Security

REST API reference

NetApp
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Table of Contents

Security . . . 1
- Security overview . . . 1
  - Overview . . . 1
- Manage security-related operations . . . 1
  - Security endpoint overview . . . 1

Security

Security overview

Overview

You can use ONTAP security APIs to manage security settings for the cluster and SVMs.

SAML

Configure the SAML 2.0 SP (Service Provider) protocol inside ONTAP. Doing so redirects the authentication task to a third-party Identity Provider (IDP) that can utilize any number of approaches for multi-factor authentication. After SAML authentication is enabled, all interactive web access (System Manager, SPI) is authenticated via SAML and a third-party IDP.

Manage security-related operations

Security endpoint overview

Overview

You can use this API for various cluster-wide security-related operations.

"onboard_key_manager_configurable_status" object

Use this API to retrieve details of whether or not the Onboard Key Manager can be configured on the cluster.

– GET /api/security

– GET /api/security?fields=onboard_key_manager_configurable_status

"software_data_encryption" object

Contains software data encryption related information.

The following APIs can be used to enable or disable and obtain default software data at rest encryption values:

– PATCH /api/security -d '{ "software_data_encryption.disabled_by_default" : true }'

– PATCH /api/security -d '{ "software_data_encryption.disabled_by_default" : false }'

– GET /api/security

– GET /api/security?fields=software_data_encryption

A PATCH request on this API using the parameter "software_data_encryption.conversion_enabled" triggers the conversion of all non-encrypted metadata volumes to encrypted metadata volumes and all non-NAE aggregates to NAE aggregates. For the conversion to start, the cluster must have either an Onboard or an external key manager set up and the aggregates should either be empty or have only metadata volumes. No data volumes should be present in any of the aggregates. For MetroCluster configurations, the PATCH request will fail if the cluster is in the switchover state.

The following API can be used to initiate software data encryption conversion.

– PATCH /api/security -d '{ "software_data_encryption.conversion_enabled" : true }'

"fips" object

Contains FIPS mode information.

A PATCH request on this API using the parameter "fips.enabled" switches the system from using the default cryptographic module software implementations to validated ones or vice versa, where applicable. If the value of the parameter is "true" and unapproved algorithms are configured as permitted in relevant subsystems, those algorithms will be disabled in the relevant subsystem configurations. If "false", there will be no implied change to the relevant subsystem configurations.

– GET /api/security

– GET /api/security?fields=fips

– PATCH /api/security -d '{ "fips.enabled" : true }'

– PATCH /api/security -d '{ "fips.enabled" : false }'

GET Examples

Retrieving information about the security configured on the cluster

The following example shows how to retrieve the configuration of the cluster.

```
# The API:
GET /api/security:

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

# The response:
{
"onboard_key_manager_configurable_status": {
  "supported": false,
  "message": "Onboard Key Manager cannot be configured on the cluster.
There are no self-encrypting disks in the cluster, and the following nodes
do not support volume granular encryption: ntap-vsim2.",
  "code": 65537300
},
"fips": {
  "enabled": false
}
}
```

```
'''

== PATCH Examples

=== Enabling software encryption conversion in the cluster

The following example shows how to convert all the aggregates and metadata
volumes in the cluster from non-encrypted to encrypted.

= The API:

PATCH /api/security

= The call

curl -X PATCH "https://+++<mgmt_ip>+++/api/security" -d '{
"software_data_encryption.conversion_enabled" : true }'+++</mgmt_ip>+++

= The response:

{
 "job": {
     "uuid": "ebcbd82d-1cd4-11ea-8f75-005056ac4adc",
     "_links": {
         "self": {
             "href": "/api/cluster/jobs/ebcbd82d-1cd4-11ea-8f75-
005056ac4adc"
         }
     }
 }
}
This will return a job UUID. A subsequent GET for this job should return
the details of the job.

= The call

curl -X GET "https://+++<mgmt_ip>+++/api/cluster/jobs/ebcbd82d-1cd4-11ea-
8f75-005056ac4adc"+++</mgmt_ip>+++

= The response:

{
"uuid": "ebcbd82d-1cd4-11ea-8f75-005056ac4adc",
"description": "PATCH /api/security",
"state": "success",
"message": "success",
```

```
"code": 0,
"start_time": "2019-12-12T06:45:40-05:00",
"end_time": "2019-12-12T06:45:40-05:00",
"_links": {
  "self": {
    "href": "/api/cluster/jobs/ebcbd82d-1cd4-11ea-8f75-005056ac4adc"
  }
}
}

[discrete]
=== Enabling FIPS mode in the cluster

The following example shows how to enable FIPS mode in the cluster.

= The API:

PATCH /api/security

= The call

curl -X PATCH "https://+++<mgmt_ip>+++/api/security" -d '{ "fips.enabled"
: true }'+++</mgmt_ip>+++

= The response:

{
 "job": {
     "uuid": "8e7f59ee-a9c4-4faa-9513-bef689bbf2c2",
     "_links": {
         "self": {
             "href": "/api/cluster/jobs/8e7f59ee-a9c4-4faa-9513-
bef689bbf2c2"
         }
     }
 }
}
This will return a job UUID. A subsequent GET for this job UUID should
return the details of the job.

= The call

curl -X GET "https://+++<mgmt_ip>+++/api/cluster/jobs/8e7f59ee-a9c4-4faa-
9513-bef689bbf2c2"+++</mgmt_ip>+++

= The response:
```

```
{
"uuid": "8e7f59ee-a9c4-4faa-9513-bef689bbf2c2",
"description": "PATCH /api/security",
"state": "success",
"message": "success",
"code": 0,
"start_time": "2020-04-28T06:55:40-05:00",
"end_time": "2020-04-28T06:55:41-05:00",
"_links": {
  "self": {
    "href": "/api/cluster/jobs/8e7f59ee-a9c4-4faa-9513-bef689bbf2c2"
  }
}
}

'''




[[ID78e64e8c84ee358218b5e166c818cae8]]
= Retrieve information about security configured on the cluster

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security`#

*Introduced In:* 9.7

Retrieves information about the security configured on the cluster.


== Parameters

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

|Name
|Type
|In
|Required
|Description

|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.


|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|

|fips
|link:#fips[fips]
a|Cluster-wide Federal Information Processing Standards (FIPS) mode
information.


|onboard_key_manager_configurable_status
|link:#onboard_key_manager_configurable_status[onboard_key_manager_configu
rable_status]
a|Indicates whether the Onboard Key Manager can be configured in the
cluster.


|software_data_encryption
|link:#software_data_encryption[software_data_encryption]
a|Cluster-wide software data encryption related information.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "onboard_key_manager_configurable_status": {
    "code": "65537300",
    "message": "No platform support for volume encryption in following
nodes - node1, node2."
  }
```

```
}
====

== 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|

|===


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

Cluster-wide Federal Information Processing Standards (FIPS) mode
information.


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

```
|enabled
|boolean
a|Indicates whether or not the software FIPS mode is enabled on the
cluster. Our FIPS compliance involves configuring the use of only approved
algorithms in applicable contexts (for example TLS), as well as the use of
formally validated cryptographic module software implementations, where
applicable. The US government documents concerning FIPS 140-2 outline the
relevant security policies in detail.


|===


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

Indicates whether the Onboard Key Manager can be configured in the
cluster.


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

|code
|integer
a|Code corresponding to the status message. Returns a 0 if the Onboard Key
Manager can be configured in the cluster.


|message
|string
a|Reason that Onboard Key Manager cannot be configured in the cluster.


|supported
|boolean
a|Set to true if the Onboard Key Manager can be configured in the cluster.


|===
```

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

Cluster-wide software data encryption related information.


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

|conversion_enabled
|boolean
a|Indicates whether or not software encryption conversion is enabled on
the cluster. A PATCH request initiates the conversion of all non-encrypted
metadata volumes in the cluster to encrypted metadata volumes and all non-
NAE aggregates to NAE aggregates. For the PATCH request to start, the
cluster must have either an Onboard or an external key manager set up and
the aggregates should either be empty or have only metadata volumes. No
data volumes should be present in any of the aggregates in the cluster.
For MetroCluster configurations, a PATCH request enables conversion on all
the aggregates and metadata volumes of both local and remote clusters and
is not allowed when the MetroCluster is in switchover state.


|disabled_by_default
|boolean
a|Indicates whether or not default software data at rest encryption is
disabled on the cluster.


|===


[#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
====
```

```
[[IDd779f8b4d1bbbc77b6e5c06934eccde8]]
= Update the software FIPS mode or enable conversion of non-encrypted
metadata volumes non-NAE aggregates

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security`#

*Introduced In:* 9.8

Updates the software FIPS mode or enables conversion of non-encrypted
metadata volumes to encrypted metadata volumes and non-NAE aggregates to
NAE aggregates.


== 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:


|return_timeout
|integer
|query
|False
a|The number of seconds to allow the call to execute before returning.
When doing a POST, PATCH, or DELETE operation on a single record, the
default is 0 seconds.  This means that if an asynchronous operation is
started, the server immediately returns HTTP code 202 (Accepted) along
with a link to the job.  If a non-zero value is specified for POST, PATCH,
or DELETE operations, ONTAP waits that length of time to see if the job
```

```
completes so it can return something other than 202.

* Default value: 1
* Max value: 120
* Min value: 0

|===

== Request Body



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

|fips
|link:#fips[fips]
a|Cluster-wide Federal Information Processing Standards (FIPS) mode
information.


|software_data_encryption
|link:#software_data_encryption[software_data_encryption]
a|Cluster-wide software data encryption related information.


|===


== Response
```

Status: 202, Accepted

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

|job
|link:#job_link[job_link]
a|

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "job": {
    "uuid": "string"
  }
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 52428830
| Cannot enable FIPS-compliant mode because the configured minimum
security strength for certificates is not compatible.

| 52559974
| Cannot enable FIPS-compliant mode because a certificate that is not
FIPS-compliant is in use.

| 196608081
| Cannot start software encryption conversion while there are data volumes
in the cluster.
```

```
| 196608082
| The operation is not valid when the MetroCluster is in switchover mode.
|===


== 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
[#fips]
[.api-collapsible-fifth-title]
fips

Cluster-wide Federal Information Processing Standards (FIPS) mode
information.


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

|enabled
```

```
|boolean
a|Indicates whether or not the software FIPS mode is enabled on the
cluster. Our FIPS compliance involves configuring the use of only approved
algorithms in applicable contexts (for example TLS), as well as the use of
formally validated cryptographic module software implementations, where
applicable. The US government documents concerning FIPS 140-2 outline the
relevant security policies in detail.


|===


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

Indicates whether the Onboard Key Manager can be configured in the
cluster.


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

|code
|integer
a|Code corresponding to the status message. Returns a 0 if the Onboard Key
Manager can be configured in the cluster.


|message
|string
a|Reason that Onboard Key Manager cannot be configured in the cluster.


|supported
|boolean
a|Set to true if the Onboard Key Manager can be configured in the cluster.


|===


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

```
software_data_encryption

Cluster-wide software data encryption related information.


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

|conversion_enabled
|boolean
a|Indicates whether or not software encryption conversion is enabled on
the cluster. A PATCH request initiates the conversion of all non-encrypted
metadata volumes in the cluster to encrypted metadata volumes and all non-
NAE aggregates to NAE aggregates. For the PATCH request to start, the
cluster must have either an Onboard or an external key manager set up and
the aggregates should either be empty or have only metadata volumes. No
data volumes should be present in any of the aggregates in the cluster.
For MetroCluster configurations, a PATCH request enables conversion on all
the aggregates and metadata volumes of both local and remote clusters and
is not allowed when the MetroCluster is in switchover state.


|disabled_by_default
|boolean
a|Indicates whether or not default software data at rest encryption is
disabled on the cluster.


|===


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

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

|fips
|link:#fips[fips]
a|Cluster-wide Federal Information Processing Standards (FIPS) mode
```

```
information.


|software_data_encryption
|link:#software_data_encryption[software_data_encryption]
a|Cluster-wide software data encryption related information.


|===


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

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

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


|===


[#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 security-related accounts

:leveloffset: +1


[[ID750ead0b1adf780fe7ff7353f5078400]]
= Security accounts endpoint overview



== Overview

A valid user account is required to login to and provision, monitor, and
manage the cluster. The scope of the management operation can be at the
cluster level or at an individual SVM level. There is a need to create
user accounts with specific privileges apart from the default user
accounts, "admin", for cluster and "vsadmin" for SVM. Custom user accounts
can be configured to perform specific (scoped) operations. User accounts
can either be created locally (on the Netapp system) or referenced from an
external directory server (NIS, LDAP, or Active Directory).
Apart from creation, modification, and deletion of a user account, locking
and unlocking of a user account or resetting the password (for local
accounts only) is possible.

A user account must be associated with the following before it can become
operational:

. A management application (SSH, HTTP, console, service_processor, and
such like) for user login. HTTP enables REST API access.
. Scope - either cluster or SVM.
. Authentication source - password (local, NIS/LDAP, Active Directory),
public/private key pair-based, certificate based.
. RBAC role - determines what operations are permitted for the user
account.

=== Restrictions

A number of internal/restricted account names, such as admin, diag,
autosupport, and root cannot be used.

There must be at least one console cluster administrator account. Any
attempt to delete the last remaining administrator account fails.

Multi-factor authentication is only possible for SSH application and the
only combination possible is password (local or NIS/LDAP) and public key.

All authentication sources are not supported by all applications. You must
```

```
select a compatible authentication method based on the application. The
following types of authentications methods are supported:

|===
| Application | Supported Authentication Methods

| amqp
| password

| console
| password

| service_processor
| password

| HTTP
| password, domain, nsswitch, certificate

| ONTAPI
| password, domain, nsswitch, certificate

| SSH
| password, publickey (key pair), domain, nsswitch
|===

NOTE: In this table, "certificate" means security certificate, "domain"
means that the user directory server is an external Active Directory,
"nsswitch" means the directory server is an external NIS or LDAP server.
At login time, the user is authenticated with these external directory
servers which must be provisioned separately.

== Examples

=== Creating a cluster-scoped user account

Specify the user account name, role name, and the tuples (of application
and authentication methods) in the body of the POST request. The
owner.uuid or owner.name are not required to be specified for a cluster-
scoped user account.

NOTE: Each entry in the applications array must be for a different
application.

----

# The API:
POST "/api/security/accounts"
```

```
# The call to create a cluster user account with applications ssh, http
and password authentication scheme:
curl -X POST "https://<mgmt-ip>/api/security/accounts" -d
'{"name":"cluster_user1","applications":[{"application":"ssh","authenticat
ion_methods":["password"],"second_authentication_method":"none"},{"applica
tion":"http","authentication_methods":["password"]}],"role":"admin","passw
ord":"p@ssw@rd123"}'
Note: The password is an optional parameter for creation and can be set
later using a PATCH request. See the examples for modification of user
account or password.
----

=== Creating an SVM-scoped user account

For an SVM-scoped account, specify either the SVM name as the owner.name
or SVM uuid as the owner.uuid along with other parameters for the user
account. These indicate the SVM for which the user account is being
created and can be obtained from the response body of GET performed on the
_/api/svm/svms_ API.

----

# The API:
POST "/api/security/accounts"

# The call:
curl -X POST "https://<mgmt-ip>/api/security/accounts" -d
'{"owner":{"uuid":"aaef7c38-4bd3-11e9-b238-
0050568e2e25"},"name":"svm_user1","applications":[{"application":"ssh","au
thentication_methods":["password"],"second_authentication_method":"none"}]
,"role":"vsadmin","password":"p@ssw@rd123"}'
----

=== Retrieving the configured user accounts

Use the following API to retrieve all of the user accounts or a filtered
list of user accounts (by name, for a specific SVM, and so on).

----

# The API:
GET "/api/security/accounts"

# The call to retrieve all the user accounts configured in the cluster:
curl -X GET "https://<mgmt-ip>/api/security/accounts"
```

```
# The response:
{
"records": [
  {
    "owner": {
      "uuid": "2903de6f-4bd2-11e9-b238-0050568e2e25",
      "name": "cluster1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/2903de6f-4bd2-11e9-b238-0050568e2e25"
        }
      }
    },
    "name": "admin",
    "_links": {
      "self": {
        "href": "/api/security/accounts/2903de6f-4bd2-11e9-b238-
0050568e2e25/admin"
      }
    }
  },
  {
    "owner": {
      "uuid": "2903de6f-4bd2-11e9-b238-0050568e2e25",
      "name": "cluster1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/2903de6f-4bd2-11e9-b238-0050568e2e25"
        }
      }
    },
    "name": "autosupport",
    "_links": {
      "self": {
        "href": "/api/security/accounts/2903de6f-4bd2-11e9-b238-
0050568e2e25/autosupport"
            }
    }
  },
  {
    "owner": {
      "uuid": "2903de6f-4bd2-11e9-b238-0050568e2e25",
      "name": "cluster1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/2903de6f-4bd2-11e9-b238-0050568e2e25"
```

```
        }
      }
    },
    "name": "cluster_user1",
    "_links": {
      "self": {
        "href": "/api/security/accounts/2903de6f-4bd2-11e9-b238-
0050568e2e25/cluster_user1"
      }
    }
  },
  {
    "owner": {
      "uuid": "aaef7c38-4bd3-11e9-b238-0050568e2e25",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/aaef7c38-4bd3-11e9-b238-0050568e2e25"
        }
      }
    },
    "name": "svm_user1",
    "_links": {
      "self": {
        "href": "/api/security/accounts/aaef7c38-4bd3-11e9-b238-
0050568e2e25/svm_user1"
      }
    }
  },
  {
    "owner": {
      "uuid": "aaef7c38-4bd3-11e9-b238-0050568e2e25",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/aaef7c38-4bd3-11e9-b238-0050568e2e25"
        }
      }
    },
    "name": "vsadmin",
    "_links": {
      "self": {
        "href": "/api/security/accounts/aaef7c38-4bd3-11e9-b238-
0050568e2e25/vsadmin"
      }
    }
```

```
  }
],
"num_records": 5,
"_links": {
  "self": {
    "href": "/api/security/accounts"
  }
}
}

# The scoped call to retrieve the configured cluster-scoped user accounts:
curl -X GET "https://<mgmt-ip>/api/security/accounts/?scope=cluster"

# The scoped call to retrieve the configured SVM-scoped user accounts:
curl -X GET "https://<mgmt-ip>/api/security/accounts/?scope=svm"

# The scoped call to retrieve the user accounts configured for the SVM
"svm1":
curl -X GET "https://<mgmt-ip>/api/security/accounts/?owner.name=svm1"

# The scoped call to retrieve the user accounts configured with the
"admin" role:
curl -X GET "https://<mgmt-ip>/api/security/accounts/?role=admin"
----




[[ID87da36175ccc7c0f253e339f12ecd3f1]]
= Retrieve user accounts in the cluster

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/accounts`#

*Introduced In:* 9.6

Retrieves a list of user accounts in the cluster.

== Related ONTAP commands

* `security login show`

== Learn more

* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]
```

```
== Parameters

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

|Name
|Type
|In
|Required
|Description

|comment
|string
|query
|False
a|Filter by comment

* Introduced in: 9.7


|applications.application
|string
|query
|False
a|Filter by applications.application

* Introduced in: 9.7


|applications.authentication_methods
|string
|query
|False
a|Filter by applications.authentication_methods

* Introduced in: 9.7


|applications.second_authentication_method
|string
|query
|False
a|Filter by applications.second_authentication_method

* Introduced in: 9.7
```

```
|locked
|boolean
|query
|False
a|Filter by locked

* Introduced in: 9.7


|owner.uuid
|string
|query
|False
a|Filter by owner.uuid

* Introduced in: 9.7


|owner.name
|string
|query
|False
a|Filter by owner.name

* Introduced in: 9.7


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

* Introduced in: 9.7


|scope
|string
|query
|False
a|Filter by scope

* Introduced in: 9.7
```

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

* Introduced in: 9.7


|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 records


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

|===


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

```
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "applications": [
        {
          "application": "string",
          "authentication_methods": [
            "string"
          ],
          "second_authentication_method": "string"
        }
      ],
      "comment": "string",
      "name": "joe.smith",
      "owner": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "role": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "admin"
      },
      "scope": "string"
    }
  ]
}
====

== 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|

|===
```

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

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

|application
|string
a|Applications


|authentication_methods
|array[string]
a|

|second_authentication_method
|string
a|An optional additional authentication method for MFA. This only works
with SSH as the application. It is ignored for all other applications.


|===


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

Owner name and UUID that uniquely identifies the user account.


[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.


|===


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

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

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

|name
|string
a|Role name


|===


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

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

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

```
|applications
|array[link:#account_application[account_application]]
a|

|comment
|string
a|Optional comment for the user account.


|locked
|boolean
a|Locked status of the account.


|name
|string
a|User or group account name


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the user account.


|role
|link:#role[role]
a|

|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|===


[#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
====



[[IDa951483eca8ecb5ff0298e1063ff824c]]
= Create a new user account

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/accounts`#

*Introduced In:* 9.6

Creates a new user account.

== Required parameters

* `name` - Account name to be created.
* `applications` - Array of one or more application tuples (of application
and authentication methods).

== Optional parameters

* `owner.name` or `owner.uuid`  - Name or UUID of the SVM for an SVM-
scoped user account. If not supplied, a cluster-scoped user account is
created.
* `role` - RBAC role for the user account. Defaulted to `admin` for
cluster user account and to `vsadmin` for SVM-scoped account.
* `password` - Password for the user account (if the authentication method
is opted as password for one or more of applications).
* `second_authentication_method` - Needed for MFA and only supported for
ssh application. Defaults to `none` if not supplied.
* `comment` - Comment for the user account (e.g purpose of this account).
* `locked` - Locks the account after creation. Defaults to `false` if not
supplied.

== Related ONTAP commands

* `security login create`

== Learn more

* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== 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

|applications
|array[link:#account_application[account_application]]
a|

|comment
|string
a|Optional comment for the user account.


|locked
|boolean
a|Locked status of the account.


|name
|string
a|User or group account name
```

```
|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the user account.


|password
|string
a|Password for the account. The password can contain a mix of lower and
upper case alphabetic characters, digits, and special characters.


|role
|link:#role[role]
a|

|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "applications": [
    {
      "application": "string",
      "authentication_methods": [
        "string"
      ],
      "second_authentication_method": "string"
    }
  ],
  "comment": "string",
  "name": "joe.smith",
  "owner": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "password": "string",
```

```
  "role": {
    "name": "admin"
  },
  "scope": "string"
}
====

== Response
```

Status: 201, Created

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 1261215
| The role was not found.

| 1263343
| Cannot lock user with password not set or non-password authentication
method.

| 5636099
| User creation with a non-admin role is not supported for service-
processor application.

| 5636121
| The user account name is reserved for use by the system.

| 5636126
| Cannot create a user with the username or role as AutoSupport because it
is reserved by the system.

| 5636140
| Creating a login with application console for a data Vserver is not
supported.

| 5636141
| Creating a login with application service-processor for a data Vserver
is not supported.
```

```
| 5636154
| The second-authentication-method parameter is supported for ssh
application.

| 5636155
| The second-authentication-method parameter can be specified only if the
authentication-method password or public key nsswitch.

| 5636156
| The same value cannot be specified for the second-authentication-method
and the authentication-method.

| 5636157
| If the authentication-method is domain, the second-authentication-method
cannot be specified.

| 5636164
| If the value for either the authentication-method second-authentication-
method is nsswitch or password, the other parameter must differ.

| 7077897
| Invalid character in username.

| 7077898
| The username must contain both letters and numbers.

| 7077899
| The username does not meet length requirements.

| 7077906
| A role with that name has not been defined for the Vserver.

| 7077918
| The password cannot contain the username.

| 7077919
| The minimum length for new password does not meet the policy.

| 7077920
| A new password must have both letters and numbers.

| 7077921
| The minimum number of special characters required do not meet the
policy.

| 7077929
```

```
| Cannot lock user with password not set or non-password authentication
method.

| 7077940
| The password exceeds the maximum supported length.

| 7077941
| The defined password composition exceeds the maximum password length of
128 characters.

| 7078900
| An admin password is not set. Set the password by including it in the
request.
|===


== 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
[#account_application]
[.api-collapsible-fifth-title]
account_application
```

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

|application
|string
a|Applications


|authentication_methods
|array[string]
a|

|second_authentication_method
|string
a|An optional additional authentication method for MFA. This only works
with SSH as the application. It is ignored for all other applications.


|===


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

Owner name and UUID that uniquely identifies the user account.


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

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


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

```
|===


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

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

|name
|string
a|Role name


|===


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

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

|applications
|array[link:#account_application[account_application]]
a|

|comment
|string
a|Optional comment for the user account.


|locked
|boolean
a|Locked status of the account.


|name
|string
```

```
a|User or group account name


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the user account.


|password
|string
a|Password for the account. The password can contain a mix of lower and
upper case alphabetic characters, digits, and special characters.


|role
|link:#role[role]
a|

|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|===


[#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 scoped user accounts

:leveloffset: +1
```

```
[[ID6ae59ed7a1d4491c7a3460d371dd1b51]]
= Security accounts owner.uuid name endpoint overview



== Overview

This API displays and manages the configuration of scoped user accounts.

Newly created user accounts might need to be updated for many reasons. For
example, a user account might need to use a different application or its
role might need to be modified. According to a policy, the password or
authentication source of a user account might need to be changed, or a
user account might need to be locked or deleted from the system. This API
allows you to make these changes to user accounts.

Specify the owner UUID and the user account name in the URI path. The
owner UUID corresponds to the UUID of the SVM for which the user account
has been created and can be obtained from the response body of the GET
request performed on one of the following APIs:
_/api/security/accounts_ for all user accounts
_/api/security/accounts/?scope=cluster_ for cluster-scoped user accounts
_/api/security/accounts/?scope=svm_ for SVM-scoped accounts
_/api/security/accounts/?owner.name=\{svm-name}_ for a specific SVM
This API response contains the complete URI for each user account that can
be used.

== Examples

=== Retrieving the user account details

----

# The API:
GET "/api/security/accounts/{owner.uuid}/{name}"

# The call:
curl -X GET "https://<mgmt-ip>/api/security/accounts/aef7c38-4bd3-11e9-
b238-0050568e2e25/svm_user1"

# The response:
{
"owner": {
  "uuid": "aaef7c38-4bd3-11e9-b238-0050568e2e25",
  "name": "svm1",
```

```
  "_links": {
    "self": {
      "href": "/api/svm/svms/aaef7c38-4bd3-11e9-b238-0050568e2e25"
    }
        }
},
"name": "svm_user1",
"applications": [
  {
    "application": "ssh",
    "authentication_methods": [
      "password"
    ],
    "second_authentication_method": "none"
  }
],
"role": {
  "name": "vsadmin",
  "_links": {
    "self": {
      "href": "/api/svms/aaef7c38-4bd3-11e9-b238-
0050568e2e25/admin/roles/vsadmin"
    }
  }
},
"locked": false,
"scope": "svm",
"_links": {
  "self": {
    "href": "/api/security/accounts/aaef7c38-4bd3-11e9-b238-
0050568e2e25/svm_user1"
  }
}
}
----

=== Updating the applications and role in a user account

Specify the desired configuration in the form of tuples (of applications
and authentication methods) and the role. All other previously configured
applications that are not specified in the "applications" parameter of the
PATCH request will be de-provisioned for the user account.

----

# The API:
```

```
PATCH "/api/security/accounts/{owner.uuid}/{name}"

# The call to update the applications and role:
curl -X PATCH "https://<mgmt-ip>/api/security/accounts/aaef7c38-4bd3-11e9-
b238-0050568e2e25/svm_user1" -d
'{"applications":[{"application":"http","authentication_methods":["domain"
]},{"application":"ontapi","authentication_methods":["password"]}],"role":
{"name": "vsadmin-backup"}}'

# The call to update only the role:
curl -X PATCH "https://<mgmt-ip>/api/security/accounts/aaef7c38-4bd3-11e9-
b238-0050568e2e25/svm_user1" -d '{"role":"vsadmin-protocol"}'
----

=== Updating the password for a user account

----

# The API:
PATCH "/api/security/accounts/{owner.uuid}/{name}"

# The call:
curl -X PATCH "https://<mgmt-ip>/api/security/accounts/aaef7c38-4bd3-11e9-
b238-0050568e2e25/svm_user1" -d '{"password":"newp@ssw@rd2"}'
----

=== Locking a user account

----
The API:
PATCH "/api/security/accounts/{owner.uuid}/{name}"
The call:
curl -X PATCH "https://<mgmt-ip>/api/security/accounts/aaef7c38-4bd3-11e9-
b238-0050568e2e25/svm_user1" -d '{"locked":"true"}'
----

=== Deleting a user account

----

# The API:
DELETE "/api/security/accounts/{owner.uuid}/{name}"

# The call:
curl -X DELETE "https://<mgmt-ip>/api/security/accounts/aaef7c38-4bd3-
11e9-b238-0050568e2e25/svm_user1"
----
```

```
[[IDdec9413d6abb7e33333c68447badf788]]
= Delete a user account

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/accounts/{owner.uuid}/{name}`#

*Introduced In:* 9.6

Deletes a user account.

== Required parameters

* `name` - Account name to be deleted.
* `owner.uuid`  - UUID of the SVM housing the user account to be deleted.

== Related ONTAP commands

* `security login delete`

== Learn more

*
xref:{relative_path}security_accounts_owner.uuid_name_endpoint_overview.ht
ml[DOC /security/accounts/{owner.uuid}/\{name}]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
```

```
|True
a|Account owner UUID


|name
|string
|path
|True
a|User account name

|===

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 5636098
| Last unlocked account that has an admin role cannot be deleted.

| 5636125
| The operation is not supported on system accounts.

| 5636146
| Cannot delete the last console account with admin role.
|===



[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
====



[[ID81a557469bb3f93805099ad95908a9c6]]
```

```
= Retrieve a specific user account

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/accounts/{owner.uuid}/{name}`#

*Introduced In:* 9.6

Retrieves a specific user account.

== Related ONTAP commands

* `security login show`

== Learn more

*
xref:{relative_path}security_accounts_owner.uuid_name_endpoint_overview.ht
ml[DOC /security/accounts/{owner.uuid}/\{name}]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Account owner UUID


|name
|string
|path
|True
a|User account name
```

```
|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|

|applications
|array[link:#account_application[account_application]]
a|

|comment
|string
a|Optional comment for the user account.


|locked
|boolean
a|Locked status of the account.


|name
|string
a|User or group account name


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the user account.
```

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

|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "applications": [
    {
      "application": "string",
      "authentication_methods": [
        "string"
      ],
      "second_authentication_method": "string"
    }
  ],
  "comment": "string",
  "name": "joe.smith",
  "owner": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "role": {
    "_links": {
      "self": {
```

```
        "href": "/api/resourcelink"
      }
    },
    "name": "admin"
  },
  "scope": "string"
}
====

== 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|

|===


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

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

```
|Type
|Description

|application
|string
a|Applications


|authentication_methods
|array[string]
a|

|second_authentication_method
|string
a|An optional additional authentication method for MFA. This only works
with SSH as the application. It is ignored for all other applications.


|===


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

Owner name and UUID that uniquely identifies the user account.


[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.
```

```
|===


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

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

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

|name
|string
a|Role name


|===


[#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
====



[[ID6d5bb9d6cf39e11a5b019b150b328bcb]]
= Update a user account

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/accounts/{owner.uuid}/{name}`#

*Introduced In:* 9.6
```

```
Updates a user account. Locks or unlocks a user account and/or updates the
role, applications, and/or password for the user account.

== Required parameters

* `name` - Account name to be updated.
* `owner.uuid`  - UUID of the SVM housing the user account to be updated.

== Optional parameters

* `applications` - Array of one or more tuples (of application and
authentication methods).
* `role` - RBAC role for the user account.
* `password` - Password for the user account (if the authentication method
is opted as password for one or more of applications).
* `second_authentication_method` - Needed for MFA and only supported for
ssh application. Defaults to `none` if not supplied.
* `comment` - Comment for the user account (e.g purpose of this account).
* `locked` - Set to true/false to lock/unlock the account.

== Related ONTAP commands

* `security login create`
* `security login modify`
* `security login password`
* `security login lock`
* `security login unlock`

== Learn more

*
xref:{relative_path}security_accounts_owner.uuid_name_endpoint_overview.ht
ml[DOC /security/accounts/{owner.uuid}/\{name}]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== Parameters

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

|Name
|Type
|In
|Required
```

```
|Description

|owner.uuid
|string
|path
|True
a|Account owner UUID


|name
|string
|path
|True
a|User account name

|===

== Request Body



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

|applications
|array[link:#account_application[account_application]]
a|

|comment
|string
a|Optional comment for the user account.


|locked
|boolean
a|Locked status of the account.


|password
|string
a|Password for the account. The password can contain a mix of lower and
upper case alphabetic characters, digits, and special characters.
```

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

|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "applications": [
    {
      "application": "string",
      "authentication_methods": [
        "string"
      ],
      "second_authentication_method": "string"
    }
  ],
  "comment": "string",
  "password": "string",
  "role": {
    "name": "admin"
  },
  "scope": "string"
}
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes
```

```
|===
| Error Code | Description

| 1261215
| The role was not found.

| 1261218
| The user was not found.

| 1263343
| Cannot lock user with password not set or non-password authentication
method.

| 5636096
| Cannot perform the operation for this user account since the password is
not set.

| 5636097
| The operation for user account failed since user password is not set.

| 5636100
| Modification of a service-processor user's role to a non-admin role is
not supported.

| 5636125
| The operation not supported on AutoSupport user account which is
reserved.

| 5636129
| The role does not exist.

| 5636154
| The second-authentication-method parameter is supported for ssh
application.

| 5636155
| The second-authentication-method parameter can be specified only if the
authentication-method password or public key nsswitch.

| 5636156
| Same value cannot be specified for the second-authentication-method and
the authentication-method.

| 5636157
| If the authentication-method is domain, the second-authentication-method
cannot be specified.
```

```
| 5636159
| For a given user and application, if the second-authentication-method is
specified, only one such login entry is supported.

| 5636164
| If the value for either the authentication-method second-authentication-
method is nsswitch or password, the other parameter must differ.

| 5636174
| You are not authorized to change the password for other users.

| 7077896
| Cannot lock the account of the last console admin user.

| 7077906
| A role with that name has not been defined for the Vserver.

| 7077911
| The user is not configured to use the password authentication method.

| 7077918
| The password cannot contain the username.

| 7077919
| The minimum length for new password does not meet the policy.

| 7077920
| The new password must have both letters and numbers.

| 7077921
| The minimum number of special characters required do not meet the
policy.

| 7077924
| The new password must be different than last N passwords.

| 7077925
| The new password must be different to the old password.

| 7077929
| Cannot lock user with password not set or non-password authentication
method.

| 7077940
| The password exceeds maximum supported length.
```

```
| 7077941
| Defined password composition exceeds the maximum password length of 128
characters.

| 7078900
| An aAdmin password is not set. Set the password by including it in the
request.
|===


== 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
[#account_application]
[.api-collapsible-fifth-title]
account_application

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

```
|application
|string
a|Applications


|authentication_methods
|array[string]
a|

|second_authentication_method
|string
a|An optional additional authentication method for MFA. This only works
with SSH as the application. It is ignored for all other applications.


|===


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

Owner name and UUID that uniquely identifies the user account.


