scope	string	Specifies the default search scope for LDAP for netgroup lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	
query_timeout	integer	Specifies the maximum time to wait for a query response from the LDAP server, in seconds.
referral_enabled	boolean	Specifies whether or not LDAP referral is enabled.

Name	Type	Description
schema	string	<p>The name of the schema template used by the SVM.</p> <ul style="list-style-type: none"> • AD-IDMU - Active Directory Identity Management for UNIX • AD-SFU - Active Directory Services for UNIX • MS-AD-BIS - Active Directory Identity Management for UNIX • RFC-2307 - Schema based on RFC 2307 • Custom schema
servers	array[string]	
session_security	string	<p>Specifies the level of security to be used for LDAP communications:</p> <ul style="list-style-type: none"> • none - no signing or sealing • sign - sign LDAP traffic • seal - seal and sign LDAP traffic
skip_config_validation	boolean	<p>Indicates whether or not the validation for the specified LDAP configuration is disabled.</p>
status	status	
svm	svm	
use_start_tls	boolean	<p>Specifies whether or not to use Start TLS over LDAP connections.</p>
user_dn	string	<p>Specifies the user Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for user lookups.</p>

Name	Type	Description
user_scope	string	<p>Specifies the default search scope for LDAP for user lookups:</p> <ul style="list-style-type: none">• base - search the named entry only• onelevel - search all entries immediately below the DN• subtree - search the named DN entry and the entire subtree below the DN

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ad_domain": "string",
  "base_dn": "string",
  "base_scope": "string",
  "bind_dn": "string",
  "bind_password": "string",
  "group_dn": "string",
  "group_membership_filter": "string",
  "group_scope": "string",
  "min_bind_level": "string",
  "netgroup_byhost_dn": "string",
  "netgroup_byhost_scope": "string",
  "netgroup_dn": "string",
  "netgroup_scope": "string",
  "port": "389",
  "preferred_ad_servers": [
    "string"
  ],
  "schema": "string",
  "servers": [
    "string"
  ],
  "session_security": "string",
  "status": {
    "code": "65537300",
    "dn_message": [
      "string"
    ],
    "message": "string",
    "state": "string"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

```
},
"user_dn": "string",
"user_scope": "string"
}
```

Response

Status: 201, Created

Name	Type	Description
_links	_links	
num_records	integer	Number of LDAP records.
records	array[ldap_service]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ad_domain": "string",
      "base_dn": "string",
      "base_scope": "string",
      "bind_dn": "string",
      "bind_password": "string",
      "group_dn": "string",
      "group_membership_filter": "string",
      "group_scope": "string",
      "min_bind_level": "string",
      "netgroup_byhost_dn": "string",
      "netgroup_byhost_scope": "string",
      "netgroup_dn": "string",
      "netgroup_scope": "string",
      "port": "389",
      "preferred_ad_servers": [
        "string"
      ],
      "schema": "string",
      "servers": [
        "string"
      ],
      "session_security": "string",
      "status": {
        "code": "65537300",
        "dn_message": [
          "string"
        ],
        "message": "string",

```

```

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

```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262186	LDAP Servers cannot be used with Active Directory domain and/or preferred Acti Directory servers
2621488	Invalid SVM context
2621706	The specified SVM UUID is incorrect for the specified SVM name
4915203	The specified LDAP schema does not exist
4915207	The specified LDAP servers or preferred Active Directory servers contain duplicate server entries
4915229	DNS resolution failed due to an internal error. Contact technical support if this issue persists
4915231	DNS resolution failed for one or more of the specified LDAP servers. Verify that a valid DNS server is configured
23724132	DNS resolution failed for all the specified LDAP servers. Verify that a valid DNS server is configured

Error Code	Description
4915234	The specified LDAP server or preferred Active Directory server is not supported because it is one of the following: multicast, loopback, 0.0.0.0, or broadcast
4915248	LDAP servers cannot be empty or "-". Specified Active Directory domain is invalid because it is empty or "-" or it contains either the special characters or "-" at the start or end of the domain)
4915251	STARTTLS and LDAPS cannot be used together
4915257	The LDAP configuration is invalid. Verify that bind-dn and bind password are correct
4915258	The LDAP configuration is invalid. Verify that the Active Directory domain or servers are reachable and that the network configuration is correct
4915259	LDAP configurations with Active Directory domains are not supported on admin SVM.
4915265	The specified bind password or bind DN is invalid
4915264	Certificate verification failed. Verify that a valid certificate is installed
13434916	The SVM is in the process of being created. Wait a few minutes, and then try the command again.
23724130	Cannot use an IPv6 name server address because there are no IPv6 LIFs

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	

status

Name	Type	Description
code	integer	Code corresponding to the status message.
dn_message	array[string]	
message	string	Provides additional details on the status of the LDAP service.
state	string	Specifies the status of the LDAP service.

svm

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

ldap_service

Name	Type	Description
_links	_links	

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 <code>servers</code> during POST and PATCH.
base_dn	string	Specifies the default base DN for all searches.
base_scope	string	Specifies the default search scope for LDAP queries: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
bind_as_cifs_server	boolean	Specifies whether or not CIFS server's credentials are used to bind to the LDAP server.
bind_dn	string	Specifies the user that binds to the LDAP servers.
bind_password	string	Specifies the bind password for the LDAP servers.
group_dn	string	Specifies the group Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for group lookups.
group_membership_filter	string	Specifies the custom filter used for group membership lookups from an LDAP server.

Name	Type	Description
group_scope	string	Specifies the default search scope for LDAP for group lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
is_netgroup_byhost_enabled	boolean	Specifies whether or not netgroup by host querying is enabled.
is_owner	boolean	Specifies whether or not the SVM owns the LDAP client configuration.
ldaps_enabled	boolean	Specifies whether or not LDAPS is enabled.
min_bind_level	string	The minimum bind authentication level. Possible values are: <ul style="list-style-type: none"> • anonymous - anonymous bind • simple - simple bind • sasl - Simple Authentication and Security Layer (SASL) bind
netgroup_byhost_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup by host lookups.

Name	Type	Description
netgroup_byhost_scope	string	Specifies the default search scope for LDAP for netgroup by host lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
netgroup_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup lookups.
netgroup_scope	string	Specifies the default search scope for LDAP for netgroup lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	
query_timeout	integer	Specifies the maximum time to wait for a query response from the LDAP server, in seconds.
referral_enabled	boolean	Specifies whether or not LDAP referral is enabled.

Name	Type	Description
schema	string	<p>The name of the schema template used by the SVM.</p> <ul style="list-style-type: none"> • AD-IDMU - Active Directory Identity Management for UNIX • AD-SFU - Active Directory Services for UNIX • MS-AD-BIS - Active Directory Identity Management for UNIX • RFC-2307 - Schema based on RFC 2307 • Custom schema
servers	array[string]	
session_security	string	<p>Specifies the level of security to be used for LDAP communications:</p> <ul style="list-style-type: none"> • none - no signing or sealing • sign - sign LDAP traffic • seal - seal and sign LDAP traffic
skip_config_validation	boolean	Indicates whether or not the validation for the specified LDAP configuration is disabled.
status	status	
svm	svm	
use_start_tls	boolean	Specifies whether or not to use Start TLS over LDAP connections.
user_dn	string	Specifies the user Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for user lookups.

Name	Type	Description
user_scope	string	Specifies the default search scope for LDAP for user lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN

_links

Name	Type	Description
next	href	
self	href	

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 the LDAP configuration for an SVM

```
DELETE /name-services/ldap/{svm.uuid}
```

Introduced In: 9.6

Deletes the LDAP configuration of the specified SVM. LDAP can be removed as a source from the ns-switch if LDAP is not used as a source for lookups.

Parameters

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

Response

```
Status: 200, Ok
```

Error

```
Status: Default, 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

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 LDAP configuration for an SVM

GET /name-services/ldap/{svm.uuid}

Introduced In: 9.6

Retrieves LDAP configuration for an SVM. All parameters for the LDAP configuration are displayed by default.

Parameters

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

Response

Status: 200, Ok

Name	Type	Description
<code>_links</code>	<code>_links</code>	
<code>ad_domain</code>	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 <code>servers</code> during POST and PATCH.
<code>base_dn</code>	string	Specifies the default base DN for all searches.
<code>base_scope</code>	string	Specifies the default search scope for LDAP queries: <ul style="list-style-type: none"> • <code>base</code> - search the named entry only • <code>onelevel</code> - search all entries immediately below the DN • <code>subtree</code> - search the named DN entry and the entire subtree below the DN
<code>bind_as_cifs_server</code>	boolean	Specifies whether or not CIFS server's credentials are used to bind to the LDAP server.
<code>bind_dn</code>	string	Specifies the user that binds to the LDAP servers.
<code>bind_password</code>	string	Specifies the bind password for the LDAP servers.
<code>group_dn</code>	string	Specifies the group Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for group lookups.
<code>group_membership_filter</code>	string	Specifies the custom filter used for group membership lookups from an LDAP server.

Name	Type	Description
group_scope	string	Specifies the default search scope for LDAP for group lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
is_netgroup_byhost_enabled	boolean	Specifies whether or not netgroup by host querying is enabled.
is_owner	boolean	Specifies whether or not the SVM owns the LDAP client configuration.
ldaps_enabled	boolean	Specifies whether or not LDAPS is enabled.
min_bind_level	string	The minimum bind authentication level. Possible values are: <ul style="list-style-type: none"> • anonymous - anonymous bind • simple - simple bind • sasl - Simple Authentication and Security Layer (SASL) bind
netgroup_byhost_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup by host lookups.
netgroup_byhost_scope	string	Specifies the default search scope for LDAP for netgroup by host lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN

Name	Type	Description
netgroup_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup lookups.
netgroup_scope	string	<p>Specifies the default search scope for LDAP for netgroup lookups:</p> <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	
query_timeout	integer	Specifies the maximum time to wait for a query response from the LDAP server, in seconds.
referral_enabled	boolean	Specifies whether or not LDAP referral is enabled.
schema	string	<p>The name of the schema template used by the SVM.</p> <ul style="list-style-type: none"> • AD-IDMU - Active Directory Identity Management for UNIX • AD-SFU - Active Directory Services for UNIX • MS-AD-BIS - Active Directory Identity Management for UNIX • RFC-2307 - Schema based on RFC 2307 • Custom schema
servers	array[string]	

Name	Type	Description
session_security	string	Specifies the level of security to be used for LDAP communications: <ul style="list-style-type: none"> • none - no signing or sealing • sign - sign LDAP traffic • seal - seal and sign LDAP traffic
skip_config_validation	boolean	Indicates whether or not the validation for the specified LDAP configuration is disabled.
status	status	
svm	svm	
use_start_tls	boolean	Specifies whether or not to use Start TLS over LDAP connections.
user_dn	string	Specifies the user Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for user lookups.
user_scope	string	Specifies the default search scope for LDAP for user lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ad_domain": "string",
  "base_dn": "string",
  "base_scope": "string",
  "bind_dn": "string",
  "bind_password": "string",
  "group_dn": "string",
  "group_membership_filter": "string",
  "group_scope": "string",
  "min_bind_level": "string",
  "netgroup_byhost_dn": "string",
  "netgroup_byhost_scope": "string",
  "netgroup_dn": "string",
  "netgroup_scope": "string",
  "port": "389",
  "preferred_ad_servers": [
    "string"
  ],
  "schema": "string",
  "servers": [
    "string"
  ],
  "session_security": "string",
  "status": {
    "code": "65537300",
    "dn_message": [
      "string"
    ],
    "message": "string",
    "state": "string"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

```
},
"user_dn": "string",
"user_scope": "string"
}
```

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	

status

Name	Type	Description
code	integer	Code corresponding to the status message.
dn_message	array[string]	
message	string	Provides additional details on the status of the LDAP service.
state	string	Specifies the status of the LDAP service.

