



# **Manage LDAP server configurations**

## **ONTAP 9.8 REST API reference**

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# Table of Contents

- Manage LDAP server configurations ..... 1
  - Name-services LDAP endpoint overview ..... 1
  - Retrieve an LDAP configuration for all SVMs ..... 7
  - Create an LDAP configuration for an SVM ..... 14
  - Delete the LDAP configuration for an SVM ..... 25
  - Retrieve the LDAP configuration for an SVM ..... 27
  - Update the LDAP configuration for an SVM ..... 32

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

## 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, \"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\"}"
```

### 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, \"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\"}"
```

### 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, \"use_start_tls\": 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
schema	string	query	False	Filter by schema <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>
session_security	string	query	False	Filter by session_security <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>
base_dn	string	query	False	Filter by base_dn <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>
svm.uuid	string	query	False	Filter by svm.uuid <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>
svm.name	string	query	False	Filter by svm.name <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>
port	integer	query	False	Filter by port <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>
min_bind_level	string	query	False	Filter by min_bind_level <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>

Name	Type	In	Required	Description
use_start_tls	boolean	query	False	Filter by use_start_tls  • Introduced in: 9.7
preferred_ad_servers	string	query	False	Filter by preferred_ad_servers  • Introduced in: 9.7
servers	string	query	False	Filter by servers  • Introduced in: 9.7
base_scope	string	query	False	Filter by base_scope  • Introduced in: 9.7
bind_dn	string	query	False	Filter by bind_dn  • Introduced in: 9.7
ad_domain	string	query	False	Filter by ad_domain  • 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.  • 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"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>
order_by	array[string]	query	False	Order results by specified fields and optional [asc

## Response

Status: 200, Ok

Name	Type	Description
_links	<a href="#">_links</a>	
num_records	integer	Number of LDAP records.
records	array[ <a href="#">ldap_service</a> ]	

## 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",
      "min_bind_level": "string",
      "port": "389",
      "preferred_ad_servers": [
        "string"
      ],
      "schema": "string",
      "servers": [
        "string"
      ],
      "session_security": "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	<a href="#">href</a>	
self	<a href="#">href</a>	

\_links

Name	Type	Description
self	<a href="#">href</a>	

svm

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

ldap\_service

Name	Type	Description
_links	<a href="#">_links</a>	
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.

Name	Type	Description
base_scope	string	Specifies the default search scope for LDAP queries: <ul style="list-style-type: none"> <li>• base - search the named entry only</li> <li>• onelevel - search all entries immediately below the DN</li> <li>• subtree - search the named DN entry and the entire subtree below the DN</li> </ul>
bind_dn	string	Specifies the user that binds to the LDAP servers.
bind_password	string	Specifies the bind password for the LDAP servers.
min_bind_level	string	The minimum bind authentication level. Possible values are: <ul style="list-style-type: none"> <li>• anonymous - anonymous bind</li> <li>• simple - simple bind</li> <li>• sasl - Simple Authentication and Security Layer (SASL) bind</li> </ul>
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	
schema	string	The name of the schema template used by the SVM. <ul style="list-style-type: none"> <li>• AD-IDMU - Active Directory Identity Management for UNIX</li> <li>• AD-SFU - Active Directory Services for UNIX</li> <li>• MS-AD-BIS - Active Directory Identity Management for UNIX</li> <li>• RFC-2307 - Schema based on RFC 2307</li> <li>• Custom schema</li> </ul>

Name	Type	Description
servers	array[string]	
session_security	string	Specifies the level of security to be used for LDAP communications: <ul style="list-style-type: none"> <li>• none - no signing or sealing</li> <li>• sign - sign LDAP traffic</li> <li>• seal - seal and sign LDAP traffic</li> </ul>
svm	<a href="#">svm</a>	
use_start_tls	boolean	Specifies whether or not to use Start TLS over LDAP connections.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### error

Name	Type	Description
arguments	array[ <a href="#">error_arguments</a> ]	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
- min\_bind\_level
- bind\_password
- base\_scope
- use\_start\_tls
- session\_security

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	The default is false. If set to true, the records are returned.  • Default value:

## Request Body

Name	Type	Description
_links	<a href="#">_links</a>	

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"> <li>• base - search the named entry only</li> <li>• onelevel - search all entries immediately below the DN</li> <li>• subtree - search the named DN entry and the entire subtree below the DN</li> </ul>
bind_dn	string	Specifies the user that binds to the LDAP servers.
bind_password	string	Specifies the bind password for the LDAP servers.
min_bind_level	string	The minimum bind authentication level. Possible values are: <ul style="list-style-type: none"> <li>• anonymous - anonymous bind</li> <li>• simple - simple bind</li> <li>• sasl - Simple Authentication and Security Layer (SASL) bind</li> </ul>
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	