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

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


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


|===


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

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

|name
|string
a|Role name


|===


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

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

|applications
|array[link:#account_application[account_application]]
a|

|comment
|string
a|Optional comment for the user account.


|locked
|boolean
a|Locked status of the account.


|password
|string
a|Password for the account. The password can contain a mix of lower and
upper case alphabetic characters, digits, and special characters.


|role
|link:#role[role]
```

```
a|

|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|===


[#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


= View and update audit settings

:leveloffset: +1


[[ID492349f9301b927b4c823399274b5936]]
= Security audit endpoint overview



== Overview

This API controls what is logged to the audit log files. All operations
that make changes are always logged and cannot be disabled. The PATCH
request updates administrative audit settings for GET requests. All fields
are optional for a PATCH request. A GET request retrieves administrative
audit settings for GET requests.
 +
```

```
'''

== Examples

=== Retrieving administrative audit settings for GET requests

The following example shows the administrative audit settings for GET
requests.
 +

'''

----

# The API:
/api/security/audit

# The call:
curl -X GET "https://<cluster-ip>/api/security/audit"

# The response:
{
"cli": false,
"http": false,
"ontapi": false,
"_links": {
    "self": {
        "href": "/api/security/audit"
    }
}
}
----

'''

=== Updating administrative audit settings for GET requests

The following example updates the administrative audit settings for GET
requests
 +

'''

----

# The API:
/api/security/audit
```

```
# The call:
curl -X PATCH "https://<cluster-ip>/api/security/audit" -d
'{"cli":"false", "http": "true", "ontapi": "true"}'
----

'''




[[ID17908041d28f6e01a99ffd306825868b]]
= Retrieve administrative audit settings for GET requests

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/audit`#

*Introduced In:* 9.6

Retrieves administrative audit settings for GET requests.


== Parameters

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

|Name
|Type
|In
|Required
|Description

|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.


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

|===

== Response
```

Status: 200, Ok

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

|cli
|boolean
a|Enable auditing of CLI GET Operations. Valid in PATCH


|http
|boolean
a|Enable auditing of HTTP GET Operations. Valid in PATCH


|ontapi
|boolean
a|Enable auditing of ONTAP API GET operations. Valid in PATCH

* Introduced in: 9.6


|===


== 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
====



[[IDdb64968b0ac5bb978290520d3638cc44]]
= Update administrative audit settings for GET requests

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/audit`#

*Introduced In:* 9.6

Updates administrative audit settings for GET requests.
```

```
All of the fields are optional. An empty body will make no changes.


== 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:


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

* Default value: 1
* Max value: 120
* Min value: 0

|===

== Request Body



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

```
|Name
|Type
|Description

|cli
|boolean
a|Enable auditing of CLI GET Operations. Valid in PATCH


|http
|boolean
a|Enable auditing of HTTP GET Operations. Valid in PATCH


|ontapi
|boolean
a|Enable auditing of ONTAP API GET operations. Valid in PATCH

* Introduced in: 9.6


|===


== Response
```

Status: 202, Accepted

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

|cli
|boolean
a|Enable auditing of CLI GET Operations. Valid in PATCH


|http
|boolean
a|Enable auditing of HTTP GET Operations. Valid in PATCH


|ontapi
|boolean
a|Enable auditing of ONTAP API GET operations. Valid in PATCH

* Introduced in: 9.6


|===


== Error
```

Status: Default, Error

```
== Definitions

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

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

```
|Description

|cli
|boolean
a|Enable auditing of CLI GET Operations. Valid in PATCH


|http
|boolean
a|Enable auditing of HTTP GET Operations. Valid in PATCH


|ontapi
|boolean
a|Enable auditing of ONTAP API GET operations. Valid in PATCH

* Introduced in: 9.6


|===


[#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


= Forward audit logs to syslog/splunk servers

:leveloffset: +1


[[IDfbe72a2ed3cf3ba2103b0118740984fa]]
= Security audit destinations endpoint overview
```

```
== Overview

This API controls the forwarding of audit log information to remote
syslog/splunk servers. Multiple destinations can be configured and all
audit records are forwarded to all destinations.

A GET operation retrieves information about remote syslog/splunk server
destinations.
A POST operation creates a remote syslog/splunk server destination.
A GET operation on /security/audit/destinations/\{address}/\{port}
retrieves information about the syslog/splunk server destination given its
address and port number.
A PATCH operation on /security/audit/destinations/\{address}/\{port}
updates information about the syslog/splunk server destination given its
address and port number.
A DELETE operation on /security/audit/destinations/\{address}/\{port}
deletes a syslog/splunk server destination given its address and port
number.

=== Overview of fields used for creating a remote syslog/splunk
destination

The fields used for creating a remote syslog/splunk destination fall into
the following categories

==== Required properties

All of the following fields are required for creating a remote
syslog/splunk destination

* `address`

==== Optional properties

All of the following fields are optional for creating a remote
syslog/splunk destination

* `port`
* `protocol`
* `facility`
* `verify_server`
 +

'''
```

```
== Examples

=== Retrieving remote syslog/splunk server destinations

The following example shows remote syslog/splunk server destinations
 +

'''

----

# The API:
/api/security/audit/destinations

# The call:
curl -X GET "https://<cluster-ip>/api/security/audit/destinations"

# The response:
{
"records": [
  {
    "address": "1.1.1.1",
    "port": 514,
    "_links": {
      "self": {
        "href": "/api/security/audit/destinations/1.1.1.1/514"
      }
  }
}
 ],
 "num_records": 1,
 "_links": {
   "self": {
     "href": "/api/security/audit/destinations"
   }
 }
}
----

'''

=== Creating remote syslog/splunk server destinations

The following example creates remote syslog/splunk server destinations.
 +

'''
```

```
----

# The API:
/api/security/audit/destinations

# The call:
curl -X POST "https://<cluster-
ip>/api/security/audit/destinations?force=true" -d '{ "address":
"1.1.1.1", "port": 514, "protocol": "udp_unencrypted", "facility":
"kern"}'
----

'''

=== Retrieving a remote syslog/splunk server destination given its
destination address and port number

The following example retrieves a remote syslog/splunk server destination
given its destination address and port number.
 +

'''

----

# The API:
/api/security/audit/destinations/{address}/{port}

# The call:
curl -X GET "https://<cluster-
ip>/api/security/audit/destinations/1.1.1.1/514"

# The response:
{
"address": "1.1.1.1",
"port": 514,
"protocol": "udp_unencrypted",
"facility": "kern",
"verify_server": false,
"_links": {
  "self": {
    "href": "/api/security/audit/destinations/1.1.1.1/514"
  }
}
}
----
```

```
'''

=== Updating a remote syslog/splunk server destination given its
destination address and port number

The following example updates a remote syslog/splunk server destination
configuration given its destination address and port number.
 +

'''

----

# The API:
/api/security/audit/destinations/{address}/{port}

# The call:
curl -X PATCH "https://<cluster-
ip>/api/security/audit/destinations/1.1.1.1/514" -d '{"facility":
"user"}'
----

'''

=== Deleting a remote syslog/splunk server destination given its
destination address and port number

The following example deletes a remote syslog/splunk server destination
configuration given its destination address and port number.
 +

'''

----

# The API:
/api/security/audit/destinations/{address}/{port}

# The call:
curl -X DELETE "https://<cluster-
ip>/api/security/audit/destinations/1.1.1.1/514"
----

'''
```

```
[[IDa9b9bd6e133097f32732d69738e4a6dc]]
= Define a remote syslog or splunk server to receive audit information

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/audit/destinations`#

*Introduced In:* 9.6

Defines a remote syslog/splunk server for sending audit information to.


== Parameters

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

|Name
|Type
|In
|Required
|Description

|verify_server
|boolean
|query
|False
a|Filter by verify_server


|port
|integer
|query
|False
a|Filter by port


|facility
|string
|query
|False
a|Filter by facility


|protocol
```

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


|address
|string
|query
|False
a|Filter by address


|order_by
|array[string]
|query
|False
a|Order results by specified fields and optional [asc|desc] direction.
Default direction is 'asc' for ascending.


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


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


|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
```

```
|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

|===

== Response
```

Status: 200, Ok

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

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

|num_records
|integer
a|Number of records


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

|===


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

== 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|

|===


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

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

|address
|string
a|Destination syslog\|splunk host to forward audit records to. This can be
an IP address (IPv4\|IPv6) or a hostname.
```

```
|facility
|string
a|This is the standard Syslog Facility value that is used when sending
audit records to a remote server.


|port
|integer
a|Destination Port. The default port depends on the protocol chosen:
For un-encrypted destinations the default port is 514.
For encrypted destinations the default port is 6514.


|protocol
|string
a|Log forwarding protocol


|verify_server
|boolean
a|This is only applicable when the protocol is tcp_encrypted. This
controls whether the remote server's certificate is validated. Setting
"verify_server" to "true" will enforce validation of remote server's
certificate. Setting "verify_server" to "false" will not enforce
validation of remote server's certificate.


|===


[#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
====



[[IDaf04301035062c3fb2fa8077aba27d44]]
```

```
= Define the remote syslog or splunk server information

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/audit/destinations`#

*Introduced In:* 9.6

Configures remote syslog/splunk server information.

== Required properties

All of the following fields are required for creating a remote
syslog/splunk destination

* `address`

== Optional properties

All of the following fields are optional for creating a remote
syslog/splunk destination

* `port`
* `protocol`
* `facility`
* `verify_server` (Can only be "true" when protocol is "tcp_encrypted")


== Parameters

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

|Name
|Type
|In
|Required
|Description

|force
|boolean
|query
|False
a|Skip the Connectivity Test

* Default value:
```

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

* Default value: 1
* Max value: 120
* Min value: 0


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

* Default value:

|===

== Request Body



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

|address
|string
a|Destination syslog\|splunk host to forward audit records to. This can be
an IP address (IPv4\|IPv6) or a hostname.


|facility
|string
a|This is the standard Syslog Facility value that is used when sending
audit records to a remote server.
```

```
|port
|integer
a|Destination Port. The default port depends on the protocol chosen:
For un-encrypted destinations the default port is 514.
For encrypted destinations the default port is 6514.


|protocol
|string
a|Log forwarding protocol


|verify_server
|boolean
a|This is only applicable when the protocol is tcp_encrypted. This
controls whether the remote server's certificate is validated. Setting
"verify_server" to "true" will enforce validation of remote server's
certificate. Setting "verify_server" to "false" will not enforce
validation of remote server's certificate.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "address": "string",
  "facility": "string",
  "protocol": "string"
}
====

== Response
```

Status: 202, Accepted

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

|num_records
|integer
a|Number of records


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

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "records": [
    {
      "address": "string",
      "facility": "string",
      "protocol": "string"
    }
  ]
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 15661
| The object specified could not be found
```

```
| 13114
| Internal error

| 13115
| Invalid input

| 4522285
| Server verification cannot be enabled because it requires a protocol
with encryption. Encryption can be selected using the protocol field.

| 9240603
| Cannot ping destination host. Verify connectivity to desired host or
skip the connectivity check with the -force parameter.

| 327698
| Failed to create RPC client to destination host

| 9240609
| Cannot connect to destination host.

| 9240604
| Cannot resolve the destination host.
|===


== Definitions

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

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

|address
|string
a|Destination syslog\|splunk host to forward audit records to. This can be
an IP address (IPv4\|IPv6) or a hostname.
```

```
|facility
|string
a|This is the standard Syslog Facility value that is used when sending
audit records to a remote server.


|port
|integer
a|Destination Port. The default port depends on the protocol chosen:
For un-encrypted destinations the default port is 514.
For encrypted destinations the default port is 6514.


|protocol
|string
a|Log forwarding protocol


|verify_server
|boolean
a|This is only applicable when the protocol is tcp_encrypted. This
controls whether the remote server's certificate is validated. Setting
"verify_server" to "true" will enforce validation of remote server's
certificate. Setting "verify_server" to "false" will not enforce
validation of remote server's certificate.


|===


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

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

|href
|string
a|

|===
```

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



[[ID4362f411a385eb9549c8e187a34e7c28]]
= Delete the remote syslog or splunk server information

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/audit/destinations/{address}/{port}`#

*Introduced In:* 9.6

Deletes remote syslog/splunk server information.


== Parameters

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

|Name
|Type
|In
|Required
|Description

|address
|string
|path
|True
a|IP address of remote syslog/splunk server.
```

```
|port
|integer
|path
|True
a|Port number of remote syslog/splunk server.

|===

== 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
====



[[IDb1640d9c2dd31201450e6e4abf2c2f16]]
= Retrieve the remote syslog or splunk server information

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/audit/destinations/{address}/{port}`#

*Introduced In:* 9.6

Defines a remote syslog/splunk server for sending audit information to.


== Parameters

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

|Name
|Type
|In
|Required
|Description

|address
```

```
|string
|path
|True
a|IP address of remote syslog/splunk server.


|port
|integer
|path
|True
a|Port number of remote syslog/splunk server.


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

|===

== Response
```

Status: 200, Ok

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

|address
|string
a|Destination syslog\|splunk host to forward audit records to. This can be
an IP address (IPv4\|IPv6) or a hostname.


|facility
|string
a|This is the standard Syslog Facility value that is used when sending
audit records to a remote server.


|port
|integer
a|Destination Port. The default port depends on the protocol chosen:
```

```
For un-encrypted destinations the default port is 514.
For encrypted destinations the default port is 6514.


|protocol
|string
a|Log forwarding protocol


|verify_server
|boolean
a|This is only applicable when the protocol is tcp_encrypted. This
controls whether the remote server's certificate is validated. Setting
"verify_server" to "true" will enforce validation of remote server's
certificate. Setting "verify_server" to "false" will not enforce
validation of remote server's certificate.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "address": "string",
  "facility": "string",
  "protocol": "string"
}
====

== 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
====



[[ID1c126203dac8cdcd92ed26853b889cbc]]
= Update the remote syslog or splunk server information
```

```
[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/audit/destinations/{address}/{port}`#

*Introduced In:* 9.6

Updates remote syslog/splunk server information.


== Parameters

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

|Name
|Type
|In
|Required
|Description

|address
|string
|path
|True
a|IP address of remote syslog/splunk server.


|port
|integer
|path
|True
a|Port number of remote syslog/splunk server.

|===

== Request Body



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

|facility
|string
a|This is the standard Syslog Facility value that is used when sending
```

```
audit records to a remote server.


|verify_server
|boolean
a|This is only applicable when the protocol is tcp_encrypted. This
controls whether the remote server's certificate is validated. Setting
"verify_server" to "true" will enforce validation of remote server's
certificate. Setting "verify_server" to "false" will not enforce
validation of remote server's certificate.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "facility": "string"
}
====

== Response
```

Status: 200, Ok

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

|facility
|string
a|This is the standard Syslog Facility value that is used when sending
audit records to a remote server.


|verify_server
|boolean
a|This is only applicable when the protocol is tcp_encrypted. This
controls whether the remote server's certificate is validated. Setting
"verify_server" to "true" will enforce validation of remote server's
certificate. Setting "verify_server" to "false" will not enforce
validation of remote server's certificate.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "facility": "string"
}
====

== Error
```

Status: Default, Default

```
== Definitions

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

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

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

|facility
|string
a|This is the standard Syslog Facility value that is used when sending
audit records to a remote server.


|verify_server
|boolean
a|This is only applicable when the protocol is tcp_encrypted. This
controls whether the remote server's certificate is validated. Setting
"verify_server" to "true" will enforce validation of remote server's
certificate. Setting "verify_server" to "false" will not enforce
validation of remote server's certificate.


|===


[#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


= View administrative audit logs

:leveloffset: +1
```

```
[[ID7d6beefc7845561daa98f191b73864f5]]
= Security audit messages endpoint overview



== Overview

These APIs return audit log records. The GET requests retrieves all audit
log records. An audit log record contains information such as timestamp,
node name, index and so on.
 +

'''

== Example

=== Retrieving audit log records

The following example shows the audit log records.
 +

'''

----

# The API:
/api/security/audit/messages

# The call:
curl -X GET "https://<cluster-ip>/api/security/audit/messages"

# The response:
{
"records": [
  {
    "timestamp": "2019-03-08T11:03:32-05:00",
    "node": {
      "name": "node1",
      "uuid": "bc9af9da-41bb-11e9-a3db-005056bb27cf",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/bc9af9da-41bb-11e9-a3db-
005056bb27cf"
        }
      }
```

```
    },
    "index": 4294967299,
    "application": "http",
    "location": "172.21.16.89",
    "user": "admin",
    "input": "GET /api/security/audit/destinations/",
    "state": "pending",
    "scope": "cluster"
  }
],
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/security/audit/messages"
  }
}
}
----

'''




[[ID919754d1290b5ccdc633adf9b1b9c9bf]]
= Retrieve the administrative audit log viewer

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/audit/messages`#

*Introduced In:* 9.6

Retrieves the administrative audit log viewer.


== Parameters

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

|Name
|Type
|In
|Required
|Description
```

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


|location
|string
|query
|False
a|Filter by location


|input
|string
|query
|False
a|Filter by input


|timestamp
|string
|query
|False
a|Filter by timestamp


|index
|integer
|query
|False
a|Filter by index


|state
|string
|query
|False
a|Filter by state


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

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


|application
|string
|query
|False
a|Filter by application


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


|message
|string
|query
|False
a|Filter by message


|session_id
|string
|query
|False
a|Filter by session_id


|node.name
|string
|query
|False
a|Filter by node.name


|node.uuid
|string
|query
```

```
|False
a|Filter by node.uuid


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


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


|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


|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


|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 records


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

|===


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

```
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "application": "string",
      "command_id": "string",
      "index": 0,
      "input": "string",
      "location": "string",
      "message": "string",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "scope": "string",
      "session_id": "string",
      "state": "string",
      "svm": {
        "name": "string"
      },
      "timestamp": "string",
      "user": "string"
    }
  ]
}
====

== 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|

|===


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

Node where the audit message resides.


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

```
|Name
|Type
|Description

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

|name
|string
a|

|uuid
|string
a|

|===


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

This is the SVM through which the user connected.


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

|name
|string
a|

|===


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

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

```
|Description

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

|application
|string
a|This identifies the "application" by which the request was processed.


|command_id
|string
a|This is the command ID for this request.
Each command received on a CLI session is assigned a command ID. This
enables you to correlate a request and response.


|index
|integer
a|Internal index for accessing records with same time/node. This is a 64
bit unsigned value.


|input
|string
a|The request.


|location
|string
a|This identifies the location of the remote user. This is an IP address
or "console".


|message
|string
a|This is an optional field that might contain "error" or "additional
information" about the status of a command.


|node
|link:#node[node]
a|Node where the audit message resides.


|scope
```

```
|string
a|Set to "svm" when the request is on a data SVM; otherwise set to
"cluster".


|session_id
|string
a|This is the session ID on which the request is received. Each SSH
session is assigned a session ID.
Each http/ontapi/snmp request is assigned a unique session ID.


|state
|string
a|State of of this request.


|svm
|link:#svm[svm]
a|This is the SVM through which the user connected.


|timestamp
|string
a|Log entry timestamp. Valid in URL


|user
|string
a|Username of the remote user.


|===


[#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 data SVM account information

:leveloffset: +1


[[ID28052434baa56822de0694ac85c2a263]]
= Security authentication cluster ad-proxy endpoint overview



== Overview

This API configures data SVM account information at the Active Directory.
For Active Directory domain-based authentication for cluster accounts, a
data SVM must be configured and registered as a machine account at the
Active Directory. All authentication requests are proxied through this
SVM.

== Examples

=== Creating a data SVM proxy for domain-based authentication for cluster
accounts

----

# The API:
POST  "/api/security/authentication/cluster/ad-proxy"

# The call:
curl -X POST "https://<mgmt-ip>/api/security/authentication/cluster/ad-
proxy" -d '{"svm.uuid":"13f87d78-70c7-11e9-b722-0050568ec89f"}'
----

=== Updating a data SVM proxy for domain-based authentication for cluster
accounts

----

# The API:
PATCH "/api/security/authentication/cluster/ad-proxy"

# The call:
```

```
curl -X PATCH "https://<mgmt-ip>/api/security/authentication/cluster/ad-
proxy" -d '{"svm.uuid":"13f87d78-70c7-11e9-b722-0050568ec89f"}'
----

=== Retrieving a data SVM proxy for domain-based authentication for
cluster accounts

----

# The API:
GET "/api/security/authentication/cluster/ad-proxy"

# The call:
curl -X GET "https://<mgmt-ip>/api/security/authentication/cluster/ad-
proxy"

# The response:
{
"svm": {
  "uuid": "512eab7a-6bf9-11e9-a896-005056bb9ce1",
  "name": "vs2",
  "_links": {
    "self": {
      "href": "/api/svm/svms/512eab7a-6bf9-11e9-a896-005056bb9ce1"
    }
  }
},
"_links": {
  "self": {
    "href": "/api/security/authentication/cluster/ad-proxy"
  }
}
}
----




[[ID66f9b08253e36ca1196719d295a80081]]
= Delete a data SVM configured as a tunnel

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/authentication/cluster/ad-proxy`#

*Introduced In:* 9.7
```

```
Deletes the data SVM configured as a tunnel for Active Directory based
authentication for cluster user accounts.

== Related ONTAP commands

* `security login domain-tunnel delete`

== Learn more

* xref:{relative_path}security_authentication_cluster_ad-
proxy_endpoint_overview.html[DOC /security/authentication/cluster/ad-
proxy]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== 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
====



[[ID5956e8de0e190e3e134cb0d9006ffa70]]
= Retrieve SVM information configured as an Active Directory domain-tunnel

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/authentication/cluster/ad-proxy`#

*Introduced In:* 9.7

Retrieves SVM information configured as an Active Directory domain-tunnel.

== Related ONTAP commands

* `security login domain-tunnel show`

== Learn more
```

```
* xref:{relative_path}security_authentication_cluster_ad-
proxy_endpoint_overview.html[DOC /security/authentication/cluster/ad-
proxy]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== Response
```

Status: 200, Ok

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

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

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

|===


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



[[IDab0d22f8e2ee808d93732cfa5cc346c0]]
= Update a data SVM configured as a tunnel

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/authentication/cluster/ad-proxy`#

*Introduced In:* 9.7

Updates the data SVM configured as a tunnel for Active Directory based
authentication for cluster user accounts.

== Related ONTAP commands

* `security login domain-tunnel modify`

== Learn more

* xref:{relative_path}security_authentication_cluster_ad-
proxy_endpoint_overview.html[DOC /security/authentication/cluster/ad-
proxy]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== 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

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

|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default, Error

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

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

|name
|string
```

```
a|The name of the SVM.


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


|===


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

The SVM configured as proxy for Active Directory authentication of cluster
accounts.


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

|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
====



[[ID9b83fcc74d295bdaab5f29dfa350990d]]
```

```
= Configure a data SVM as a proxy

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/authentication/cluster/ad-proxy`#

*Introduced In:* 9.7

Configures a data SVM as a proxy for Active Directory based authentication
for cluster user accounts.

== Required properties

* `svm.name` or `svm.uuid` - Name and UUID of the SVM for a cluster user
account.

== Related ONTAP commands

* `security login domain-tunnel create`

== Learn more

* xref:{relative_path}security_authentication_cluster_ad-
proxy_endpoint_overview.html[DOC /security/authentication/cluster/ad-
proxy]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== 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

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

|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
====

== Response
```

Status: 201, Created

```
== Error
```

Status: Default, Error

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

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

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


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


|===


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

```
The SVM configured as proxy for Active Directory authentication of cluster
accounts.


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

|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


= Manage LDAP server configuration

:leveloffset: +1


[[IDb706053053adad021df608812fc4f525]]
= Security authentication cluster LDAP endpoint overview



== Overview
```

```
LDAP servers are used to centrally maintain user information. LDAP
configurations must be set up
to look up information stored in the LDAP directory on the external LDAP
servers. This API is used to retrieve and manage
cluster LDAP server configurations.

== Examples

=== Retrieving the cluster LDAP information

The cluster LDAP GET request retrieves the LDAP configuration of the
cluster.

The following example shows how a GET request is used to retrieve the
cluster LDAP information:

----

# The API:
/api/security/authentication/cluster/ldap

# The call:
curl -X GET "https://<mgmt-ip>/api/security/authentication/cluster/ldap"
-H "accept: application/hal+json"

# The response:
{
"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/security/authentication/cluster/ldap"
  }
}
}
----
```

```
=== Creating the cluster LDAP configuration

The cluster LDAP POST operation creates an LDAP configuration for the
cluster.

The following example shows how to issue a POST request with all of the
fields specified:

----

# The API:
/api/security/authentication/cluster/ldap

# The call:
curl -X POST "https://<mgmt-ip>/api/security/authentication/cluster/ldap"
-H "accept: application/hal+json" -H "Content-Type: application/json" -d
"{ \"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\"}"
----

The following example shows how to issue a POST request with a number of
optional fields not specified:

----

# The API:
/api/security/authentication/cluster/ldap

# The call:
curl -X POST "https://<mgmt-ip>/api/security/authentication/cluster/ldap"
-H "accept: application/hal+json" -H "Content-Type: application/json" -d
"{ \"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 the cluster LDAP configuration

The cluster LDAP PATCH request updates the LDAP configuration of the
cluster.

The following example shows how a PATCH request is used to update the
```

```
cluster LDAP configuration:

----

# The API:
/api/security/authentication/cluster/ldap

# The call:
curl -X PATCH "https://<mgmt-ip>/api/security/authentication/cluster/ldap"
-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 the cluster LDAP configuration

The cluster LDAP DELETE request deletes the LDAP configuration of the
cluster.

The following example shows how a DELETE request is used to delete the
cluster LDAP configuration:

----

# The API:
/api/security/authentication/cluster/ldap

# The call:
curl -X DELETE "https://<mgmt-
ip>/api/security/authentication/cluster/ldap" -H "accept:
application/hal+json"
----




[[IDa32a1ac29f006d1750b95e54a16d877b]]
= Delete the LDAP configuration for the cluster

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/authentication/cluster/ldap`#

*Introduced In:* 9.6

Deletes the LDAP configuration of the cluster.
```

```
== 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
====



[[ID10708fc9ff78333d7061b50192e8bebc]]
= Retrieve the LDAP configuration for the cluster

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/authentication/cluster/ldap`#

*Introduced In:* 9.6

Retrieves the cluster LDAP configuration.


== Parameters

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

|Name
|Type
|In
|Required
|Description

|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.


|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|

|base_dn
|string
a|Specifies the default base DN for all searches.


|base_scope
|string
a|Specifies the default search scope for LDAP queries:

* 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
a|Specifies whether or not CIFS server's credentials are used to bind to
the LDAP server.


|bind_dn
|string
a|Specifies the user that binds to the LDAP servers.


|group_dn
|string
a|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
a|Specifies the custom filter used for group membership lookups from an
LDAP server.


|group_scope
|string
a|Specifies the default search scope for LDAP for group lookups:
```

```
* 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
a|Specifies whether or not netgroup by host querying is enabled.


|is_owner
|boolean
a|Specifies whether or not the SVM owns the LDAP client configuration.


|ldaps_enabled
|boolean
a|Specifies whether or not LDAPS is enabled.


|min_bind_level
|string
a|The minimum bind authentication level. Possible values are:

* anonymous - anonymous bind
* simple - simple bind
* sasl - Simple Authentication and Security Layer (SASL) bind


|netgroup_byhost_dn
|string
a|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
a|Specifies the default search scope for LDAP for netgroup by host
lookups:

* 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
a|Specifies the netgroup Distinguished Name (DN) that is used as the
starting point in the LDAP directory tree for netgroup lookups.


|netgroup_scope
|string
a|Specifies the default search scope for LDAP for netgroup lookups:

* 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
a|The port used to connect to the LDAP Servers.


|query_timeout
|integer
a|Specifies the maximum time to wait for a query response from the LDAP
server, in seconds.


|schema
|string
a|The name of the schema template used by the SVM.

* 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]
a|

|session_security
|string
a|Specifies the level of security to be used for LDAP communications:

* none - no signing or sealing
* sign - sign LDAP traffic
* seal - seal and sign LDAP traffic
```

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

|use_start_tls
|boolean
a|Specifies whether or not to use Start TLS over LDAP connections.


|user_dn
|string
a|Specifies the user Distinguished Name (DN) that is used as the starting
point in the LDAP directory tree for user lookups.


|user_scope
|string
a|Specifies the default search scope for LDAP for user lookups:

* 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
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "base_dn": "string",
  "base_scope": "string",
  "bind_dn": "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",
  "schema": "string",
  "servers": [
    "string"
  ],
  "session_security": "string",
  "skip_config_validation": null,
  "status": {
    "code": "65537300",
    "dn_message": [
      "string"
    ],
    "message": "string",
    "state": "string"
  },
  "user_dn": "string",
  "user_scope": "string"
}
====

== 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|

|===


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

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

|code
|integer
a|Code corresponding to the status message.


|dn_message
|array[string]
a|

|message
|string
a|Provides additional details on the status of the LDAP service.


|state
|string
a|Specifies the status of the LDAP service.


|===


[#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
====



[[ID531b23e1743c5f1c24c83de083f6eda0]]
= Update the LDAP configuration for the cluster

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/authentication/cluster/ldap`#

*Introduced In:* 9.6

Both mandatory and optional parameters of the LDAP configuration can be
updated.
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`
property.
The LDAP servers are validated as part of this operation. LDAP validation
fails in the following scenarios:

. The server does not have LDAP installed.
. The server is invalid.
. The server is unreachable.


== 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

|base_dn
|string
a|Specifies the default base DN for all searches.


|base_scope
|string
a|Specifies the default search scope for LDAP queries:

* 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
a|Specifies whether or not CIFS server's credentials are used to bind to
the LDAP server.


|bind_dn
|string
a|Specifies the user that binds to the LDAP servers.


|bind_password
|string
a|Specifies the bind password for the LDAP servers.


|group_dn
|string
a|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
a|Specifies the custom filter used for group membership lookups from an
LDAP server.


|group_scope
|string
a|Specifies the default search scope for LDAP for group lookups:

* 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
a|Specifies whether or not netgroup by host querying is enabled.


|is_owner
|boolean
a|Specifies whether or not the SVM owns the LDAP client configuration.


|ldaps_enabled
|boolean
a|Specifies whether or not LDAPS is enabled.


|min_bind_level
|string
a|The minimum bind authentication level. Possible values are:

* anonymous - anonymous bind
* simple - simple bind
* sasl - Simple Authentication and Security Layer (SASL) bind


|netgroup_byhost_dn
|string
a|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
a|Specifies the default search scope for LDAP for netgroup by host
lookups:

* 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
a|Specifies the netgroup Distinguished Name (DN) that is used as the
starting point in the LDAP directory tree for netgroup lookups.


|netgroup_scope
|string
a|Specifies the default search scope for LDAP for netgroup lookups:

* 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
a|The port used to connect to the LDAP Servers.


|query_timeout
|integer
a|Specifies the maximum time to wait for a query response from the LDAP
server, in seconds.


|schema
|string
a|The name of the schema template used by the SVM.

* 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]
a|

|session_security
|string
a|Specifies the level of security to be used for LDAP communications:

* none - no signing or sealing
* sign - sign LDAP traffic
* seal - seal and sign LDAP traffic


|skip_config_validation
|boolean
a|Indicates whether or not the validation for the specified LDAP
configuration is disabled.


|status
|link:#status[status]
a|

|use_start_tls
|boolean
a|Specifies whether or not to use Start TLS over LDAP connections.


|user_dn
|string
a|Specifies the user Distinguished Name (DN) that is used as the starting
point in the LDAP directory tree for user lookups.


|user_scope
|string
a|Specifies the default search scope for LDAP for user lookups:

* 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
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "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",
  "schema": "string",
  "servers": [
    "string"
  ],
  "session_security": "string",
  "status": {
    "code": "65537300",
    "dn_message": [
      "string"
    ],
    "message": "string",
    "state": "string"
  },
  "user_dn": "string",
  "user_scope": "string"
}
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
```

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 4915203
| The specified LDAP schema does not exist.

| 4915208
| The specified LDAP 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
| Specified LDAP 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 FQDN is not valid because
it is empty or "-" or it contains either special characters or "-" at the
start or end of the domain.

| 4915251
| STARTTLS and LDAPS cannot be used together

| 4915257
| The LDAP configuration is not valid. Verify that the Distinguished Names
and bind password are correct.

| 4915258
| The LDAP configuration is not valid. Verify that the servers are
reachable and that the network configuration is correct.

| 23724130
| Cannot use an IPv6 name server address because there are no IPv6
interfaces.
|===
```

```
== 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
[#status]
[.api-collapsible-fifth-title]
status

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

|code
|integer
a|Code corresponding to the status message.


|dn_message
|array[string]
a|
```

```
|message
|string
a|Provides additional details on the status of the LDAP service.


|state
|string
a|Specifies the status of the LDAP service.


|===


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

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

|base_dn
|string
a|Specifies the default base DN for all searches.


|base_scope
|string
a|Specifies the default search scope for LDAP queries:

* 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
a|Specifies whether or not CIFS server's credentials are used to bind to
the LDAP server.


|bind_dn
|string
a|Specifies the user that binds to the LDAP servers.
```

```
|bind_password
|string
a|Specifies the bind password for the LDAP servers.


|group_dn
|string
a|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
a|Specifies the custom filter used for group membership lookups from an
LDAP server.


|group_scope
|string
a|Specifies the default search scope for LDAP for group lookups:

* 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
a|Specifies whether or not netgroup by host querying is enabled.


|is_owner
|boolean
a|Specifies whether or not the SVM owns the LDAP client configuration.


|ldaps_enabled
|boolean
a|Specifies whether or not LDAPS is enabled.


|min_bind_level
|string
a|The minimum bind authentication level. Possible values are:
```

```
* anonymous - anonymous bind
* simple - simple bind
* sasl - Simple Authentication and Security Layer (SASL) bind


|netgroup_byhost_dn
|string
a|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
a|Specifies the default search scope for LDAP for netgroup by host
lookups:

* 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
a|Specifies the netgroup Distinguished Name (DN) that is used as the
starting point in the LDAP directory tree for netgroup lookups.


|netgroup_scope
|string
a|Specifies the default search scope for LDAP for netgroup lookups:

* 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
a|The port used to connect to the LDAP Servers.


|query_timeout
|integer
a|Specifies the maximum time to wait for a query response from the LDAP
server, in seconds.
```

```
|schema
|string
a|The name of the schema template used by the SVM.