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

Update the LDAP configuration for an SVM

PATCH /name-services/ldap/{svm.uuid}

Introduced In: 9.6

Updates an LDAP configuration of an SVM.

Important notes

- Both mandatory and optional parameters of the LDAP configuration can be updated.
- The LDAP servers and Active Directory domain are mutually exclusive fields. These fields cannot be empty. At any point in time, either the LDAP servers or Active Directory domain must be populated.
- IPv6 must be enabled if IPv6 family addresses are specified.

Configuring more than one LDAP server is recommended to avoid a single point of failure. Both FQDNs and IP addresses are supported for the "servers" field. The Active Directory domain or LDAP servers are validated as part of this operation.

LDAP validation fails in the following scenarios:

1. The server does not have LDAP installed.
2. The server or Active Directory domain is invalid.
3. The server or Active Directory domain is unreachable

Parameters

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

Request Body

Name	Type	Description
<code>_links</code>	<code>_links</code>	
<code>ad_domain</code>	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 <code>servers</code> during POST and PATCH.
<code>base_dn</code>	string	Specifies the default base DN for all searches.
<code>base_scope</code>	string	Specifies the default search scope for LDAP queries: <ul style="list-style-type: none"> • <code>base</code> - search the named entry only • <code>onelevel</code> - search all entries immediately below the DN • <code>subtree</code> - search the named DN entry and the entire subtree below the DN
<code>bind_as_cifs_server</code>	boolean	Specifies whether or not CIFS server's credentials are used to bind to the LDAP server.
<code>bind_dn</code>	string	Specifies the user that binds to the LDAP servers.
<code>bind_password</code>	string	Specifies the bind password for the LDAP servers.
<code>group_dn</code>	string	Specifies the group Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for group lookups.
<code>group_membership_filter</code>	string	Specifies the custom filter used for group membership lookups from an LDAP server.

Name	Type	Description
group_scope	string	Specifies the default search scope for LDAP for group lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
is_netgroup_byhost_enabled	boolean	Specifies whether or not netgroup by host querying is enabled.
is_owner	boolean	Specifies whether or not the SVM owns the LDAP client configuration.
ldaps_enabled	boolean	Specifies whether or not LDAPS is enabled.
min_bind_level	string	The minimum bind authentication level. Possible values are: <ul style="list-style-type: none"> • anonymous - anonymous bind • simple - simple bind • sasl - Simple Authentication and Security Layer (SASL) bind
netgroup_byhost_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup by host lookups.
netgroup_byhost_scope	string	Specifies the default search scope for LDAP for netgroup by host lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN

Name	Type	Description
netgroup_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup lookups.
netgroup_scope	string	Specifies the default search scope for LDAP for netgroup lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	
query_timeout	integer	Specifies the maximum time to wait for a query response from the LDAP server, in seconds.
referral_enabled	boolean	Specifies whether or not LDAP referral is enabled.
schema	string	The name of the schema template used by the SVM. <ul style="list-style-type: none"> • AD-IDMU - Active Directory Identity Management for UNIX • AD-SFU - Active Directory Services for UNIX • MS-AD-BIS - Active Directory Identity Management for UNIX • RFC-2307 - Schema based on RFC 2307 • Custom schema
servers	array[string]	

Name	Type	Description
session_security	string	Specifies the level of security to be used for LDAP communications: <ul style="list-style-type: none"> • none - no signing or sealing • sign - sign LDAP traffic • seal - seal and sign LDAP traffic
skip_config_validation	boolean	Indicates whether or not the validation for the specified LDAP configuration is disabled.
status	status	
svm	svm	
use_start_tls	boolean	Specifies whether or not to use Start TLS over LDAP connections.
user_dn	string	Specifies the user Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for user lookups.
user_scope	string	Specifies the default search scope for LDAP for user lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ad_domain": "string",
  "base_dn": "string",
  "base_scope": "string",
  "bind_dn": "string",
  "bind_password": "string",
  "group_dn": "string",
  "group_membership_filter": "string",
  "group_scope": "string",
  "min_bind_level": "string",
  "netgroup_byhost_dn": "string",
  "netgroup_byhost_scope": "string",
  "netgroup_dn": "string",
  "netgroup_scope": "string",
  "port": "389",
  "preferred_ad_servers": [
    "string"
  ],
  "schema": "string",
  "servers": [
    "string"
  ],
  "session_security": "string",
  "status": {
    "code": "65537300",
    "dn_message": [
      "string"
    ],
    "message": "string",
    "state": "string"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

```

},
"user_dn": "string",
"user_scope": "string"
}

```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
262186	LDAP Servers cannot be used with Active Directory domain and/or preferred Active Directory servers
2621488	Invalid SVM context
2621706	The specified SVM UUID is incorrect for the specified SVM name
4915203	The specified LDAP schema does not exist
4915208	The specified LDAP servers or preferred Active Directory servers contain duplicate server entries
4915229	DNS resolution failed due to an internal error. Contact technical support if this issue persists
4915231	DNS resolution failed for one or more of the specified LDAP servers. Verify that a valid DNS server is configured
23724132	DNS resolution failed for all the specified LDAP servers. Verify that a valid DNS server is configured
4915234	The specified LDAP server or preferred Active Directory server is not supported because it is one of the following: multicast, loopback, 0.0.0.0, or broadcast
4915248	LDAP servers cannot be empty or "-". Specified Active Directory domain is invalid because it is empty or "-" or it contains either the special characters or "-" at the start or end of the domain.
4915251	STARTTLS and LDAPS cannot be used together

Error Code	Description
4915257	The LDAP configuration is invalid. Verify that the distinguished names and bind password are correct
4915258	The LDAP configuration is invalid. Verify that the Active Directory domain or servers are reachable and that the network configuration is correct
4915259	LDAP configurations with Active Directory domains are not supported on admin SVM.
23724130	Cannot use an IPv6 name server address because there are no IPv6 LIFs

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	

status

Name	Type	Description
code	integer	Code corresponding to the status message.
dn_message	array[string]	
message	string	Provides additional details on the status of the LDAP service.
state	string	Specifies the status of the LDAP service.

svm

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

ldap_service

Name	Type	Description
_links	_links	

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 <code>servers</code> during POST and PATCH.
base_dn	string	Specifies the default base DN for all searches.
base_scope	string	Specifies the default search scope for LDAP queries: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
bind_as_cifs_server	boolean	Specifies whether or not CIFS server's credentials are used to bind to the LDAP server.
bind_dn	string	Specifies the user that binds to the LDAP servers.
bind_password	string	Specifies the bind password for the LDAP servers.
group_dn	string	Specifies the group Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for group lookups.
group_membership_filter	string	Specifies the custom filter used for group membership lookups from an LDAP server.

Name	Type	Description
group_scope	string	Specifies the default search scope for LDAP for group lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
is_netgroup_byhost_enabled	boolean	Specifies whether or not netgroup by host querying is enabled.
is_owner	boolean	Specifies whether or not the SVM owns the LDAP client configuration.
ldaps_enabled	boolean	Specifies whether or not LDAPS is enabled.
min_bind_level	string	The minimum bind authentication level. Possible values are: <ul style="list-style-type: none"> • anonymous - anonymous bind • simple - simple bind • sasl - Simple Authentication and Security Layer (SASL) bind
netgroup_byhost_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup by host lookups.

Name	Type	Description
netgroup_byhost_scope	string	Specifies the default search scope for LDAP for netgroup by host lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
netgroup_dn	string	Specifies the netgroup Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for netgroup lookups.
netgroup_scope	string	Specifies the default search scope for LDAP for netgroup lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	
query_timeout	integer	Specifies the maximum time to wait for a query response from the LDAP server, in seconds.
referral_enabled	boolean	Specifies whether or not LDAP referral is enabled.

Name	Type	Description
schema	string	<p>The name of the schema template used by the SVM.</p> <ul style="list-style-type: none"> • AD-IDMU - Active Directory Identity Management for UNIX • AD-SFU - Active Directory Services for UNIX • MS-AD-BIS - Active Directory Identity Management for UNIX • RFC-2307 - Schema based on RFC 2307 • Custom schema
servers	array[string]	
session_security	string	<p>Specifies the level of security to be used for LDAP communications:</p> <ul style="list-style-type: none"> • none - no signing or sealing • sign - sign LDAP traffic • seal - seal and sign LDAP traffic
skip_config_validation	boolean	<p>Indicates whether or not the validation for the specified LDAP configuration is disabled.</p>
status	status	
svm	svm	
use_start_tls	boolean	<p>Specifies whether or not to use Start TLS over LDAP connections.</p>
user_dn	string	<p>Specifies the user Distinguished Name (DN) that is used as the starting point in the LDAP directory tree for user lookups.</p>

Name	Type	Description
user_scope	string	Specifies the default search scope for LDAP for user lookups: <ul style="list-style-type: none"> • base - search the named entry only • onelevel - search all entries immediately below the DN • subtree - search the named DN entry and the entire subtree below the DN

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 name mappings for SVMs

Name-services name-mappings endpoint overview

Overview

Name mapping is used to map CIFS identities to UNIX identities, Kerberos identities to UNIX identities, and UNIX identities to CIFS identities. It needs this information to obtain user credentials and provide proper file access regardless of whether they are connecting from an NFS client or a CIFS client.