Name	Type	Description
schema	string	<p>The name of the schema template used by the SVM.</p> <ul style="list-style-type: none"> <li>• AD-IDMU - Active Directory Identity Management for UNIX</li> <li>• AD-SFU - Active Directory Services for UNIX</li> <li>• MS-AD-BIS - Active Directory Identity Management for UNIX</li> <li>• RFC-2307 - Schema based on RFC 2307</li> <li>• Custom schema</li> </ul>
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"> <li>• none - no signing or sealing</li> <li>• sign - sign LDAP traffic</li> <li>• seal - seal and sign LDAP traffic</li> </ul>
svm	svm	
use_start_tls	boolean	<p>Specifies whether or not to use Start TLS over LDAP connections.</p>

## Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ad_domain": "string",
  "base_dn": "string",
  "base_scope": "string",
  "bind_dn": "string",
  "bind_password": "string",
  "min_bind_level": "string",
  "port": "389",
  "preferred_ad_servers": [
    "string"
  ],
  "schema": "string",
  "servers": [
    "string"
  ],
  "session_security": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

## Response

Status: 201, Created

Name	Type	Description
_links	<a href="#">_links</a>	
num_records	integer	Number of LDAP records.

Name	Type	Description
records	array[ <a href="#">ldap_service</a> ]	

## 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",
      "min_bind_level": "string",
      "port": "389",
      "preferred_ad_servers": [
        "string"
      ],
      "schema": "string",
      "servers": [
        "string"
      ],
      "session_security": "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
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
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
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.
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	<a href="#">href</a>	

svm

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

ldap\_service

Name	Type	Description
_links	<a href="#">_links</a>	
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"><li>• base - search the named entry only</li><li>• onelevel - search all entries immediately below the DN</li><li>• subtree - search the named DN entry and the entire subtree below the DN</li></ul>

Name	Type	Description
bind_dn	string	Specifies the user that binds to the LDAP servers.
bind_password	string	Specifies the bind password for the LDAP servers.
min_bind_level	string	<p>The minimum bind authentication level. Possible values are:</p> <ul style="list-style-type: none"> <li>• anonymous - anonymous bind</li> <li>• simple - simple bind</li> <li>• sasl - Simple Authentication and Security Layer (SASL) bind</li> </ul>
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	
schema	string	<p>The name of the schema template used by the SVM.</p> <ul style="list-style-type: none"> <li>• AD-IDMU - Active Directory Identity Management for UNIX</li> <li>• AD-SFU - Active Directory Services for UNIX</li> <li>• MS-AD-BIS - Active Directory Identity Management for UNIX</li> <li>• RFC-2307 - Schema based on RFC 2307</li> <li>• Custom schema</li> </ul>
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"> <li>• none - no signing or sealing</li> <li>• sign - sign LDAP traffic</li> <li>• seal - seal and sign LDAP traffic</li> </ul>

Name	Type	Description
svm	<a href="#">svm</a>	
use_start_tls	boolean	Specifies whether or not to use Start TLS over LDAP connections.

[\\_links](#)

Name	Type	Description
next	<a href="#">href</a>	
self	<a href="#">href</a>	

[error\\_arguments](#)

Name	Type	Description
code	string	Argument code
message	string	Message argument

[error](#)

Name	Type	Description
arguments	array[ <a href="#">error_arguments</a> ]	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	<a href="#">error</a>	

## 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[ <a href="#">error_arguments</a> ]	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><a href="#">_links</a></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"> <li>• <code>base</code> - search the named entry only</li> <li>• <code>onelevel</code> - search all entries immediately below the DN</li> <li>• <code>subtree</code> - search the named DN entry and the entire subtree below the DN</li> </ul>
<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>min_bind_level</code>	string	The minimum bind authentication level. Possible values are: <ul style="list-style-type: none"> <li>• <code>anonymous</code> - anonymous bind</li> <li>• <code>simple</code> - simple bind</li> <li>• <code>sasl</code> - Simple Authentication and Security Layer (SASL) bind</li> </ul>
<code>port</code>	integer	The port used to connect to the LDAP Servers.
<code>preferred_ad_servers</code>	array[string]	