* 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]
a|

|session_security
|string
a|Specifies the level of security to be used for LDAP communications:

* none - no signing or sealing
* sign - sign LDAP traffic
* seal - seal and sign LDAP traffic


|skip_config_validation
|boolean
a|Indicates whether or not the validation for the specified LDAP
configuration is disabled.


|status
|link:#status[status]
a|

|use_start_tls
|boolean
a|Specifies whether or not to use Start TLS over LDAP connections.


|user_dn
|string
a|Specifies the user Distinguished Name (DN) that is used as the starting
point in the LDAP directory tree for user lookups.


|user_scope
|string
```

```
a|Specifies the default search scope for LDAP for user lookups:

* 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]
[.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
====



[[IDaa3b4b0a96d734a1181d9a61a81528a1]]
= Create the LDAP configuration for the cluster

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/authentication/cluster/ldap`#

*Introduced In:* 9.6

A cluster can have only one LDAP configuration. IPv6 must be enabled if
IPv6 family addresses are specified.

== Required properties

* `servers` - List of LDAP servers used for this client configuration.
* `bind_dn` - Specifies the user that binds to the LDAP servers.
* `base_dn` - Specifies the default base DN for all searches.

== Recommended optional properties

* `schema` - Schema template name.
* `port` - Port used to connect to the LDAP Servers.
* `ldaps_enabled` - Specifies whether or not LDAPS is enabled.
* `min_bind_level` - Minimum bind authentication level.
```

```
* `bind_password` - Specifies the bind password for the LDAP servers.
* `base_scope` - Specifies the default search scope for LDAP queries.
* `use_start_tls` - Specifies whether or not to use Start TLS over LDAP
connections.
* `session_security` - Specifies the level of security to be used for LDAP
communications.
* `bind_as_cifs_server` - Indicates if CIFS server's credentials are used
to bind to the LDAP server.
* `query_timeout` - Maximum time to wait for a query response from the
LDAP server, in seconds.
* `user_dn` - User Distinguished Name (DN) used as the starting point in
the LDAP directory tree for user lookups.
* `user_scope` - Default search scope for LDAP for user lookups.
* `group_dn` - Group Distinguished Name (DN) used as the starting point in
the LDAP directory tree for group lookups.
* `group_scope` - Default search scope for LDAP for group lookups.
* `netgroup_dn` - Netgroup Distinguished Name (DN) used as the starting
point in the LDAP directory tree for netgroup lookups.
* `netgroup_scope` - Default search scope for LDAP for netgroup lookups.
* `netgroup_byhost_dn` - Netgroup Distinguished Name (DN) used as the
starting point in the LDAP directory tree for netgroup by host lookups.
* `netgroup_byhost_scope` - Default search scope for LDAP for netgroup by
host lookups.
* `is_netgroup_byhost_enabled` - Specifies whether netgroup by host
querying is enabled.
* `group_membership_filter` - Custom filter used for group membership
lookup from an LDAP server.
* `skip_config_validation` - Indicates whether or not the validation for
the specified LDAP configuration is disabled.

== Default property values

* `schema` - _RFC-2307_
* `port` - _389_
* `ldaps_enabled` - _false_
* `min_bind_level` - _simple_
* `base_scope` - _subtree_
* `use_start_tls` - _false_
* `session_security` - _none_
* `query_timeout` - _3_
* `user_scope` - _subtree_
* `group_scope` - _subtree_
* `netgroup_scope` - _subtree_
* `netgroup_byhost_scope` - _subtree_
* `is_netgroup_byhost_enabled` - _false_
* `skip_config_validation` - _false_
```

```
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` property.
The LDAP servers are validated as part of this operation. LDAP validation
fails in the following scenarios:

. The server does not have LDAP installed.
. The server is invalid.
. The server is unreachable.


== 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

|base_dn
|string
a|Specifies the default base DN for all searches.
```

```
|base_scope
|string
a|Specifies the default search scope for LDAP queries:

* 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
a|Specifies whether or not CIFS server's credentials are used to bind to
the LDAP server.


|bind_dn
|string
a|Specifies the user that binds to the LDAP servers.


|bind_password
|string
a|Specifies the bind password for the LDAP servers.


|group_dn
|string
a|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
a|Specifies the custom filter used for group membership lookups from an
LDAP server.


|group_scope
|string
a|Specifies the default search scope for LDAP for group lookups:

* 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
a|Specifies whether or not netgroup by host querying is enabled.


|is_owner
|boolean
a|Specifies whether or not the SVM owns the LDAP client configuration.


|ldaps_enabled
|boolean
a|Specifies whether or not LDAPS is enabled.


|min_bind_level
|string
a|The minimum bind authentication level. Possible values are:

* anonymous - anonymous bind
* simple - simple bind
* sasl - Simple Authentication and Security Layer (SASL) bind


|netgroup_byhost_dn
|string
a|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
a|Specifies the default search scope for LDAP for netgroup by host
lookups:

* 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
a|Specifies the netgroup Distinguished Name (DN) that is used as the
starting point in the LDAP directory tree for netgroup lookups.


|netgroup_scope
```

```
|string
a|Specifies the default search scope for LDAP for netgroup lookups:

* 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
a|The port used to connect to the LDAP Servers.


|query_timeout
|integer
a|Specifies the maximum time to wait for a query response from the LDAP
server, in seconds.


|schema
|string
a|The name of the schema template used by the SVM.

* 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]
a|

|session_security
|string
a|Specifies the level of security to be used for LDAP communications:

* none - no signing or sealing
* sign - sign LDAP traffic
* seal - seal and sign LDAP traffic


|skip_config_validation
|boolean
a|Indicates whether or not the validation for the specified LDAP
configuration is disabled.
```

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

|use_start_tls
|boolean
a|Specifies whether or not to use Start TLS over LDAP connections.


|user_dn
|string
a|Specifies the user Distinguished Name (DN) that is used as the starting
point in the LDAP directory tree for user lookups.


|user_scope
|string
a|Specifies the default search scope for LDAP for user lookups:

* 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
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "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",
```

```
  "schema": "string",
  "servers": [
    "string"
  ],
  "session_security": "string",
  "status": {
    "code": "65537300",
    "dn_message": [
      "string"
    ],
    "message": "string",
    "state": "string"
  },
  "user_dn": "string",
  "user_scope": "string"
}
====

== Response
```

Status: 201, Created

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

|num_records
|integer
a|Number of LDAP records.


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

|===


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

```
    {
      "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": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "user_dn": "string",
      "user_scope": "string"
    }
  ]
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 4915203
| The specified LDAP schema does not exist.

| 4915207
| The specified LDAP 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 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 FQDN is invalid because
it is empty or "-" or it contains either 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 servers are reachable
and that the network configuration is correct.

| 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
interfaces.
|===


== 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
[#status]
[.api-collapsible-fifth-title]
status

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

|code
|integer
a|Code corresponding to the status message.
```

```
|dn_message
|array[string]
a|

|message
|string
a|Provides additional details on the status of the LDAP service.


|state
|string
a|Specifies the status of the LDAP service.


|===


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

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

|base_dn
|string
a|Specifies the default base DN for all searches.


|base_scope
|string
a|Specifies the default search scope for LDAP queries:

* 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
a|Specifies whether or not CIFS server's credentials are used to bind to
the LDAP server.
```

```
|bind_dn
|string
a|Specifies the user that binds to the LDAP servers.


|bind_password
|string
a|Specifies the bind password for the LDAP servers.


|group_dn
|string
a|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
a|Specifies the custom filter used for group membership lookups from an
LDAP server.


|group_scope
|string
a|Specifies the default search scope for LDAP for group lookups:

* 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
a|Specifies whether or not netgroup by host querying is enabled.


|is_owner
|boolean
a|Specifies whether or not the SVM owns the LDAP client configuration.


|ldaps_enabled
|boolean
a|Specifies whether or not LDAPS is enabled.
```

```
|min_bind_level
|string
a|The minimum bind authentication level. Possible values are:

* anonymous - anonymous bind
* simple - simple bind
* sasl - Simple Authentication and Security Layer (SASL) bind


|netgroup_byhost_dn
|string
a|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
a|Specifies the default search scope for LDAP for netgroup by host
lookups:

* 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
a|Specifies the netgroup Distinguished Name (DN) that is used as the
starting point in the LDAP directory tree for netgroup lookups.


|netgroup_scope
|string
a|Specifies the default search scope for LDAP for netgroup lookups:

* 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
a|The port used to connect to the LDAP Servers.


|query_timeout
|integer
```

```
a|Specifies the maximum time to wait for a query response from the LDAP
server, in seconds.


|schema
|string
a|The name of the schema template used by the SVM.

* 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]
a|

|session_security
|string
a|Specifies the level of security to be used for LDAP communications:

* none - no signing or sealing
* sign - sign LDAP traffic
* seal - seal and sign LDAP traffic


|skip_config_validation
|boolean
a|Indicates whether or not the validation for the specified LDAP
configuration is disabled.


|status
|link:#status[status]
a|

|use_start_tls
|boolean
a|Specifies whether or not to use Start TLS over LDAP connections.


|user_dn
|string
a|Specifies the user Distinguished Name (DN) that is used as the starting
point in the LDAP directory tree for user lookups.
```

```
|user_scope
|string
a|Specifies the default search scope for LDAP for user lookups:

* 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


|===


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

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

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


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


|===


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

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

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


|base_dn
|string
a|Specifies the default base DN for all searches.


|base_scope
|string
a|Specifies the default search scope for LDAP queries:

* 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
a|Specifies whether or not CIFS server's credentials are used to bind to
the LDAP server.


|bind_dn
|string
a|Specifies the user that binds to the LDAP servers.


|bind_password
|string
a|Specifies the bind password for the LDAP servers.


|group_dn
|string
a|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
a|Specifies the custom filter used for group membership lookups from an
LDAP server.
```

```
|group_scope
|string
a|Specifies the default search scope for LDAP for group lookups:

* 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
a|Specifies whether or not netgroup by host querying is enabled.


|is_owner
|boolean
a|Specifies whether or not the SVM owns the LDAP client configuration.


|ldaps_enabled
|boolean
a|Specifies whether or not LDAPS is enabled.


|min_bind_level
|string
a|The minimum bind authentication level. Possible values are:

* anonymous - anonymous bind
* simple - simple bind
* sasl - Simple Authentication and Security Layer (SASL) bind


|netgroup_byhost_dn
|string
a|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
a|Specifies the default search scope for LDAP for netgroup by host
lookups:

* 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
a|Specifies the netgroup Distinguished Name (DN) that is used as the
starting point in the LDAP directory tree for netgroup lookups.


|netgroup_scope
|string
a|Specifies the default search scope for LDAP for netgroup lookups:

* 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
a|The port used to connect to the LDAP Servers.


|preferred_ad_servers
|array[string]
a|

|query_timeout
|integer
a|Specifies the maximum time to wait for a query response from the LDAP
server, in seconds.


|referral_enabled
|boolean
a|Specifies whether or not LDAP referral is enabled.


|schema
|string
a|The name of the schema template used by the SVM.

* 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]
a|

|session_security
|string
a|Specifies the level of security to be used for LDAP communications:

* none - no signing or sealing
* sign - sign LDAP traffic
* seal - seal and sign LDAP traffic


|skip_config_validation
|boolean
a|Indicates whether or not the validation for the specified LDAP
configuration is disabled.


|status
|link:#status[status]
a|

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

|use_start_tls
|boolean
a|Specifies whether or not to use Start TLS over LDAP connections.


|user_dn
|string
a|Specifies the user Distinguished Name (DN) that is used as the starting
point in the LDAP directory tree for user lookups.


|user_scope
|string
a|Specifies the default search scope for LDAP for user lookups:

* 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]
[.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 NIS configuration

:leveloffset: +1


[[ID5e00f1c296de3927a6a86a6df15118b3]]
= Security authentication cluster 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. This API
retrieves and manages NIS server configurations.

== Examples

=== Retrieving cluster NIS information

The cluster NIS GET request retrieves the NIS configuration of the
cluster.

The following example shows how a GET request is used to retrieve the
```

```
cluster NIS configuration:

----

# The API:
/security/authentication/cluster/nis

# The call:
curl -X GET "https://<mgmt-ip>/api/security/authentication/cluster/nis" -H
"accept: application/hal+json"

# The response:
{
"domain": "domainA.example.com",
"servers": [
  "10.10.10.10",
  "example.com"
],
"bound_servers": [
  "10.10.10.10"
]
}
----

=== Creating the cluster NIS configuration

The cluster NIS POST request creates a NIS configuration for the cluster.

The following example shows how a POST request is used to create a cluster
NIS configuration:

----

# The API:
/security/authentication/cluster/nis

# The call:
curl -X POST "https://<mgmt-ip>/api/security/authentication/cluster/nis"
-H "accept: application/json" -H "Content-Type: application/json" -d "{
\"domain\": \"domainA.example.com\", \"servers\": [
\"10.10.10.10\",\"example.com\" ]}"
----

=== Updating the cluster NIS configuration

The cluster NIS PATCH request updates the NIS configuration of the
cluster.
```

```
The following example shows how to update the domain:

----

# The API:
/security/authentication/cluster/nis

# The call:
curl -X PATCH "https://<mgmt-ip>/api/security/authentication/cluster/nis"
-H "accept: application/json" -H "Content-Type: application/json" -d "{
\"domain\": \"domainC.example.com\", \"servers\": [ \"13.13.13.13\" ]}"
----

The following example shows how to update the server:

----

# The API:
/security/authentication/cluster/nis

# The call:
curl -X PATCH "https://<mgmt-ip>/api/security/authentication/cluster/nis"
-H "accept: application/json" -H "Content-Type: application/json" -d "{
\"servers\": [ \"14.14.14.14\" ]}"
----

== Deleting the cluster NIS configuration

The cluster NIS DELETE request deletes the NIS configuration of the
cluster.

The following example shows how a DELETE request is used to delete the
cluster NIS configuration:

----

# The API:
/security/authentication/cluster/nis

# The call:
curl -X DELETE "https://<mgmt-ip>/api/security/authentication/cluster/nis"
-H "accept: application/hal+json"
----

'''
```

```
[[IDbecb51d0e9b5e84bf41c7c795ab5b458]]
= Delete the NIS configuration for the cluster

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/authentication/cluster/nis`#

*Introduced In:* 9.6

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


== 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
====



[[ID95bda602374f6208f226315d71b8af4f]]
= Retrieve the NIS configuration for the cluster

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/authentication/cluster/nis`#

*Introduced In:* 9.6

Retrieves the NIS configuration of the cluster. Both NIS domain and
servers are displayed by default.
The `bound_servers` property indicates the successfully bound NIS servers.


== Parameters
```

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

|Name
|Type
|In
|Required
|Description

|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.
```

```
|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|

|bound_servers
|array[string]
a|

|domain
|string
a|The NIS domain to which this configuration belongs.


|servers
|array[string]
a|A list of hostnames or IP addresses of NIS servers used
by the NIS domain configuration.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
```

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

== 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|

|===
```

```
[#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
====



[[ID62a02949f34ec63ead750c2247a8964f]]
= Update the NIS configuration for the cluster

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/authentication/cluster/nis`#

*Introduced In:* 9.6

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


== 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

|bound_servers
|array[string]
a|

|domain
|string
a|The NIS domain to which this configuration belongs.


|servers
|array[string]
a|A list of hostnames or IP addresses of NIS servers used
by the NIS domain configuration.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "bound_servers": [
    "string"
  ],
  "domain": "string",
  "servers": [
    "string"
  ]
}
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 1966253
| IPv6 is not enabled in the cluster .

| 3276964
| The 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
interfaces
|===


== 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
[#cluster_nis_service]
[.api-collapsible-fifth-title]
cluster_nis_service

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

|bound_servers
|array[string]
a|

|domain
|string
a|The NIS domain to which this configuration belongs.


|servers
|array[string]
a|A list of hostnames or IP addresses of NIS servers used
by the NIS domain configuration.


|===
```

```
[#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
====



[[ID83409cb4fee4ea79478e8cc247cef8bc]]
= Create the NIS configuration for the cluster

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/authentication/cluster/nis`#

*Introduced In:* 9.6

The cluster can have one NIS server configuration. 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 `server` property. IPv6
must be enabled if IPv6 family addresses are specified in the `server`
property. A maximum of ten NIS servers are supported.

== Required properties

* `domain` - NIS domain to which this configuration belongs.
* `servers` - List of hostnames or IP addresses of NIS servers used by the
NIS domain configuration.


== 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

|bound_servers
|array[string]
a|

|domain
|string
a|The NIS domain to which this configuration belongs.


|servers
|array[string]
a|A list of hostnames or IP addresses of NIS servers used
by the NIS domain configuration.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "bound_servers": [
    "string"
  ],
  "domain": "string",
```

```
  "servers": [
    "string"
  ]
}
====

== Response
```

Status: 201, Created

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

|num_records
|integer
a|Number of NIS domain records.


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

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "records": [
    {
      "bound_servers": [
        "string"
      ],
      "domain": "string",
      "servers": [
        "string"
      ]
    }
  ]
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description
```

```
| 1966253
| IPv6 is not enabled in the cluster.

| 3276964
| The 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
interfaces.
|===


== 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
[#cluster_nis_service]
[.api-collapsible-fifth-title]
cluster_nis_service

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

|bound_servers
|array[string]
a|

|domain
|string
a|The NIS domain to which this configuration belongs.


|servers
|array[string]
a|A list of hostnames or IP addresses of NIS servers used
by the NIS domain configuration.


|===


[#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 SAML service

:leveloffset: +1


[[IDe10754ba7013777a5f06b8838aac0d97]]
= Security authentication cluster saml-sp endpoint overview



== Overview

This API is used to retrieve and display relevant information pertaining
to the SAML service provider configuration in the cluster. The POST
request creates a SAML service provider configuration if there is none
present.  The DELETE request removes the SAML service provider
configuration.  The PATCH request enables and disables SAML in the
cluster.  Various responses are shown in the examples below.
 +

'''

== Examples

=== Retrieving the SAML service provider configuration in the cluster

The following output shows the SAML service provider configuration in the
cluster.
 +

'''

----

# The API:
/api/security/authentication/cluster/saml-sp
```

```
# The call:
curl -X GET "https://<mgmt-ip>/api/security/authentication/cluster/saml-
sp" -H "accept: application/hal+json"

# The response:
{
"idp_uri": "https://examplelab.customer.com/idp/Metadata",
"enabled": true,
"host": "172.21.74.181",
"certificate": {
  "ca": "cluster1",
  "serial_number": "156F10C3EB4C51C1",
  "common_name": "cluster1"
},
"_links": {
  "self": {
    "href": "/api/security/authentication/cluster/saml-sp"
  }
}
}
----

'''

=== Creating the SAML service provider configuration

The following output shows how to create a SAML service provider
configuration in the cluster.
 +

'''

----

# The API:
/api/security/authentication/cluster/saml-sp

# The call:
curl -X POST "https://<mgmt-ip>/api/security/authentication/cluster/saml-
sp?return_records=true" -H "accept: application/hal+json" -d '{ "idp_uri":
"https://examplelab.customer.com/idp/Metadata", "host": "172.21.74.181",
"certificate": { "ca": "cluster1", "serial_number": "156F10C3EB4C51C1" }}'
----

'''

=== Updating the SAML service provider configuration
```

```
The following output shows how to enable a SAML service provider
configuration in the cluster.

Disabling the configuration requires the client to be authenticated
through SAML prior to performing the operation.
 +

'''

----

# The API:
/api/security/authentication/cluster/saml-sp

# The call:
curl -X PATCH "https://<mgmt-ip>/api/security/authentication/cluster/saml-
sp/" -d '{ "enabled": true }'
----

'''

=== Deleting the SAML service provider configuration

'''

----

# The API:
/api/security/authentication/cluster/saml-sp

# The call:
curl -X DELETE "https://<mgmt-
ip>/api/security/authentication/cluster/saml-sp/"
----

'''




[[IDdcd9e907c2726ad072c5bba36c3cabd2]]
= Delete a SAML service provider configuration

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/authentication/cluster/saml-sp`#
```

```
*Introduced In:* 9.6

Deletes a SAML service provider configuration.


== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 12320803
| SAML must be disabled before the configuration can be removed.
|===



[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
====



[[IDd726e6539465963466fc44a03b06924f]]
= Retrieve a SAML service provider configuration

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/authentication/cluster/saml-sp`#

*Introduced In:* 9.6

Retrieves a SAML service provider configuration.


== Parameters

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

```
|===

|Name
|Type
|In
|Required
|Description

|idp_uri
|string
|query
|False
a|Filter by idp_uri

* Introduced in: 9.7


|certificate.ca
|string
|query
|False
a|Filter by certificate.ca

* Introduced in: 9.7


|certificate.serial_number
|string
|query
|False
a|Filter by certificate.serial_number

* Introduced in: 9.7


|certificate.common_name
|string
|query
|False
a|Filter by certificate.common_name

* Introduced in: 9.7


|host
|string
|query
```

```
|False
a|Filter by host

* Introduced in: 9.7


|enabled
|boolean
|query
|False
a|Filter by enabled

* Introduced in: 9.7


|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.


|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|

|certificate
|link:#certificate[certificate]
a|

|enabled
|boolean
a|The SAML service provider is enabled.  Valid for PATCH and GET
operations only.


|host
|string
a|The SAML service provider host.


|idp_uri
|string
```

```
a|The identity provider (IdP) metadata location. Required for POST
operations.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "certificate": {
    "ca": "string",
    "common_name": "cluster1",
    "serial_number": "1506B24A94F566BA"
  },
  "host": "string",
  "idp_uri": "https://idp.example.com/FederationMetadata/2007-
06/FederationMetadata.xml"
}
====

== 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|

|===


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

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

|ca
|string
a|Server certificate issuing certificate authority (CA).  This cannot be
used with the server certificate common name.


|common_name
|string
a|Server certificate common name.  This cannot be used with the
certificate authority (CA) or serial_number.


|serial_number
|string
a|Server certificate serial number.  This cannot be used with the server
certificate common name.


|===


[#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
====



[[ID7e9862bfd4afce87d70a86d4576f19ef]]
= Update a SAML service provider configuration

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/authentication/cluster/saml-sp`#

*Introduced In:* 9.6

Updates a SAML service provider configuration.


== 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

|enabled
|boolean
a|The SAML service provider is enabled.  Valid for PATCH and GET
operations only.


|===


== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 12320791
| SAML can only be disabled using the console or a SAML-authenticated
application.
|===


== 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
[#certificate]
[.api-collapsible-fifth-title]
certificate
[#security_saml_sp]
[.api-collapsible-fifth-title]
security_saml_sp

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

|enabled
|boolean
a|The SAML service provider is enabled.  Valid for PATCH and GET
operations only.


|===


[#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
====



[[ID0b42ec0a5a24b4997f62461241e5bba3]]
= Create a SAML service provider configuration

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/authentication/cluster/saml-sp`#

*Introduced In:* 9.6

Creates a SAML service provider configuration. Note that "common_name" is
mutually exclusive with "serial_number" and "ca" in POST. SAML will
initially be disabled, requiring a patch to set "enabled" to "true", so
that the user has time to complete the setup of the IdP.

== Required properties

* `idp_uri`

== Optional properties

* `certificate`
* `enabled`
* `host`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|verify_metadata_server
|boolean
|query
|False
a|Verify IdP metadata server identity.

* Default value: 1
```

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

* Default value: 1
* Max value: 120
* Min value: 0


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

* Default value:

|===

== Request Body



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

|certificate
|link:#certificate[certificate]
a|

|host
|string
a|The SAML service provider host.
```

```
|idp_uri
|string
a|The identity provider (IdP) metadata location. Required for POST
operations.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "certificate": {
    "ca": "string",
    "common_name": "cluster1",
    "serial_number": "1506B24A94F566BA"
  },
  "enabled": null,
  "host": "string",
  "idp_uri": "https://idp.example.com/FederationMetadata/2007-
06/FederationMetadata.xml"
}
====

== Response
```

Status: 202, Accepted

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

|job
|link:#job_link[job_link]
a|

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "job": {
    "uuid": "string"
  }
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 12320789
| Failed to download data file from specified URI.

| 12320794
| The host parameter provided must be the cluster management interface's
IP address.  If the cluster management interface is not available, the
node management interface's IP address must be used.

| 12320795
| A valid cluster or node management interface IP address must be
provided.
```

```
| 12320805
| The certificate information provided does not match any installed
certificates.

| 12320806
| The certificate information entered does not match any installed
certificates.

| 12320814
| An invalid IDP URI has been entered.

| 12320815
| An IDP URI must be an HTTPS or FTPS URI.
|===


== 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
[#certificate]
[.api-collapsible-fifth-title]
certificate
```

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

|ca
|string
a|Server certificate issuing certificate authority (CA).  This cannot be
used with the server certificate common name.


|common_name
|string
a|Server certificate common name.  This cannot be used with the
certificate authority (CA) or serial_number.


|serial_number
|string
a|Server certificate serial number.  This cannot be used with the server
certificate common name.


|===


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

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

|certificate
|link:#certificate[certificate]
a|

|host
|string
a|The SAML service provider host.


|idp_uri
```

```
|string
a|The identity provider (IdP) metadata location. Required for POST
operations.


|===


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

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

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


|===


[#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


= Update the user account password

:leveloffset: +1
```

```
[[IDbd3d016cb4a255b7bea60d2e87e3300c]]
= Security authentication password endpoint overview



== Overview

This API changes the password for a local user account.

Only cluster administrators with the _"admin"_ role can change the
password for other cluster or SVM user accounts. If you are not a cluster
administrator, you can only change your own password.

== Examples

=== Changing the password of another cluster or SVM user account by a
cluster administrator

Specify the user account name and the new password in the body of the POST
request. The owner.uuid or owner.name are not required to be specified for
a cluster-scoped user account.

For an SVM-scoped account, along with new password and user account name,
specify either the SVM name as the owner.name or SVM uuid as the
owner.uuid in the body of the POST request. These indicate the SVM for
which the user account is created and can be obtained from the response
body of a GET request performed on the _/api/svm/svms_ API.

----

# The API:
POST "/api/security/authentication/password"

# The call to change the password of another cluster user:
curl -X POST "https://<mgmt-ip>/api/security/authentication/password" -d
'{"name":"cluster_user1","password":"hello@1234"}'
----

----

# The call to change the password of another SVM user:
curl -X POST "https://<mgmt-ip>/api/security/authentication/password" -d
'{"owner.name":"svm1","name":"svm_user1","password":"hello@1234"}'
----
```

```
=== Changing the password of an SVM-scoped user

NOTE: The IP address in the URI must be same as one of the interfaces
owned by the SVM.

----

# The API:
POST "/api/security/authentication/password"

# The call:
curl -X POST "https://<SVM-ip>/api/security/authentication/password" -d
'{"name":"svm_user1","password":"new1@1234"}'
----

'''




[[IDd630159c24f6baad2edefb3dccb90f5c]]
= Update the user account password

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/authentication/password`#

*Introduced In:* 9.6

Updates the password for a user account.

== Required parameters

* `name` - User account name.
* `password` - New password for the user account.

== Optional parameters

* `owner.name` or `owner.uuid` - Name or UUID of the SVM for an SVM-scoped
user account.

== Related ONTAP commands

* `security login password`

== Learn more
```

```
*
xref:{relative_path}security_authentication_password_endpoint_overview.htm
l[DOC /security/authentication/password]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== 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

|name
|string
a|The user account name whose password is being modified.


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the user account. This
field is optional and valid only when a cluster administrator is executing
```

```
the API to uniquely identify the account whose password is being modified.
The "owner" field is not required to be specified for SVM user accounts
trying to modify their password.


|password
|string
a|The password string


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "name": "string",
  "owner": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "password": "string"
}
====

== Response
```

Status: 201, Created

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 7077918
| The password cannot contain the username.

| 7077919
| The minimum length for new password does not meet the policy.
```

```
| 7077920
| The new password must have both letters and numbers.

| 7077921
| The minimum number of special characters required do not meet the
policy.

| 7077924
| The new password must be different than last N passwords.

| 7077925
| The new password must be different to the old password.

| 7077940
| The password exceeds maximum supported length.

| 7077941
| Defined password composition exceeds the maximum password length of 128
characters.
|===


== 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
[#owner]
[.api-collapsible-fifth-title]
owner

Owner name and UUID that uniquely identifies the user account. This field
is optional and valid only when a cluster administrator is executing the
API to uniquely identify the account whose password is being modified. The
"owner" field is not required to be specified for SVM user accounts trying
to modify their password.


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

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


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


|===


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

The password object


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

|name
```

```
|string
a|The user account name whose password is being modified.


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the user account. This
field is optional and valid only when a cluster administrator is executing
the API to uniquely identify the account whose password is being modified.
The "owner" field is not required to be specified for SVM user accounts
trying to modify their password.


|password
|string
a|The password string


|===


[#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 authentication keys (for admins)

:leveloffset: +1


[[ID5d9528c2a63fd765a97d001dc2993de1]]
= Security authentication publickeys endpoint overview
```

```
== Overview

This API configures the public keys for user accounts.

For secure shell (SSH) access, public-private key pair based
authentication is possible by associating the public key with a user
account.
Prerequisites:
You must have generated the SSH key.
You must be a cluster or SVM administrator to perform the user's public
key.

== Examples

=== Creating a public key for cluster-scoped user accounts

Specify the user account name, public key, index, and comment in the body
of the POST request. The owner.uuid or owner.name are not required for a
cluster-scoped user account.

----

# The API:
POST "/api/security/authentication/publickey"

# The call
curl -k https://<mgmt-ip>/api/security/authentication/publickeys --request
POST --data '{ "account": "pubuser2","comment": "Cserver-
Creation","index": 0, "public_key": "ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQDWJTerk2xXi3Lkrqrm6Q67aNmNDNKgpezwzl9Ap+DxtM
xmocHC52CuwEcJjIUe121uAi0myscaJmC5Y0BzSnYuwcJ3/82kconFUwtK0h6QUTGqbc0vb4MZ
39yIiiItCObWTot3msJYfZB+dgcCxMZ+0bl9YwZXrWMWP6XDJw/ai/EfWTZHC7e8Xe1mfp+C0c
GMhlxRvgfeGjhZqU85DBfdGD5Tu/67vD13Q+817Jf8iBxgrEFiqirnkWNX5dj+jkMlEVC3s6dY
ciJNBEiMxNkSFGTnkG74S61pvZNFD6mSznV/28hl3zSjwWiuacsP3Be1ydeG8nEcCRN5Ap7vMd
Vd" }'
----

=== Creating a public key for SVM-scoped user accounts

For a SVM-scoped account, specify either the SVM name as the owner.name or
the SVM UUID as the owner.uuid along with other parameters for the user
account. These parameters indicate the SVM that contains the user account
for the public key being created and can be obtained from the response
body of the GET request performed on the API"/api/svm/svms".

----
```

```
# The API:
POST "/api/security/authentication/publickey"

# The call
curl -k https://<mgmt-ip>/api/security/authentication/publickeys --request
POST --data '{ "account": "pubuser4","comment": "Vserver-
Creation","index": 0,"owner.uuid":"513a78c7-8c13-11e9-8f78-
005056bbf6ac","owner.name":"vs0","public_key": "ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQDWJTerk2xXi3Lkrqrm6Q67aNmNDNKgpezwzl9Ap+DxtM
xmocHC52CuwEcJjIUe121uAi0myscaJmC5Y0BzSnYuwcJ3/82kconFUwtK0h6QUTGqbc0vb4MZ
39yIiiItCObWTot3msJYfZB+dgcCxMZ+0bl9YwZXrWMWP6XDJw/ai/EfWTZHC7e8Xe1mfp+C0c
GMhlxRvgfeGjhZqU85DBfdGD5Tu/67vD13Q+817Jf8iBxgrEFiqirnkWNX5dj+jkMlEVC3s6dY
ciJNBEiMxNkSFGTnkG74S61pvZNFD6mSznV/28hl3zSjwWiuacsP3Be1ydeG8nEcCRN5Ap7vMd
Vd" }'
----

=== Retrieving the configured public key for user accounts

Retrieves all public keys associated with the user accounts or a filtered
list (for a specific user account name, a specific SVM and so on) of
public keys.

----

# The API:
GET "/api/security/authentication/publickeys"

# The call to retrieve all the user accounts configured in the cluster:
curl -k https://<mgmt-ip>/api/security/authentication/publickeys
----




[[IDc8c9357012958d720c4d3d7ead322cdc]]
= Retrieve public keys configured for user accounts

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/authentication/publickeys`#

*Introduced In:* 9.7

Retrieves the public keys configured for user accounts.

== Related ONTAP commands
```

```
* `security login publickey show`

== Learn more

*
xref:{relative_path}security_authentication_publickeys_endpoint_overview.h
tml[DOC /security/authentication/publickeys]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|index
|integer
|query
|False
a|Filter by index


|account.name
|string
|query
|False
a|Filter by account.name


|scope
|string
|query
|False
a|Filter by scope


|obfuscated_fingerprint
|string
|query
```

```
|False
a|Filter by obfuscated_fingerprint


|public_key
|string
|query
|False
a|Filter by public_key


|comment
|string
|query
|False
a|Filter by comment


|owner.uuid
|string
|query
|False
a|Filter by owner.uuid


|owner.name
|string
|query
|False
a|Filter by owner.name


|sha_fingerprint
|string
|query
|False
a|Filter by sha_fingerprint


|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 records


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

|===


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

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

== 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|

|===


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

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

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

|name
|string
a|User account


|===
```

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

Owner name and UUID that uniquely identifies the public key.


[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.


|===


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

The public key for the user account (to access SSH).