The system keeps a set of conversion rules for each Storage Virtual Machine (SVM). Each rule consists of two pieces: a pattern and a replacement. Conversions start at the beginning of the appropriate list and perform a substitution based on the first matching rule. The pattern is a UNIX-style regular expression. The replacement

is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX sed program.

Name mappings are applied in the order in which they occur in the priority list; for example, a name mapping that occurs at position 2 in the priority list is applied before a name mapping that occurs at position 3. Each mapping direction (Kerberos-to-UNIX, Windows-to-UNIX, and UNIX-to-Windows) has its own priority list. You are prevented from creating two name mappings with the same pattern.

Examples

Creating a name-mapping with `client_match` as the ip-address

Use the following API to create a name-mapping. Note the `return_records=true` query parameter is used to obtain the newly created entry in the response.

```
# The API:
POST /api//name-services/name-mappings

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/name-
mappings?return_records=true" -H "accept: application/json" -H "Content-
Type: application/json" -d "{ \"client_match\": \"10.254.101.111/28\",
\"direction\": \"win_unix\", \"index\": 1, \"pattern\":
\"ENGCIIFS_AD_USER\", \"replacement\": \"unix_user1\", \"svm\": { \"name\":
\"vs1\", \"uuid\": \"f71d3640-0226-11e9-8526-000c290a8c4b\" }}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "f71d3640-0226-11e9-8526-000c290a8c4b",
        "name": "vs1"
      },
      "direction": "win_unix",
      "index": 1,
      "pattern": "ENGCIIFS_AD_USER",
      "replacement": "unix_user1",
      "client_match": "10.254.101.111/28"
    }
  ]
}
```

Creating a name-mapping with `client_match` as the hostname

Use the following API to create a name-mapping. Note the `return_records=true` query parameter is used to obtain the newly created entry in the response.

```

# The API:
POST /api//name-services/name-mappings

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/name-
mappings?return_records=true" -H "accept: application/json" -H "Content-
Type: applicatio/json" -d "{ \"client_match\": \"google.com\",
\"direction\": \"win_unix\", \"index\": 2, \"pattern\":
\"ENGCIIFS_AD_USER\", \"replacement\": \"unix_user1\", \"svm\": { \"name\":
\"vs1\", \"uuid\": \"f71d3640-0226-11e9-8526-000c290a8c4b\" }}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "f71d3640-0226-11e9-8526-000c290a8c4b",
        "name": "vs1"
      },
      "direction": "win_unix",
      "index": 2,
      "pattern": "ENGCIIFS_AD_USER",
      "replacement": "unix_user1",
      "client_match": "google.com"
    }
  ]
}

```

Retrieving all name-mapping configurations for all SVMs in the cluster

```
# The API:
GET /api/name-services/name-mappings

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

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "f71d3640-0226-11e9-8526-000c290a8c4b",
        "name": "vs1"
      },
      "direction": "win_unix",
      "index": 1,
      "pattern": "ENGCIIFS_AD_USER",
      "replacement": "unix_user1",
      "client_match": "10.254.101.111/28"
    },
    {
      "svm": {
        "uuid": "f71d3640-0226-11e9-8526-000c290a8c4b",
        "name": "vs1"
      },
      "direction": "win_unix",
      "index": 2,
      "pattern": "ENGCIIFS_AD_USER",
      "replacement": "unix_user1",
      "client_match": "google.com"
    }
  ],
  "num_records": 2
}
```

Retrieving a name-mapping configuration for a specific SVM, and for the specified direction and index


```
# The API:
GET /api/name-services/name-mappings/{svm.uuid}/{direction}/{index}

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/name-mappings/f71d3640-0226-11e9-8526-000c290a8c4b/win_unix/1" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "f71d3640-0226-11e9-8526-000c290a8c4b",
    "name": "vs1"
  },
  "direction": "win_unix",
  "index": 1,
  "pattern": "ENGCIFS_AD_USER",
  "replacement": "unix_user1",
  "client_match": "10.254.101.111/28"
}
```

Updating a specific name-mapping configuration

```
# The API:
PATCH /api//name-services/name-mappings/{svm.uuid}/{direction}/{index}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/name-services/name-mappings/f71d3640-0226-11e9-8526-000c290a8c4b/win_unix/1" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"client_match\": \"10.254.101.222/28\", \"pattern\": \"ENGCIFS_LOCAL_USER\", \"replacement\": \"pcuser\"}"

# swapping a specified namemapping entry by index
curl -X PATCH "https://<mgmt-ip>/api/name-services/name-mappings/f71d3640-0226-11e9-8526-000c290a8c4b/win-unix/3?new_index=1" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"pattern\": \"ENGCIFS_AD_USER\", \"replacement\": \"unix_user1\"}"
```

Removing a specific name-mapping configuration

```
# The API:
DELETE /api/name-services/name-mappings/{svm.uuid}/{direction}/{index}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/name-services/name-
mappings/f71d3640-0226-11e9-8526-000c290a8c4b/win_unix/1" -H "accept:
application/json"
```

Retrieve hostname mapping for all SVMs

GET /name-services/name-mappings

Introduced In: 9.6

Retrieves the name mapping configuration for all SVMs.

Related ONTAP commands

- `vserver name-mapping show`

Learn more

- [DOC /name-services/name-mappings](#)

Parameters

Name	Type	In	Required	Description
index	integer	query	False	Filter by index
pattern	string	query	False	Filter by pattern
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
client_match	string	query	False	Filter by client_match
direction	string	query	False	Filter by direction

Name	Type	In	Required	Description
replacement	string	query	False	Filter by replacement
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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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	

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

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "client_match": "10.254.101.111/28",
      "direction": "win_unix",
      "index": "1",
      "pattern": "ENGCIIFS_AD_USER",
      "replacement": "unix_user1",
      "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
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

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

name_mapping

Name mapping is used to map CIFS identities to UNIX identities, Kerberos identities to UNIX identities, and UNIX identities to CIFS identities. It needs this information to obtain user credentials and provide proper file access regardless of whether they are connecting from an NFS client or a CIFS client.

Name	Type	Description
_links	_links	

Name	Type	Description
client_match	string	<p>Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats:</p> <ul style="list-style-type: none"> • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname
direction	string	<p>Direction in which the name mapping is applied. The possible values are:</p> <ul style="list-style-type: none"> • krb_unix - Kerberos principal name to UNIX user name • win_unix - Windows user name to UNIX user name • unix_win - UNIX user name to Windows user name mapping
index	integer	Position in the list of name mappings.
pattern	string	<p>Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.</p>

Name	Type	Description
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.
svm	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 hostname mappings for an SVM

POST /name-services/name-mappings

Introduced In: 9.6

Creates name mappings for an SVM.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the name mapping.
- `index` - Name mapping's position in the priority list.
- `direction` - Direction of the name mapping.
- `pattern` - Pattern to match to. Maximum length is 256 characters.
- `replacement` - Replacement pattern to match to. Maximum length is 256 characters.

Recommended optional properties

- `client_match` - Hostname or IP address added to match the pattern to the client's workstation IP address.

Related ONTAP commands

- `vserver name-mapping create`
- `vserver name-mapping insert`

Learn more

- [DOC /name-services/name-mappings](#)

Parameters

Name	Type	In	Required	Description
<code>return_records</code>	boolean	query	False	The default is false. If set to true, the records are returned. <ul style="list-style-type: none">• Default value:

Request Body

Name	Type	Description
<code>_links</code>	_links	
<code>client_match</code>	string	Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats: <ul style="list-style-type: none">• As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24• As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64• As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0• As a hostname

Name	Type	Description
direction	string	Direction in which the name mapping is applied. The possible values are: <ul style="list-style-type: none"> • krb_unix - Kerberos principal name to UNIX user name • win_unix - Windows user name to UNIX user name • unix_win - UNIX user name to Windows user name mapping
index	integer	Position in the list of name mappings.
pattern	string	Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.
svm	svm	

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "client_match": "10.254.101.111/28",
  "direction": "win_unix",
  "index": "1",
  "pattern": "ENGCIFS_AD_USER",
  "replacement": "unix_user1",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

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

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "client_match": "10.254.101.111/28",
      "direction": "win_unix",
      "index": "1",
      "pattern": "ENGCIIFS_AD_USER",
      "replacement": "unix_user1",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
65798185	Failed to resolve the specified hostname
65798149	Invalid index for the name mapping entry
2621706	The specified svm.uuid and svm.name refer to different SVMs

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	

svm

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

name_mapping

Name mapping is used to map CIFS identities to UNIX identities, Kerberos identities to UNIX identities, and UNIX identities to CIFS identities. It needs this information to obtain user credentials and provide proper file access regardless of whether they are connecting from an NFS client or a CIFS client.

Name	Type	Description
_links	_links	

Name	Type	Description
client_match	string	<p>Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats:</p> <ul style="list-style-type: none"> • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname
direction	string	<p>Direction in which the name mapping is applied. The possible values are:</p> <ul style="list-style-type: none"> • krb_unix - Kerberos principal name to UNIX user name • win_unix - Windows user name to UNIX user name • unix_win - UNIX user name to Windows user name mapping
index	integer	Position in the list of name mappings.
pattern	string	<p>Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.</p>

Name	Type	Description
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.
svm	svm	

_links

Name	Type	Description
next	href	
self	href	

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 the name mapping configuration

DELETE /name-services/name-mappings/{svm.uuid}/{direction}/{index}

Introduced In: 9.6

Deletes the name mapping configuration.

Related ONTAP commands

- `vserver name-mapping delete`

Learn more

- [DOC /name-services/name-mappings](#)

Parameters

Name	Type	In	Required	Description
direction	string	path	True	Direction
index	integer	path	True	Position of the entry in the list
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Response

Status: 200, Ok

Error

Status: Default, Error

Name	Type	Description
error	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 name mapping configuration for an SVM

GET /name-services/name-mappings/{svm.uuid}/{direction}/{index}

Introduced In: 9.6

Retrieves the name mapping configuration of an SVM.

Related ONTAP commands

- `vserver name-mapping show`

Learn more

- [DOC /name-services/name-mappings](#)

Parameters

Name	Type	In	Required	Description
direction	string	path	True	Direction

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

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
client_match	string	<p>Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats:</p> <ul style="list-style-type: none"> • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname

Name	Type	Description
direction	string	Direction in which the name mapping is applied. The possible values are: <ul style="list-style-type: none"> • krb_unix - Kerberos principal name to UNIX user name • win_unix - Windows user name to UNIX user name • unix_win - UNIX user name to Windows user name mapping
index	integer	Position in the list of name mappings.
pattern	string	Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.
svm	svm	

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "client_match": "10.254.101.111/28",
  "direction": "win_unix",
  "index": "1",
  "pattern": "ENGCIFS_AD_USER",
  "replacement": "unix_user1",
  "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	

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

Update the name mapping configuration for an SVM

PATCH /name-services/name-mappings/{svm.uuid}/{direction}/{index}

Introduced In: 9.6

Updates the name mapping configuration of an SVM. The positions can be swapped by providing the `new_index` property. Swapping is not allowed for entries that have `client_match` property configured.