Name	Type	Description
schema	string	<p>The name of the schema template used by the SVM.</p> <ul style="list-style-type: none"> <li>• AD-IDMU - Active Directory Identity Management for UNIX</li> <li>• AD-SFU - Active Directory Services for UNIX</li> <li>• MS-AD-BIS - Active Directory Identity Management for UNIX</li> <li>• RFC-2307 - Schema based on RFC 2307</li> <li>• Custom schema</li> </ul>
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"> <li>• none - no signing or sealing</li> <li>• sign - sign LDAP traffic</li> <li>• seal - seal and sign LDAP traffic</li> </ul>
svm	svm	
use_start_tls	boolean	<p>Specifies whether or not to use Start TLS over LDAP connections.</p>

## Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ad_domain": "string",
  "base_dn": "string",
  "base_scope": "string",
  "bind_dn": "string",
  "bind_password": "string",
  "min_bind_level": "string",
  "port": "389",
  "preferred_ad_servers": [
    "string"
  ],
  "schema": "string",
  "servers": [
    "string"
  ],
  "session_security": "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	<a href="#">href</a>	

svm

Name	Type	Description
_links	<a href="#">_links</a>	
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[ <a href="#">error_arguments</a> ]	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
_links	<a href="#">_links</a>	
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.

Name	Type	Description
base_scope	string	Specifies the default search scope for LDAP queries: <ul style="list-style-type: none"> <li>• base - search the named entry only</li> <li>• onelevel - search all entries immediately below the DN</li> <li>• subtree - search the named DN entry and the entire subtree below the DN</li> </ul>
bind_dn	string	Specifies the user that binds to the LDAP servers.
bind_password	string	Specifies the bind password for the LDAP servers.
min_bind_level	string	The minimum bind authentication level. Possible values are: <ul style="list-style-type: none"> <li>• anonymous - anonymous bind</li> <li>• simple - simple bind</li> <li>• sasl - Simple Authentication and Security Layer (SASL) bind</li> </ul>
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	
schema	string	The name of the schema template used by the SVM. <ul style="list-style-type: none"> <li>• AD-IDMU - Active Directory Identity Management for UNIX</li> <li>• AD-SFU - Active Directory Services for UNIX</li> <li>• MS-AD-BIS - Active Directory Identity Management for UNIX</li> <li>• RFC-2307 - Schema based on RFC 2307</li> <li>• Custom schema</li> </ul>
servers	array[string]	

Name	Type	Description
session_security	string	Specifies the level of security to be used for LDAP communications: <ul data-bbox="1068 262 1442 430" style="list-style-type: none"><li>• none - no signing or sealing</li><li>• sign - sign LDAP traffic</li><li>• seal - seal and sign LDAP traffic</li></ul>
svm	svm	
use_start_tls	boolean	Specifies whether or not to use Start TLS over LDAP connections.

## Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ad_domain": "string",
  "base_dn": "string",
  "base_scope": "string",
  "bind_dn": "string",
  "bind_password": "string",
  "min_bind_level": "string",
  "port": "389",
  "preferred_ad_servers": [
    "string"
  ],
  "schema": "string",
  "servers": [
    "string"
  ],
  "session_security": "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
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
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	<a href="#">error</a>	

## 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	<a href="#">href</a>	

svm

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

ldap\_service

Name	Type	Description
_links	<a href="#">_links</a>	
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"><li>• base - search the named entry only</li><li>• onelevel - search all entries immediately below the DN</li><li>• subtree - search the named DN entry and the entire subtree below the DN</li></ul>

Name	Type	Description
bind_dn	string	Specifies the user that binds to the LDAP servers.
bind_password	string	Specifies the bind password for the LDAP servers.
min_bind_level	string	<p>The minimum bind authentication level. Possible values are:</p> <ul style="list-style-type: none"> <li>• anonymous - anonymous bind</li> <li>• simple - simple bind</li> <li>• sasl - Simple Authentication and Security Layer (SASL) bind</li> </ul>
port	integer	The port used to connect to the LDAP Servers.
preferred_ad_servers	array[string]	
schema	string	<p>The name of the schema template used by the SVM.</p> <ul style="list-style-type: none"> <li>• AD-IDMU - Active Directory Identity Management for UNIX</li> <li>• AD-SFU - Active Directory Services for UNIX</li> <li>• MS-AD-BIS - Active Directory Identity Management for UNIX</li> <li>• RFC-2307 - Schema based on RFC 2307</li> <li>• Custom schema</li> </ul>
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"> <li>• none - no signing or sealing</li> <li>• sign - sign LDAP traffic</li> <li>• seal - seal and sign LDAP traffic</li> </ul>

Name	Type	Description
svm	<a href="#">svm</a>	
use_start_tls	boolean	Specifies whether or not to use Start TLS over LDAP connections.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### error

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

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