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

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

```
a|

|account
|link:#account_reference[account_reference]
a|

|comment
|string
a|Optional comment for the public key.


|index
|integer
a|Index number for the public key (where there are multiple keys for the
same account).


|obfuscated_fingerprint
|string
a|The obfuscated fingerprint for the public key (READONLY).


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the public key.


|public_key
|string
a|The public key


|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|sha_fingerprint
|string
a|The SHA fingerprint for the public key (READONLY).


|===


[#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
====



[[ID0bd9ff00c8031c5b8a92f44c8c73b8ac]]
= Create a public key for a user account

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/authentication/publickeys`#

*Introduced In:* 9.7

Creates a public key for a user account.

== Required properties

* `owner.uuid` - UUID of the account owner.
* `name` - User account name.
* `index` - Index number for the public key (where there are multiple keys
for the same account).
* `public_key` - The publickey details for the creation of the user
account.

== Related ONTAP commands

* `security login publickey create`

== Learn more

*
xref:{relative_path}security_authentication_publickeys_endpoint_overview.h
tml[DOC /security/authentication/publickeys]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== 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

|account
|link:#account_reference[account_reference]
a|

|comment
|string
a|Optional comment for the public key.


|index
|integer
a|Index number for the public key (where there are multiple keys for the
same account).


|obfuscated_fingerprint
|string
a|The obfuscated fingerprint for the public key (READONLY).
```

```
|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the public key.


|public_key
|string
a|The public key


|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|sha_fingerprint
|string
a|The SHA fingerprint for the public key (READONLY).


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "account": {
    "name": "joe.smith"
  },
  "comment": "string",
  "obfuscated_fingerprint": "string",
  "owner": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "public_key": "string",
  "scope": "string",
  "sha_fingerprint": "string"
}
====

== Response
```

Status: 201, Created

```
== Error
```

Status: Default, Error

```
== 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
[#account_reference]
[.api-collapsible-fifth-title]
account_reference

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

|name
|string
```

```
a|User account


|===


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

Owner name and UUID that uniquely identifies the public key.


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

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


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


|===


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

The public key for the user account (to access SSH).


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

|account
|link:#account_reference[account_reference]
```

```
a|

|comment
|string
a|Optional comment for the public key.


|index
|integer
a|Index number for the public key (where there are multiple keys for the
same account).


|obfuscated_fingerprint
|string
a|The obfuscated fingerprint for the public key (READONLY).


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the public key.


|public_key
|string
a|The public key


|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|sha_fingerprint
|string
a|The SHA fingerprint for the public key (READONLY).


|===


[#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 authentication keys (end-users)

:leveloffset: +1


[[ID03b52a47a9f6659b0cac4264540c34ff]]
= Security authentication publickeys owner.uuid account.name index
endpoint overview



== Overview

This API configures the public keys for end-user (non-cluster admin)
accounts.
Specify the owner UUID, the user account name, and the index in the URI
path. The owner UUID corresponds to the UUID of the SVM containing the
user account associated with the public key and can be obtained from the
response body of the GET request performed on the API "/api/svm/svms".

The index value corresponds to the public key that needs to be modified or
deleted (it is possible to create more than one public key for the same
user account).

== Examples

=== Retrieving the specific configured public key for user accounts

----

# The API:
GET
"/api/security/authentication/publickeys/{owner.uuid}/{account.name}/{inde
x}"
```

```
# The call:
curl -k https://<mgmt-ip>/api/security/authentication/publickeys/513a78c7-
8c13-11e9-8f78-005056bbf6ac/pubuser4/0
----

=== Updating the public key and comment for user accounts

----

# The API:
PATCH
"/api/security/authentication/publickeys/{owner.uuid}/{account.name}/{inde
x}"

# The call:
curl -k https://<mgmt-ip>/api/security/authentication/publickeys/d49de271-
8c11-11e9-8f78-005056bbf6ac/pubuser1/0 --request PATCH --data '{
"comment": "Cserver-modification","public_key": "ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQCmSLP/FeiT1J4Fb4GNVO4ioa1NIUHWeG08+anDbFke3J
cFT5JqBn0QZiG0uF0bqepken/moVKZg8iQng1arjP4ULhhje/LwDuUbaB7kvtPL2gyzAX1qFYn
BJ5R1LXja25Z4xeeaXUBJjhUmvpfque0TxbvpaG5V9rFTzVg9ccjBnkBchg3EkhF4VtHmrZNpT
DAUOBAz69FRYXYz2ExoCHWqElHBJep9D0DLN0XtzQA0IF9hJck6xja5RcAQ6f9pLMCol9vJiqp
cBAjkUmg1qH5ZNHsgDQ7dtGNGJw45zqXHPAy9z8yKJuIsdK2/4iVYLDL8mlHFElgeADn6OSxui
j1" }'
----

=== Deleting the public key for user accounts

----

# The API:
DELETE
"/api/security/authentication/publickeys/{owner.uuid}/{account.name}/{inde
x}"

# The call:
curl -k https://<mgmt-ip>/api/security/authentication/publickeys/d49de271-
8c11-11e9-8f78-005056bbf6ac/pubuser1/0 --request DELETE
----




[[ID02e62860a773e2266bc22cd801737046]]
= Delete a public key for a user account
```

```
[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/authentication/publickeys/{owner.uuid}/{account.name}/{i
ndex}`#

*Introduced In:* 9.7

Deletes the public key for a user account.

== Related ONTAP commands

* `security login publickey delete`

== Learn more

*
xref:{relative_path}security_authentication_publickeys_owner.uuid_account.
name_index_endpoint_overview.html[DOC
/security/authentication/publickeys/{owner.uuid}/{account.name}/\{index}]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Account owner UUID


|account.name
|string
|path
|True
a|User account name
```

```
|index
|integer
|path
|True
a|Index number for the public key (where there are multiple keys for the
same account).

* Max value: 99
* Min value: 0

|===

== 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
====



[[ID7f86ee30e4a83a5bae8ac8a8dd8dc2a3]]
= Retrieve public keys configured for a user account

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/authentication/publickeys/{owner.uuid}/{account.name}/{i
ndex}`#

*Introduced In:* 9.7

Retrieves the public keys configured for a user account.

== Related ONTAP commands

* `security login publickey show`

== Learn more

*
xref:{relative_path}security_authentication_publickeys_owner.uuid_account.
```

```
name_index_endpoint_overview.html[DOC
/security/authentication/publickeys/{owner.uuid}/{account.name}/\{index}]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Account owner UUID


|account.name
|string
|path
|True
a|User account name


|index
|integer
|path
|True
a|Index number for the public key (where there are multiple keys for the
same account).

* Max value: 99
* Min value: 0


|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.

* Max value: 120
* Min value: 0
* Default value: 1


|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|

|account
|link:#account_reference[account_reference]
a|

|comment
|string
a|Optional comment for the public key.


|index
|integer
a|Index number for the public key (where there are multiple keys for the
same account).


|obfuscated_fingerprint
|string
a|The obfuscated fingerprint for the public key (READONLY).


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the public key.


|public_key
|string
a|The public key


|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|sha_fingerprint
```

```
|string
a|The SHA fingerprint for the public key (READONLY).


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "account": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "joe.smith"
  },
  "comment": "string",
  "obfuscated_fingerprint": "string",
  "owner": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "public_key": "string",
  "scope": "string",
  "sha_fingerprint": "string"
}
====

== 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|

|===


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

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

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

|name
|string
a|User account


|===
```

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

Owner name and UUID that uniquely identifies the public key.


[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
====



[[IDd22619eb344657de08ba98f326876708]]
```

```
= Update a public key for a user account

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/authentication/publickeys/{owner.uuid}/{account.name}/{i
ndex}`#

*Introduced In:* 9.7

Updates the public key for a user account.

== Related ONTAP commands

* `security login publickey modify`

== Learn more

*
xref:{relative_path}security_authentication_publickeys_owner.uuid_account.
name_index_endpoint_overview.html[DOC
/security/authentication/publickeys/{owner.uuid}/{account.name}/\{index}]
* xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Account owner UUID


|account.name
|string
|path
|True
a|User account name
```

```
|index
|integer
|path
|True
a|Index number for the public key (where there are multiple keys for the
same account).

* Max value: 99
* Min value: 0

|===

== Request Body



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

|comment
|string
a|Optional comment for the public key.


|obfuscated_fingerprint
|string
a|The obfuscated fingerprint for the public key (READONLY).


|public_key
|string
a|The public key


|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|sha_fingerprint
|string
```

```
a|The SHA fingerprint for the public key (READONLY).


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "comment": "string",
  "obfuscated_fingerprint": "string",
  "public_key": "string",
  "scope": "string",
  "sha_fingerprint": "string"
}
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default, Error

```
== 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
[#account_reference]
[.api-collapsible-fifth-title]
account_reference

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

|name
|string
a|User account


|===


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

Owner name and UUID that uniquely identifies the public key.


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

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


|uuid
|string
```

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


|===


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

The public key for the user account (to access SSH).


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

|comment
|string
a|Optional comment for the public key.


|obfuscated_fingerprint
|string
a|The obfuscated fingerprint for the public key (READONLY).


|public_key
|string
a|The public key


|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|sha_fingerprint
|string
a|The SHA fingerprint for the public key (READONLY).


|===
```

```
[#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 Azure Key Vaults

:leveloffset: +1


[[IDfaf20622bd836069fc56810b8392f8a5]]
= Security azure-key-vaults endpoint overview



== Overview

Azure Key Vault (AKV) is a cloud key management service (KMS) that
provides a secure store for secrets. This feature
allows the Azure NetApp Files Cloud Volume Services to securely store its
encryption keys using AKV.
In order to use AKV with Azure NetApp Files Cloud Volume Services, you
must first deploy an Azure application with
the appropriate access to an AKV and then provide Azure NetApp Files Cloud
Volume Services with the necessary details,
such as key vault name, application ID so that Azure NetApp Files Cloud
Volume Services can communicate with the deployed Azure application.
The properties "state", "azure_reachability" and "ekmip_reachability" are
considered advanced properties and are populated only when explicitly
requested.
Note: This feature is only available to the Azure NetApp Files Cloud
Volume Services.

== Examples
```

```
=== Creating an AKV for a cluster

The example AKV is configured at the cluster-scope. Note the
_return_records=true_ query parameter is used to obtain the newly created
key manager configuration.

----

# The API:
POST /api/security/azure-key-vaults

# The call:
curl -X POST 'https://<mgmt-ip>/api/security/azure-key-
vaults?return_records=true' -H 'accept: application/hal+json' -d "{
\"client_id\": \"client1\", \"tenant_id\": \"tenant1\", \"name\":
\"https://mykeyvault.azure.vault.net/\", \"key_id\": \"https://keyvault-
test.vault.azure.net/keys/key1/a8e619fd8f234db3b0b95c59540e2a74\",
\"client_secret\" : \"myclientPwd\" }"

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "85619643-9a06-11ea-8d52-005056bbeba5",
    "client_id": "client1",
    "tenant_id": "tenant1",
    "name": "https://mykeyvault.azure.vault.net/",
    "key_id": "https://keyvault-test.vault.azure.net/keys/key1",
    "_links": {
      "self": {
        "href": "/api/security/azure-key-vaults/85619643-9a06-11ea-8d52-
005056bbeba5"
      }
    }
  }
]
}
----

'''

=== Creating an AKV for an SVM

The example AKV is configured for a specific SVM. Note the
```

```
_return_records=true_ query parameter is used to obtain the newly created
key manager configuration.

----

# The API:
POST /api/security/azure-key-vaults

# The call:
curl -X POST 'https://<mgmt-ip>/api/security/azure-key-
vaults?return_records=true' -H 'accept: application/hal+json' -d "{
\"svm\": { \"uuid\": \"4f7abf4c-9a07-11ea-8d52-005056bbeba5\" },
\"client_id\": \"client1\", \"tenant_id\": \"tenant1\", \"name\":
\"https:://mykeyvault.azure.vault.net/\", \"key_id\": \"https://keyvault-
test.vault.azure.net/keys/key1\", \"client_secret\" : \"myclientPwd\" }"

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "024cd3cf-9a08-11ea-8d52-005056bbeba5",
    "svm": {
      "uuid": "4f7abf4c-9a07-11ea-8d52-005056bbeba5",
      "name": "vs0"
    },
    "client_id": "client1",
    "tenant_id": "tenant1",
    "name": "https:://mykeyvault.azure.vault.net/",
    "key_id": "https://keyvault-test.vault.azure.net/keys/key1",
    "_links": {
      "self": {
        "href": "/api/security/azure-key-vaults/024cd3cf-9a08-11ea-8d52-
005056bbeba5"
      }
    }
  }
]
}
----

'''

=== Retrieving the AKVs configured for all clusters and SVMs

The following example shows how to retrieve all configured AKVs along with
```

```
their configurations.

----

# The API:
GET /api/security/azure-key-vaults

# The call:
curl -X GET 'https://<mgmt-ip>/api/security/azure-key-vaults?fields=*'

# The response:
{
"records": [
  {
    "uuid": "024cd3cf-9a08-11ea-8d52-005056bbeba5",
    "scope": "svm",
    "svm": {
      "uuid": "4f7abf4c-9a07-11ea-8d52-005056bbeba5",
      "name": "vs0"
    },
    "client_id": "client1",
    "tenant_id": "tenant1",
    "name": "https://mykeyvault.azure.vault.net/",
    "key_id": "https://keyvault-test.vault.azure.net/keys/key1",
    "_links": {
      "self": {
        "href": "/api/security/azure-key-vaults/024cd3cf-9a08-11ea-8d52-
005056bbeba5"
      }
    }
  },
  {
    "uuid": "85619643-9a06-11ea-8d52-005056bbeba5",
    "scope": "cluster",
    "client_id": "client1",
    "tenant_id": "tenant1",
    "name": "https://mykeyvault.azure.vault.net/",
    "key_id": "https://keyvault-test.vault.azure.net/keys/key1",
    "_links": {
      "self": {
        "href": "/api/security/azure-key-vaults/85619643-9a06-11ea-8d52-
005056bbeba5"
      }
    }
  }
],
```

```
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/security/azure-key-vaults?fields=*"
  }
}
}
----

'''

=== Retrieving the AKV configured for a specific SVM

The following example retrieves a configured AKV for a specific SVM.

----

# The API:
GET /api/security/azure-key-vaults

# The call:
curl -X GET 'https://<mgmt-ip>/api/security/azure-key-vaults/85619643-
9a06-11ea-8d52-005056bbeba5?fields=*'

# The response:
{
"uuid": "85619643-9a06-11ea-8d52-005056bbeba5",
"scope": "cluster",
"client_id": "client1",
"tenant_id": "tenant1",
"name": "https:://mykeyvault.azure.vault.net/",
"key_id": "https://keyvault-test.vault.azure.net/keys/key1",
"_links": {
  "self": {
    "href": "/api/security/azure-key-vaults/85619643-9a06-11ea-8d52-
005056bbeba5"
  }
}
}
----

'''

=== Retrieving the advanced properties of an AKV configured for a specific
SVM

The following example retrieves the advanced properties of a configured
```

```
AKV for a specific SVM.

----

# The API:
GET /api/security/azure-key-vaults

# The call:
curl -X GET 'https://<mgmt-ip>/api/security/azure-key-vaults/85619643-
9a06-11ea-8d52-
005056bbeba5?fields=state,azure_reachability,ekmip_reachability"'
{
"uuid": "fc0b7718-18c9-11eb-88e3-005056bb605d",
"name": "https://10.234.237.18",
"state": {
  "cluster_state": true,
  "message": "",
  "code": 0
},
"azure_reachability": {
  "reachable": true,
  "message": "",
  "code": 0
},
"ekmip_reachability": [
  {
    "node": {
        "uuid": "d208115f-7721-11eb-bf83-005056bb150e",
        "name": "node1",
        "_links": {
            "self": {
            "href": "/api/cluster/nodes/d208115f-7721-11eb-bf83-
005056bb150e"
            }
        }
    },
    "reachable": true,
    "message": "",
    "code": 0
  },
  {
    "node": {
        "uuid": "e208115f-7721-11eb-bf83-005056bb150e",
        "name": "node2",
        "_links": {
            "self": {
```

```
            "href": "/api/cluster/nodes/e208115f-7721-11eb-bf83-
005056bb150e"
            }
        }
    },
    "reachable": true,
    "message": "",
    "code": 0
  }
],
"_links": {
  "self": {
    "href": "/api/security/azure-key-vaults/fc0b7718-18c9-11eb-88e3-
005056bb605d"
  }
}
}
----

'''

=== Updating the client password of a specific SVM

The following example updates the client password of a configured AKV for
a specific SVM.

----

# The API:
PATCH /api/security/azure-key-vaults

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/security/azure-key-vaults/85619643-
9a06-11ea-8d52-005056bbeba5' -d "{ \"client_secret\": \"newSecret\" }"
----

'''

=== Deleting an AKV configuration for a specific SVM

The following example deletes a configured AKV for a specific SVM.

----

# The API:
DELETE /api/security/azure-key-vaults
```

```
# The call:
curl -X DELETE 'https://<mgmt-ip>/api/security/azure-key-vaults/85619643-
9a06-11ea-8d52-005056bbeba5'
----

'''

=== Restoring the keys for a specific SVM configured with an AKV

The following example restores all the keys of a specific SVM configured
with an AKV.

----

# The API:
POST security/azure-key-vaults/{azure_key_vault.uuid}/restore

# The call:
curl -X POST 'https://<mgmt-ip>/api/security/azure-key-vaults/85619643-
9a06-11ea-8d52-005056bbeba5/restore'

# The response:
{
"job": {
  "uuid": "6ab6946f-9a0c-11ea-8d52-005056bbeba5",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/6ab6946f-9a0c-11ea-8d52-005056bbeba5"
    }
  }
}
}
----

'''

=== Rekeying the internal key for a specific SVM configured with an AKV

The following example rekeys the internal key of a specific SVM configured
with an AKV.

----

# The API:
POST security/azure-key-vaults/{azure_key_vault.uuid}/rekey-internal

# The call:
```

```
curl -X POST 'https://<mgmt-ip>/api/security/azure-key-vaults/85619643-
9a06-11ea-8d52-005056bbeba5/rekey-internal'

# The response:
{
"job": {
  "uuid": "6ab6946f-9a0c-11ea-8d52-005056bbeba5",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/6ab6946f-9a0c-11ea-8d52-005056bbeba5"
    }
  }
}
}
----

'''




[[IDb4dac62ddbddd056e4e6325856c101d4]]
= Retrieve AKVs configured for all clusters and SVMs

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/azure-key-vaults`#

*Introduced In:* 9.8

Retrieves AKVs configured for all clusters and SVMs.
Note: This method is only available to the Azure NetApp Files Cloud Volume
Services.

== Related ONTAP commands

* `security key-manager external azure show`
* `security key-manager external azure check`


== Parameters

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

|Name
|Type
```

```
|In
|Required
|Description

|state.code
|integer
|query
|False
a|Filter by state.code


|state.available
|boolean
|query
|False
a|Filter by state.available


|state.message
|string
|query
|False
a|Filter by state.message


|scope
|string
|query
|False
a|Filter by scope


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


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


|ekmip_reachability.node.name
```

```
|string
|query
|False
a|Filter by ekmip_reachability.node.name


|ekmip_reachability.node.uuid
|string
|query
|False
a|Filter by ekmip_reachability.node.uuid


|ekmip_reachability.reachable
|boolean
|query
|False
a|Filter by ekmip_reachability.reachable


|ekmip_reachability.message
|string
|query
|False
a|Filter by ekmip_reachability.message


|ekmip_reachability.code
|integer
|query
|False
a|Filter by ekmip_reachability.code


|proxy_port
|integer
|query
|False
a|Filter by proxy_port


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

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


|proxy_type
|string
|query
|False
a|Filter by proxy_type


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


|client_id
|string
|query
|False
a|Filter by client_id


|azure_reachability.message
|string
|query
|False
a|Filter by azure_reachability.message


|azure_reachability.reachable
|boolean
|query
|False
a|Filter by azure_reachability.reachable


|azure_reachability.code
|integer
|query
|False
```

```
a|Filter by azure_reachability.code


|proxy_host
|string
|query
|False
a|Filter by proxy_host


|key_id
|string
|query
|False
a|Filter by key_id


|tenant_id
|string
|query
|False
a|Filter by tenant_id


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


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


|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


|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


|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 records


|records
|array[link:#azure_key_vault[azure_key_vault]]
a|
```

```
|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "azure_reachability": {
        "code": "346758",
        "message": "AKV service is not reachable from all nodes - reason."
      },
      "client_id": "aaaaaaaa-bbbb-aaaa-bbbb-aaaaaaaaaaaa",
      "ekmip_reachability": [
        {
          "code": "346758",
          "message": "embedded KMIP server status unavailable on node.",
          "node": {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            },
            "name": "node1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          }
        }
      ],
      "key_id": "https://keyvault1.vault.azure.net/keys/key1",
      "name": "https://kmip-akv-keyvault.vault.azure.net/",
```

```
      "proxy_host": "proxy.eng.com",
      "proxy_port": "1234",
      "proxy_type": "http",
      "proxy_username": "proxyuser",
      "scope": "string",
      "state": {
        "code": "346758",
        "message": "Top-level internal key protection key (KEK) is
unavailable on the following nodes with the associated reasons: Node:
node1. Reason: No volumes created yet for the SVM. Wrapped KEK status will
be available after creating encrypted volumes."
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "tenant_id": "zzzzzzzz-yyyy-zzzz-yyyy-zzzzzzzzzzzz",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}
====

== 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|

|===


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

Indicates whether or not the AKV service is reachable from all the nodes
in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

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

|code
|integer
a|Code corresponding to the status message. Returns a 0 if AKV service is
reachable from all nodes in the cluster.


|message
|string
a|Error message set when reachability is false.


|reachable
|boolean
a|Set to true when the AKV service is reachable from all nodes of the
cluster.


|===


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

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

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

|name
|string
a|

|uuid
|string
a|
```

```
|===


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

Provides the connectivity status for the given SVM on the given node to
all EKMIP servers configured on all nodes of the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if a given SVM is
able to communicate to the EKMIP servers of all of the nodes in the
cluster.


|message
|string
a|Error message set when cluster-wide EKMIP server availability from the
given SVM and node is false.


|node
|link:#node[node]
a|

|reachable
|boolean
a|Set to true if the given SVM on the given node is able to communicate to
all EKMIP servers configured on all nodes in the cluster.


|===
```

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

Indicates whether or not the AKV wrapped internal key is available cluster
wide.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|available
|boolean
a|Set to true when an AKV wrapped internal key is present on all nodes of
the cluster.


|code
|integer
a|Code corresponding to the status message. Returns a 0 if AKV wrapped key
is available on all nodes in the cluster.


|message
|string
a|Error message set when top-level internal key protection key (KEK)
availability on cluster is false.


|===


[#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.


|===


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

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

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

|azure_reachability
|link:#azure_reachability[azure_reachability]
a|Indicates whether or not the AKV service is reachable from all the nodes
in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


|client_id
|string
a|Application client ID of the deployed Azure application with appropriate
access to an AKV.
```

```
|ekmip_reachability
|array[link:#ekmip_reachability[ekmip_reachability]]
a|

|key_id
|string
a|Key Identifier of AKV key encryption key.


|name
|string
a|Name of the deployed AKV that is used by the Azure NetApp Files Cloud
Volume Services for storing keys.


|proxy_host
|string
a|Proxy host.


|proxy_port
|integer
a|Proxy port.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|state
|link:#state[state]
a|Indicates whether or not the AKV wrapped internal key is available
cluster wide.
```

```
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|tenant_id
|string
a|Directory (tenant) ID of the deployed Azure application with appropriate
access to an AKV.


|uuid
|string
a|A unique identifier for the Azure Key Vault (AKV).


|===


[#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
====



[[ID57ad76001e8ee7b26d65a3e0441d1cd3]]
= Create an AKV configuration for all clusters and SVMs

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/azure-key-vaults`#

*Introduced In:* 9.8

Configures the AKV configuration for all clusters and SVMs.
```

```
Note: This method is only available to the Azure NetApp Files Cloud Volume
Services.

== Required properties

* `svm.uuid` or `svm.name` - Existing SVM in which to create a AKV.
* `client_id` - Application (client) ID of the deployed Azure application
with appropriate access to an AKV.
* `tenant_id` - Directory (tenant) ID of the deployed Azure application
with appropriate access to an AKV.
* `client_secret` - Password used by the application to prove its identity
to AKV.
* `key_id`- Key Identifier of AKV encryption key.
* `name` - Name of the deployed AKV used by the Azure NetApp Files Cloud
Volume Services for storing keys.

== Optional properties

* `proxy_type` - Type of proxy (http, https etc.) if proxy configuration
is used.
* `proxy_host` - Proxy hostname if proxy configuration is used.
* `proxy_port` - Proxy port number if proxy configuration is used.
* `proxy_username` - Proxy username if proxy configuration is used.
* `proxy_password` - Proxy password if proxy configuration is used.

== Related ONTAP commands

* `security key-manager external azure enable`
* `security key-manager external azure update-config`


== 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

|client_id
|string
a|Application client ID of the deployed Azure application with appropriate
access to an AKV.


|client_secret
|string
a|Password used by the application to prove its identity to AKV.


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

|key_id
|string
a|Key Identifier of AKV key encryption key.


|name
|string
a|Name of the deployed AKV that is used by the Azure NetApp Files Cloud
Volume Services for storing keys.


|proxy_host
|string
a|Proxy host.


|proxy_password
```

```
|string
a|Proxy password. Password is not audited.


|proxy_port
|integer
a|Proxy port.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


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

|tenant_id
|string
a|Directory (tenant) ID of the deployed Azure application with appropriate
access to an AKV.


|uuid
|string
a|A unique identifier for the Azure Key Vault (AKV).


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "client_id": "aaaaaaaa-bbbb-aaaa-bbbb-aaaaaaaaaaaa",
  "client_secret": "abcdef",
  "ekmip_reachability": [
    {
      "code": "346758",
```

```
      "message": "embedded KMIP server status unavailable on node.",
      "node": {
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    }
  ],
  "key_id": "https://keyvault1.vault.azure.net/keys/key1",
  "name": "https://kmip-akv-keyvault.vault.azure.net/",
  "proxy_host": "proxy.eng.com",
  "proxy_password": "proxypassword",
  "proxy_port": "1234",
  "proxy_type": "http",
  "proxy_username": "proxyuser",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "tenant_id": "zzzzzzzz-yyyy-zzzz-yyyy-zzzzzzzzzzzz",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
====

== Response
```

Status: 201, Created

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

|num_records
|integer
a|Number of records


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

|===


.Example response
```

```
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "records": [
    {
      "client_id": "aaaaaaaa-bbbb-aaaa-bbbb-aaaaaaaaaaaa",
      "client_secret": "abcdef",
      "ekmip_reachability": [
        {
          "code": "346758",
          "message": "embedded KMIP server status unavailable on node.",
          "node": {
            "name": "node1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          }
        }
      ],
      "key_id": "https://keyvault1.vault.azure.net/keys/key1",
      "name": "https://kmip-akv-keyvault.vault.azure.net/",
      "proxy_host": "proxy.eng.com",
      "proxy_password": "proxypassword",
      "proxy_port": "1234",
      "proxy_type": "http",
      "proxy_username": "proxyuser",
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "tenant_id": "zzzzzzzz-yyyy-zzzz-yyyy-zzzzzzzzzzzz",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description
```

```
| 3735553
| Failed to create self-signed certificate.

| 3735664
| The specified key size is not supported in FIPS mode.

| 3735665
| The specified hash function is not supported in FIPS mode.

| 3735700
| The specified key size is not supported.

| 52559972
| The certificates start date is later than the current date.

| 65537500
| A key manager has already been configured for this SVM.

| 65537504
| Internal error. Failed to store configuration in internal database.

| 65537505
| One or more volume encryption keys of the given SVM are stored on a key
manager configured for the admin SVM.

| 65537506
| AKV is not supported in MetroCluster configurations.

| 65537512
| AKV cannot be configured for the given SVM as not all nodes in the
cluster can enable the Azure Key Vault feature.

| 65537514
| Failed to check if the Azure Key Vault feature is enabled.

| 65537518
| Failed to find an interface with Cluster role.

| 65537523
| Invalid key ID format. Example key ID format":"
"https://mykeyvault.vault.azure.net/keys/key1".

| 65537526
| Failed to enable Azure Key Vault feature.
|===
```

```
== 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
[#azure_reachability]
[.api-collapsible-fifth-title]
azure_reachability

Indicates whether or not the AKV service is reachable from all the nodes
in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
```

```
a|Code corresponding to the status message. Returns a 0 if AKV service is
reachable from all nodes in the cluster.


|message
|string
a|Error message set when reachability is false.


|reachable
|boolean
a|Set to true when the AKV service is reachable from all nodes of the
cluster.


|===


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

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

|name
|string
a|

|uuid
|string
a|

|===


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

Provides the connectivity status for the given SVM on the given node to
all EKMIP servers configured on all nodes of the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
```

```
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if a given SVM is
able to communicate to the EKMIP servers of all of the nodes in the
cluster.


|message
|string
a|Error message set when cluster-wide EKMIP server availability from the
given SVM and node is false.


|node
|link:#node[node]
a|

|reachable
|boolean
a|Set to true if the given SVM on the given node is able to communicate to
all EKMIP servers configured on all nodes in the cluster.


|===


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

Indicates whether or not the AKV wrapped internal key is available cluster
wide.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.
```

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

|available
|boolean
a|Set to true when an AKV wrapped internal key is present on all nodes of
the cluster.


|code
|integer
a|Code corresponding to the status message. Returns a 0 if AKV wrapped key
is available on all nodes in the cluster.


|message
|string
a|Error message set when top-level internal key protection key (KEK)
availability on cluster is false.


|===


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

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

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


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

```
|===


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

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

|client_id
|string
a|Application client ID of the deployed Azure application with appropriate
access to an AKV.


|client_secret
|string
a|Password used by the application to prove its identity to AKV.


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

|key_id
|string
a|Key Identifier of AKV key encryption key.


|name
|string
a|Name of the deployed AKV that is used by the Azure NetApp Files Cloud
Volume Services for storing keys.


|proxy_host
|string
a|Proxy host.


|proxy_password
|string
```

```
a|Proxy password. Password is not audited.


|proxy_port
|integer
a|Proxy port.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


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

|tenant_id
|string
a|Directory (tenant) ID of the deployed Azure application with appropriate
access to an AKV.


|uuid
|string
a|A unique identifier for the Azure Key Vault (AKV).


|===


[#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
====
```

```
[[IDd2e252d7b00c59cbd8b090172544223b]]
= Re-key the internal key in the key hierarchy for an SVM

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/azure-key-vaults/{azure_key_vault.uuid}/rekey-internal`#

*Introduced In:* 9.8

Rekeys the internal key in the key hierarchy for an SVM with an AKV
configuration.
Note: This method is only available to the Azure NetApp Files Cloud Volume
Services.

== Related ONTAP commands

* `security key-manager external azure rekey-internal`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|azure_key_vault.uuid
|string
|path
|True
a|UUID of the existing AKV configuration.


|return_timeout
|integer
|query
|False
a|The number of seconds to allow the call to execute before returning.
When doing a POST, PATCH, or DELETE operation on a single record, the
default is 0 seconds.  This means that if an asynchronous operation is
started, the server immediately returns HTTP code 202 (Accepted) along
```

```
with a link to the job.  If a non-zero value is specified for POST, PATCH,
or DELETE operations, ONTAP waits that length of time to see if the job
completes so it can return something other than 202.

* Default value: 1
* Max value: 120
* Min value: 0


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

* Default value:

|===

== Response
```

Status: 202, Accepted

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65537120
| Azure Key Vault is not configured for the given SVM.

| 65537547
| One or more volume encryption keys for encrypted volumes of this data
SVM are stored in the key manager configured for the admin SVM. Use the
REST API POST method to migrate this data SVM's keys from the admin SVM's
key manager to this data SVM's key manager before running the rekey
operation.

| 65537559
| There are no existing internal keys for the SVM. A rekey operation is
allowed for an SVM with one or more encryption keys.
```

```
|===


== 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
====



[[ID335cc9d7924179037d193f032d952b6a]]
= Restore keys for an SVM from a configured AKV

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/azure-key-vaults/{azure_key_vault.uuid}/restore`#

*Introduced In:* 9.8

Restore the keys for an SVM from a configured AKV.
Note: This method is only available to the Azure NetApp Files Cloud Volume
Services.

== Related ONTAP commands

* `security key-manager external azure restore`


== Parameters

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

|Name
```

```
|Type
|In
|Required
|Description

|azure_key_vault.uuid
|string
|path
|True
a|UUID of the existing AKV configuration.


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

* Default value: 1
* Max value: 120
* Min value: 0


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

* Default value:

|===

== Response
```

Status: 202, Accepted

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65537120
| Azure Key Vault is not configured for the given SVM.

| 65537515
| Failed to restore keys on some nodes in the cluster.
|===


== 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
====



[[ID7e96b405a04baf1ebab6878af808f0fe]]
= Delete an AKV configuration

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/azure-key-vaults/{uuid}`#

*Introduced In:* 9.8

Deletes an AKV configuration.
Note: This method is only available to the Azure NetApp Files Cloud Volume
```

```
Services.

== Related ONTAP commands

* `security key-manager external azure disable`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|AKV UUID

|===

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65536242
| One or more Storage Encryption devices are assigned an authentication
key.

| 65536817
| Internal error. Failed to determine if key manager is safe to disable.
```

```
| 65536827
| Internal error. Failed to determine if the given SVM has any encrypted
volumes.

| 65536834
| Internal error. Failed to get existing key-server details for the given
SVM.

| 65536867
| Volume encryption keys (VEK) for one or more encrypted volumes are
stored on the key manager configured for the given SVM.

| 65536883
| Internal error. Volume encryption key is missing for a volume.

| 65536884
| Internal error. Volume encryption key is invalid for a volume.

| 65536924
| Cannot remove key manager that still contains one or more NSE
authentication keys.

| 65537120
| Azure Key Vault is not configured for the given SVM.

| 196608080
| One or more nodes in the cluster have the root volume encrypted using
NVE (NetApp Volume Encryption).

| 196608301
| Internal error. Failed to get encryption type.

| 196608305
| NAE aggregates found in the cluster.
|===



[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
====



[[IDbf8218c39e4e1453deb89f2eec171d34]]
```

```
= Retrieve AKV configuration for an SVM specified by the UUID

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/azure-key-vaults/{uuid}`#

*Introduced In:* 9.8

Retrieves the AKV configuration for the SVM specified by the UUID.
Note: This method is only available to the Azure NetApp Files Cloud Volume
Services.

== Related ONTAP commands

* `security key-manager external azure show`
* `security key-manager external azure check`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|AKV UUID


|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|

|azure_reachability
|link:#azure_reachability[azure_reachability]
a|Indicates whether or not the AKV service is reachable from all the nodes
in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


|client_id
|string
a|Application client ID of the deployed Azure application with appropriate
access to an AKV.