Related ONTAP commands

- `vserver name-mapping insert`
- `vserver name-mapping modify`
- `vserver name-mapping swap`

Learn more

- [DOC /name-services/name-mappings](#)

Parameters

Name	Type	In	Required	Description
direction	string	path	True	Direction
index	integer	path	True	Position of the entry in the list
new_index	integer	query	False	New position of the Index after a swap is completed. <ul style="list-style-type: none">• Introduced in: 9.7
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

Request Body

Name	Type	Description
<code>_links</code>	_links	

Name	Type	Description
client_match	string	<p>Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats:</p> <ul style="list-style-type: none"> • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname
direction	string	<p>Direction in which the name mapping is applied. The possible values are:</p> <ul style="list-style-type: none"> • krb_unix - Kerberos principal name to UNIX user name • win_unix - Windows user name to UNIX user name • unix_win - UNIX user name to Windows user name mapping
index	integer	Position in the list of name mappings.
pattern	string	<p>Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.</p>
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.

Name	Type	Description
svm	svm	

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "client_match": "10.254.101.111/28",
  "direction": "win_unix",
  "index": "1",
  "pattern": "ENGCIFS_AD_USER",
  "replacement": "unix_user1",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
65798185	Failed to resolve the specified hostname
65798179	Cannot swap entries because one or both entries have hostname or address configured.

Error Code	Description
	Delete and recreate the new entry at the specified position.

schema: \$ref: "#/definitions/error_response"

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

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

name_mapping

Name mapping is used to map CIFS identities to UNIX identities, Kerberos identities to UNIX identities, and UNIX identities to CIFS identities. It needs this information to obtain user credentials and provide proper file access regardless of whether they are connecting from an NFS client or a CIFS client.

Name	Type	Description
_links	_links	

Name	Type	Description
client_match	string	<p>Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats:</p> <ul style="list-style-type: none"> • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname
direction	string	<p>Direction in which the name mapping is applied. The possible values are:</p> <ul style="list-style-type: none"> • krb_unix - Kerberos principal name to UNIX user name • win_unix - Windows user name to UNIX user name • unix_win - UNIX user name to Windows user name mapping
index	integer	Position in the list of name mappings.
pattern	string	<p>Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.</p>

Name	Type	Description
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.
svm	svm	

Manage NIS server configurations

Name-services NIS endpoint overview

Overview

NIS servers are used to authenticate user and client computers. NIS domain name and NIS server information is required to configure NIS. It is important to note that this API is used to retrieve and manage NIS server configurations for data SVMs only. NIS configuration for the cluster is managed via </api/security/authentication/cluster/nis> .

Retrieving NIS Information

The NIS GET endpoint retrieves all of the NIS configurations for data SVMs.

Examples

Retrieving all fields for all NIS configurations

```
# The API:
/api/name-services/nis

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/nis?fields=*" -H "accept:
application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
          }
        }
      }
    }
  ]
}
```

```

    }
  },
  "domain": "domainA.example.com",
  "servers": [
    "10.10.10.10",
    "example.com"
  ],
  "bound-servers": [
    "10.10.10.10"
  ],
  "_links": {
    "self": {
      "href": "/api/name-services/nis/179d3c85-7053-11e8-b9b8-005056b41bd1"
    }
  }
},
{
  "svm": {
    "uuid": "6a52023b-7066-11e8-b9b8-005056b41bd1",
    "name": "vs2",
    "_links": {
      "self": {
        "href": "/api/svm/svms/6a52023b-7066-11e8-b9b8-005056b41bd1"
      }
    }
  },
  "domain": "domainB.example.com",
  "servers": [
    "2.2.2.2",
    "3.3.3.3",
    "4.4.4.4"
  ],
  "bound-servers": [],
  "_links": {
    "self": {
      "href": "/api/name-services/nis/6a52023b-7066-11e8-b9b8-005056b41bd1"
    }
  }
}
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/name-services/nis?fields=*"
  }
}

```

```
}  
}  
}
```

Retrieving all NIS configurations whose bound servers start with 10

```
# The API:
/api/name-services/nis

# The call:
curl -X GET "https://<mgmt-ip/api/name-services/nis?bound_servers=10*" -H
"accept: application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/179d3c85-7053-11e8-b9b8-005056b41bd1"
          }
        }
      },
      "bound-servers": [
        "10.10.10.10"
      ],
      "_links": {
        "self": {
          "href": "/api/name-services/nis/6a52023b-7066-11e8-b9b8-005056b41bd1"
        }
      }
    }
  ],
  "num_records": 1,
  "_links": {
    "self": {
      "href": "/api/name-services/nis?bound_servers=10*"
    }
  }
}
```

Retrieving the NIS configuration of a specific SVM

```
# The API:
/api/name-services/nis/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/nis/179d3c85-7053-11e8-
b9b8-005056b41bd1" -H "accept: application/hal+json"

# The response:
{
  "svm": {
    "uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1",
    "name": "vs1"
  },
  "domain": "domainA.example.com",
  "servers": [
    "10.10.10.10",
    "example.com"
  ],
  "bound_servers": [
    "10.10.10.10"
  ]
}
```

Creating a NIS configuration

The NIS POST endpoint creates a NIS configuration for the specified SVM.

Example

The following example shows a POST operation:

```
# The API:
/api/name-services/nis

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/nis" -H "accept:
application/json" -H "Content-Type: application/json" -d "{ \"svm\": {
  \"uuid\": \"179d3c85-7053-11e8-b9b8-005056b41bd1\" }, \"domain\":
  \"domainA.example.com\", \"servers\": [ \"10.10.10.10\", \"example.com\"
  ]}"
```

Updating the NIS configuration

The NIS PATCH endpoint updates the NIS configuration for the specified NIS server.

Examples

Updating the domain

```
# The API:
/api/name-services/nis/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/name-services/nis/179d3c85-7053-11e8-
b9b8-005056b41bd1" -H "accept: application/json" -H "Content-Type:
application/json" -d "{ \"domain\": \"domainC.example.com\", \"servers\":
[ \"13.13.13.13\" ]}"
```

Updating the server

```
# The API:
/api/name-services/nis/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/name-services/nis/179d3c85-7053-11e8-
b9b8-005056b41bd1" -H "accept: application/json" -H "Content-Type:
application/json" -d "{ \"servers\": [ \"14.14.14.14\" ]}"
```

Deleting a NIS configuration

The NIS DELETE endpoint deletes the NIS configuration for the specified SVM.

Example

The following example shows a DELETE operation:

```
# The API:
/api/name-services/nis/{svm.uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/name-services/nis/179d3c85-7053-11e8-b9b8-005056b41bd1" -H "accept: application/hal+json"
```

Retrieve NIS domain configurations of all SVMs

GET /name-services/nis

Introduced In: 9.6

Retrieves NIS domain configurations of all the SVMs. The `bound_servers` field indicates the successfully bound NIS servers. Lookups and authentications fail if there are no bound servers.

Related ONTAP commands

- `vserver services name-service nis-domain show`
- `vserver services name-service nis-domain show-bound`

Learn more

- [DOC /name-services/nis](#)

Parameters

Name	Type	In	Required	Description
svm.uuid	string	query	False	Filter by svm.uuid <ul style="list-style-type: none">• Introduced in: 9.7
svm.name	string	query	False	Filter by svm.name <ul style="list-style-type: none">• Introduced in: 9.7
servers	string	query	False	Filter by servers <ul style="list-style-type: none">• Introduced in: 9.7

Name	Type	In	Required	Description
domain	string	query	False	Filter by domain <ul style="list-style-type: none"> Introduced in: 9.7
bound_servers	string	query	False	Filter by bound_servers <ul style="list-style-type: none"> Introduced in: 9.7
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. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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 NIS domain records.
records	array[nis_service]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "bound_servers": [
        "string"
      ],
      "domain": "string",
      "servers": [
        "string"
      ],
      "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
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

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

nis_service

Name	Type	Description
_links	_links	
bound_servers	array[string]	
domain	string	The NIS domain to which this configuration belongs.
servers	array[string]	A list of hostnames or IP addresses of NIS servers used by the NIS domain configuration.
svm	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 the NIS domain and server configuration for a data SVM

POST `/name-services/nis`

Introduced In: 9.6

Creates an NIS domain and server configuration for a data SVM. NIS configuration for the cluster is managed via [/api/security/authentication/cluster/nis](#) .

Important notes

- Each SVM can have one NIS domain configuration.
- Multiple SVMs can be configured with the same NIS domain. Specify the NIS domain and NIS servers as `input.Domain` name and `servers` fields cannot be empty.
- Both FQDNs and IP addresses are supported for the `servers` field.
- IPv6 must be enabled if IPv6 family addresses are specified in the `servers` field.
- A maximum of ten NIS servers are supported.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the NIS configuration.
- `domain` - NIS domain to which the configuration belongs.
- `servers` - List of NIS server IP addresses.

Related ONTAP commands

- `vserver services name-service nis-domain create`

Learn more

- [DOC /name-services/nis](#)

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
_links	_links	
bound_servers	array[string]	
domain	string	The NIS domain to which this configuration belongs.
servers	array[string]	A list of hostnames or IP addresses of NIS servers used by the NIS domain configuration.
svm	svm	

Example request

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

Response

Status: 201, Created

Name	Type	Description
<code>_links</code>	<code>_links</code>	
<code>num_records</code>	integer	Number of NIS domain records.
<code>records</code>	array[nis_service]	

Example response

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

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1966253	IPv6 is not enabled in the cluster
2621488	Invalid SVM context
2621706	The specified SVM UUID is incorrect for the specified SVM name
3276964	NIS domain name or NIS server domain is too long. The maximum supported for domain name is 64 characters and the maximum supported for NIS server domain is 255 characters
3276933	A maximum of 10 NIS servers can be configured per SVM
13434916	The SVM is in the process of being created. Wait a few minutes, and then try the command again.
23724109	DNS resolution failed for one or more specified servers
23724112	DNS resolution failed due to an internal error. Contact technical support if this issue persists
23724132	DNS resolution failed for all the specified servers
23724130	Cannot use an IPv6 name server address because there are no IPv6 LIFs

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	

svm

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

nis_service

Name	Type	Description
_links	_links	
bound_servers	array[string]	
domain	string	The NIS domain to which this configuration belongs.
servers	array[string]	A list of hostnames or IP addresses of NIS servers used by the NIS domain configuration.
svm	svm	

_links

Name	Type	Description
next	href	
self	href	

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 the NIS domain configuration for an SVM

```
DELETE /name-services/nis/{svm.uuid}
```

Introduced In: 9.6

Deletes the NIS domain configuration of an SVM. NIS can be removed as a source from ns-switch if NIS is not used for lookups.