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

|key_id
|string
a|Key Identifier of AKV key encryption key.


|name
|string
a|Name of the deployed AKV that is used by the Azure NetApp Files Cloud
Volume Services for storing keys.


|proxy_host
|string
a|Proxy host.
```

```
|proxy_port
|integer
a|Proxy port.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|state
|link:#state[state]
a|Indicates whether or not the AKV wrapped internal key is available
cluster wide.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|tenant_id
|string
a|Directory (tenant) ID of the deployed Azure application with appropriate
access to an AKV.


|uuid
|string
a|A unique identifier for the Azure Key Vault (AKV).


|===
```

.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "azure_reachability": {
    "code": "346758",
    "message": "AKV service is not reachable from all nodes - reason."
  },
  "client_id": "aaaaaaaa-bbbb-aaaa-bbbb-aaaaaaaaaaaa",
  "ekmip_reachability": [
    {
      "code": "346758",
      "message": "embedded KMIP server status unavailable on node.",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    }
  ],
  "key_id": "https://keyvault1.vault.azure.net/keys/key1",
  "name": "https://kmip-akv-keyvault.vault.azure.net/",
  "proxy_host": "proxy.eng.com",
  "proxy_port": "1234",
  "proxy_type": "http",
  "proxy_username": "proxyuser",
  "scope": "string",
  "state": {
    "code": "346758",
    "message": "Top-level internal key protection key (KEK) is unavailable
on the following nodes with the associated reasons: Node: node1. Reason:
No volumes created yet for the SVM. Wrapped KEK status will be available
after creating encrypted volumes."
  },
```

```
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "tenant_id": "zzzzzzzz-yyyy-zzzz-yyyy-zzzzzzzzzzzz",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
====

== 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|

|===


[#azure_reachability]
```

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

Indicates whether or not the AKV service is reachable from all the nodes
in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the status message. Returns a 0 if AKV service is
reachable from all nodes in the cluster.


|message
|string
a|Error message set when reachability is false.


|reachable
|boolean
a|Set to true when the AKV service is reachable from all nodes of the
cluster.


|===


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

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

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

|name
|string
a|

|uuid
|string
a|

|===


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

Provides the connectivity status for the given SVM on the given node to
all EKMIP servers configured on all nodes of the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if a given SVM is
able to communicate to the EKMIP servers of all of the nodes in the
cluster.


|message
|string
a|Error message set when cluster-wide EKMIP server availability from the
given SVM and node is false.


|node
```

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

|reachable
|boolean
a|Set to true if the given SVM on the given node is able to communicate to
all EKMIP servers configured on all nodes in the cluster.


|===


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

Indicates whether or not the AKV wrapped internal key is available cluster
wide.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|available
|boolean
a|Set to true when an AKV wrapped internal key is present on all nodes of
the cluster.


|code
|integer
a|Code corresponding to the status message. Returns a 0 if AKV wrapped key
is available on all nodes in the cluster.


|message
|string
a|Error message set when top-level internal key protection key (KEK)
availability on cluster is false.
```

```
|===


[#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
====



[[IDf5bd2a0e909f3e2595cc10ffe87eb00a]]
= Update the AKV configuration
```

```
[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/azure-key-vaults/{uuid}`#

*Introduced In:* 9.8

Updates the AKV configuration.
Note: This method is only available to the Azure NetApp Files Cloud Volume
Services.

== Optional properties

* `client_secret` - New password used to prove the application's identity
to the AKV.
* `key_id`- Key Identifier of the new AKV key encryption key.
* `proxy_type`` - Type of proxy (http, https etc.) if proxy configuration
is used.
* `proxy_host` - Proxy hostname if proxy configuration is used.
* `proxy_port` - Proxy port number if proxy configuration is used.
* `proxy_username` - Proxy username if proxy configuration is used.
* `proxy_password` - Proxy password if proxy configuration is used.
* `client_id` - Application (client) ID of the deployed Azure application
with appropriate access to an AKV.
* `tenant_id` - Directory (tenant) ID of the deployed Azure application
with appropriate access to an AKV.

== Related ONTAP commands

* `security key-manager external azure update-client-secret`
* `security key-manager external azure rekey-external`
* `security key-manager external azure update-config`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
```

```
|True
a|AKV UUID


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

* Default value: 1
* Max value: 120
* Min value: 0

|===

== Request Body



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

|client_id
|string
a|Application client ID of the deployed Azure application with appropriate
access to an AKV.


|client_secret
|string
a|Password used by the application to prove its identity to AKV.


|ekmip_reachability
|array[link:#ekmip_reachability[ekmip_reachability]]
a|
```

```
|key_id
|string
a|Key Identifier of AKV key encryption key.


|proxy_host
|string
a|Proxy host.


|proxy_password
|string
a|Proxy password. Password is not audited.


|proxy_port
|integer
a|Proxy port.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


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

|tenant_id
|string
a|Directory (tenant) ID of the deployed Azure application with appropriate
access to an AKV.


|uuid
|string
a|A unique identifier for the Azure Key Vault (AKV).


|===
```

```
.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "client_id": "aaaaaaaa-bbbb-aaaa-bbbb-aaaaaaaaaaaa",
  "client_secret": "abcdef",
  "ekmip_reachability": [
    {
      "code": "346758",
      "message": "embedded KMIP server status unavailable on node.",
      "node": {
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    }
  ],
  "key_id": "https://keyvault1.vault.azure.net/keys/key1",
  "proxy_host": "proxy.eng.com",
  "proxy_password": "proxypassword",
  "proxy_port": "1234",
  "proxy_type": "http",
  "proxy_username": "proxyuser",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "tenant_id": "zzzzzzzz-yyyy-zzzz-yyyy-zzzzzzzzzzzz",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
====

== Response
```

Status: 200, Ok

```
== Response
```

Status: 202, Accepted

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65537120
| Azure Key Vault is not configured for the given SVM.

| 65537504
| Internal error. Failed to store configuration in internal database.

| 65537517
| The field "client_secret" must be specified.

| 65537541
| No inputs were provided for the patch request.

| 65537547
| One or more volume encryption keys for encrypted volumes of this data
SVM are stored in the key manager configured for the admin SVM. Use the
REST API POST method to migrate this data SVM's keys from the admin SVM's
key manager to this data SVM's key manager before running the rekey
operation.
|===


== 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
[#azure_reachability]
[.api-collapsible-fifth-title]
azure_reachability

Indicates whether or not the AKV service is reachable from all the nodes
in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the status message. Returns a 0 if AKV service is
reachable from all nodes in the cluster.


|message
|string
a|Error message set when reachability is false.


|reachable
|boolean
a|Set to true when the AKV service is reachable from all nodes of the
cluster.


|===


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

```
node

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

|name
|string
a|

|uuid
|string
a|

|===


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

Provides the connectivity status for the given SVM on the given node to
all EKMIP servers configured on all nodes of the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if a given SVM is
able to communicate to the EKMIP servers of all of the nodes in the
cluster.


|message
|string
a|Error message set when cluster-wide EKMIP server availability from the
```

```
given SVM and node is false.


|node
|link:#node[node]
a|

|reachable
|boolean
a|Set to true if the given SVM on the given node is able to communicate to
all EKMIP servers configured on all nodes in the cluster.


|===


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

Indicates whether or not the AKV wrapped internal key is available cluster
wide.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|available
|boolean
a|Set to true when an AKV wrapped internal key is present on all nodes of
the cluster.


|code
|integer
a|Code corresponding to the status message. Returns a 0 if AKV wrapped key
is available on all nodes in the cluster.


|message
```

```
|string
a|Error message set when top-level internal key protection key (KEK)
availability on cluster is false.


|===


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

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

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


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


|===


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

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

|client_id
|string
a|Application client ID of the deployed Azure application with appropriate
access to an AKV.
```

```
|client_secret
|string
a|Password used by the application to prove its identity to AKV.


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

|key_id
|string
a|Key Identifier of AKV key encryption key.


|proxy_host
|string
a|Proxy host.


|proxy_password
|string
a|Proxy password. Password is not audited.


|proxy_port
|integer
a|Proxy port.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


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

|tenant_id
|string
a|Directory (tenant) ID of the deployed Azure application with appropriate
access to an AKV.
```

```
|uuid
|string
a|A unique identifier for the Azure Key Vault (AKV).


|===


[#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


[[IDf4bceebe2bfbe11df29646465f0ae7e4]]
= Create a certificate signing request

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/certificate-signing-request`#

*Introduced In:* 9.8

This API generates a Certificate Signing Request(CSR) and a private key
pair. A CSR is a message sent securely to a certificate authority (CA) via
any electronic media to apply for a digital identity certificate. This is
a general utility API for users to generate a CSR.

== Recommended optional properties

* `subject_name` - Subject details of the certificate.
* `security_strength` - Key size of the certificate in bits. Specifying a
stronger security strength in bits is recommended when creating a
certificate.
* `hash_function` -  Hashing function.
```

```
* `algorithm` - Asymmetric algorithm. Algorithm used to generate a
public/private key pair when creating a certificate.
* `subject_alternatives` - Subject Alternate name extensions.

== Default property values

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

* `security_strength` - _112_
* `hash_function` - _sha256_
* `algorithm` - _rsa_

== Related ONTAP commands

* `security certificate generate-csr`


== 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

|algorithm
|string
a|Asymmetric Encryption Algorithm.


|csr
|string
a|A Certificate Signing Request (CSR) provided to a CA for obtaining a CA-
signed certificate.


|extended_key_usages
|array[string]
a|A list of extended key usage extensions.


|generated_private_key
|string
a|Private key generated for the CSR.


|hash_function
|string
a|Hashing function.


|key_usages
|array[string]
a|A list of key usage extensions.


|security_strength
|integer
a|Security strength of the certificate in bits.


|subject_alternatives
|link:#subject_alternatives[subject_alternatives]
a|

|subject_name
|string
a|Subject name details of the certificate. The format is a list of comma
separated key=value pairs.
```

```
|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "algorithm": "string",
  "csr": "string",
  "extended_key_usages": [
    "string"
  ],
  "generated_private_key": "string",
  "hash_function": "string",
  "key_usages": [
    "string"
  ],
  "security_strength": "112",
  "subject_alternatives": {
    "dns": [
      "*.example.com"
    ],
    "email": [
      "abc@example.com"
    ],
    "ip": [
      "10.225.34.10"
    ],
    "uri": [
      "http://example.com"
    ]
  },
  "subject_name": "C=US,O=NTAP,CN=test.domain.com"
}
====

== Response
```

Status: 200, Ok

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

```
|Type
|Description

|algorithm
|string
a|Asymmetric Encryption Algorithm.


|csr
|string
a|A Certificate Signing Request (CSR) provided to a CA for obtaining a CA-
signed certificate.


|extended_key_usages
|array[string]
a|A list of extended key usage extensions.


|generated_private_key
|string
a|Private key generated for the CSR.


|hash_function
|string
a|Hashing function.


|key_usages
|array[string]
a|A list of key usage extensions.


|security_strength
|integer
a|Security strength of the certificate in bits.


|subject_alternatives
|link:#subject_alternatives[subject_alternatives]
a|

|subject_name
|string
a|Subject name details of the certificate. The format is a list of comma
separated key=value pairs.
```

```
|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "algorithm": "string",
  "csr": "string",
  "extended_key_usages": [
    "string"
  ],
  "generated_private_key": "string",
  "hash_function": "string",
  "key_usages": [
    "string"
  ],
  "security_strength": "112",
  "subject_alternatives": {
    "dns": [
      "*.example.com"
    ],
    "email": [
      "abc@example.com"
    ],
    "ip": [
      "10.225.34.10"
    ],
    "uri": [
      "http://example.com"
    ]
  },
  "subject_name": "C=US,O=NTAP,CN=test.domain.com"
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes
```

```
|===
| Error Code | Description

| 3735554
| Certificate signing request failed.

| 3735664
| Key size is not supported in FIPS mode.

| 3735665
| Hash function is not supported in FIPS mode.

| 3735700
| Key size is not supported.

| 3735713
| Security strength bits length is not supported.

| 3735714
| Security strength bits length is not supported in FIPS mode.

| 3735715
| Certificate creation requires a common name or SAN extensions.

| 3735741
| Key size is not applicable with the EC encryption algorithm.

| 52560173
| Hash function is not supported for digital signatures.

| 52560423
| Failed to read the relative distinguished names.
|===


== 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
[#subject_alternatives]
[.api-collapsible-fifth-title]
subject_alternatives

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

|dns
|array[string]
a|A list of DNS names for Subject Alternate name extension.


|email
|array[string]
a|A list of email addresses for Subject Alternate name extension


|ip
|array[string]
a|A list of IP addresses for Subject Alternate name extension.


|uri
|array[string]
a|A list of URIs for Subject Alternate name extension.


|===
```

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

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

|algorithm
|string
a|Asymmetric Encryption Algorithm.


|csr
|string
a|A Certificate Signing Request (CSR) provided to a CA for obtaining a CA-
signed certificate.


|extended_key_usages
|array[string]
a|A list of extended key usage extensions.


|generated_private_key
|string
a|Private key generated for the CSR.


|hash_function
|string
a|Hashing function.


|key_usages
|array[string]
a|A list of key usage extensions.


|security_strength
|integer
a|Security strength of the certificate in bits.
```

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

|subject_name
|string
a|Subject name details of the certificate. The format is a list of comma
separated key=value pairs.


|===


[#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
====



= Manage security certificates

:leveloffset: +1


[[IDd2e36614a54da33bdaade91d2034d96a]]
= Security certificates endpoint overview



== Overview

This API displays security certificate information and manages the
certificates in ONTAP.

== Installing certificates in ONTAP

The security certificates GET request retrieves all of the certificates in
the cluster.
```

```
== Examples

=== Retrieving all certificates installed in the cluster with their
common-names

----

# The API:
/api/security/certificates

# The call:
curl -X GET "https://<mgmt-
ip>/api/security/certificates?fields=common_name" -H "accept:
application/hal+json"

# The response:
{
"records": [
  {
    "svm": {
      "name": "vs0"
    },
    "uuid": "dad2363b-8ac0-11e8-9058-005056b482fc",
    "common_name": "vs0",
    "_links": {
      "self": {
        "href": "/api/security/certificates/dad2363b-8ac0-11e8-9058-
005056b482fc"
      }
    }
  },
  {
    "uuid": "1941e048-8ac1-11e8-9058-005056b482fc",
    "common_name": "ROOT",
    "_links": {
      "self": {
        "href": "/api/security/certificates/1941e048-8ac1-11e8-9058-
005056b482fc"
      }
    }
  },
  {
    "uuid": "5a3a77a8-892d-11e8-b7da-005056b482fc",
    "common_name": "gshancluster-4",
    "_links": {
      "self": {
```

```
        "href": "/api/security/certificates/5a3a77a8-892d-11e8-b7da-
005056b482fc"
      }
    }
  }
],
"num_records": 3,
"_links": {
  "self": {
    "href": "/api/security/certificates?fields=common_name"
  }
}
}
----

'''

=== Retrieving all certificates installed at cluster-scope with their
common-names

'''

----

# The API:
/api/security/certificates

# The call:
curl -X GET "https://<mgmt-
ip>/api/security/certificates?scope=cluster&fields=common_name" -H
"accept: application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "1941e048-8ac1-11e8-9058-005056b482fc",
    "scope": "cluster",
    "common_name": "ROOT",
    "_links": {
      "self": {
        "href": "/api/security/certificates/1941e048-8ac1-11e8-9058-
005056b482fc"
      }
    }
  },
```

```
  {
    "uuid": "5a3a77a8-892d-11e8-b7da-005056b482fc",
    "scope": "cluster",
    "common_name": "gshancluster-4",
    "_links": {
      "self": {
        "href": "/api/security/certificates/5a3a77a8-892d-11e8-b7da-
005056b482fc"
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/security/certificates?scope=cluster&fields=common_name"
  }
}
}
----

'''

=== Retrieving all certificates installed on a specific SVM with their
common-names

'''

----

# The API:
/api/security/certificates

# The call:
curl -X GET "https://<mgmt-
ip>/api/security/certificates?svm.name=vs0&fields=common_name" -H "accept:
application/hal+json"

# The response:
{
"records": [
  {
    "svm": {
      "name": "vs0"
    },
    "uuid": "dad2363b-8ac0-11e8-9058-005056b482fc",
```

```
    "common_name": "vs0",
    "_links": {
      "self": {
        "href": "/api/security/certificates/dad2363b-8ac0-11e8-9058-
005056b482fc"
      }
    }
  }
],
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/security/certificates?svm.name=vs0&fields=common_name"
  }
}
}
----

'''

=== Retrieving a certificate using its UUID for all fields

'''

----

# The API:
/api/security/certificates/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/security/certificates/dad2363b-8ac0-
11e8-9058-005056b482fc?fields=*" -H "accept: application/hal+json"

# The response:
{
"svm": {
  "uuid": "d817293c-8ac0-11e8-9058-005056b482fc",
  "name": "vs0"
},
"uuid": "dad2363b-8ac0-11e8-9058-005056b482fc",
"scope": "svm",
"type": "server",
"common_name": "vs0",
"serial_number": "15428D45CF81CF56",
"ca": "vs0",
"hash_function": "sha256",
```

```
"key_size": 2048,
"expiry_time": "2019-07-18T15:29:14-04:00",
"public_certificate": "-----BEGIN CERTIFICATE-----
\nMIIDQjCCAiqgAwIBAgIIFUKNRc+Bz1YwDQYJKoZIhvcNAQELBQAwGzEMMAoGA1UE\nAxMDdn
MwMQswCQYDVQQGEwJVUzAeFw0xODA3MTgxOTI5MTRaFw0xOTA3MTgxOTI5\nMTRaMBsxDDAKBg
NVBAMTA3ZzMDELMAkGA1UEBhMCVVMwggEiMA0GCSqGSIb3DQEB\nAQUAA4IBDwAwggEKAoIBAQ
CqFQb27th2ACOmJvWgLh1xRzobSb2ZTQfO561faXQ3\nIbiT+rnRWXetd/s2+iCv91d9LW0NOm
P3MN2f3SFbyze3dl7WrnVbjLmYuI9MfOxs\nfmA+Bh6gpap5Yn2YddqoV6rfNGAuUveNLArNl8
wODk/mpawpEQ93QSa1Zfg1gnoH\nRFrYqiSYT06X5g6RbUuEl4LTGXspz+plU46Za0i6QyxtvZ
4bneibffXN3IigpqI6\nTGUV8R/J3Ps338VxVmSO9ZXBZmvbcJVoysYNICl/oi3fgPZlnBv0tb
swqg4FoZO/\nWT+XHGhLep6cr/Aqg7u6C4RfqbCwzB/XFKDIqnmAQkDBAgMBAAGjgYkwgYYwDA
YD\nVR0TBAUwAwEB/zALBgNVHQ8EBAMCAQYwHQYDVR0OBBYEFN/AnH8qLxocTtumNHIn\nEN4I
FIDBMEoGA1UdIwRDMEGAFN/AnH8qLxocTtumNHInEN4IFIDBoR+kHTAbMQww\nCgYDVQQDEwN2
czAxCzAJBgNVBAYTAlVTgggVQo1Fz4HPVjANBgkqhkiG9w0BAQsF\nAAOCAQEAa0pUEepdeQnd
2Amwg8UFyxayb8eu3E6dlptvtyp+xtjhIC7Dh95CVXhy\nkJS3Tsu60PGR/b2vc3MZtAUpcL4c
eD8XntKPQgBlqoB4bRogCe1TnlGswRXDX5TS\ngMVrRjaWTBF7ikT4UjR05rSxcDGplQRqjnOt
hqi+yPT+29+8a4Uu6J+3Kdrflj4p\n1nSWpuB9EyxtuCILNqXA2ncH7YKtoeNtChKCchhvPcoT
y6Opma6UQn5UMxstkvGT\nVGaN5TlRWv0yiqPXIQblSqXi/uQsuRPcHDu7+KWRFn08USa6QVo2
mDs9P7R9dd0K\n9QAsTjTOF9PlAKgNxGoOJl2y0+48AA==\n-----END CERTIFICATE-----
\n",
"_links": {
  "self": {
    "href": "/api/security/certificates/dad2363b-8ac0-11e8-9058-
005056b482fc"
  }
}
}
----

=== Creating a certificate in a cluster

These certificates can be used to help administrators enable certificate-
based authentication and to enable SSL-based communication to the cluster.

----

# The API:
/api/security/certificates

# The call:
curl -X POST "https://<mgmt-ip>/api/security/certificates" -H "accept:
application/hal+json" -H "Content-Type: application/json" -d "{
\"common_name\": \"TEST-SERVER\",  \"type\": \"server\"  }"
----

=== Installing a certificate in a cluster
```

```
These certificates can be used to help administrators enable certificate-
based authentication and to enable-SSL based communication to the cluster.

----

# The API:
/api/security/certificates

# The call:
curl -X POST "https://<mgmt-ip>/api/security/certificates" -H  "accept:
application/json" -H  "Content-Type: application/json" -d "{ \"type\":
\"server_ca\", \"public_certificate\": \"-----BEGIN CERTIFICATE-----
\nMIIFYDCCA0igAwIBAgIQCgFCgAAAAUUjyES1AAAAAjANBgkqhkiG9w0BAQsFADBKMQswCQYD
VQQG\nEwJVUzESMBAGA1UEChMJSWRlblRydXN0MScwJQYDVQQDEx5JZGVuVHJ1c3QgQ29tbWVy
Y2lhbCBS\nb290IENBIDEwHhcNMTQwMTE2MTgxMjIzWhcNMzQwMTE2MTgxMjIzWjBKMQswCQYD
VQQGEwJVUzES\nMBAGA1UEChMJSWRlblRydXN0MScwJQYDVQQDEx5JZGVuVHJ1c3QgQ29tbWVy
Y2lhbCBSb290IENB\nIDEwggIiMA0GCSqGSIb3DQEBAQUAA4ICDwAwggIKAoICAQCnUBneP5k9
1DNG8W9RYYKyqU+PZ4ld\nhNlT3Qwo2dfw/66VQ3KZ+bVdfIrBQuExUHTRgQ18zZshq0PirK1e
hm7zCYofWjK9ouuU+ehcCuz/\nmNKvcbO0U59Oh++SvL3sTzIwiEsXXlfEU8L2ApeN2WIrvyQf
Yo3fw7gpS0l4PJNgiCL8mdo2yMKi\n1CxUAGc1bnO/AljwpN3lsKImesrgNqUZFvX9t++uP0D1
bVoE/c40yiTcdCMbXTMTEl3EASX2MN0C\nXZ/g1Ue9tOsbobtJSdifWwLziuQkkORiT0/Br4sO
dBeo0XKIanoBScy0RnnGF7HamB4HWfp1IYVl\n3ZBWzvurpWCdxJ35UrCLvYf5jysjCiN2O/cz
4ckA82n5S6LgTrx+kzmEB/dEcH7+B1rlsazRGMzy\nNeVJSQjKVsk9+w8YfYs7wRPCTY/JTw43
6R+hDmrfYi7LNQZReSzIJTj0+kuniVyc0uMNOYZKdHzV\nWYfCP04MXFL0PfdSgvHqo6z9STQa
KPNBiDoT7uje/5kdX7rL6B7yuVBgwDHTc+XvvqDtMwt0viAg\nxGds8AgDelWAf0ZOlqf0Hj7h
9tgJ4TNkK2PXMl6f+cB7D3hvl7yTmvmcEpB4eoCHFddydJxVdHix\nuuFucAS6T6C6aMN7/zHw
cz09lCqxC0EOoP5NiGVreTO01wIDAQABo0IwQDAOBgNVHQ8BAf8EBAMC\nAQYwDwYDVR0TAQH/
BAUwAwEB/zAdBgNVHQ4EFgQU7UQZwNPwBovupHu+QucmVMiONnYwDQYJKoZI\nhvcNAQELBQAD
ggIBAA2ukDL2pkt8RHYZYR4nKM1eVO8lvOMIkPkp165oCOGUAFjvLi5+U1KMtlwH\n6oi6mYtQ
lNeCgN9hCQCTrQ0U5s7B8jeUeLBfnLOic7iPBZM4zY0+sLj7wM+x8uwtLRvM7Kqas6pg\nghst
O8OEPVeKlh6cdbjTMM1gCIOQ045U8U1mwF10A0Cj7oV+wh93nAbowacYXVKV7cndJZ5t+qnt\n
ozo00Fl72u1Q8zW/7esUTTHHYPTa8Yec4kjixsU3+wYQ+nVZZjFHKdp2mhzpgq7vmrlR94gjmm
mV\nYjzlVYA211QC//G5Xc7UI2/YRYRKW2XviQzdFKcgyxilJbQN+QHwotL0AMh0jqEqSI5l2x
PE4iUX\nfeu+h1sXIFRRk0pTAwvsXcoz7WL9RccvW9xYoIA55vrX/hMUpu09lEpCdNTDd1lzzY
9GvlU47/ro\nkTLql1gEIt44w8y8bckzOmoKaT+gyOpyj4xjhiO9bTyWnpXgSUyqorkqG5w2gX
jtw+hG4iZZRHUe\n2XWJUc0QhJ1hYMtd+ZciTY6Y5uN/9lu7rs3KSoFrXgvzUeF0K+l+J6fZmU
lO+KWA2yUPHGNiiskz\nZ2s8EIPGrd6ozRaOjfAHN3Gf8qv8QfXBi+wAN10J5U6A7/qxXDgGpR
tK4dw4LTzcqx+QGtVKnO7R\ncGzM7vRX+Bi6hG6H\n-----END CERTIFICATE-----\n\"
}"
----

'''

=== Installing a certificate on a specific SVM

'''
```

```
----

# The API:
/api/security/certificates

# The call:
curl -X POST "https://<mgmt-ip>/api/security/certificates" -H  "accept:
application/json" -H  "Content-Type: application/json" -d "{   \"svm\" : {
\"name\" : \"vs0\" }, \"type\": \"server_ca\", \"public_certificate\":
\"-----BEGIN CERTIFICATE-----
\nMIIFYDCCA0igAwIBAgIQCgFCgAAAAUUjyES1AAAAAjANBgkqhkiG9w0BAQsFADBKMQswCQYD
VQQG\nEwJVUzESMBAGA1UEChMJSWRlblRydXN0MScwJQYDVQQDEx5JZGVuVHJ1c3QgQ29tbWVy
Y2lhbCBS\nb290IENBIDEwHhcNMTQwMTE2MTgxMjIzWhcNMzQwMTE2MTgxMjIzWjBKMQswCQYD
VQQGEwJVUzES\nMBAGA1UEChMJSWRlblRydXN0MScwJQYDVQQDEx5JZGVuVHJ1c3QgQ29tbWVy
Y2lhbCBSb290IENB\nIDEwggIiMA0GCSqGSIb3DQEBAQUAA4ICDwAwggIKAoICAQCnUBneP5k9
1DNG8W9RYYKyqU+PZ4ld\nhNlT3Qwo2dfw/66VQ3KZ+bVdfIrBQuExUHTRgQ18zZshq0PirK1e
hm7zCYofWjK9ouuU+ehcCuz/\nmNKvcbO0U59Oh++SvL3sTzIwiEsXXlfEU8L2ApeN2WIrvyQf
Yo3fw7gpS0l4PJNgiCL8mdo2yMKi\n1CxUAGc1bnO/AljwpN3lsKImesrgNqUZFvX9t++uP0D1
bVoE/c40yiTcdCMbXTMTEl3EASX2MN0C\nXZ/g1Ue9tOsbobtJSdifWwLziuQkkORiT0/Br4sO
dBeo0XKIanoBScy0RnnGF7HamB4HWfp1IYVl\n3ZBWzvurpWCdxJ35UrCLvYf5jysjCiN2O/cz
4ckA82n5S6LgTrx+kzmEB/dEcH7+B1rlsazRGMzy\nNeVJSQjKVsk9+w8YfYs7wRPCTY/JTw43
6R+hDmrfYi7LNQZReSzIJTj0+kuniVyc0uMNOYZKdHzV\nWYfCP04MXFL0PfdSgvHqo6z9STQa
KPNBiDoT7uje/5kdX7rL6B7yuVBgwDHTc+XvvqDtMwt0viAg\nxGds8AgDelWAf0ZOlqf0Hj7h
9tgJ4TNkK2PXMl6f+cB7D3hvl7yTmvmcEpB4eoCHFddydJxVdHix\nuuFucAS6T6C6aMN7/zHw
cz09lCqxC0EOoP5NiGVreTO01wIDAQABo0IwQDAOBgNVHQ8BAf8EBAMC\nAQYwDwYDVR0TAQH/
BAUwAwEB/zAdBgNVHQ4EFgQU7UQZwNPwBovupHu+QucmVMiONnYwDQYJKoZI\nhvcNAQELBQAD
ggIBAA2ukDL2pkt8RHYZYR4nKM1eVO8lvOMIkPkp165oCOGUAFjvLi5+U1KMtlwH\n6oi6mYtQ
lNeCgN9hCQCTrQ0U5s7B8jeUeLBfnLOic7iPBZM4zY0+sLj7wM+x8uwtLRvM7Kqas6pg\nghst
O8OEPVeKlh6cdbjTMM1gCIOQ045U8U1mwF10A0Cj7oV+wh93nAbowacYXVKV7cndJZ5t+qnt\n
ozo00Fl72u1Q8zW/7esUTTHHYPTa8Yec4kjixsU3+wYQ+nVZZjFHKdp2mhzpgq7vmrlR94gjmm
mV\nYjzlVYA211QC//G5Xc7UI2/YRYRKW2XviQzdFKcgyxilJbQN+QHwotL0AMh0jqEqSI5l2x
PE4iUX\nfeu+h1sXIFRRk0pTAwvsXcoz7WL9RccvW9xYoIA55vrX/hMUpu09lEpCdNTDd1lzzY
9GvlU47/ro\nkTLql1gEIt44w8y8bckzOmoKaT+gyOpyj4xjhiO9bTyWnpXgSUyqorkqG5w2gX
jtw+hG4iZZRHUe\n2XWJUc0QhJ1hYMtd+ZciTY6Y5uN/9lu7rs3KSoFrXgvzUeF0K+l+J6fZmU
lO+KWA2yUPHGNiiskz\nZ2s8EIPGrd6ozRaOjfAHN3Gf8qv8QfXBi+wAN10J5U6A7/qxXDgGpR
tK4dw4LTzcqx+QGtVKnO7R\ncGzM7vRX+Bi6hG6H\n-----END CERTIFICATE-----\n\"
}"
----

'''

=== Deleting a certificate using its UUID

'''

----
```

```
# The API:
/api/security/certificates/{uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/security/certificates/dad2363b-8ac0-
11e8-9058-005056b482fc?fields=*" -H "accept: application/hal+json"
----

=== Signing a new certificate signing request using an existing CA
certificate UUID

Once you have created a certificate of type "root_ca", you can use that
certificate to act as a local Certificate Authority to sign new
certificate signing requests. The following example signs a new
certificate signing request using an existing CA certificate UUID. If
successful, the API returns a signed certificate.

----

# The API:
/api/security/certificates/{ca.uuid}/sign

# The call:
curl -X POST "https://<mgmt-ip>/api/security/certificates/253add53-8ac9-
11e8-9058-005056b482fc/sign" -H  "accept: application/json" -H  "Content-
Type: application/json" -d "{ \"signing_request\": \"-----BEGIN
CERTIFICATE REQUEST-----
\nMIICYTCCAUkCAQAwHDENMAsGA1UEAxMEVEVTVDELMAkGA1UEBhMCVVMwggEiMA0G\nCSqGSI
b3DQEBAQUAA4IBDwAwggEKAoIBAQCiBCuVfbYHNdOO7vjRQja4JqL2cHqK\ndrlTj5hz9RVqFK
Z7VPh8DSP9LoTbYWsvrTkbuD0Wi715MVQCsbkq/mHos+Y5lfqs\nNP5K92fc6EhBzBDYFgZGFn
tZYJjEG5MPerIUE7CfVy7o6sjWOlxeY33pjefObyvP\nBcJkBHg6SFJK/TDLvIYJkonLkJEOJo
TI6++a3I/1bCMfUeuRtLU9ThWlna1kMMYK\n4T16/Bxgm4bha2U2jtosc0Wltnld/capc+eqRV
07WVbMmEOTtop3cv0h3N0S6lbn\nFkd96DXzeGWbSHFHckeCZ9bOHhnVbfEa/efkPLx7ziMC8G
tRHHlwbnK7AgMBAAGg\nADANBgkqhkiG9w0BAQsFAAOCAQEAf+rs1i5PHaOSI2HtTM+Hcv/p71
yzgoLL+aeU\ntB0V4iuoXdqY8oQeWoPI92ci0K08JuSpu6D0DwCKlstfwuGkAA2b0Wr7ZDRonT
Uq\nmJ4j3O47MLysW4Db2LbGws/AuDsCIrBJDWHMpHaqsvRbpMx2xQ/V5oagUw5eGGpN\ne4fg
/E2k9mGkpxwkUzT7w1RZirpND4xL+XTzpzeZqgalpXug4yjIXlI5hpRESZ9/\nAkGJSCWxI15I
ZdxxFVXlBcmm6WpJnnboqkcKeXz95GM6Re+oBy9tlgvwvlVd5s8uHX+bycFiZp09Wsm8Ev727M
ziZ+0II9nxwkDKsdPvam+KLI9hLQ==\n-----END CERTIFICATE REQUEST-----\n\",
\"hash_function\": \"sha256\"}"

# The response:
{
"public_certificate": "-----BEGIN CERTIFICATE-----
\nMIIDBzCCAe+gAwIBAgIIFUKQpcqeaUAwDQYJKoZIhvcNAQELBQAwHDENMAsGA1UE\nAxMEUk
FDWDELMAkGA1UEBhMCVVMwHhcNMTgwNzE4MjAzMTA1WhcNMTkwNzE4MjAz\nMTA1WjAcMQ0wCw
```

```
YDVQQDEwRURVNUMQswCQYDVQQGEwJVUzCCASIwDQYJKoZIhvcN\nAQEBBQADggEPADCCAQoCgg
EBAKIEK5V9tgc1047u+NFCNrgmovZweop2uVOPmHP1\nFWoUpntU+HwNI/0uhNthay+tORu4PR
aLvXkxVAKxuSr+Yeiz5jmV+qw0/kr3Z9zo\nSEHMENgWBkYWe1lgmMQbkw96shQTsJ9XLujqyN
Y6XF5jfemN585vK88FwmQEeDpI\nUkr9MMu8hgmSicuQkQ4mhMjr75rcj/VsIx9R65G0tT1OFa
WdrWQwxgrhPXr8HGCb\nhuFrZTaO2ixzRaW2eV39xqlz56pFXTtZVsyYQ5O2indy/SHc3RLqVu
cWR33oNfN4\nZZtIcUdyR4Jn1s4eGdVt8Rr95+Q8vHvOIwLwa1EceXBucrsCAwEAAaNNMEswCQ
YD\nVR0TBAIwADAdBgNVHQ4EFgQUJMPxjeW1G76TbbD2tXB8dwSpI3MwHwYDVR0jBBgw\nFoAU
u5aH0mWR4cFoN9i7k96d2op3sPwwDQYJKoZIhvcNAQELBQADggEBAI5ai+Zi\nFQZUXRTqJCgH
sgBThARneVWQYkYpyAXmTR7QeLf1d4ZHL33i4xWCqX3uvW7SFJLe\nZajT2AVmgiDbaWIHtDtv
qz1BY78PSgUwPH/IyARTEOBeikp6KdwMPraehDIBMAcc\nANY58wXiTBbsl8UMD6tGecgnzw6s
xlMmadGvrfJeJmgY4zert6NNvgtTPhcZQdLS\nE0fGzHS6+3ajCCfEEhPNPeR9D0e5Me81i9Es
QGENrnJzTci8rzXPuF4bC3gghrK1\nI1+kmJQ1kLYVUcsntcrIiHmNvtPFJY6stjDgQKS9aDd/
THhPpokPtZoCmE6PDxh6\nR+dO6C0hcDKHFzA=\n-----END CERTIFICATE-----\n"
}
----

=== Generate a new Certificate Signing Request (CSR)

----

# The API:
/api/security/certificate-signing-request

# The call:
curl -X POST "https://<mgmt-ip>/api/security/certificate-signing-request"
-H  "accept: application/json" -H  "Content-Type: application/json" -d "{
\"algorithm\": \"rsa\", \"extended_key_usage\": [\"serverauth\"],
\"hash_function\": \"sha256\",  \"key_usage\": [\"digitalsignature\"],
\"security_strength\": \"112\", \"subject_alternatives\": { \"dns\": [
\"*.example.com\", \"*.example1.com\" ], \"email\": [\"abc@example.com\",
\"abc@example1.com\"], \"ip\": [\"10.225.34.223\", \"10.225.34.224\"],
\"uri\": [\"http://example.com\", \"http://example1.com\"] },
\"subject_name\": \"C=US,O=NTAP,CN=test.domain.com\"}"
{
"csr": "-----BEGIN CERTIFICATE REQUEST-----\n-----END CERTIFICATE
REQUEST-----\n",
"generated_private_key": "-----BEGIN PRIVATE KEY-----\n-----END PRIVATE
KEY-----\n"
}
----

'''
```

```
[[ID38bd425e18d0a5d4674c7fd4762911cc]]
= Retrieve security certificates

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/certificates`#

*Introduced In:* 9.6

Retrieves security certificates.

== Related ONTAP commands

* `security certificate show`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|common_name
|string
|query
|False
a|Filter by common_name


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

* Introduced in: 9.8


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

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


|key_size
|integer
|query
|False
a|Filter by key_size


|authority_key_identifier
|string
|query
|False
a|Filter by authority_key_identifier

* Introduced in: 9.8


|expiry_time
|string
|query
|False
a|Filter by expiry_time


|scope
|string
|query
|False
a|Filter by scope


|serial_number
|string
|query
|False
a|Filter by serial_number


|public_certificate
```