Related ONTAP commands

- `vserver services name-service nis-domain delete`

Learn more

- [DOC /name-services/nis](#)

Parameters

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

Response

```
Status: 200, Ok
```

Error

Status: Default, 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

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 NIS domain and server configurations for an SVM

```
GET /name-services/nis/{svm.uuid}
```

Introduced In: 9.6

Retrieves NIS domain and server configurations of an SVM. Both NIS domain and servers are displayed by default. The `bound_servers` field indicates the successfully bound NIS servers.

Related ONTAP commands

- `vserver services name-service nis-domain show`
- `vserver services name-service nis-domain show-bound`

Learn more

- [DOC /name-services/nis](#)

Parameters

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

Name	Type	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
bound_servers	array[string]	
domain	string	The NIS domain to which this configuration belongs.
servers	array[string]	A list of hostnames or IP addresses of NIS servers used by the NIS domain configuration.
svm	svm	

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "bound_servers": [
    "string"
  ],
  "domain": "string",
  "servers": [
    "string"
  ],
  "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	

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

Update the NIS domain and server configuration for an SVM

```
PATCH /name-services/nis/{svm.uuid}
```

Introduced In: 9.6

Updates NIS domain and server configuration of an SVM.

Important notes

- Both NIS domain and servers can be modified.
- Domains and servers cannot be empty.
- Both FQDNs and IP addresses are supported for the servers field.
- If the domain is modified, NIS servers must also be specified.
- IPv6 must be enabled if IPv6 family addresses are specified for the servers field.

Related ONTAP commands

- `vserver services name-service nis-domain modify`

Learn more

- [DOC /name-services/nis](#)

Parameters

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

Request Body

Name	Type	Description
_links	_links	
bound_servers	array[string]	
domain	string	The NIS domain to which this configuration belongs.
servers	array[string]	A list of hostnames or IP addresses of NIS servers used by the NIS domain configuration.
svm	svm	

Example request

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

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1966253	IPv6 is not enabled in the cluster
2621488	Invalid SVM context
2621706	The specified SVM UUID is incorrect for the specified SVM name

Error Code	Description
3276964	NIS domain name or NIS server domain is too long. The maximum supported for domain name is 64 characters and the maximum supported for NIS server domain is 255 characters
3276933	A maximum of 10 NIS servers can be configured per SVM
23724109	DNS resolution failed for one or more specified servers
23724112	DNS resolution failed due to an internal error. Contact technical support if this issue persists
23724132	DNS resolution failed for all the specified servers
23724130	Cannot use an IPv6 name server address because there are no IPv6 LIFs

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	

svm

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

nis_service

Name	Type	Description
_links	_links	
bound_servers	array[string]	
domain	string	The NIS domain to which this configuration belongs.
servers	array[string]	A list of hostnames or IP addresses of NIS servers used by the NIS domain configuration.
svm	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.

Manage UNIX group configurations

Name-services unix-groups endpoint overview

Overview

You can use this API to display local UNIX group information and to control UNIX group configurations.

Retrieving UNIX group information

The UNIX group GET endpoint retrieves all of the local UNIX groups configurations for data SVMs.

Examples

Retrieving all of the fields for all of the UNIX group configurations

The UNIX group GET endpoint retrieves all of the local UNIX groups configurations for data SVMs.

```
# The API:
/api/name-services/unix-groups

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/unix-groups?fields=*" -H
"accept: application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "b009a9e7-4081-b576-7575-ada21efcaf16",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/b009a9e7-4081-b576-7575-ada21efcaf16"
          }
        }
      }
    }
  ]
}
```

```

    }
  },
  "name": "group1",
  "id": 11,
  "users": [
    {
      "name": "user1"
    },
    {
      "name": "user2"
    },
    {
      "name": "user3"
    }
  ],
  "_links": {
    "self": {
      "href": "/api/name-services/unix-groups/b009a9e7-4081-b576-7575-ada21efcaf16/group1"
    }
  }
},
{
  "svm": {
    "uuid": "b009a9e7-4081-b576-7575-ada21efcaf16",
    "name": "vs1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/b009a9e7-4081-b576-7575-ada21efcaf16"
      }
    }
  },
  "name": "group2",
  "id": 12,
  "users": [
    {
      "name": "user1"
    },
    {
      "name": "user2"
    }
  ],
  "_links": {
    "self": {
      "href": "/api/name-services/unix-groups/b009a9e7-4081-b576-7575-

```

```

ada21efcaf16/group2"
  }
}
},
{
  "svm": {
    "uuid": "b009a9e7-4081-b576-7575-ada21efcad17",
    "name": "vs2",
    "_links": {
      "self": {
        "href": "/api/svm/svms/b009a9e7-4081-b576-7575-ada21efcad17"
      }
    }
  },
  "name": "group1",
  "id": 11,
  "users": [
    {
      "name": "user2"
    },
    {
      "name": "user3"
    }
  ],
  "_links": {
    "self": {
      "href": "/api/name-services/unix-groups/b009a9e7-4081-b576-7575-ada21efcad17/group1"
    }
  }
},
"num_records": 3,
"_links": {
  "self": {
    "href": "/api/name-services/unix-groups?fields=*"
  }
}
}
}

```

Retrieving all of the UNIX group configurations whose group name is 'group1'.

```

# The API:
/api/name-services/unix-groups

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/unix-groups?name=group1"
-H "accept: application/hal+json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "b009a9e7-4081-b576-7575-ada21efcaf16",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/b009a9e7-4081-b576-7575-ada21efcaf16"
          }
        }
      },
      "name": "group1",
      "id": 11,
      "_links": {
        "self": {
          "href": "/api/name-services/unix-groups/b009a9e7-4081-b576-7575-ada21efcaf16/group1"
        }
      }
    },
  ],
  "num_records": 1,
  "_links": {
    "self": {
      "href": "/api/name-services/unix-groups?name=group1"
    }
  }
}

```

Creating a UNIX group configuration

The UNIX group POST endpoint creates a UNIX group configuration for the specified SVM.

Example

```
# The API:
/api/name-services/unix-groups

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/unix-groups" -H "accept:
application/hal+json" -H "Content-Type: application/json" -d '{"svm":
{"uuid": "179d3c85-7053-11e8-b9b8-005056b41bd1"}, "name": "group1", "id":
111}'
```

Updating a UNIX group configuration

The UNIX group PATCH endpoint updates the UNIX group ID of the specified UNIX group and the specified SVM.

Example

Modify the group ID of group1 to 112

```
# The API:
/api/name-services/unix-groups/{svm.uuid}/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/name-services/unix-groups/179d3c85-
7053-11e8-b9b8-005056b41bd1/group1" -H "accept: application/hal+json" -H
"Content-Type: application/json" -d '{"id": 112}'
```

Deleting a UNIX group configuration

The UNIX group DELETE endpoint deletes the specified UNIX group of the specified SVM.

Example

Delete the group 'group1'

```
# The API:
/api/name-services/unix-groups/{svm.uuid}/{name}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/name-services/unix-groups/179d3c85-
7053-11e8-b9b8-005056b41bd1/group1" -H "accept: application/hal+json"
```

Retrieve UNIX groups for all SVMs

GET /name-services/unix-groups

Introduced In: 9.9

Retrieves the UNIX groups for all of the SVMs. UNIX users who are the members of the group are also displayed.

Related ONTAP commands

- `vserver services name-service unix-group show`

Learn more

- [DOC /name-services/unix-groups](#)

Parameters

Name	Type	In	Required	Description
users.name	string	query	False	Filter by users.name
name	string	query	False	Filter by name
id	integer	query	False	Filter by id
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. <ul style="list-style-type: none">• Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>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.</p> <ul style="list-style-type: none"> • 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 UNIX group records.
records	array[unix_group]	

Example response

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

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	

svm

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

users

Name	Type	Description
name	string	UNIX user who belongs to the specified UNIX group and the SVM.

unix_group

Name	Type	Description
_links	_links	
id	integer	UNIX group ID of the specified user.
name	string	UNIX group name to be added to the local database.

Name	Type	Description
skip_name_validation	boolean	Indicates whether or not the validation for the specified UNIX group name is disabled.
svm	svm	
users	array[users]	

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 a local UNIX group configuration for an SVM

POST /name-services/unix-groups

Introduced In: 9.9

Creates the local UNIX group configuration for the specified SVM.

Group name and group ID are mandatory parameters.

Learn more

- [DOC /name-services/unix-groups](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	<p>The default is false. If set to true, the records are returned.</p> <ul style="list-style-type: none"> • Default value:

Request Body

Name	Type	Description
_links	_links	
id	integer	UNIX group ID of the specified user.
name	string	UNIX group name to be added to the local database.
skip_name_validation	boolean	Indicates whether or not the validation for the specified UNIX group name is disabled.
svm	svm	
users	array[users]	

Example request

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

Response

Status: 201, Created

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
2621706	The specified SVM UUID is incorrect for the specified SVM name.
3277025	Maximum supported limit of UNIX group count reached.

Error Code	Description
3277051	Invalid characters in group name. Valid characters are 0-9, A-Z, a-z, ".", "_" and "-". Names cannot start with "-".
23724067	Group name too long. Maximum supported length is 64 characters.
23724141	Duplicate group ID. Group ID must be unique.

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	

svm

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

users

Name	Type	Description
name	string	UNIX user who belongs to the specified UNIX group and the SVM.

unix_group

Name	Type	Description
_links	_links	
id	integer	UNIX group ID of the specified user.
name	string	UNIX group name to be added to the local database.
skip_name_validation	boolean	Indicates whether or not the validation for the specified UNIX group name is disabled.
svm	svm	
users	array[users]	

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 a UNIX group configuration for an SVM

```
DELETE /name-services/unix-groups/{svm.uuid}/{name}
```

Introduced In: 9.9

Deletes a UNIX group configuration for the specified SVM.

Related ONTAP commands

- `vserver services name-service unix-group delete`

Learn more

- [DOC /name-services/unix-groups](#)

Parameters

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

Response

Status: 200, Ok

Error

Status: Default, Error

Name	Type	Description
error	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 UNIX group information for a group and SVM

GET /name-services/unix-groups/{svm.uuid}/{name}

Introduced In: 9.9

Retrieves UNIX group information for the specified group and SVM. UNIX users who are part of this group are also retrieved.

Related ONTAP commands

- `vserver services name-service unix-group show`

Learn more

- [DOC /name-services/unix-groups](#)

Parameters

Name	Type	In	Required	Description
name	string	path	True	UNIX group name.

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

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
id	integer	UNIX group ID of the specified user.
name	string	UNIX group name to be added to the local database.
skip_name_validation	boolean	Indicates whether or not the validation for the specified UNIX group name is disabled.
svm	svm	
users	array[users]	

Example response

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

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	

svm

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

users

Name	Type	Description
name	string	UNIX user who belongs to the specified UNIX group and 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

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

Update UNIX group information for a group in an SVM

PATCH /name-services/unix-groups/{svm.uuid}/{name}

Introduced In: 9.9

Updates the UNIX group information of the specified group in the specified SVM.

Learn more

- [DOC /name-services/unix-groups](#)

Parameters

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

Request Body

Name	Type	Description
_links	_links	
id	integer	UNIX group ID of the specified user.
name	string	UNIX group name to be added to the local database.
skip_name_validation	boolean	Indicates whether or not the validation for the specified UNIX group name is disabled.
svm	svm	
users	array[users]	

Example request

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

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
23724141	Duplicate group ID. Group ID must be unique.

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	

svm

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

users

Name	Type	Description
name	string	UNIX user who belongs to the specified UNIX group and the SVM.

unix_group

Name	Type	Description
_links	_links	
id	integer	UNIX group ID of the specified user.
name	string	UNIX group name to be added to the local database.
skip_name_validation	boolean	Indicates whether or not the validation for the specified UNIX group name is disabled.
svm	svm	
users	array[users]	

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 UNIX group users

Name-services unix-groups svm.uuid unix_group.name users endpoint overview

Overview

You can use this API to add or delete UNIX users to a UNIX group of an SVM.

Adding users to a UNIX group

The UNIX group users POST endpoint adds UNIX users to the specified UNIX group and the SVM. Multiple users can be added in a single call using the "records" parameter.

Examples

Adding a single user to the group 'group1'

```
# The API:
/api/name-services/unix-groups/{svm.uuid}/{unix_group.name}/users

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/unix-groups/179d3c85-7053-11e8-b9b8-005056b41bd1/group1/users" -H "accept: application/hal+json" -H "Content-Type: application/json" -d '{ "name": "user4" }'
```

Adding multiple users to the group 'group1' in a single REST call

```
# The API:
/api/name-services/unix-groups/{svm.uuid}/{unix_group.name}/users

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/unix-groups/179d3c85-7053-11e8-b9b8-005056b41bd1/group1/users" -H "accept: application/hal+json" -H "Content-Type: application/json" -d '{"records": [{"name":"user1"}, {"name":"user2"}, {"name":"user3"}]}'
```

Deleting a user from a group of a specific SVM

Example

Delete the user 'user1' from group 'group1' in SVM 'vs1'

```
= The API:

/api/name-services/unix-groups/{svm.uuid}/{unix_group.name}/users/{name}

= The call:

[[IDdc74e40b8ed89ab81b9afd352d5427bf]]
= Add users to a UNIX group and SVM

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-block]#`/name-services/unix-groups/{svm.uuid}/{unix_group.name}/users`#

*Introduced In:* 9.9

Adds users to the specified UNIX group and SVM.

== Important notes

* Multiple users can be added in a single call using the "records" parameter.
* "records" parameter must not be specified when "name" parameter is specified.
* Specified users are appended to the existing list of users.
* Duplicate users are ignored.
```

== Related ONTAP commands

```
* `vserver services name-service unix-group adduser`  
* `vserver services name-service unix-group addusers`
```

== Parameters

[cols=5*,options=header]

|===

|Name

|Type

|In

|Required

|Description

|unix_group.name

|string

|path

|True

a|UNIX group name.

|return_records

|boolean

|query

|False

a|The default is false. If set to true, the records are returned.

* Default value:

|svm.uuid

|string

|path

|True

a|UUID of the SVM to which this object belongs.

|===

== Request Body

[cols=3*,options=header]

|===


```

|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|name
|string
a|UNIX user who belongs to the specified UNIX group and the SVM.

|records
|array[link:#records[records]]
a|An array of UNIX users specified to add multiple users to a UNIX group
in a single API call.
Not allowed when the `name` property is used.

|skip_name_validation
|boolean
a|Indicates whether or not the validation for the specified UNIX user
names is disabled.

|===

.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "string",
  "records": [
    {
      "name": "string"
    }
  ]
}
====

```

```
== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

ONTAP Error Response Codes

```
|===  
| Error Code | Description  
  
| 262179  
| Invalid arguments in records.  
  
| 3276897  
| The specified UNIX group does not exist in the SVM.  
  
| 3277025  
| Maximum supported limit of UNIX group membership count reached.  
  
| 3277051  
| Invalid characters in user name. Valid characters are 0-9, A-Z, a-z,  
".", "_" and "-". Names cannot start with "-".  
  
| 23724066  
| User name too long. Maximum supported length is 64 characters.  
  
| 23724142  
| "records" field must not be specified when a single user is added.  
  
| 23724143  
| SVM UUID, UNIX group name and skip-name-validation are invalid fields  
for "records" parameter.  
|===
```

```
[cols=3*,options=header]
```

```
|===  
|Name  
|Type  
|Description
```

```

|error
|link:#error[error]
a|

|===

.Example error
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
====

== Definitions

[.api-def-first-level]
.See Definitions
[%collapsible%closed]
//Start collapsible Definitions block
====
[#href]
[.api-collapsible-fifth-title]
href

[cols=3*,options=header]
|===
|Name
|Type
|Description

|href
|string

```

```

a|

|===

[#_links]
[.api-collapsible-fifth-title]
_links

[cols=3*,options=header]
|===
|Name
|Type
|Description

|self
|link:#href[href]
a|

|===

[#records]
[.api-collapsible-fifth-title]
records

[cols=3*,options=header]
|===
|Name
|Type
|Description

|name
|string
a|UNIX user who belongs to the specified UNIX group and the SVM.

|===

[#unix_group_users]
[.api-collapsible-fifth-title]
unix_group_users

[cols=3*,options=header]
|===
|Name

```

```

|Type
|Description

|_links
|link:#_links[_links]
a|

|name
|string
a|UNIX user who belongs to the specified UNIX group and the SVM.

|records
|array[link:#records[records]]
a|An array of UNIX users specified to add multiple users to a UNIX group
in a single API call.
Not allowed when the `name` property is used.

|skip_name_validation
|boolean
a|Indicates whether or not the validation for the specified UNIX user
names is disabled.

|===

[#error_arguments]
[.api-collapsible-fifth-title]
error_arguments

[cols=3*,options=header]
|===
|Name
|Type
|Description

|code
|string
a|Argument code

|message
|string
a|Message argument

```

```

|===

[#error]
[.api-collapsible-fifth-title]
error

[cols=3*,options=header]
|===
|Name
|Type
|Description

|arguments
|array[link:#error_arguments[error_arguments]]
a|Message arguments

|code
|string
a|Error code

|message
|string
a|Error message

|target
|string
a|The target parameter that caused the error.

|===

//end collapsible .Definitions block
=====

[[ID84ed1a85d0d6eb1a5d2252753825eba5]]
= Delete a user from a UNIX group

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/name-services/unix-

```

```
groups/{svm.uuid}/{unix_group.name}/users/{name}`#
```

Introduced In: 9.9

Deletes a user from the specified UNIX group.

== Related ONTAP commands

* `vserver services name-service unix-group deluser`

== Parameters

```
[cols=5*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|In
```

```
|Required
```

```
|Description
```

```
|unix_group.name
```

```
|string
```

```
|path
```

```
|True
```

```
a|UNIX group name.
```

```
|name
```

```
|string
```

```
|path
```

```
|True
```

```
a|UNIX user to be deleted from the group.
```

```
|svm.uuid
```

```
|string
```

```
|path
```

```
|True
```

```
a|UUID of the SVM to which this object belongs.
```

```
|===
```

== Response

Status: 200, Ok

```
== Error
```

Status: Default

ONTAP Error Response Codes

```
|===
```

```
| Error Code | Description
```

```
| 3276897
```

```
| The specified UNIX group does not exist in the SVM.
```

```
|===
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|error
```

```
|link:#error[error]
```

```
a|
```

```
|===
```

```
.Example error
```

```
[%collapsible%closed]
```

```
=====
```

```
[source,json,subs=+macros]
```

```
{
```

```
  "error": {
```

```
    "arguments": [
```

```
      {
```

```
        "code": "string",
```

```
        "message": "string"
```

```
      }
```

```
    ],
```

```
    "code": "4",
```

```
    "message": "entry doesn't exist",
```

```
    "target": "uuid"
```



```

    }
}
====

== Definitions

[.api-def-first-level]
.See Definitions
[%collapsible%closed]
//Start collapsible Definitions block
====
[#error_arguments]
[.api-collapsible-fifth-title]
error_arguments

[cols=3*,options=header]
|===
|Name
|Type
|Description

|code
|string
a|Argument code

|message
|string
a|Message argument

|===

[#error]
[.api-collapsible-fifth-title]
error

[cols=3*,options=header]
|===
|Name
|Type
|Description

|arguments
|array[link:#error_arguments[error_arguments]]
a|Message arguments

```

```
|code
|string
a|Error code

|message
|string
a|Error message

|target
|string
a|The target parameter that caused the error.
```

```
|===
```

```
//end collapsible .Definitions block
====
```

```
:leveloffset: -1
```

```
= Manage UNIX user configurations
```

```
:leveloffset: +1
```

```
[[IDfd8b57edf32ab3f1029467a71f46793b]]
= Name-services unix-users endpoint overview
```

```
== Overview
```

You can use this API to display local UNIX user information and to control UNIX user configurations.