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

* Introduced in: 9.8


|intermediate_certificates
|string
|query
|False
a|Filter by intermediate_certificates

* Introduced in: 9.8


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


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


|subject_key_identifier
|string
|query
|False
a|Filter by subject_key_identifier

* Introduced in: 9.8


|private_key
|string
|query
|False
a|Filter by private_key

* Introduced in: 9.8
```

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


|uuid
|string
|query
|False
a|Filter by uuid

* Introduced in: 9.8


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


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


|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


|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


|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 records


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

|===


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

```
====
[source,json,subs=+macros]
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "authority_key_identifier":
"26:1F:C5:53:5B:D7:9E:E2:37:74:F4:F4:06:09:03:3D:EB:41:75:D7",
      "ca": "string",
      "common_name": "test.domain.com",
      "expiry_time": "string",
      "hash_function": "string",
      "intermediate_certificates": [
        "-----BEGIN CERTIFICATE-----
MIIBuzCCAWWgAwIBAgIIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQAwHDENMAsGA1UE
AxMEVEVTVDELMAkGA1UEBhMCVVMwHhcNMTgwNjA4MTgwOTAxWhcNMTkwNjA4MTgw
OTAxWjAcMQ0wCwYDVQQDEwRURVNUMQswCQYDVQQGEwJVUzBcMA0GCSqGSIb3DQEB
AQUAA0sAMEgCQQDaPvbqUJJFJ6NNTyK3Yb+ytSjJ9aa3yUmYTD9uMiP+6ycjxHWB
e8u9z6yCHsW03ync+dnhE5c5z8wuDAY0fv15AgMBAAGjgYowgYcwDAYDVR0TBAUw
AwEB/zALBgNVHQ8EBAMCAQYwHQYDVR0OBBYEFMJ7Ev/o/3+YNzYh5XNlqqjnw4zm
MEsGA1UdIwREMEKAFMJ7Ev/o/3+YNzYh5XNlqqjnw4zmoSCkHjAcMQ0wCwYDVQQD
EwRURVNUMQswCQYDVQQGEwJVU4IIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQADQQAv
DovYeyGNnknjGI+TVNX6nDbyzf7zUPqnri0KuvObEeybrbPW45sgsnT5dyeE/32U
9Yr6lklnkBtVBDTmLnrC -----END CERTIFICATE-----"
      ],
      "name": "cert1",
      "private_key": "-----BEGIN PRIVATE KEY-----
MIIBVAIBADANBgkqhkiG9w0BAQEFAASCAT4wggE6AgEAAkEAu1/a8f3G47cZ6pel
Hd3aONMNkGJ8vSCH5QjicuDm92VtVwkAACEjIoZSLYlJvPD+odL+lFzVQSmkneW7
VCGqYQIDAQABAkAcfNpg6GCQxoneLOghvlUrRotNZGvqpUOEAvHK3X7AJhz5SU4V
an36qvsAt5ghFMVM2iGvGaXbj0dAd+Jg64pxAiEA32Eh9mPtFSmZhTIUMeGcPmPk
qIYCEuP8a/ZLmI9s4TsCIQDWvLQuvjSVfwPhi0TFAb5wqAET8X5LBFqtGX5QlUep
EwIgFnqM02Gc4wtLoqa2d4qPkYu13+uUW9hLd4XSd6i/OS8CIQDT3elU+Rt+qIwW
u0cFrVvNYSV3HNzDfS9N/IoxTagfewIgPvXADe5c2EWbhCUkhN+ZCf38AKewK9TW
```

```
lQcDy4L+f14= -----END PRIVATE KEY-----",
      "public_certificate": "-----BEGIN CERTIFICATE-----
MIIBuzCCAWWgAwIBAgIIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQAwHDENMAsGA1UE
AxMEVEVTVDELMAkGA1UEBhMCVVMwHhcNMTgwNjA4MTgwOTAxWhcNMTkwNjA4MTgw
OTAxWjAcMQ0wCwYDVQQDEwRURVNUMQswCQYDVQQGEwJVUzBcMA0GCSqGSIb3DQEB
AQUAA0sAMEgCQQDaPvbqUJJFJ6NNTyK3Yb+ytSjJ9aa3yUmYTD9uMiP+6ycjxHWB
e8u9z6yCHsW03ync+dnhE5c5z8wuDAY0fv15AgMBAAGjgYowgYcwDAYDVR0TBAUw
AwEB/zALBgNVHQ8EBAMCAQYwHQYDVR0OBBYEFMJ7Ev/o/3+YNzYh5XNlqqjnw4zm
MEsGA1UdIwREMEKAFMJ7Ev/o/3+YNzYh5XNlqqjnw4zmoSCkHjAcMQ0wCwYDVQQD
EwRURVNUMQswCQYDVQQGEwJVU4IIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQADQQAv
DovYeyGNnknjGI+TVNX6nDbyzf7zUPqnri0KuvObEeybrbPW45sgsnT5dyeE/32U
9Yr6lklnkBtVBDTmLnrC -----END CERTIFICATE-----",
      "scope": "string",
      "serial_number": "string",
      "subject_key_identifier":
"26:1F:C5:53:5B:D7:9E:E2:37:74:F4:F4:06:09:03:3D:EB:41:75:D8",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "type": "string",
      "uuid": "string"
    }
  ]
}
====

== 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.


|===


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

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

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

|authority_key_identifier
|string
a|Provides the key identifier of the issuing CA certificate that signed
the SSL certificate.


|ca
|string
a|Certificate authority


|common_name
|string
a|FQDN or custom common name. Provide on POST when creating a self-signed
certificate.
```

```
|expiry_time
|string
a|Certificate expiration time. Can be provided on POST if creating self-
signed certificate. The expiration time range is between 1 day to 10
years.


|hash_function
|string
a|Hashing function. Can be provided on POST when creating a self-signed
certificate. Hash functions md5 and sha1 are not allowed on POST.


|intermediate_certificates
|array[string]
a|Chain of intermediate Certificates in PEM format. Only valid in POST
when installing a certificate.


|key_size
|integer
a|Key size of requested Certificate in bits. One of 512, 1024, 1536, 2048,
3072. Can be provided on POST if creating self-signed certificate. Key
size of 512 is not allowed on POST.


|name
|string
a|Certificate name. If not provided in POST, a unique name specific to the
SVM is automatically generated.


|private_key
|string
a|Private key Certificate in PEM format. Only valid for create when
installing a CA-signed certificate. This is not audited.


|public_certificate
|string
a|Public key Certificate in PEM format. If this is not provided in POST, a
self-signed certificate is created.


|scope
```

```
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|serial_number
|string
a|Serial number of certificate.


|subject_key_identifier
|string
a|Provides the key identifier used to identify the public key in the SSL
certificate.


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

|type
|string
a|Type of Certificate. The following types are supported:

* client - a certificate and its private key used by an SSL client in
ONTAP.
* server - a certificate and its private key used by an SSL server in
ONTAP.
* client_ca - a Certificate Authority certificate used by an SSL server in
ONTAP to verify an SSL client certificate.
* server_ca - a Certificate Authority certificate used by an SSL client in
ONTAP to verify an SSL server certificate.
* root_ca - a self-signed certificate used by ONTAP to sign other
certificates by acting as a Certificate Authority.
* enum: ["client", "server", "client_ca", "server_ca", "root_ca"]
* Introduced in: 9.6


|uuid
|string
a|Unique ID that identifies a certificate.


|===


[#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
====



[[ID4f1e163bc62c9b894d734b8f79d753ba]]
= Create or install security certificates

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/certificates`#

*Introduced In:* 9.6

Creates or installs a certificate.

== Required properties

* `svm.uuid` or `svm.name` - Existing SVM in which to create or install
the certificate.
* `common_name` - Common name of the certificate. Required when creating a
certificate.
* `type` - Type of certificate.
* `public_certificate` - Public key certificate in PEM format. Required
when installing a certificate.
* `private_key` - Private key certificate in PEM format. Required when
installing a CA-signed certificate.

== Recommended optional properties

* `expiry_time` - Certificate expiration time. Specifying an expiration
time is recommended when creating a certificate.
* `key_size` - Key size of the certificate in bits. Specifying a strong
key size is recommended when creating a certificate.
* `name` - Unique certificate name per SVM. If one is not provided, it is
automatically generated.

== Default property values

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

```
assigned:

* `key_size` - _2048_
* `expiry_time` - _P365DT_
* `hash_function` - _sha256_

== Related ONTAP commands

* `security certificate create`
* `security certificate install`


== 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

|authority_key_identifier
|string
a|Provides the key identifier of the issuing CA certificate that signed
the SSL certificate.
```

```
|ca
|string
a|Certificate authority


|common_name
|string
a|FQDN or custom common name. Provide on POST when creating a self-signed
certificate.


|expiry_time
|string
a|Certificate expiration time. Can be provided on POST if creating self-
signed certificate. The expiration time range is between 1 day to 10
years.


|hash_function
|string
a|Hashing function. Can be provided on POST when creating a self-signed
certificate. Hash functions md5 and sha1 are not allowed on POST.


|intermediate_certificates
|array[string]
a|Chain of intermediate Certificates in PEM format. Only valid in POST
when installing a certificate.


|key_size
|integer
a|Key size of requested Certificate in bits. One of 512, 1024, 1536, 2048,
3072. Can be provided on POST if creating self-signed certificate. Key
size of 512 is not allowed on POST.


|name
|string
a|Certificate name. If not provided in POST, a unique name specific to the
SVM is automatically generated.


|private_key
|string
```

```
a|Private key Certificate in PEM format. Only valid for create when
installing a CA-signed certificate. This is not audited.


|public_certificate
|string
a|Public key Certificate in PEM format. If this is not provided in POST, a
self-signed certificate is created.


|serial_number
|string
a|Serial number of certificate.


|subject_key_identifier
|string
a|Provides the key identifier used to identify the public key in the SSL
certificate.


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

|type
|string
a|Type of Certificate. The following types are supported:

* client - a certificate and its private key used by an SSL client in
ONTAP.
* server - a certificate and its private key used by an SSL server in
ONTAP.
* client_ca - a Certificate Authority certificate used by an SSL server in
ONTAP to verify an SSL client certificate.
* server_ca - a Certificate Authority certificate used by an SSL client in
ONTAP to verify an SSL server certificate.
* root_ca - a self-signed certificate used by ONTAP to sign other
certificates by acting as a Certificate Authority.
* enum: ["client", "server", "client_ca", "server_ca", "root_ca"]
* Introduced in: 9.6


|uuid
|string
a|Unique ID that identifies a certificate.
```

```
|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "authority_key_identifier":
"26:1F:C5:53:5B:D7:9E:E2:37:74:F4:F4:06:09:03:3D:EB:41:75:D7",
  "ca": "string",
  "common_name": "test.domain.com",
  "expiry_time": "string",
  "hash_function": "string",
  "intermediate_certificates": [
    "-----BEGIN CERTIFICATE-----
MIIBuzCCAWWgAwIBAgIIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQAwHDENMAsGA1UE
AxMEVEVTVDELMAkGA1UEBhMCVVMwHhcNMTgwNjA4MTgwOTAxWhcNMTkwNjA4MTgw
OTAxWjAcMQ0wCwYDVQQDEwRURVNUMQswCQYDVQQGEwJVUzBcMA0GCSqGSIb3DQEB
AQUAA0sAMEgCQQDaPvbqUJJFJ6NNTyK3Yb+ytSjJ9aa3yUmYTD9uMiP+6ycjxHWB
e8u9z6yCHsW03ync+dnhE5c5z8wuDAY0fv15AgMBAAGjgYowgYcwDAYDVR0TBAUw
AwEB/zALBgNVHQ8EBAMCAQYwHQYDVR0OBBYEFMJ7Ev/o/3+YNzYh5XNlqqjnw4zm
MEsGA1UdIwREMEKAFMJ7Ev/o/3+YNzYh5XNlqqjnw4zmoSCkHjAcMQ0wCwYDVQQD
EwRURVNUMQswCQYDVQQGEwJVU4IIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQADQQAv
DovYeyGNnknjGI+TVNX6nDbyzf7zUPqnri0KuvObEeybrbPW45sgsnT5dyeE/32U
9Yr6lklnkBtVBDTmLnrC -----END CERTIFICATE-----"
  ],
  "name": "cert1",
  "private_key": "-----BEGIN PRIVATE KEY-----
MIIBVAIBADANBgkqhkiG9w0BAQEFAASCAT4wggE6AgEAAkEAu1/a8f3G47cZ6pel
Hd3aONMNkGJ8vSCH5QjicuDm92VtVwkAACEjIoZSLYlJvPD+odL+lFzVQSmkneW7
VCGqYQIDAQABAkAcfNpg6GCQxoneLOghvlUrRotNZGvqpUOEAvHK3X7AJhz5SU4V
an36qvsAt5ghFMVM2iGvGaXbj0dAd+Jg64pxAiEA32Eh9mPtFSmZhTIUMeGcPmPk
qIYCEuP8a/ZLmI9s4TsCIQDWvLQuvjSVfwPhi0TFAb5wqAET8X5LBFqtGX5QlUep
EwIgFnqM02Gc4wtLoqa2d4qPkYu13+uUW9hLd4XSd6i/OS8CIQDT3elU+Rt+qIwW
u0cFrVvNYSV3HNzDfS9N/IoxTagfewIgPvXADe5c2EWbhCUkhN+ZCf38AKewK9TW
lQcDy4L+f14= -----END PRIVATE KEY-----",
  "public_certificate": "-----BEGIN CERTIFICATE-----
MIIBuzCCAWWgAwIBAgIIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQAwHDENMAsGA1UE
AxMEVEVTVDELMAkGA1UEBhMCVVMwHhcNMTgwNjA4MTgwOTAxWhcNMTkwNjA4MTgw
OTAxWjAcMQ0wCwYDVQQDEwRURVNUMQswCQYDVQQGEwJVUzBcMA0GCSqGSIb3DQEB
AQUAA0sAMEgCQQDaPvbqUJJFJ6NNTyK3Yb+ytSjJ9aa3yUmYTD9uMiP+6ycjxHWB
e8u9z6yCHsW03ync+dnhE5c5z8wuDAY0fv15AgMBAAGjgYowgYcwDAYDVR0TBAUw
AwEB/zALBgNVHQ8EBAMCAQYwHQYDVR0OBBYEFMJ7Ev/o/3+YNzYh5XNlqqjnw4zm
MEsGA1UdIwREMEKAFMJ7Ev/o/3+YNzYh5XNlqqjnw4zmoSCkHjAcMQ0wCwYDVQQD
```

```
EwRURVNUMQswCQYDVQQGEwJVU4IIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQADQQAv
DovYeyGNnknjGI+TVNX6nDbyzf7zUPqnri0KuvObEeybrbPW45sgsnT5dyeE/32U
9Yr6lklnkBtVBDTmLnrC -----END CERTIFICATE-----",
  "serial_number": "string",
  "subject_key_identifier":
"26:1F:C5:53:5B:D7:9E:E2:37:74:F4:F4:06:09:03:3D:EB:41:75:D8",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "string",
  "uuid": "string"
}
====

== Response
```

Status: 201, Created

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

|num_records
|integer
a|Number of records


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

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "records": [
    {
      "authority_key_identifier":
"26:1F:C5:53:5B:D7:9E:E2:37:74:F4:F4:06:09:03:3D:EB:41:75:D7",
```

```
      "ca": "string",
      "common_name": "test.domain.com",
      "expiry_time": "string",
      "hash_function": "string",
      "intermediate_certificates": [
        "-----BEGIN CERTIFICATE-----
MIIBuzCCAWWgAwIBAgIIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQAwHDENMAsGA1UE
AxMEVEVTVDELMAkGA1UEBhMCVVMwHhcNMTgwNjA4MTgwOTAxWhcNMTkwNjA4MTgw
OTAxWjAcMQ0wCwYDVQQDEwRURVNUMQswCQYDVQQGEwJVUzBcMA0GCSqGSIb3DQEB
AQUAA0sAMEgCQQDaPvbqUJJFJ6NNTyK3Yb+ytSjJ9aa3yUmYTD9uMiP+6ycjxHWB
e8u9z6yCHsW03ync+dnhE5c5z8wuDAY0fv15AgMBAAGjgYowgYcwDAYDVR0TBAUw
AwEB/zALBgNVHQ8EBAMCAQYwHQYDVR0OBBYEFMJ7Ev/o/3+YNzYh5XNlqqjnw4zm
MEsGA1UdIwREMEKAFMJ7Ev/o/3+YNzYh5XNlqqjnw4zmoSCkHjAcMQ0wCwYDVQQD
EwRURVNUMQswCQYDVQQGEwJVU4IIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQADQQAv
DovYeyGNnknjGI+TVNX6nDbyzf7zUPqnri0KuvObEeybrbPW45sgsnT5dyeE/32U
9Yr6lklnkBtVBDTmLnrC -----END CERTIFICATE-----"
      ],
      "name": "cert1",
      "private_key": "-----BEGIN PRIVATE KEY-----
MIIBVAIBADANBgkqhkiG9w0BAQEFAASCAT4wggE6AgEAAkEAu1/a8f3G47cZ6pel
Hd3aONMNkGJ8vSCH5QjicuDm92VtVwkAACEjIoZSLYlJvPD+odL+lFzVQSmkneW7
VCGqYQIDAQABAkAcfNpg6GCQxoneLOghvlUrRotNZGvqpUOEAvHK3X7AJhz5SU4V
an36qvsAt5ghFMVM2iGvGaXbj0dAd+Jg64pxAiEA32Eh9mPtFSmZhTIUMeGcPmPk
qIYCEuP8a/ZLmI9s4TsCIQDWvLQuvjSVfwPhi0TFAb5wqAET8X5LBFqtGX5QlUep
EwIgFnqM02Gc4wtLoqa2d4qPkYu13+uUW9hLd4XSd6i/OS8CIQDT3elU+Rt+qIwW
u0cFrVvNYSV3HNzDfS9N/IoxTagfewIgPvXADe5c2EWbhCUkhN+ZCf38AKewK9TW
lQcDy4L+f14= -----END PRIVATE KEY-----",
      "public_certificate": "-----BEGIN CERTIFICATE-----
MIIBuzCCAWWgAwIBAgIIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQAwHDENMAsGA1UE
AxMEVEVTVDELMAkGA1UEBhMCVVMwHhcNMTgwNjA4MTgwOTAxWhcNMTkwNjA4MTgw
OTAxWjAcMQ0wCwYDVQQDEwRURVNUMQswCQYDVQQGEwJVUzBcMA0GCSqGSIb3DQEB
AQUAA0sAMEgCQQDaPvbqUJJFJ6NNTyK3Yb+ytSjJ9aa3yUmYTD9uMiP+6ycjxHWB
e8u9z6yCHsW03ync+dnhE5c5z8wuDAY0fv15AgMBAAGjgYowgYcwDAYDVR0TBAUw
AwEB/zALBgNVHQ8EBAMCAQYwHQYDVR0OBBYEFMJ7Ev/o/3+YNzYh5XNlqqjnw4zm
MEsGA1UdIwREMEKAFMJ7Ev/o/3+YNzYh5XNlqqjnw4zmoSCkHjAcMQ0wCwYDVQQD
EwRURVNUMQswCQYDVQQGEwJVU4IIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQADQQAv
DovYeyGNnknjGI+TVNX6nDbyzf7zUPqnri0KuvObEeybrbPW45sgsnT5dyeE/32U
9Yr6lklnkBtVBDTmLnrC -----END CERTIFICATE-----",
      "serial_number": "string",
      "subject_key_identifier":
"26:1F:C5:53:5B:D7:9E:E2:37:74:F4:F4:06:09:03:3D:EB:41:75:D8",
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "type": "string",
```

```
      "uuid": "string"
    }
  ]
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 3735645
| Cannot specify a value for serial. It is generated automatically.

| 3735622
| The certificate type is not supported.

| 3735664
| The specified key size is not supported in FIPS mode.

| 3735665
| The specified hash function is not supported in FIPS mode.

| 3735553
| Failed to create self-signed Certificate.

| 3735646
| Failed to store the certificates.

| 3735693
| The certificate installation failed as private key was empty.

| 3735618
| Cannot accept private key for server_ca or client_ca.

| 52363365
| Failed to allocate memory.

| 52559975
| Failed to read the certificate due to incorrect formatting.

| 52363366
```

```
| Unsupported key type.

| 52560123
| Failed to read the key due to incorrect formatting.

| 52559972
| The certificates start date is later than the current date.

| 52559976
| The certificate and private key do not match.

| 52559973
| The certificate has expired.

| 52363366
| Logic error: use of a dead object.

| 3735696
| Intermediate certificates are not supported with client_ca and server_ca
type certificates.

| 52559974
| The certificate is not supported in FIPS mode.

| 3735676
| Cannot continue the installation without a value for the common name.
Since the subject field in the certificate is empty, the field
"common_name" must have a value to continue with the installation.

| 3735558
| Failed to extract information about Common Name from the certificate.

| 3735588
| The common name (CN) extracted from the certificate is not valid.

| 3735632
| Failed to extract Certificate Authority Information from the
certificate.
|===


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

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

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


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


|===


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

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

|authority_key_identifier
|string
a|Provides the key identifier of the issuing CA certificate that signed
the SSL certificate.


|ca
|string
a|Certificate authority


|common_name
|string
a|FQDN or custom common name. Provide on POST when creating a self-signed
certificate.


|expiry_time
|string
a|Certificate expiration time. Can be provided on POST if creating self-
signed certificate. The expiration time range is between 1 day to 10
years.


|hash_function
|string
a|Hashing function. Can be provided on POST when creating a self-signed
certificate. Hash functions md5 and sha1 are not allowed on POST.


|intermediate_certificates
|array[string]
a|Chain of intermediate Certificates in PEM format. Only valid in POST
when installing a certificate.


|key_size
|integer
a|Key size of requested Certificate in bits. One of 512, 1024, 1536, 2048,
3072. Can be provided on POST if creating self-signed certificate. Key
```

```
size of 512 is not allowed on POST.


|name
|string
a|Certificate name. If not provided in POST, a unique name specific to the
SVM is automatically generated.


|private_key
|string
a|Private key Certificate in PEM format. Only valid for create when
installing a CA-signed certificate. This is not audited.


|public_certificate
|string
a|Public key Certificate in PEM format. If this is not provided in POST, a
self-signed certificate is created.


|serial_number
|string
a|Serial number of certificate.


|subject_key_identifier
|string
a|Provides the key identifier used to identify the public key in the SSL
certificate.


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

|type
|string
a|Type of Certificate. The following types are supported:

* client - a certificate and its private key used by an SSL client in
ONTAP.
* server - a certificate and its private key used by an SSL server in
ONTAP.
* client_ca - a Certificate Authority certificate used by an SSL server in
ONTAP to verify an SSL client certificate.
* server_ca - a Certificate Authority certificate used by an SSL client in
```

```
ONTAP to verify an SSL server certificate.
* root_ca - a self-signed certificate used by ONTAP to sign other
certificates by acting as a Certificate Authority.
* enum: ["client", "server", "client_ca", "server_ca", "root_ca"]
* Introduced in: 9.6


|uuid
|string
a|Unique ID that identifies a certificate.


|===


[#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
====



[[IDc4349858b9b8f2e4f1be4b611c9e9490]]
= Sign security certificates

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/certificates/{ca.uuid}/sign`#

*Introduced In:* 9.6

Signs a certificate.

== Required properties

* `signing_request` - Certificate signing request to be signed by the
given certificate authority.

== Recommended optional properties

* `expiry_time` - Certificate expiration time. Specifying an expiration
```

```
time for a signed certificate is recommended.
* `hash_function` - Hashing function. Specifying a strong hashing function
is recommended when signing a certificate.

== Default property values

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

* `expiry_time` - _P365DT_
* `hash_function` - _sha256_

== Related ONTAP commands

* `security certificate sign`
This API is used to sign a certificate request using a pre-existing self-
signed root certificate. The self-signed root certificate acts as a
certificate authority within its scope and maintains the records of its
signed certificates.

The root certificate can be created for a given SVM or for the cluster
using [`POST security/certificates`].


== Parameters

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

|Name
|Type
|In
|Required
|Description

|ca.uuid
|string
|path
|True
a|UUID of the existing certificate authority certificate


|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

|expiry_time
|string
a|Certificate expiration time. The allowed expiration time range is
between 1 day to 10 years.


|hash_function
|string
a|Hashing function


|signing_request
|string
a|Certificate signing request to be signed by the given certificate
authority. Request should be in X509 PEM format.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "expiry_time": "string",
  "hash_function": "string",
  "signing_request": "'-----BEGIN CERTIFICATE REQUEST-----
MIICYDCCAUgCAQAwGzEMMAoGA1UEAxMDQUJDMQswCQYDVQQGEwJVUzCCASIwDQYJ
KoZIhvcNAQEBBQADggEPADCCAQoCggEBAPF+82SlqT3Vyu3Jx4IAwHcO5EGwLOxy
zQ6KNjz71Fca0n1/A1CbCPyOsSupGVObvdWxX7xLVMJ2SXb7h43GCqYyX6FXJO4F
HOpmLvB+jxdeiW7SDbiZyLUlsvA+oRO/uNlcug773QZdKLjJD64erZZMRUNbUJB8
```

```
bARxAUi0FPvgTraSQ0UW5sRLiGKeAyKA4wekYe1VgjHRTBizFbD4dI3njfva/2Bl
jf+kkulgcLJTuJNtkgeimqMKyraYuleYcYk2K+C//0NuNOuPbDfTXCM7O61vik09
Szi8nLN7OXE9KoAA93U/BCpSfpl8XIb4cGnEr8hgVHOOtZSo+KZBFxMCAwEAAaAA
MA0GCSqGSIb3DQEBCwUAA4IBAQC2vFYpvgsFrm5GnPx8tOBD1xsTyYjbWJMD8hAF
lFrvF9Sw9QGCtDyacxkwgJhQx8l8JiIS5GOY6WWLBl9FMkLQNAhDL9xF3WF7vfYq
RKgrz3bd/Vg96fsRZNYIPLGmoEaqLOh3FOCGc2VbdsR9PwOn3fwthxkIRd6ds6/q
jc5cpSmVsCOgu+OKcpRXikYDbkWXfTZ1AhSfn6njBYFdZ9+PNAu/0JRQh5bX60nO
5heniTcAJLwUZP/CQ8nxHY0Wqy+1rAtM33d5cVmhUlBXQSIru/0ZkA/b9fK5Zv8E
ZMADYUoEvIG59Vxhyci8lzYf+Mxl8qBSF+ZdC4yWhzDqZtM9 -----END CERTIFICATE
REQUEST-----'"
}
====