```
== Retrieving UNIX user information
```

You can use the UNIX user GET endpoint to retrieve all of the local UNIX user configurations for data SVMs.

== Examples

=== Retrieving all of the fields for UNIX user configurations for all SVMs

'''

The API:

/api/name-services/unix-users

The call:

```
curl -X GET "https://<mgmt-ip>/api/name-services/unix-users?fields=*" -H
"accept: application/json"
```

The response:

```
{
"records": [
  {
    "svm": {
      "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
      "name": "vs1"
    },
    "name": "string",
    "id": 7,
    "primary_gid": 0,
    "full_name": "string"
  },
  {
    "svm": {
      "uuid": "3f479a01-2971-11eb-88e1-0050568eefd4",
      "name": "vs2"
    },
    "name": "nobody",
    "id": 65535,
    "primary_gid": 65535,
    "full_name": ""
  },
  {
    "svm": {
      "uuid": "3f479a01-2971-11eb-88e1-0050568eefd4",
      "name": "vs2"
    },
    "name": "pcuser",
    "id": 65534,
```

```

    "primary_gid": 65534,
    "full_name": ""
  },
  {
    "svm": {
      "uuid": "3f479a01-2971-11eb-88e1-0050568eefd4",
      "name": "vs2"
    },
    "name": "root",
    "id": 0,
    "primary_gid": 1,
    "full_name": ""
  }
],
"num_records": 4
}
----

'''

=== Retrieving the UNIX user configuration of a specific SVM

'''

----

# The API:
/api/name-services/unix-users

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/unix-
users?svm.uuid=25b363a6-2971-11eb-88e1-0050568eefd4&fields=*" -H "accept:
application/json"

# The response:
{
"records": [
  {
    "svm": {
      "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
      "name": "vs1"
    },
    "name": "user1",
    "id": 1,
    "primary_gid": 1,
    "full_name": "Full User Name for user1"
  }
]
}

```

```

    }
  ],
  "num_records": 1
}
----

'''

=== Retrieving a UNIX user configuration of a specific SVM and user

'''

----

# The API:
/api/name-services/unix-users/{svm.uuid}/{name}

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/unix-users/25b363a6-2971-11eb-88e1-0050568eefd4/user1" -H "accept: application/json"

# The response:
{
  "svm": {
    "uuid": "25b363a6-2971-11eb-88e1-0050568eefd4",
    "name": "vs1"
  },
  "name": "user1",
  "id": 1,
  "primary_gid": 1,
  "full_name": "Full User Name for user1"
}
----

'''

== Creating a UNIX user configuration

The UNIX user POST endpoint creates a UNIX user configuration for the
specified SVM.

== Examples

=== Creating a UNIX user configuration with all fields specified

'''

```

```
-----  
  
# The API:  
/api/name-services/unix-users  
  
# The call:  
curl -X POST "https://<mgmt-ip>/api/name-services/unix-users" -H "accept:  
application/json" -d "{ \"full_name\": \"Full user name\", \"id\": 7,  
\"name\": \"user2\", \"primary_gid\": 10, \"skip_name_validation\": false,  
\"svm\": { \"name\": \"vs1\", \"uuid\": \"25b363a6-2971-11eb-88e1-  
0050568eefd4\" } }"
```

```
-----
```

```
'''
```

=== Creating a UNIX user configuration with only mandatory fields specified

```
'''
```

```
-----
```

```
# The API:  
/api/name-services/unix-users
```

```
# The call:  
curl -X POST "https://<mgmt-ip>/api/name-services/unix-users" -H "accept:  
application/json" -d "{ \"id\": 8, \"name\": \"user9\", \"primary_gid\":  
10, \"svm\": { \"name\": \"vs1\", \"uuid\": \"25b363a6-2971-11eb-88e1-  
0050568eefd4\" } }"
```

```
-----
```

```
'''
```

=== Updating a UNIX user configuration

The UNIX user PATCH endpoint updates the UNIX user configuration for the specified user and SVM. The following example shows a PATCH operation:

```
-----
```

```
# The API:  
/api/name-services/unix-users/{svm.uuid}/{name}
```

```
# The call:  
curl -X PATCH "https://<mgmt-ip>/api/name-services/unix-users/25b363a6-  
2971-11eb-88e1-0050568eefd4/user1" -H "accept: application/json" -d "{
```

```
\\"full_name\\": \\"Full name\\", \\"id\\": 7, \\"primary_gid\\": 10 }"
```

```
----
```

```
'''
```

== Deleting a UNIX user configuration

The UNIX user DELETE endpoint deletes the specified UNIX user for the specified SVM. The following example shows a DELETE operation:

```
----
```

The API:

```
/api/name-services/unix-users/{svm.uuid}/{name}
```

The call:

```
curl -X DELETE "https://<mgmt-ip>/api/name-services/unix-users/25b363a6-2971-11eb-88e1-0050568eefd4/user1" -H "accept: application/json"
```

```
----
```

```
'''
```

```
[[ID85d561723a4f15d836b591cc832e1006]]
```

= Retrieve all UNIX users for all SVMs

```
[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-block]#`/name-services/unix-users`#
```

Introduced In: 9.9

Retrieves all of the UNIX users for all of the SVMs.

== Related ONTAP commands

```
* `vserver services name-service unix-user show`
```

== Parameters

```
[cols=5*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
|In
|Required
|Description

|primary_gid
|integer
|query
|False
a|Filter by primary_gid
```

```
|full_name
|string
|query
|False
a|Filter by full_name
```

```
|id
|integer
|query
|False
a|Filter by id
```

```
|svm.uuid
|string
|query
|False
a|Filter by svm.uuid
```

```
|svm.name
|string
|query
|False
a|Filter by svm.name
```

```
|name
|string
|query
|False
a|Filter by name
```



```
|fields
|array[string]
|query
|False
a|Specify the fields to return.
```

```
|max_records
|integer
|query
|False
a|Limit the number of records returned.
```

```
|return_records
|boolean
|query
|False
a|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
a|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
a|Order results by specified fields and optional [asc|desc] direction.
Default direction is 'asc' for ascending.
```

```
|===
```

== Response

Status: 200, Ok

```
[cols=3*,options=header]
|===
|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|num_records
|integer
a|Number of UNIX user records.

|records
|array[link:#unix_user[unix_user]]
a|

|===

.Example response
[%collapsible%closed]
=====
[source,json,subs=+macros]
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    }
  ],
}
```

```

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

== Error

```

Status: Default, Error

```

[cols=3*,options=header]
|===
|Name
|Type
|Description

|error
|link:#error[error]
a|

|===

.Example error
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],

```

```
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

====

== Definitions

```
[.api-def-first-level]
.See Definitions
[%collapsible%closed]
//Start collapsible Definitions block
```

====

```
[#href]
[.api-collapsible-fifth-title]
href
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
|Type
|Description
```

```
|href
|string
a|
```

```
|===
```

```
[#_links]
[.api-collapsible-fifth-title]
_links
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
|Type
|Description
```

```
|next
|link:#href[href]
a|
```

```
|self
|link:#href[href]
```

```

a|

|===

[#_links]
[.api-collapsible-fifth-title]
_links

[cols=3*,options=header]
|===
|Name
|Type
|Description

|self
|link:#href[href]
a|

|===

[#svm]
[.api-collapsible-fifth-title]
svm

[cols=3*,options=header]
|===
|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|name
|string
a|The name of the SVM.

|uuid
|string
a|The unique identifier of the SVM.

|===

```

```
[#unix_user]
[.api-collapsible-fifth-title]
unix_user

[cols=3*,options=header]
|===
|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|full_name
|string
a|User's full name.

|id
|integer
a|UNIX user ID of the specified user.

|name
|string
a|UNIX user name to be added to the local database.

|primary_gid
|integer
a|Primary group ID to which the user belongs.

|skip_name_validation
|boolean
a|Indicates whether or not the validation for the specified UNIX user name
is disabled.

|svm
|link:#svm[svm]
a|

|===
```

```
[#error_arguments]
[.api-collapsible-fifth-title]
error_arguments
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|code
```

```
|string
```

```
a|Argument code
```

```
|message
```

```
|string
```

```
a|Message argument
```

```
|===
```

```
[#error]
```

```
[.api-collapsible-fifth-title]
```

```
error
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|arguments
```

```
|array[link:#error_arguments[error_arguments]]
```

```
a|Message arguments
```

```
|code
```

```
|string
```

```
a|Error code
```

```
|message
```

```
|string
```

```

a|Error message

|target
|string
a|The target parameter that caused the error.

|===

//end collapsible .Definitions block
=====

[[IDe225209a809dfe9d2585f1e24ae14182]]
= Create a local UNIX user configuration for an SVM

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/name-services/unix-users`#

*Introduced In:* 9.9

Creates the local UNIX user configuration for an SVM.

== Parameters

[cols=5*,options=header]
|===

|Name
|Type
|In
|Required
|Description

|return_records
|boolean
|query
|False
a|The default is false. If set to true, the records are returned.

* Default value:

|===

```


== Request Body

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
 |_links
```

```
|link:#_links[_links]
```

```
a|
```

```
 |full_name
```

```
 |string
```

```
a|User's full name.
```

```
 |id
```

```
 |integer
```

```
a|UNIX user ID of the specified user.
```

```
 |name
```

```
 |string
```

```
a|UNIX user name to be added to the local database.
```

```
 |primary_gid
```

```
 |integer
```

```
a|Primary group ID to which the user belongs.
```

```
 |skip_name_validation
```

```
 |boolean
```

```
a|Indicates whether or not the validation for the specified UNIX user name is disabled.
```

```
 |svm
```

```
 |link:#svm[svm]
```

```
a|
```

```
|===
```

```
.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "full_name": "string",
  "name": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
====

== Response
```

Status: 201, Created

```
[cols=3*,options=header]
|===
|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|num_records
|integer
a|Number of UNIX user records.

|records
```

```

|array[link:#unix_user[unix_user]]
a|

|===

.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "full_name": "string",
      "name": "string",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
====

== Error

```

Status: Default

ONTAP Error Response Codes

|===

| Error Code | Description

| 2621706

| The specified SVM UUID is incorrect for the specified SVM name

| 23724066

| The specified UNIX user name is too long. Maximum supported length is 64 characters.

| 3277051

| The specified UNIX user name contains invalid characters. Valid characters are 0-9, A-Z, a-z, ".", "_", and "-".

| 23724128

| The specified UNIX user full-name contains the invalid character ':'.

| 23724089

| The specified UNIX user full-name is too long. Maximum supported length is 256 characters.

| 23724055

| Internal error. Failed to create the UNIX user for the SVM. Verify that the cluster is healthy, then try the command again.

| 23724090

| Configuring individual entries is not supported because file-only configuration is enabled.

| 3277025

| Failed to create the UNIX user for the SVM because the system limit has been reached.

|===

[cols=3*,options=header]

|===

|Name

|Type

|Description

|error

|link:#error[error]

a|

```
|===
```

```
.Example error
```

```
[%collapsible%closed]
```

```
=====
```

```
[source,json,subs=+macros]
```

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