== Response
```

Status: 200, Ok

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

|public_certificate
|string
a|CA signed public key Certificate


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "public_certificate": "string"
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes
```

```
|===
| Error Code | Description

| 3735628
| Failed to use CA certificate for signing.

| 3735665
| The specified hash function is not supported in FIPS mode.

| 52559974
| The certificate is not supported in FIPS mode.

| 3735626
| Failed to generate signed Certificate.

| 3735558
| Failed to extract information about Common Name from the certificate.

| 3735588
| The common name (CN) extracted from the certificate is not valid.

| 3735632
| Failed to extract Certificate Authority Information from the
certificate.

| 3735629
| Failed to sign the certificate because Common Name of signing
certificate and Common Name of CA certificate are same.

| 3735630
| Failed to sign the certificate because expiry date of signing
certificate exceeds the expiry date of CA certificate.
|===


== Definitions

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

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

|expiry_time
|string
a|Certificate expiration time. The allowed expiration time range is
between 1 day to 10 years.


|hash_function
|string
a|Hashing function


|signing_request
|string
a|Certificate signing request to be signed by the given certificate
authority. Request should be in X509 PEM format.


|===


[#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
====



[[ID90c91457482df60868fc563f917093aa]]
= Delete security certificates

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/certificates/{uuid}`#

*Introduced In:* 9.6
```

```
Deletes a security certificate.

== Related ONTAP commands

* `security certificate delete`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|Certificate UUID

|===

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 3735644
| Cannot delete server-chain certificate. Reason: There is a corresponding
server certificate for it.

| 3735679
```

```
| Cannot delete pre-installed server_ca certificates through REST. Use CLI
or ZAPI.

| 3735650
| Deleting this client_ca certificate directly is not supported. Delete
the corresponding root-ca certificate using type `root_ca` to delete the
root, client, and server certificates.

| 3735627
| Deleting this server_ca certificate directly is not supported. Delete
the corresponding root-ca certificate using type `root_ca` to delete the
root, client, and server certificates.

| 3735589
| Cannot delete certificate.

| 3735590
| Cannot delete certificate. Failed to remove SSL configuration for the
certificate.

| 3735683
| Cannot remove this certificate while external key manager is configured.
|===



[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
====



[[ID053131587d1e4c00082f83d72cd9dc95]]
= Retrieve security certificates

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/certificates/{uuid}`#

*Introduced In:* 9.6

Retrieves security certificates.

== Related ONTAP commands

* `security certificate show`
```

```
== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|Certificate UUID


|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|

|authority_key_identifier
|string
a|Provides the key identifier of the issuing CA certificate that signed
the SSL certificate.
```

```
|ca
|string
a|Certificate authority


|common_name
|string
a|FQDN or custom common name. Provide on POST when creating a self-signed
certificate.


|expiry_time
|string
a|Certificate expiration time. Can be provided on POST if creating self-
signed certificate. The expiration time range is between 1 day to 10
years.


|hash_function
|string
a|Hashing function. Can be provided on POST when creating a self-signed
certificate. Hash functions md5 and sha1 are not allowed on POST.


|intermediate_certificates
|array[string]
a|Chain of intermediate Certificates in PEM format. Only valid in POST
when installing a certificate.


|key_size
|integer
a|Key size of requested Certificate in bits. One of 512, 1024, 1536, 2048,
3072. Can be provided on POST if creating self-signed certificate. Key
size of 512 is not allowed on POST.


|name
|string
a|Certificate name. If not provided in POST, a unique name specific to the
SVM is automatically generated.


|private_key
|string
a|Private key Certificate in PEM format. Only valid for create when
installing a CA-signed certificate. This is not audited.
```

```
|public_certificate
|string
a|Public key Certificate in PEM format. If this is not provided in POST, a
self-signed certificate is created.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|serial_number
|string
a|Serial number of certificate.


|subject_key_identifier
|string
a|Provides the key identifier used to identify the public key in the SSL
certificate.


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

|type
|string
a|Type of Certificate. The following types are supported:

* client - a certificate and its private key used by an SSL client in
ONTAP.
* server - a certificate and its private key used by an SSL server in
ONTAP.
* client_ca - a Certificate Authority certificate used by an SSL server in
ONTAP to verify an SSL client certificate.
* server_ca - a Certificate Authority certificate used by an SSL client in
ONTAP to verify an SSL server certificate.
* root_ca - a self-signed certificate used by ONTAP to sign other
certificates by acting as a Certificate Authority.
* enum: ["client", "server", "client_ca", "server_ca", "root_ca"]
* Introduced in: 9.6
```

```
|uuid
|string
a|Unique ID that identifies a certificate.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "authority_key_identifier":
"26:1F:C5:53:5B:D7:9E:E2:37:74:F4:F4:06:09:03:3D:EB:41:75:D7",
  "ca": "string",
  "common_name": "test.domain.com",
  "expiry_time": "string",
  "hash_function": "string",
  "intermediate_certificates": [
    "-----BEGIN CERTIFICATE-----
MIIBuzCCAWWgAwIBAgIIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQAwHDENMAsGA1UE
AxMEVEVTVDELMAkGA1UEBhMCVVMwHhcNMTgwNjA4MTgwOTAxWhcNMTkwNjA4MTgw
OTAxWjAcMQ0wCwYDVQQDEwRURVNUMQswCQYDVQQGEwJVUzBcMA0GCSqGSIb3DQEB
AQUAA0sAMEgCQQDaPvbqUJJFJ6NNTyK3Yb+ytSjJ9aa3yUmYTD9uMiP+6ycjxHWB
e8u9z6yCHsW03ync+dnhE5c5z8wuDAY0fv15AgMBAAGjgYowgYcwDAYDVR0TBAUw
AwEB/zALBgNVHQ8EBAMCAQYwHQYDVR0OBBYEFMJ7Ev/o/3+YNzYh5XNlqqjnw4zm
MEsGA1UdIwREMEKAFMJ7Ev/o/3+YNzYh5XNlqqjnw4zmoSCkHjAcMQ0wCwYDVQQD
EwRURVNUMQswCQYDVQQGEwJVU4IIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQADQQAv
DovYeyGNnknjGI+TVNX6nDbyzf7zUPqnri0KuvObEeybrbPW45sgsnT5dyeE/32U
9Yr6lklnkBtVBDTmLnrC -----END CERTIFICATE-----"
  ],
  "name": "cert1",
  "private_key": "-----BEGIN PRIVATE KEY-----
MIIBVAIBADANBgkqhkiG9w0BAQEFAASCAT4wggE6AgEAAkEAu1/a8f3G47cZ6pel
Hd3aONMNkGJ8vSCH5QjicuDm92VtVwkAACEjIoZSLYlJvPD+odL+lFzVQSmkneW7
VCGqYQIDAQABAkAcfNpg6GCQxoneLOghvlUrRotNZGvqpUOEAvHK3X7AJhz5SU4V
an36qvsAt5ghFMVM2iGvGaXbj0dAd+Jg64pxAiEA32Eh9mPtFSmZhTIUMeGcPmPk
qIYCEuP8a/ZLmI9s4TsCIQDWvLQuvjSVfwPhi0TFAb5wqAET8X5LBFqtGX5QlUep
EwIgFnqM02Gc4wtLoqa2d4qPkYu13+uUW9hLd4XSd6i/OS8CIQDT3elU+Rt+qIwW
u0cFrVvNYSV3HNzDfS9N/IoxTagfewIgPvXADe5c2EWbhCUkhN+ZCf38AKewK9TW
```

```
lQcDy4L+f14= -----END PRIVATE KEY-----",
  "public_certificate": "-----BEGIN CERTIFICATE-----
MIIBuzCCAWWgAwIBAgIIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQAwHDENMAsGA1UE
AxMEVEVTVDELMAkGA1UEBhMCVVMwHhcNMTgwNjA4MTgwOTAxWhcNMTkwNjA4MTgw
OTAxWjAcMQ0wCwYDVQQDEwRURVNUMQswCQYDVQQGEwJVUzBcMA0GCSqGSIb3DQEB
AQUAA0sAMEgCQQDaPvbqUJJFJ6NNTyK3Yb+ytSjJ9aa3yUmYTD9uMiP+6ycjxHWB
e8u9z6yCHsW03ync+dnhE5c5z8wuDAY0fv15AgMBAAGjgYowgYcwDAYDVR0TBAUw
AwEB/zALBgNVHQ8EBAMCAQYwHQYDVR0OBBYEFMJ7Ev/o/3+YNzYh5XNlqqjnw4zm
MEsGA1UdIwREMEKAFMJ7Ev/o/3+YNzYh5XNlqqjnw4zmoSCkHjAcMQ0wCwYDVQQD
EwRURVNUMQswCQYDVQQGEwJVU4IIFTZBrqZwUUMwDQYJKoZIhvcNAQELBQADQQAv
DovYeyGNnknjGI+TVNX6nDbyzf7zUPqnri0KuvObEeybrbPW45sgsnT5dyeE/32U
9Yr6lklnkBtVBDTmLnrC -----END CERTIFICATE-----",
  "scope": "string",
  "serial_number": "string",
  "subject_key_identifier":
"26:1F:C5:53:5B:D7:9E:E2:37:74:F4:F4:06:09:03:3D:EB:41:75:D8",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "string",
  "uuid": "string"
}
====

== 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
====



:leveloffset: -1


= Manage Google Cloud KMS

:leveloffset: +1


[[ID8d2531aaca78b1c1aed060c4afc3664a]]
= Security gcp-kms endpoint overview



== Overview

Google Cloud Key Management Services is a cloud key management service
(KMS) that provides a secure store for encryption keys. This feature
allows the NetApp Cloud Volume Services for GCP to securely store its
encryption keys using Google Cloud KMS.
The properties `state`, `google_reachability` and `ekmip_reachability` are
considered advanced properties and are populated only when explicitly
requested.

In order to use Google Cloud KMS with NetApp Cloud Volume Services for
GCP, a user must:

. deploy a Google Cloud application with appropriate access to the Google
Cloud KMS
. provide NetApp Cloud Volume Services for GCP with the necessary details,
such as, project ID, key ring name, location, key name and application
credentials.

=== Note

This feature is only available to the NetApp Cloud Volume Services for
GCP.

== Examples
```

```
=== Enabling GCKMS for an SVM

The following example shows how to enable GCKMS at the SVM-scope. Note the
_return_records=true_ query parameter is used to obtain the newly created
key manager configuration.

----

# The API:
POST /api/security/gcp-kms

# The call:
curl -X POST 'https://<mgmt-ip>/api/security/gcp-kms?return_records=true'
-H 'accept: application/hal+json' -d '{"svm":{"uuid":"f36ff553-e713-11ea-
bd56-005056bb4222" }, "project_id": "testProj",
"key_ring_name":"testKeyRing", "key_ring_location": "global", "key_name":
"key1", "application_credentials": "myAppCred"}'

# The response:
{
"num_records": 1,
"records": [
    {
    "uuid": "f72098a2-e908-11ea-bd56-005056bb4222",
    "svm": {
        "uuid": "f36ff553-e713-11ea-bd56-005056bb4222",
        "name": "vs0"
    },
    "project_id": "testProj",
    "key_ring_name": "testKeyRing",
    "key_ring_location": "global",
    "key_name": "key1",
    "_links": {
        "self": {
        "href": "/api/security/gcp-kms/f72098a2-e908-11ea-bd56-
005056bb4222"
            }
        }
    }
]
}
----

'''
```

```
=== Retrieving all GCKMS configurations

The following example shows how to retrieve all GCKMS configurations.

----

# The API:
GET /api/security/gcp-kms

# The call:
curl -X GET 'https://<mgmt-ip>/api/security/gcp-kms?fields=*'

# The response:
{
"records": [
    {
    "uuid": "f72098a2-e908-11ea-bd56-005056bb4222",
    "scope": "svm",
    "svm": {
        "uuid": "f36ff553-e713-11ea-bd56-005056bb4222",
        "name": "vs0"
    },
    "project_id": "testProj",
    "key_ring_name": "testKeyRing",
    "key_ring_location": "global",
    "key_name": "key1",
    "_links": {
        "self": {
        "href": "/api/security/gcp-kms/f72098a2-e908-11ea-bd56-
005056bb4222"
        }
    }
    }
],
"num_records": 1,
"_links": {
    "self": {
    "href": "/api/security/gcp-kms?fields=*"
    }
}
}
----

'''

=== Retrieving a specific GCKMS configuration
```

```
The following example shows how to retrieve information for a specific
GCKMS configuration.

----

# The API:
GET /api/security/gcp-kms/{uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/security/gcp-kms/f72098a2-e908-11ea-
bd56-005056bb4222?fields=*'

# The response:
{
"uuid": "f72098a2-e908-11ea-bd56-005056bb4222",
"scope": "svm",
"svm": {
    "uuid": "f36ff553-e713-11ea-bd56-005056bb4222",
    "name": "vs0"
},
"project_id": "testProj",
"key_ring_name": "testKeyRing",
"key_ring_location": "global",
"key_name": "key1",
"_links": {
    "self": {
    "href": "/api/security/gcp-kms/f72098a2-e908-11ea-bd56-005056bb4222"
    }
}
}
----

'''

=== Retrieving a specific GCKMS's advanced properties

The following example shows how to retrieve advanced properties for a
specific GCKMS configuration.

----

# The API:
GET /api/security/gcp-kms/{uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/security/gcp-kms/f72098a2-e908-11ea-
bd56-005056bb4222?fields=state,google_reachability,ekmip_reachability'
```

```
# The response:
{
"uuid": "f72098a2-e908-11ea-bd56-005056bb4222",
"state": {
    "cluster_state": false,
    "message": "The Google Cloud Key Management Service key protection is
unavailable on the following nodes: cluster1-node1.",
    "code": 65537708
},
"google_reachability": {
    "reachable": true,
    "message": "",
    "code": 0
},
"ekmip_reachability": [
    {
    "node": {
        "uuid": "d208115f-7721-11eb-bf83-005056bb150e",
        "name": "node1",
        "_links": {
            "self": {
            "href": "/api/cluster/nodes/d208115f-7721-11eb-bf83-
005056bb150e"
            }
        }
    },
    "reachable": true,
    "message": "",
    "code": 0
    },
    {
    "node": {
        "uuid": "e208115f-7721-11eb-bf83-005056bb150e",
        "name": "node2",
        "_links": {
            "self": {
            "href": "/api/cluster/nodes/e208115f-7721-11eb-bf83-
005056bb150e"
            }
        }
    },
    "reachable": true,
    "message": "",
    "code": 0
    }
```

```
],
"_links": {
    "self": {
    "href": "/api/security/gcp-kms/f72098a2-e908-11ea-bd56-005056bb4222"
    }
}
}
----

'''

=== Updating the application credentials of a specific GCKMS configuration

The following example shows how to update the application credentials for
a specific GCKMS configuration.

----

# The API:
PATCH /api/security/gcp-kms/{uuid}

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/security/gcp-kms/f72098a2-e908-11ea-
bd56-005056bb4222/' -d '{"application_credentials": "newAppCred"}'
----

'''

=== Deleting a specific GCKMS configuration

The following example shows how to delete a specific GCKMS configuration.

----

# The API:
DELETE /api/security/gcp-kms/{uuid}

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/security/gcp-kms/f72098a2-e908-11ea-
bd56-005056bb4222'
----

'''

=== Restoring keys from KMIP server

The following example shows how to retore keys for a GCKMS configuration.
```

```
----

# The API:
POST /api/security/gcp-kms/{uuid}/restore

# The call:
curl -X POST 'https://<mgmt-ip>/api/security/gcp-kms/33820b57-ec90-11ea-
875e-005056bbf3f0/restore'
----

'''




[[ID2f3d835dd39a9b519c6e04cf636b043d]]
= Retrieve Google Cloud KMS configurations for all clusters and SVMs

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/gcp-kms`#

*Introduced In:* 9.9

Retrieves Google Cloud KMS configurations for all clusters and SVMs.
Note: This method is only available to the NetApp Cloud Volume Services
for GCP.

== Related ONTAP commands

* `security key-manager external gcp show`
* `security key-manager external gcp check`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|scope
```

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


|google_reachability.code
|integer
|query
|False
a|Filter by google_reachability.code


|google_reachability.reachable
|boolean
|query
|False
a|Filter by google_reachability.reachable


|google_reachability.message
|string
|query
|False
a|Filter by google_reachability.message


|key_ring_name
|string
|query
|False
a|Filter by key_ring_name


|state.cluster_state
|boolean
|query
|False
a|Filter by state.cluster_state


|state.code
|integer
|query
|False
a|Filter by state.code
```

```
|state.message
|string
|query
|False
a|Filter by state.message


|key_ring_location
|string
|query
|False
a|Filter by key_ring_location


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


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


|ekmip_reachability.node.name
|string
|query
|False
a|Filter by ekmip_reachability.node.name


|ekmip_reachability.node.uuid
|string
|query
|False
a|Filter by ekmip_reachability.node.uuid


|ekmip_reachability.reachable
|boolean
|query
|False
```

```
a|Filter by ekmip_reachability.reachable


|ekmip_reachability.message
|string
|query
|False
a|Filter by ekmip_reachability.message


|ekmip_reachability.code
|integer
|query
|False
a|Filter by ekmip_reachability.code


|proxy_port
|integer
|query
|False
a|Filter by proxy_port


|uuid
|string
|query
|False
a|Filter by uuid


|proxy_type
|string
|query
|False
a|Filter by proxy_type


|proxy_username
|string
|query
|False
a|Filter by proxy_username


|project_id
|string
```

```
|query
|False
a|Filter by project_id


|proxy_host
|string
|query
|False
a|Filter by proxy_host


|key_name
|string
|query
|False
a|Filter by key_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_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
```

```
|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


|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 records


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

|===


.Example response
```

```
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ekmip_reachability": [
        {
          "code": "346758",
          "message": "embedded KMIP server status unavailable on node.",
          "node": {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            },
            "name": "node1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          }
        }
      ],
      "google_reachability": {
        "code": "346758",
        "message": "Google Cloud KMS service is not reachable from all
nodes - <reason>."
      },
      "key_name": "cryptokey1",
      "key_ring_location": "global",
      "key_ring_name": "gcpapp1-keyring",
      "project_id": "gcpapp1",
      "proxy_host": "proxy.eng.com",
      "proxy_port": "1234",
      "proxy_type": "http",
```

```
      "proxy_username": "proxyuser",
      "scope": "string",
      "state": {
        "code": "346758",
        "message": "Top-level internal key protection key (KEK) is
unavailable on the following nodes with the associated reasons: Node:
node1. Reason: No volumes created yet for the SVM. Wrapped KEK status will
be available after creating encrypted volumes."
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65537551
| Top-level internal key protection key (KEK) unavailable on one or more
nodes.

| 65537552
| Embedded KMIP server status not available.

| 65537730
| The Google Cloud Key Management Service is unreachable from one or more
nodes.
|===
```

```
[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|

|===
```

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

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

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

|name
|string
a|

|uuid
|string
a|

|===


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

Provides the connectivity status for the given SVM on the given node to
all EKMIP servers configured on all nodes of the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
```

```
a|Code corresponding to the error message. Returns a 0 if a given SVM is
able to communicate to the EKMIP servers of all of the nodes in the
cluster.


|message
|string
a|Error message set when cluster-wide EKMIP server availability from the
given SVM and node is false.


|node
|link:#node[node]
a|

|reachable
|boolean
a|Set to true if the given SVM on the given node is able to communicate to
all EKMIP servers configured on all nodes in the cluster.


|===


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

Indicates whether or not the Google Cloud KMS service is reachable from
all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if Google Cloud KMS
service is reachable from all nodes in the cluster.
```

```
|message
|string
a|Set to the error message when 'reachable' is false.


|reachable
|boolean
a|Set to true if the Google Cloud KMS service is reachable from all nodes
of the cluster.


|===


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

Google Cloud Key Management Services is a cloud key management service
(KMS) that provides a secure store for encryption keys. This object
indicates whether or not the Google Cloud KMS key protection is available
on all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|cluster_state
|boolean
a|Set to true when Google Cloud KMS key protection is available on all
nodes of the cluster.


|code
|integer
a|Error code corresponding to the status message. Returns 0 if Google
Cloud KMS key protection is available in all nodes of the cluster.
```

```
|message
|string
a|Error message set when top-level internal key protection key (KEK)
availability on cluster is false.


|===


[#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.


|===


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

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

|_links
```

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

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

|google_reachability
|link:#google_reachability[google_reachability]
a|Indicates whether or not the Google Cloud KMS service is reachable from
all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


|key_name
|string
a|Key Identifier of Google Cloud KMS key encryption key.


|key_ring_location
|string
a|Google Cloud KMS key ring location.


|key_ring_name
|string
a|Google Cloud KMS key ring name of the deployed Google Cloud application.


|project_id
|string
a|Google Cloud project (application) ID of the deployed Google Cloud
application that has appropriate access to the Google Cloud KMS.


|proxy_host
|string
a|Proxy host name.


|proxy_port
|integer
a|Proxy port number.
```

```
|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|state
|link:#state[state]
a|Google Cloud Key Management Services is a cloud key management service
(KMS) that provides a secure store for encryption keys. This object
indicates whether or not the Google Cloud KMS key protection is available
on all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|uuid
|string
a|A unique identifier for the Google Cloud KMS.


|===


[#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
====



[[ID6945c870d0e7ffdcdca1762b82a15593]]
= Create Google Cloud KMS configuration for an SVM

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/gcp-kms`#

*Introduced In:* 9.9

Configures the Google Cloud KMS configuration for the specified SVM.
Note: This method is only available to the NetApp Cloud Volume Services
for GCP.

== Required properties

* `svm.uuid` or `svm.name` - Existing SVM in which to create a Google
Cloud KMS.
* `project_id` - Google Cloud project (application) ID of the deployed
Google Cloud application with appropriate access to the Google Cloud KMS.
* `key_ring_name` - Google Cloud KMS key ring name of the deployed Google
Cloud application with appropriate access to the specified Google Cloud
KMS.
* `key_ring_location` - Google Cloud KMS key ring location.
* `key_name`- Key Identifier of the Google Cloud KMS key encryption key.
* `application_credentials` - Google Cloud application's service account
credentials required to access the specified KMS. It is a JSON file
containing an email address and the private key of the service account
holder.

== Optional properties

* `proxy_type`` - Type of proxy (http/https) if proxy configuration is
used.
* `proxy_host` - Proxy hostname if proxy configuration is used.
* `proxy_port` - Proxy port number if proxy configuration is used.
* `proxy_username` - Proxy username if proxy configuration is used.
* `proxy_password` - Proxy password if proxy configuration is used.

== Related ONTAP commands
```

```
* `security key-manager external gcp enable`


== 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

|application_credentials
|string
a|Google Cloud application's service account credentials required to
access the specified KMS. It is a JSON file containing an email address
and the private key of the service account holder.


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

|key_name
|string
```

```
a|Key Identifier of Google Cloud KMS key encryption key.


|key_ring_location
|string
a|Google Cloud KMS key ring location.


|key_ring_name
|string
a|Google Cloud KMS key ring name of the deployed Google Cloud application.


|project_id
|string
a|Google Cloud project (application) ID of the deployed Google Cloud
application that has appropriate access to the Google Cloud KMS.


|proxy_host
|string
a|Proxy host name.


|proxy_password
|string
a|Proxy password. Password is not audited.


|proxy_port
|integer
a|Proxy port number.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


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

```
|uuid
|string
a|A unique identifier for the Google Cloud KMS.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "application_credentials": "{ type: service_account, project_id:
project-id, private_key_id: key-id, private_key: -----BEGIN PRIVATE
KEY-----\nprivate-key\n-----END PRIVATE KEY-----\n, client_email: service-
account-email, client_id: client-id, auth_uri:
https://accounts.google.com/o/oauth2/auth, token_uri:
https://accounts.google.com/o/oauth2/token, auth_provider_x509_cert_url:
https://www.googleapis.com/oauth2/v1/certs, client_x509_cert_url:
https://www.googleapis.com/robot/v1/metadata/x509/service-account-email
}",
  "ekmip_reachability": [
    {
      "code": "346758",
      "message": "embedded KMIP server status unavailable on node.",
      "node": {
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    }
  ],
  "key_name": "cryptokey1",
  "key_ring_location": "global",
  "key_ring_name": "gcpapp1-keyring",
  "project_id": "gcpapp1",
  "proxy_host": "proxy.eng.com",
  "proxy_password": "proxypassword",
  "proxy_port": "1234",
  "proxy_type": "http",
  "proxy_username": "proxyuser",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
```

```
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
====
```

```
== Response
```

Status: 201, Created

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

|num_records
|integer
a|Number of records


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

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "records": [
    {
      "application_credentials": "{ type: service_account, project_id:
project-id, private_key_id: key-id, private_key: -----BEGIN PRIVATE
KEY-----\nprivate-key\n-----END PRIVATE KEY-----\n, client_email: service-
account-email, client_id: client-id, auth_uri:
https://accounts.google.com/o/oauth2/auth, token_uri:
https://accounts.google.com/o/oauth2/token, auth_provider_x509_cert_url:
https://www.googleapis.com/oauth2/v1/certs, client_x509_cert_url:
https://www.googleapis.com/robot/v1/metadata/x509/service-account-email
}",
      "ekmip_reachability": [
        {
          "code": "346758",
          "message": "embedded KMIP server status unavailable on node.",
```

```
          "node": {
            "name": "node1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          }
        }
      ],
      "key_name": "cryptokey1",
      "key_ring_location": "global",
      "key_ring_name": "gcpapp1-keyring",
      "project_id": "gcpapp1",
      "proxy_host": "proxy.eng.com",
      "proxy_password": "proxypassword",
      "proxy_port": "1234",
      "proxy_type": "http",
      "proxy_username": "proxyuser",
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65537703
| The Google Cloud Key Management Service is not supported for the admin
Vserver.

| 65537704
| The Google Cloud Key Management Service is not supported in MetroCluster
configurations.

| 65537706
| Internal error. Failed to the encrypt the application credentials.

| 65537713
```

```
| Internal Error. Failed to store the application credentials.

| 65537719
| Failed to enable the Google Cloud Key Management Service for SVM
+++<svm-name>+++because invalid application credentials were
provided.+++</svm-name>+++

| 65537720
| Failed to configure Google Cloud Key Management Service for SVM +++<svm-
name>+++because a key manager has already been configured for this SVM.
Use the REST API GET method \"/api/security/key-managers\" to view all of
the configured key managers.+++</svm-name>+++
|===


== 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
[#node]
[.api-collapsible-fifth-title]
node

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

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

|name
|string
a|

|uuid
|string
a|

|===


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

Provides the connectivity status for the given SVM on the given node to
all EKMIP servers configured on all nodes of the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if a given SVM is
able to communicate to the EKMIP servers of all of the nodes in the
cluster.


|message
|string
a|Error message set when cluster-wide EKMIP server availability from the
given SVM and node is false.
```

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

|reachable
|boolean
a|Set to true if the given SVM on the given node is able to communicate to
all EKMIP servers configured on all nodes in the cluster.


|===


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

Indicates whether or not the Google Cloud KMS service is reachable from
all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if Google Cloud KMS
service is reachable from all nodes in the cluster.


|message
|string
a|Set to the error message when 'reachable' is false.


|reachable
|boolean
a|Set to true if the Google Cloud KMS service is reachable from all nodes
of the cluster.
```

```
|===


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

Google Cloud Key Management Services is a cloud key management service
(KMS) that provides a secure store for encryption keys. This object
indicates whether or not the Google Cloud KMS key protection is available
on all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|cluster_state
|boolean
a|Set to true when Google Cloud KMS key protection is available on all
nodes of the cluster.


|code
|integer
a|Error code corresponding to the status message. Returns 0 if Google
Cloud KMS key protection is available in all nodes of the cluster.


|message
|string
a|Error message set when top-level internal key protection key (KEK)
availability on cluster is false.


|===


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

```
svm

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

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


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


|===


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

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

|application_credentials
|string
a|Google Cloud application's service account credentials required to
access the specified KMS. It is a JSON file containing an email address
and the private key of the service account holder.


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

|key_name
|string
a|Key Identifier of Google Cloud KMS key encryption key.
```

```
|key_ring_location
|string
a|Google Cloud KMS key ring location.


|key_ring_name
|string
a|Google Cloud KMS key ring name of the deployed Google Cloud application.


|project_id
|string
a|Google Cloud project (application) ID of the deployed Google Cloud
application that has appropriate access to the Google Cloud KMS.


|proxy_host
|string
a|Proxy host name.


|proxy_password
|string
a|Proxy password. Password is not audited.


|proxy_port
|integer
a|Proxy port number.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


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

|uuid
|string
```

```
a|A unique identifier for the Google Cloud KMS.


|===


[#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
====



[[ID4b20885d0fbff5c28896dc4f88bbeaeb]]
= Re-key the internal key in the key hierarchy for an SVM

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/gcp-kms/{gcp_kms.uuid}/rekey-internal`#

*Introduced In:* 9.9

Rekeys the internal key in the key hierarchy for an SVM with a Google
Cloud KMS configuration.
Note: This method is only available to the NetApp Cloud Volume Services
for GCP.

== Related ONTAP commands

* `security key-manager external gcp rekey-internal`


== Parameters

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

|Name
|Type
|In
|Required
```

```
|Description

|gcp_kms.uuid
|string
|path
|True
a|UUID of the existing Google Cloud KMS configuration.


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

* Default value: 1
* Max value: 120
* Min value: 0


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

* Default value:

|===

== Response
```

Status: 202, Accepted

```
== Error
```

Status: Default

```
ONTAP Error Response Codes
```

```
|===
| Error Code | Description

| 65537547
| One or more volume encryption keys for encrypted volumes of this data
SVM are stored in the key manager configured for the admin SVM. Use the
REST API POST method to migrate this data SVM's keys from the admin SVM's
key manager to this data SVM's key manager before running the rekey
operation.

| 65537559
| There are no existing internal keys for the SVM. A rekey operation is
allowed for an SVM with one or more encryption keys.

| 65537721
| Google Cloud KMS is not configured for the given SVM.
|===


== 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
====



[[ID1311dae4b6975fe46205cda74f9e9502]]
= Restore keys for an SVM from a Google Cloud KMS

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/gcp-kms/{gcp_kms.uuid}/restore`#
```

```
*Introduced In:* 9.9

Restores the keys for an SVM from a configured Google Cloud KMS.
Note: This method is only available to the NetApp Cloud Volume Services
for GCP.

== Related ONTAP commands

* `security key-manager external gcp restore`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|gcp_kms.uuid
|string
|path
|True
a|UUID of the existing Google Cloud KMS configuration.


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

* Default value: 1
* Max value: 120
* Min value: 0


|return_records
```

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

* Default value:

|===

== Response
```

Status: 202, Accepted

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65537721
| The Google Cloud Key Management Service is not configured for the given
SVM.

| 65537722
| Failed to restore keys on the following SVMs.
|===


== 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
====



[[ID47fa40e3204aae0546eeab10aaa7a751]]
= Delete a Google Cloud KMS configuration

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/gcp-kms/{uuid}`#

*Introduced In:* 9.9

Deletes a Google Cloud KMS configuration.
Note: This method is only available to the NetApp Cloud Volume Services
for GCP.

== Related ONTAP commands

* `security key-manager external gcp disable`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|Google Cloud KMS UUID

|===

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65536242
| One or more Storage Encryption devices are assigned an authentication
key.

| 65536817
| Internal error. Failed to determine if it is safe to disable key
manager.

| 65536827
| Internal error. Failed to determine if the given SVM has any encrypted
volumes.

| 65536834
| Internal error. Failed to get existing key-server details for the given
SVM.

| 65536867
| Volume encryption keys (VEK) for one or more encrypted volumes are
stored on the key manager configured for the given SVM.

| 65536883
| Internal error. Volume encryption key is missing for a volume.

| 65536884
| Internal error. Volume encryption key is invalid for a volume.

| 65536924
| Cannot remove key manager that still contains one or more NSE (NetApp
Storage Encryption) authentication keys.

| 65537721
| The Google Cloud Key Management Service is not configured for the SVM.

| 196608080
| One or more nodes in the cluster have the root volume encrypted using
NVE (NetApp Volume Encryption).
```

```
| 196608301
| Internal error. Failed to get encryption type.

| 196608305
| NAE aggregates found in the cluster.
|===



[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
====



[[ID1af543db7c374876f08f7c9a1c60e45d]]
= Retrieve the Google Cloud KMS configuration

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/gcp-kms/{uuid}`#

*Introduced In:* 9.9

Retrieves the Google Cloud KMS configuration for the SVM specified by the
UUID.
Note: This method is only available to the NetApp Cloud Volume Services
for GCP.

== Related ONTAP commands

* `security key-manager external gcp show`
* `security key-manager external gcp check`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
```

```
|string
|path
|True
a|Google Cloud KMS UUID


|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|

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

|google_reachability
|link:#google_reachability[google_reachability]
a|Indicates whether or not the Google Cloud KMS service is reachable from
all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


|key_name
|string
a|Key Identifier of Google Cloud KMS key encryption key.
```

```
|key_ring_location
|string
a|Google Cloud KMS key ring location.


|key_ring_name
|string
a|Google Cloud KMS key ring name of the deployed Google Cloud application.


|project_id
|string
a|Google Cloud project (application) ID of the deployed Google Cloud
application that has appropriate access to the Google Cloud KMS.


|proxy_host
|string
a|Proxy host name.


|proxy_port
|integer
a|Proxy port number.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|state
|link:#state[state]
a|Google Cloud Key Management Services is a cloud key management service
(KMS) that provides a secure store for encryption keys. This object
```

```
indicates whether or not the Google Cloud KMS key protection is available
on all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|uuid
|string
a|A unique identifier for the Google Cloud KMS.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ekmip_reachability": [
    {
      "code": "346758",
      "message": "embedded KMIP server status unavailable on node.",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    }
  ],
  "google_reachability": {
```

```
    "code": "346758",
    "message": "Google Cloud KMS service is not reachable from all nodes -
<reason>."
  },
  "key_name": "cryptokey1",
  "key_ring_location": "global",
  "key_ring_name": "gcpapp1-keyring",
  "project_id": "gcpapp1",
  "proxy_host": "proxy.eng.com",
  "proxy_port": "1234",
  "proxy_type": "http",
  "proxy_username": "proxyuser",
  "scope": "string",
  "state": {
    "code": "346758",
    "message": "Top-level internal key protection key (KEK) is unavailable
on the following nodes with the associated reasons: Node: node1. Reason:
No volumes created yet for the SVM. Wrapped KEK status will be available
after creating encrypted volumes."
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65537551
| Top-level internal key protection key (KEK) unavailable on one or more
nodes.
```

```
| 65537552
| Embedded KMIP server status not available.

| 65537730
| The Google Cloud Key Management Service is unreachable from one or more
nodes.
|===



[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|

|===


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

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

|_links
```

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

|name
|string
a|

|uuid
|string
a|

|===


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

Provides the connectivity status for the given SVM on the given node to
all EKMIP servers configured on all nodes of the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if a given SVM is
able to communicate to the EKMIP servers of all of the nodes in the
cluster.


|message
|string
a|Error message set when cluster-wide EKMIP server availability from the
given SVM and node is false.


|node
|link:#node[node]
```

```
a|

|reachable
|boolean
a|Set to true if the given SVM on the given node is able to communicate to
all EKMIP servers configured on all nodes in the cluster.


|===


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

Indicates whether or not the Google Cloud KMS service is reachable from
all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if Google Cloud KMS
service is reachable from all nodes in the cluster.


|message
|string
a|Set to the error message when 'reachable' is false.


|reachable
|boolean
a|Set to true if the Google Cloud KMS service is reachable from all nodes
of the cluster.


|===
```

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

Google Cloud Key Management Services is a cloud key management service
(KMS) that provides a secure store for encryption keys. This object
indicates whether or not the Google Cloud KMS key protection is available
on all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|cluster_state
|boolean
a|Set to true when Google Cloud KMS key protection is available on all
nodes of the cluster.


|code
|integer
a|Error code corresponding to the status message. Returns 0 if Google
Cloud KMS key protection is available in all nodes of the cluster.


|message
|string
a|Error message set when top-level internal key protection key (KEK)
availability on cluster is false.


|===


[#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
====



[[IDec59f7d84afb96390e5b57e0530d40dd]]
= Update the Google Cloud KMS configuration

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/gcp-kms/{uuid}`#

*Introduced In:* 9.9

Updates the Google Cloud KMS configuration.
Note: This method is only available to the NetApp Cloud Volume Services
```

```
for GCP.

== Optional properties

* `key_name` - Key Identifier of the Google Cloud KMS key encryption key.
* `application_credentials` - New credentials used to verify the
application's identity to the Google Cloud KMS.
* `proxy_type`` - Type of proxy (http/https) if proxy configuration is
used.
* `proxy_host` - Proxy hostname if proxy configuration is used.
* `proxy_port` - Proxy port number if proxy configuration is used.
* `proxy_username` - Proxy username if proxy configuration is used.
* `proxy_password` - Proxy password if proxy configuration is used.
* `project_id` - Google Cloud project (application) ID of the deployed
Google Cloud application with appropriate access to the Google Cloud KMS.
* `key_ring_name` - Google Cloud KMS key ring name of the deployed Google
Cloud application with appropriate access to the specified Google Cloud
KMS.
* `key_ring_location` - Google Cloud KMS key ring location.

== Related ONTAP commands

* `security key-manager external gcp update-credentials`
* `security key-manager external gcp rekey-external`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|Google Cloud KMS UUID


|return_timeout
|integer
|query
```

```
|False
a|The number of seconds to allow the call to execute before returning.
When doing a POST, PATCH, or DELETE operation on a single record, the
default is 0 seconds.  This means that if an asynchronous operation is
started, the server immediately returns HTTP code 202 (Accepted) along
with a link to the job.  If a non-zero value is specified for POST, PATCH,
or DELETE operations, ONTAP waits that length of time to see if the job
completes so it can return something other than 202.

* Default value: 1
* Max value: 120
* Min value: 0

|===

== Request Body



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

|application_credentials
|string
a|Google Cloud application's service account credentials required to
access the specified KMS. It is a JSON file containing an email address
and the private key of the service account holder.