```
=====
```

```
== Definitions
```

```
[.api-def-first-level]
```

```
.See Definitions
```

```
[%collapsible%closed]
```

```
//Start collapsible Definitions block
```

```
=====
```

```
[#href]
```

```
[.api-collapsible-fifth-title]
```

```
href
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|href
```

```
|string
```

```
a|
```

```
|===
```

```

[#_links]
[.api-collapsible-fifth-title]
_links

[cols=3*,options=header]
|===
|Name
|Type
|Description

|self
|link:#href[href]
a|

|===

[#svm]
[.api-collapsible-fifth-title]
svm

[cols=3*,options=header]
|===
|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|name
|string
a|The name of the SVM.

|uuid
|string
a|The unique identifier of the SVM.

|===

[#unix_user]
[.api-collapsible-fifth-title]
unix_user

```

```

[cols=3*,options=header]
|===
|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|full_name
|string
a|User's full name.

|id
|integer
a|UNIX user ID of the specified user.

|name
|string
a|UNIX user name to be added to the local database.

|primary_gid
|integer
a|Primary group ID to which the user belongs.

|skip_name_validation
|boolean
a|Indicates whether or not the validation for the specified UNIX user name
is disabled.

|svm
|link:#svm[svm]
a|

|===

[#_links]
[.api-collapsible-fifth-title]
_links

```

```

[cols=3*,options=header]
|===
|Name
|Type
|Description

|next
|link:#href[href]
a|

|self
|link:#href[href]
a|

|===

[#error_arguments]
[.api-collapsible-fifth-title]
error_arguments

[cols=3*,options=header]
|===
|Name
|Type
|Description

|code
|string
a|Argument code

|message
|string
a|Message argument

|===

[#error]
[.api-collapsible-fifth-title]
error

[cols=3*,options=header]
|===

```



```

|Name
|Type
|Description

|arguments
|array[link:#error_arguments[error_arguments]]
a|Message arguments

|code
|string
a|Error code

|message
|string
a|Error message

|target
|string
a|The target parameter that caused the error.

|===

//end collapsible .Definitions block
====

[[ID0778b39e3e84bfb48ec5b529a56e29c1]]
= Delete a UNIX user configuration for an SVM

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/name-services/unix-users/{svm.uuid}/{name}`#

*Introduced In:* 9.9

Deletes a UNIX user configuration for the specified SVM.

== Related ONTAP commands

* `vserver services name-service unix-user delete`

```

```
== Parameters
```

```
[cols=5*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|In
```

```
|Required
```

```
|Description
```

```
|name
```

```
|string
```

```
|path
```

```
|True
```

```
a|UNIX user name
```

```
|svm.uuid
```

```
|string
```

```
|path
```

```
|True
```

```
a|UUID of the SVM to which this object belongs.
```

```
|===
```

```
== Response
```

Status: 200, Ok

```
== Error
```

Status: Default, Error

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|error
```

```
|link:#error[error]
```

```
a|
```

```
|===
```

```

.Example error
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
}
====

```

== Definitions

```

[.api-def-first-level]
.See Definitions
[%collapsible%closed]
//Start collapsible Definitions block
====
[#error_arguments]
[.api-collapsible-fifth-title]
error_arguments

[cols=3*,options=header]
|===
|Name
|Type
|Description

|code
|string
a|Argument code

|message
|string
a|Message argument

```

```

|===

[#error]
[.api-collapsible-fifth-title]
error

[cols=3*,options=header]
|===
|Name
|Type
|Description

|arguments
|array[link:#error_arguments[error_arguments]]
a|Message arguments

|code
|string
a|Error code

|message
|string
a|Error message

|target
|string
a|The target parameter that caused the error.

|===

//end collapsible .Definitions block
=====

[[ID018a0fb039c1c0e6ccd11b3059c28243]]
= Retrieve UNIX user information for a user and SVM

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/name-services/unix-users/{svm.uuid}/{name}`#

```

Introduced In: 9.9

Retrieves UNIX user information for the specified user and SVM.

== Related ONTAP commands

```
* `vserver services name-service unix-user show`
```

== Parameters

```
[cols=5*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|In
```

```
|Required
```

```
|Description
```

```
|name
```

```
|string
```

```
|path
```

```
|True
```

```
a|UNIX user name
```

```
|svm.uuid
```

```
|string
```

```
|path
```

```
|True
```

```
a|UUID of the SVM to which this object belongs.
```

```
|fields
```

```
|array[string]
```

```
|query
```

```
|False
```

```
a|Specify the fields to return.
```

```
|===
```

== Response

Status: 200, Ok

```

[cols=3*,options=header]
|===
|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|full_name
|string
a|User's full name.

|id
|integer
a|UNIX user ID of the specified user.

|name
|string
a|UNIX user name to be added to the local database.

|primary_gid
|integer
a|Primary group ID to which the user belongs.

|skip_name_validation
|boolean
a|Indicates whether or not the validation for the specified UNIX user name
is disabled.

|svm
|link:#svm[svm]
a|

|===

.Example response
[%collapsible%closed]
=====

```

```
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "full_name": "string",
  "name": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
====

== Error
```

Status: Default, Error

```
[cols=3*,options=header]
|===
|Name
|Type
|Description

|error
|link:#error[error]
a|

|===

.Example error
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "error": {
    "arguments": [
```

```

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

```

== Definitions

```

[.api-def-first-level]
.See Definitions
[%collapsible%closed]
//Start collapsible Definitions block
=====

```

```

[#href]
[.api-collapsible-fifth-title]
href

```

```

[cols=3*,options=header]
|===
|Name
|Type
|Description

```

```

|href
|string
a|

```

```

|===

```

```

[#_links]
[.api-collapsible-fifth-title]
_links

```

```

[cols=3*,options=header]
|===
|Name
|Type
|Description

```



```

|self
|link:#href[href]
a|

|===

[#svm]
[.api-collapsible-fifth-title]
svm

[cols=3*,options=header]
|===
|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|name
|string
a|The name of the SVM.

|uuid
|string
a|The unique identifier of the SVM.

|===

[#error_arguments]
[.api-collapsible-fifth-title]
error_arguments

[cols=3*,options=header]
|===
|Name
|Type
|Description

|code
|string
a|Argument code

```

```

|message
|string
a|Message argument

|===

[#error]
[.api-collapsible-fifth-title]
error

[cols=3*,options=header]
|===
|Name
|Type
|Description

|arguments
|array[link:#error_arguments[error_arguments]]
a|Message arguments

|code
|string
a|Error code

|message
|string
a|Error message

|target
|string
a|The target parameter that caused the error.

|===

//end collapsible .Definitions block
=====

```

```
[[IDad8a3736928ce21da809269134a34f68]]
```

```
= Update UNIX user information for a user and SVM
```

```
[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-block]#`/name-services/unix-users/{svm.uuid}/{name}`#
```

```
*Introduced In:* 9.9
```

```
Updates UNIX user information for the specified user and SVM.
```

```
== Parameters
```

```
[cols=5*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|In
```

```
|Required
```

```
|Description
```

```
|name
```

```
|string
```

```
|path
```

```
|True
```

```
a|UNIX user name
```

```
|svm.uuid
```

```
|string
```

```
|path
```

```
|True
```

```
a|UUID of the SVM to which this object belongs.
```

```
|===
```

```
== Request Body
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```

|_links
|link:#_links[_links]
a|

|full_name
|string
a|User's full name.

|id
|integer
a|UNIX user ID of the specified user.

|name
|string
a|UNIX user name to be added to the local database.

|primary_gid
|integer
a|Primary group ID to which the user belongs.

|skip_name_validation
|boolean
a|Indicates whether or not the validation for the specified UNIX user name
is disabled.

|svm
|link:#svm[svm]
a|

|===

.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
}

```

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

== Response

Status: 200, Ok

```
== Error
```

Status: Default

ONTAP Error Response Codes

```
|===
| Error Code | Description
| 23724128
| The specified Unix user full-name contains invalid character ':'
| 23724089
| The specified UNIX user full-name is too long. Maximum supported length
is 256 characters.
| 23724055
| Internal error. Failed to modify the UNIX user for the SVM. Verify that
the cluster is healthy, then try the command again.
| 23724090
| Configuring individual entries is not supported because file-only
configuration is enabled.
|===
```

```

[cols=3*,options=header]
|===
|Name
|Type
|Description

|error
|link:#error[error]
a|

|===

.Example error
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
====

== Definitions

[.api-def-first-level]
.See Definitions
[%collapsible%closed]
//Start collapsible Definitions block
====
[#href]
[.api-collapsible-fifth-title]
href

[cols=3*,options=header]
|===

```

```

|Name
|Type
|Description

|href
|string
a|

|===

[#_links]
[.api-collapsible-fifth-title]
_links

[cols=3*,options=header]
|===
|Name
|Type
|Description

|self
|link:#href[href]
a|

|===

[#svm]
[.api-collapsible-fifth-title]
svm

[cols=3*,options=header]
|===
|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|name
|string
a|The name of the SVM.

```

```
|uuid
|string
a|The unique identifier of the SVM.
```

```
|===
```

```
[#unix_user]
[.api-collapsible-fifth-title]
unix_user
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
|Type
|Description
```

```
|_links
|link:#_links[_links]
a|
```

```
|full_name
|string
a|User's full name.
```

```
|id
|integer
a|UNIX user ID of the specified user.
```

```
|name
|string
a|UNIX user name to be added to the local database.
```

```
|primary_gid
|integer
a|Primary group ID to which the user belongs.
```

```
|skip_name_validation
|boolean
a|Indicates whether or not the validation for the specified UNIX user name
is disabled.
```



```

|svm
|link:#svm[svm]
a|

|===

[#error_arguments]
[.api-collapsible-fifth-title]
error_arguments

[cols=3*,options=header]
|===
|Name
|Type
|Description

|code
|string
a|Argument code

|message
|string
a|Message argument

|===

[#error]
[.api-collapsible-fifth-title]
error

[cols=3*,options=header]
|===
|Name
|Type
|Description

|arguments
|array[link:#error_arguments[error_arguments]]
a|Message arguments

|code

```

```
|string
a|Error code

|message
|string
a|Error message

|target
|string
a|The target parameter that caused the error.
```

```
|===
```

```
//end collapsible .Definitions block
=====
```

```
:leveloffset: -1
```

```
:leveloffset: -1
```

```
:leveloffset: -1
```

```
<<<
```

```
*Copyright information*
```

Copyright © 2024 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT

NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b) (3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

Trademark information

NETAPP, the NETAPP logo, and the marks listed at [link:http://www.netapp.com/TM](http://www.netapp.com/TM)[<http://www.netapp.com/TM>^] are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.