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

|key_name
|string
a|Key Identifier of Google Cloud KMS key encryption key.


|key_ring_location
|string
a|Google Cloud KMS key ring location.


|key_ring_name
```

```
|string
a|Google Cloud KMS key ring name of the deployed Google Cloud application.


|project_id
|string
a|Google Cloud project (application) ID of the deployed Google Cloud
application that has appropriate access to the Google Cloud KMS.


|proxy_host
|string
a|Proxy host name.


|proxy_password
|string
a|Proxy password. Password is not audited.


|proxy_port
|integer
a|Proxy port number.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


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

|uuid
|string
a|A unique identifier for the Google Cloud KMS.


|===
```

```
.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "application_credentials": "{ type: service_account, project_id:
project-id, private_key_id: key-id, private_key: -----BEGIN PRIVATE
KEY-----\nprivate-key\n-----END PRIVATE KEY-----\n, client_email: service-
account-email, client_id: client-id, auth_uri:
https://accounts.google.com/o/oauth2/auth, token_uri:
https://accounts.google.com/o/oauth2/token, auth_provider_x509_cert_url:
https://www.googleapis.com/oauth2/v1/certs, client_x509_cert_url:
https://www.googleapis.com/robot/v1/metadata/x509/service-account-email
}",
  "ekmip_reachability": [
    {
      "code": "346758",
      "message": "embedded KMIP server status unavailable on node.",
      "node": {
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    }
  ],
  "key_name": "cryptokey1",
  "key_ring_location": "global",
  "key_ring_name": "gcpapp1-keyring",
  "project_id": "gcpapp1",
  "proxy_host": "proxy.eng.com",
  "proxy_password": "proxypassword",
  "proxy_port": "1234",
  "proxy_type": "http",
  "proxy_username": "proxyuser",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
====

== Response
```

Status: 200, Ok

```
== Response
```

Status: 202, Accepted

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65537541
| No inputs were provided for the patch request.

| 65537547
| One or more volume encryption keys for encrypted volumes of this data
SVM are stored in the key manager configured for the admin SVM. Use the
REST API POST method to migrate this data SVM's keys from the admin SVM's
key manager to this data SVM's key manager before running the rekey
operation.

| 65537713
| Internal Error. Failed to store the application credentials.

| 65537714
| The "application_credentials" field must be specified.

| 65537721
| The Google Cloud Key Management Service is not configured for the SVM.

| 65537724
| Failed to update the Google Cloud Key Management Service because invalid
application credentials were provided.

| 65537729
| External rekey failed on one or more nodes. Use the REST API PATCH
method "/api/security/gcp-kms/\{uuid}" to try the rekey operation again.

| 65537732
| ONTAP 9.9.1 does not allow modification of the following fields,
"project_id", "key_ring_name" and "key_ring_location".
|===
```

```
== 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
[#node]
[.api-collapsible-fifth-title]
node

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

|name
|string
a|

|uuid
|string
a|
```

```
|===


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

Provides the connectivity status for the given SVM on the given node to
all EKMIP servers configured on all nodes of the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if a given SVM is
able to communicate to the EKMIP servers of all of the nodes in the
cluster.


|message
|string
a|Error message set when cluster-wide EKMIP server availability from the
given SVM and node is false.


|node
|link:#node[node]
a|

|reachable
|boolean
a|Set to true if the given SVM on the given node is able to communicate to
all EKMIP servers configured on all nodes in the cluster.


|===
```

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

Indicates whether or not the Google Cloud KMS service is reachable from
all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|code
|integer
a|Code corresponding to the error message. Returns a 0 if Google Cloud KMS
service is reachable from all nodes in the cluster.


|message
|string
a|Set to the error message when 'reachable' is false.


|reachable
|boolean
a|Set to true if the Google Cloud KMS service is reachable from all nodes
of the cluster.


|===


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

Google Cloud Key Management Services is a cloud key management service
(KMS) that provides a secure store for encryption keys. This object
indicates whether or not the Google Cloud KMS key protection is available
on all nodes in the cluster.
This is an advanced property; there is an added cost to retrieving its
```

```
value. The property is not populated for either a collection GET or an
instance GET unless it is explicitly requested using the `fields` query
parameter or GET for all advanced properties is enabled.


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

|cluster_state
|boolean
a|Set to true when Google Cloud KMS key protection is available on all
nodes of the cluster.


|code
|integer
a|Error code corresponding to the status message. Returns 0 if Google
Cloud KMS key protection is available in all nodes of the cluster.


|message
|string
a|Error message set when top-level internal key protection key (KEK)
availability on cluster is false.


|===


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

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

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

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


|===


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

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

|application_credentials
|string
a|Google Cloud application's service account credentials required to
access the specified KMS. It is a JSON file containing an email address
and the private key of the service account holder.


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

|key_name
|string
a|Key Identifier of Google Cloud KMS key encryption key.


|key_ring_location
|string
a|Google Cloud KMS key ring location.


|key_ring_name
|string
a|Google Cloud KMS key ring name of the deployed Google Cloud application.


|project_id
|string
a|Google Cloud project (application) ID of the deployed Google Cloud
```

```
application that has appropriate access to the Google Cloud KMS.


|proxy_host
|string
a|Proxy host name.


|proxy_password
|string
a|Proxy password. Password is not audited.


|proxy_port
|integer
a|Proxy port number.


|proxy_type
|string
a|Type of proxy.


|proxy_username
|string
a|Proxy username.


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

|uuid
|string
a|A unique identifier for the Google Cloud KMS.


|===


[#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


= View and update IPsec configuration

:leveloffset: +1


[[ID3281339b614209328bb63b3897eed9b2]]
= Security IPsec endpoint overview



== Overview

The following operations are supported:

* GET to retrieve the IPsec status: GET security/ipsec
* Patch to update IPsec status: PATCH security/ipsec




[[ID9a14b0b4d5b3f0a826a473c00aeb6974]]
= Retrieve IPsec configuration

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/ipsec`#

*Introduced In:* 9.8

Retrieves IPsec configuration via REST APIs.

== Related ONTAP commands

* 'security ipsec config show'


== Parameters
```

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

|Name
|Type
|In
|Required
|Description

|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.
```

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

|===

== Response
```

Status: 200, Ok

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

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

|enabled
|boolean
a|Indicates whether or not IPsec is enabled.


|replay_window
|integer
a|Replay window size in packets, where 0 indicates that the relay window
is disabled.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "replay_window": "0"
}
====

== 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|

|===


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

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

|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
====



[[IDcd75dc3ae32497aed0b717560e31c0a0]]
= Update IPsec configuration

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/ipsec`#

*Introduced In:* 9.8

Updates IPsec configuration via REST APIs.
```

```
== Related ONTAP commands

* 'security ipsec config modify'


== 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

|enabled
|boolean
a|Indicates whether or not IPsec is enabled.


|replay_window
|integer
a|Replay window size in packets, where 0 indicates that the relay window
is disabled.
```

```
|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "replay_window": "0"
}
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 66256898
| Internal error. Failed to enable IPsec.

| 66256899
| Internal error. Failed to disable IPsec.

| 66257199
| IPsec is not supported in the current cluster version.
|===


== 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|

|===


[#self_link]
[.api-collapsible-fifth-title]
self_link
[#ipsec]
[.api-collapsible-fifth-title]
ipsec

Manages IPsec configuration via REST APIs.


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

|enabled
|boolean
a|Indicates whether or not IPsec is enabled.


|replay_window
|integer
a|Replay window size in packets, where 0 indicates that the relay window
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
====



:leveloffset: -1


= Manage IPsec policies

:leveloffset: +1


[[IDd4c58b498cb3a37873b38c0294165b93]]
= Security IPsec policies endpoint overview



== Overview

The following operations are supported:

* Collection Get: GET security/ipsec/policies
* Creation Post: POST security/ipsec/policies
* Instance Get: GET security/ipsec/policies/uuid
* Instance Patch: PATCH security/ipsec/policies/uuid
* Instance Delete: DELETE security/ipsec/policies/uuid




[[IDfe4ec3c6654d7fcd2299e171eb746eef]]
= Retrieve IPsec policies

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/ipsec/policies`#

*Introduced In:* 9.8
```

```
Retrieves the collection of IPsec policies.

== Related ONTAP commands

* `security ipsec policy show`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|protocol
|string
|query
|False
a|Filter by protocol


|enabled
|boolean
|query
|False
a|Filter by enabled


|uuid
|string
|query
|False
a|Filter by uuid


|remote_endpoint.family
|string
|query
|False
a|Filter by remote_endpoint.family
```

```
|remote_endpoint.address
|string
|query
|False
a|Filter by remote_endpoint.address


|remote_endpoint.port
|string
|query
|False
a|Filter by remote_endpoint.port


|remote_endpoint.netmask
|string
|query
|False
a|Filter by remote_endpoint.netmask


|ipspace.uuid
|string
|query
|False
a|Filter by ipspace.uuid


|ipspace.name
|string
|query
|False
a|Filter by ipspace.name


|local_endpoint.family
|string
|query
|False
a|Filter by local_endpoint.family


|local_endpoint.address
|string
|query
|False
a|Filter by local_endpoint.address
```

```
|local_endpoint.port
|string
|query
|False
a|Filter by local_endpoint.port


|local_endpoint.netmask
|string
|query
|False
a|Filter by local_endpoint.netmask


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


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


|scope
|string
|query
|False
a|Filter by scope


|remote_identity
|string
|query
|False
a|Filter by remote_identity


|local_identity
|string
|query
```

```
|False
a|Filter by local_identity


|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|

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

|num_records
|integer
a|Number of records


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

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
```

```
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  },
  "num_records": "1",
  "records": [
    {
      "ipspace": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "exchange",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "local_endpoint": {
        "address": "10.10.10.7",
        "family": "string",
        "netmask": "24",
        "port": "23"
      },
      "local_identity": "string",
      "name": "string",
      "protocol": "17",
      "remote_endpoint": {
        "address": "10.10.10.7",
        "family": "string",
        "netmask": "24",
        "port": "23"
      },
```

```
      "remote_identity": "string",
      "scope": "string",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}
====

== 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|

|===


[#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.


|===


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

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

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

|===


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

Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


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

|_links
```

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

|name
|string
a|IPspace name


|uuid
|string
a|IPspace UUID


|===


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

Local endpoint for the IPsec policy.


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

|address
|string
a|IPv4 or IPv6 address


|family
|string
a|IPv4 or IPv6


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


|port
```

```
|string
a|Application port to be covered by the IPsec policy


|===


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

Remote endpoint for the IPsec policy.


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

|address
|string
a|IPv4 or IPv6 address


|family
|string
a|IPv4 or IPv6


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


|port
|string
a|Application port to be covered by the IPsec policy


|===


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

```
svm

SVM, applies only to SVM-scoped objects.


[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.


|===


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

IPsec policy object.


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

|enabled
|boolean
a|Indicates whether or not the policy is enabled.


|ipspace
```

```
|link:#ipspace[ipspace]
a|Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


|local_endpoint
|link:#local_endpoint[local_endpoint]
a|Local endpoint for the IPsec policy.


|local_identity
|string
a|Local Identity


|name
|string
a|IPsec policy name.


|protocol
|string
a|Lower layer protocol to be covered by the IPsec policy.


|remote_endpoint
|link:#remote_endpoint[remote_endpoint]
a|Remote endpoint for the IPsec policy.


|remote_identity
|string
a|Remote Identity


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|svm
|link:#svm[svm]
a|SVM, applies only to SVM-scoped objects.


|uuid
```

```
|string
a|Unique identifier of the IPsec policy.


|===


//end collapsible .Definitions block
====



[[ID126b4ed8f2ada1e3acefcfef30807f54]]
= Create an IPsec policy

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/ipsec/policies`#

*Introduced In:* 9.8

Creates an IPsec policy.

== Related ONTAP commands

* `security ipsec policy create`


== 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

|action
|string
a|Action for the IPsec policy.


|enabled
|boolean
a|Indicates whether or not the policy is enabled.


|ipspace
|link:#ipspace[ipspace]
a|Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


|local_endpoint
|link:#local_endpoint[local_endpoint]
a|Local endpoint for the IPsec policy.


|local_identity
|string
a|Local Identity


|name
|string
a|IPsec policy name.


|protocol
|string
a|Lower layer protocol to be covered by the IPsec policy.
```

```
|remote_endpoint
|link:#remote_endpoint[remote_endpoint]
a|Remote endpoint for the IPsec policy.


|remote_identity
|string
a|Remote Identity


|secret_key
|string
a|Pre-shared key for IKE negotiation.


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

|uuid
|string
a|Unique identifier of the IPsec policy.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "action": "string",
  "ipspace": {
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "local_endpoint": {
    "address": "10.10.10.7",
    "netmask": "24",
    "port": "23"
  },
  "local_identity": "string",
  "name": "string",
  "protocol": "17",
  "remote_endpoint": {
    "address": "10.10.10.7",
```

```
    "netmask": "24",
    "port": "23"
  },
  "remote_identity": "string",
  "secret_key": "string",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
====

== Response
```

Status: 201, Created

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

|num_records
|integer
a|Number of records


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

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "num_records": "1",
  "records": [
    {
      "action": "string",
      "ipspace": {
        "name": "exchange",
```

```
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "local_endpoint": {
        "address": "10.10.10.7",
        "netmask": "24",
        "port": "23"
      },
      "local_identity": "string",
      "name": "string",
      "protocol": "17",
      "remote_endpoint": {
        "address": "10.10.10.7",
        "netmask": "24",
        "port": "23"
      },
      "remote_identity": "string",
      "secret_key": "string",
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 66257099
| Only one protocol can be specified.

| 66257100
| Only one local port can be specified.

| 66257101
| Only one remote port can be specified.

| 66257104
```

```
| IPsec policy with same name already exists in this SVM.

| 66257107
| The specified pre-shared key is not a valid hexadecimal string.

| 66257109
| The specified pre-shared key is not a valid Base64 encoded binary
string.

| 66257110
| Failed to a create policy sequencing value.

| 66257111
| The IPsec policy with action ESP TRANSPORT provides packet protection
and requires a secret key for authentication.

| 66257112
| The IPsec policy with the action specified does not provide packet
protection and the authentication method provided for the policy will be
ignored.

| 66257113
| Only one local IP subnet can be specified.

| 66257114
| Only one remote IP subnet can be specified.

| 66257115
| Port ranges containing more than one port are not supported.

| 66257117
| IPsec is not supported on the SVM specified in the policy, IPsec is
supported on data SVMs only.

| 66257120
| The subnet selector must be a host address (An IPv4 address with a 32-
bit netmask or an IPv6 address with a 128-bit netmask).

| 66257121
| The maximum limit of IPsec Policies has reached for the specified SVM.

| 66257125
| The local_endpoint.address must be specified with
local_endpoint.netmask.

| 66257126
| The remote_endpoint.address must be specified with
```

```
remote_endpoint.netmask.
|===


== 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
[#ipspace]
[.api-collapsible-fifth-title]
ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


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

|name
|string
```

```
a|IPspace name


|uuid
|string
a|IPspace UUID


|===


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

Local endpoint for the IPsec policy.


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

|address
|string
a|IPv4 or IPv6 address


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


|port
|string
a|Application port to be covered by the IPsec policy


|===


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

```
Remote endpoint for the IPsec policy.


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

|address
|string
a|IPv4 or IPv6 address


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


|port
|string
a|Application port to be covered by the IPsec policy


|===


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

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

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


|uuid
|string
```

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


|===


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

IPsec policy object.


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

|action
|string
a|Action for the IPsec policy.


|enabled
|boolean
a|Indicates whether or not the policy is enabled.


|ipspace
|link:#ipspace[ipspace]
a|Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


|local_endpoint
|link:#local_endpoint[local_endpoint]
a|Local endpoint for the IPsec policy.


|local_identity
|string
a|Local Identity


|name
|string
```

```
a|IPsec policy name.


|protocol
|string
a|Lower layer protocol to be covered by the IPsec policy.


|remote_endpoint
|link:#remote_endpoint[remote_endpoint]
a|Remote endpoint for the IPsec policy.


|remote_identity
|string
a|Remote Identity


|secret_key
|string
a|Pre-shared key for IKE negotiation.


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

|uuid
|string
a|Unique identifier of the IPsec policy.


|===


[#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.


|===


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

```
SVM, applies only to SVM-scoped objects.


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

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


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


|===


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

IPsec policy object.


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

|action
|string
a|Action for the IPsec policy.


|enabled
|boolean
a|Indicates whether or not the policy is enabled.


|ipspace
```

```
|link:#ipspace[ipspace]
a|Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


|local_endpoint
|link:#local_endpoint[local_endpoint]
a|Local endpoint for the IPsec policy.


|local_identity
|string
a|Local Identity


|name
|string
a|IPsec policy name.


|protocol
|string
a|Lower layer protocol to be covered by the IPsec policy.


|remote_endpoint
|link:#remote_endpoint[remote_endpoint]
a|Remote endpoint for the IPsec policy.


|remote_identity
|string
a|Remote Identity


|secret_key
|string
a|Pre-shared key for IKE negotiation.


|svm
|link:#svm[svm]
a|SVM, applies only to SVM-scoped objects.


|uuid
|string
```

```
a|Unique identifier of the IPsec policy.


|===


//end collapsible .Definitions block
====



[[ID9362b95213367a9338337102c76bce3b]]
= Delete an IPsec policy

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/ipsec/policies/{uuid}`#

*Introduced In:* 9.8

Deletes a specific IPsec policy.

== Related ONTAP commands

* `security ipsec policy delete`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|IPsec policy UUID

|===

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 66257096
| Internal error. Failed to purge connections associated with the IPsec
policy.

| 66257116
| IPsec policy with the specified UUID was not found.
|===



[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
====



[[ID86c498f16470b3532c680c34386839a5]]
= Retrieve an IPsec policy

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/ipsec/policies/{uuid}`#

*Introduced In:* 9.8

Retrieves a specific IPsec policy.

== Related ONTAP commands

* `security ipsec policy show`


== Parameters

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

```
|===

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|IPsec policy UUID


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

|===

== Response
```

Status: 200, Ok

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

|enabled
|boolean
a|Indicates whether or not the policy is enabled.


|ipspace
|link:#ipspace[ipspace]
a|Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


|local_endpoint
|link:#local_endpoint[local_endpoint]
```

```
a|Local endpoint for the IPsec policy.


|local_identity
|string
a|Local Identity


|name
|string
a|IPsec policy name.


|protocol
|string
a|Lower layer protocol to be covered by the IPsec policy.


|remote_endpoint
|link:#remote_endpoint[remote_endpoint]
a|Remote endpoint for the IPsec policy.


|remote_identity
|string
a|Remote Identity


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


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

|uuid
|string
a|Unique identifier of the IPsec policy.


|===


.Example response
```

```
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "ipspace": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "local_endpoint": {
    "address": "10.10.10.7",
    "family": "string",
    "netmask": "24",
    "port": "23"
  },
  "local_identity": "string",
  "name": "string",
  "protocol": "17",
  "remote_endpoint": {
    "address": "10.10.10.7",
    "family": "string",
    "netmask": "24",
    "port": "23"
  },
  "remote_identity": "string",
  "scope": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 66257116
| IPsec policy with the specified UUID was not found.
|===



[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|

|===


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

Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


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

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

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

|name
|string
a|IPspace name


|uuid
|string
a|IPspace UUID


|===


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

Local endpoint for the IPsec policy.


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

|address
|string
a|IPv4 or IPv6 address


|family
|string
a|IPv4 or IPv6


|netmask
|string
```

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


|port
|string
a|Application port to be covered by the IPsec policy


|===


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

Remote endpoint for the IPsec policy.


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

|address
|string
a|IPv4 or IPv6 address


|family
|string
a|IPv4 or IPv6


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


|port
|string
a|Application port to be covered by the IPsec policy
```

```
|===


[#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
====



[[ID231dccd2afdf279a9134f174b3048379]]
= Update an IPsec policy
```

```
[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/ipsec/policies/{uuid}`#

*Introduced In:* 9.8

Updates a specific IPsec policy.

== Related ONTAP commands

* `security ipsec policy modify`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|IPsec policy UUID

|===

== Request Body



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

|enabled
|boolean
a|Indicates whether or not the policy is enabled.
```

```
|ipspace
|link:#ipspace[ipspace]
a|Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


|local_endpoint
|link:#local_endpoint[local_endpoint]
a|Local endpoint for the IPsec policy.


|local_identity
|string
a|Local Identity


|name
|string
a|IPsec policy name.


|protocol
|string
a|Lower layer protocol to be covered by the IPsec policy.


|remote_endpoint
|link:#remote_endpoint[remote_endpoint]
a|Remote endpoint for the IPsec policy.


|remote_identity
|string
a|Remote Identity


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

|uuid
|string
a|Unique identifier of the IPsec policy.


|===
```

```
.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "ipspace": {
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "local_endpoint": {
    "address": "10.10.10.7",
    "netmask": "24",
    "port": "23"
  },
  "local_identity": "string",
  "name": "string",
  "protocol": "17",
  "remote_endpoint": {
    "address": "10.10.10.7",
    "netmask": "24",
    "port": "23"
  },
  "remote_identity": "string",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description
```

```
| 66257097
| Internal error. Failed to update the IPsec policy.

| 66257099
| Only one protocol can be specified.

| 66257100
| Only one local port can be specified.

| 66257101
| Only one remote port can be specified.

| 66257110
| Failed to create a policy sequencing value.

| 66257113
| Only one local IP subnet can be specified.

| 66257114
| Only one remote IP subnet can be specified.

| 66257115
| Port ranges containing more than one port are not supported.

| 66257116
| IPsec policy with the specified UUID was not found.

| 66257120
| The subnet selector must be a host address (An IPv4 address with a 32-
bit netmask or an IPv6 address with a 128-bit netmask).
|===


== 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
[#ipspace]
[.api-collapsible-fifth-title]
ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


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

|name
|string
a|IPspace name


|uuid
|string
a|IPspace UUID


|===


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

Local endpoint for the IPsec policy.
```

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

|address
|string
a|IPv4 or IPv6 address


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


|port
|string
a|Application port to be covered by the IPsec policy


|===


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

Remote endpoint for the IPsec policy.


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

|address
|string
a|IPv4 or IPv6 address


|netmask
|string
a|Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, the
```

```
default value is 64 with a valid range of 1 to 127. Output is always
netmask length.


|port
|string
a|Application port to be covered by the IPsec policy


|===


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

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

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


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


|===


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

IPsec policy object.


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

```
|enabled
|boolean
a|Indicates whether or not the policy is enabled.


|ipspace
|link:#ipspace[ipspace]
a|Applies to both SVM and cluster-scoped objects. Either the UUID or name
may be supplied on input.


|local_endpoint
|link:#local_endpoint[local_endpoint]
a|Local endpoint for the IPsec policy.


|local_identity
|string
a|Local Identity


|name
|string
a|IPsec policy name.


|protocol
|string
a|Lower layer protocol to be covered by the IPsec policy.


|remote_endpoint
|link:#remote_endpoint[remote_endpoint]
a|Remote endpoint for the IPsec policy.


|remote_identity
|string
a|Remote Identity


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

|uuid
```

```
|string
a|Unique identifier of the IPsec policy.


|===


[#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


= View IPsec security associations

:leveloffset: +1


[[ID7e1542b8d42ea27bd60fa143fb259a82]]
= Security IPsec security-associations endpoint overview



== Overview

* Collection Get: GET security/ipsec/security-associations
* Instance Get: GET security/ipsec/security-associations/uuid






[[ID569f4815a6df14ee7bf5709fe6d7e051]]
= Retrieve IPsec and IKE security associations

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
```

```
block]#`/security/ipsec/security-associations`#

*Introduced In:* 9.8

Retrieves the IPsec and IKE (Internet Key Exchange) security associations.

== Related ONTAP commands

* `security ipsec show-ipsecsa`
* `security ipsec show-ikesa`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|cipher_suite
|string
|query
|False
a|Filter by cipher_suite


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


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


|ipsec.inbound.security_parameter_index
|string
|query
```

```
|False
a|Filter by ipsec.inbound.security_parameter_index


|ipsec.inbound.packets
|integer
|query
|False
a|Filter by ipsec.inbound.packets


|ipsec.inbound.bytes
|integer
|query
|False
a|Filter by ipsec.inbound.bytes


|ipsec.action
|string
|query
|False
a|Filter by ipsec.action


|ipsec.state
|string
|query
|False
a|Filter by ipsec.state


|ipsec.outbound.security_parameter_index
|string
|query
|False
a|Filter by ipsec.outbound.security_parameter_index


|ipsec.outbound.packets
|integer
|query
|False
a|Filter by ipsec.outbound.packets


|ipsec.outbound.bytes
```

```
|integer
|query
|False
a|Filter by ipsec.outbound.bytes


|lifetime
|integer
|query
|False
a|Filter by lifetime


|type
|string
|query
|False
a|Filter by type


|node.name
|string
|query
|False
a|Filter by node.name


|node.uuid
|string
|query
|False
a|Filter by node.uuid


|uuid
|string
|query
|False
a|Filter by uuid


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

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


|ike.responder_security_parameter_index
|string
|query
|False
a|Filter by ike.responder_security_parameter_index


|ike.initiator_security_parameter_index
|string
|query
|False
a|Filter by ike.initiator_security_parameter_index


|ike.state
|string
|query
|False
a|Filter by ike.state


|ike.authentication
|string
|query
|False
a|Filter by ike.authentication


|ike.is_initiator
|boolean
|query
|False
a|Filter by ike.is_initiator


|ike.version
|string
|query
|False
```

```
a|Filter by ike.version


|policy_name
|string
|query
|False
a|Filter by policy_name


|local_address
|string
|query
|False
a|Filter by local_address


|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|

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

|num_records
|integer
a|Number of records


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

|===
```

.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  },
  "num_records": "1",
  "records": [
    {
      "cipher_suite": "string",
      "ike": {
        "authentication": "string",
        "initiator_security_parameter_index": "string",
        "responder_security_parameter_index": "string",
        "state": "string",
        "version": "string"
      },
      "ipsec": {
        "action": "string",
        "inbound": {
          "security_parameter_index": "string"
        },
        "outbound": {
          "security_parameter_index": "string"
        },
        "state": "string"
      },
```

```
      "local_address": "string",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "policy_name": "string",
      "remote_address": "string",
      "scope": "string",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "type": "string",
      "uuid": "string"
    }
  ]
}
====

== 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|

|===


[#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.


|===


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

Objects containing parameters specific to IKE (Internet Key Exchange)
security association.


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

|authentication
|string
a|Authentication method for internet key exchange protocol.


|initiator_security_parameter_index
|string
```

```
a|Initiator's security parameter index for the IKE security association.


|is_initiator
|boolean
a|Indicates whether or not IKE has been initiated by this node.


|responder_security_parameter_index
|string
a|Responder's security parameter index for the IKE security association.


|state
|string
a|State of the IKE connection.


|version
|string
a|Internet key exchange protocol version.


|===


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

Status for inbound parameters for the IPsec security association.


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

|bytes
|integer
a|Number of inbound bytes for the IPsec security association.


|packets
|integer
a|Number of inbound packets for the IPsec security association.
```

```
|security_parameter_index
|string
a|Inbound security parameter index for the IPSec security association.


|===


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

Status for outbound parameters for the IPsec security association.


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

|bytes
|integer
a|Number of outbound bytes for the IPsec security association.


|packets
|integer
a|Number of outbound packets for the IPsec security association.


|security_parameter_index
|string
a|Outbound security parameter index for the IPSec security association.


|===


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

Objects containing parameters specific to IPsec security association.
```

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

|action
|string
a|Action for the IPsec security association.


|inbound
|link:#inbound[inbound]
a|Status for inbound parameters for the IPsec security association.


|outbound
|link:#outbound[outbound]
a|Status for outbound parameters for the IPsec security association.


|state
|string
a|State of the IPsec security association.


|===


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

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

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

|===
```

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

Node with the security association.


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

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

|name
|string
a|

|uuid
|string
a|

|===


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

SVM, applies only to SVM-scoped objects.


[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.


|===


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

Security association object for IPsec security association and IKE
(Internet Key Exchange) security association.


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

|cipher_suite
|string
a|Cipher suite for the security association.


|ike
|link:#ike[ike]
a|Objects containing parameters specific to IKE (Internet Key Exchange)
security association.


|ipsec
|link:#ipsec[ipsec]
a|Objects containing parameters specific to IPsec security association.


|lifetime
|integer
a|Lifetime for the security association in seconds.


|local_address
```

```
|string
a|Local address of the security association.


|node
|link:#node[node]
a|Node with the security association.


|policy_name
|string
a|Policy name for the security association.


|remote_address
|string
a|Remote address of the security association.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|svm
|link:#svm[svm]
a|SVM, applies only to SVM-scoped objects.


|type
|string
a|Type of security association, it can be IPsec or IKE (Internet Key
Exchange).


|uuid
|string
a|Unique identifier of the security association.


|===


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

```
[[IDf8c995539fb40caaf7cc16e8c3fc1ff6]]
= Retrieve an IPsec or IKE security association

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/ipsec/security-associations/{uuid}`#

*Introduced In:* 9.8

Retrieves a specific IPsec or IKE (Internet Key Exchange) security
association.

== Related ONTAP commands

* `security ipsec show-ipsecsa`
* `security ipsec show-ikesa`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|UUID of IPsec or IKE security association.


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

|===

== Response
```

Status: 200, Ok

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

|cipher_suite
|string
a|Cipher suite for the security association.


|ike
|link:#ike[ike]
a|Objects containing parameters specific to IKE (Internet Key Exchange)
security association.


|ipsec
|link:#ipsec[ipsec]
a|Objects containing parameters specific to IPsec security association.


|lifetime
|integer
a|Lifetime for the security association in seconds.


|local_address
|string
a|Local address of the security association.


|node
|link:#node[node]
a|Node with the security association.


|policy_name
|string
a|Policy name for the security association.


|remote_address
|string
```

```
a|Remote address of the security association.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


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

|type
|string
a|Type of security association, it can be IPsec or IKE (Internet Key
Exchange).


|uuid
|string
a|Unique identifier of the security association.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "cipher_suite": "string",
  "ike": {
    "authentication": "string",
    "initiator_security_parameter_index": "string",
    "responder_security_parameter_index": "string",
    "state": "string",
    "version": "string"
  },
  "ipsec": {
    "action": "string",
    "inbound": {
      "security_parameter_index": "string"
    },
    "outbound": {
      "security_parameter_index": "string"
```

```
    },
    "state": "string"
  },
  "local_address": "string",
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "policy_name": "string",
  "remote_address": "string",
  "scope": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "type": "string",
  "uuid": "string"
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 66257118
| IPsec SA with the specified UUID was not found.

| 66257119
| IPsec SA with the specified UUID was not found.
|===
```

```
[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
====
[#ike]
[.api-collapsible-fifth-title]
ike

Objects containing parameters specific to IKE (Internet Key Exchange)
```

```
security association.


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

|authentication
|string
a|Authentication method for internet key exchange protocol.


|initiator_security_parameter_index
|string
a|Initiator's security parameter index for the IKE security association.


|is_initiator
|boolean
a|Indicates whether or not IKE has been initiated by this node.


|responder_security_parameter_index
|string
a|Responder's security parameter index for the IKE security association.


|state
|string
a|State of the IKE connection.


|version
|string
a|Internet key exchange protocol version.


|===


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

Status for inbound parameters for the IPsec security association.
```

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

|bytes
|integer
a|Number of inbound bytes for the IPsec security association.


|packets
|integer
a|Number of inbound packets for the IPsec security association.


|security_parameter_index
|string
a|Inbound security parameter index for the IPSec security association.


|===


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

Status for outbound parameters for the IPsec security association.


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

|bytes
|integer
a|Number of outbound bytes for the IPsec security association.


|packets
|integer
a|Number of outbound packets for the IPsec security association.
```

```
|security_parameter_index
|string
a|Outbound security parameter index for the IPSec security association.


|===


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

Objects containing parameters specific to IPsec security association.


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

|action
|string
a|Action for the IPsec security association.


|inbound
|link:#inbound[inbound]
a|Status for inbound parameters for the IPsec security association.


|outbound
|link:#outbound[outbound]
a|Status for outbound parameters for the IPsec security association.


|state
|string
a|State of the IPsec security association.


|===


[#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|

|===


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

Node with the security association.


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

|_links
```

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

|name
|string
a|

|uuid
|string
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
====



:leveloffset: -1


= Manage key managers

:leveloffset: +1


[[ID1b4dc6d7d88f263758b3d3452afc6a20]]
= Security key-managers endpoint overview



== Overview

A key manager is a key management solution (software or dedicated
hardware) that enables other ONTAP client modules to securely and
persistently store keys for various uses. For example, WAFL uses the key
management framework to store and retrieve the volume encryption keys that
it uses to encrypt/decrypt data on NVE volumes. A key manager can be
configured at both cluster scope and SVM, with one key manager allowed per
SVM. The key management framework in ONTAP supports two mutually exclusive
modes for persisting keys: external and onboard.

When an SVM is configured with external key management, the keys are
stored on up to four key servers that are external to the system.

Once external key management is enabled for an SVM, key servers can be
added or removed using the _/api/security/key-managers/\{uuid}/key-
servers_ endpoint. See [`+POST /security/key-managers/{uuid}/key-
servers+`] and [`+DELETE /security/key-managers/{uuid}/key-
servers/{server}+`] for more details.

Setting up external key management dictates that the required certificates
for securely communicating with the key server are installed prior to
configuring the key manager. To install the required client and server_ca
certificates, use the _/api/security/certificates/_ endpoint.

See [`POST /security/certificates`], [`GET /security/certificates/uuid`]
```

```
and [`+DELETE /security/certificates/{uuid}+`] for more details.

When an SVM is configured with the Onboard Key Manager, the keys are
stored in ONTAP in wrapped format using a key hierarchy created using the
salted hash of the passphrase entered when configuring the Onboard Key
Manager. This model fits well for customers who use ONTAP to store their
own data.

== Examples

=== Creating an external key manager with 1 key server for a cluster

The example key manager is configured at the cluster-scope with one key
server. Note that the UUIDs of the certificates are those that are already
installed at the cluster-scope. Note the _return_records=true_ query
parameter is used to obtain the newly created key manager configuration

----

# The API:
POST /api/security/key-managers

# The call:
curl -X POST 'https://<mgmt-ip>/api/security/key-
managers?return_records=true' -H 'accept: application/hal+json' -d "{
\"external\": { \"client_certificate\": { \"uuid\": \"5fb1701a-d922-11e8-
bfe8-005056bb017d\" }, \"server_ca_certificates\": [ { \"uuid\":
\"827d7d31-d6c8-11e8-b5bf-005056bb017d\" }],\"servers\": [ { \"server\":
\"10.225.89.33:5696\" } ] } }"

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "815e9462-dc57-11e8-9b2c-005056bb017d",
    "external": {
      "client_certificate": {
        "uuid": "5fb1701a-d922-11e8-bfe8-005056bb017d"
      },
      "server_ca_certificates": [
        {
          "uuid": "827d7d31-d6c8-11e8-b5bf-005056bb017d"
        }
      ],
      "servers": [
```

```
        {
          "server": "10.225.89.33:5696"
        }
      ]
    },
    "_links": {
      "self": {
        "href": "/api/security/key-managers/815e9462-dc57-11e8-9b2c-
005056bb017d"
      }
    }
  }
]
}
----

'''

=== Creating an external key manager with 1 primary key server and 2
secondary key servers for a cluster

The example key manager is configured at the cluster-scope with one key
server and two secondary key servers. Note that the UUIDs of the
certificates are those that are already installed at the cluster-scope.
Note the _return_records=true_ query parameter is used to obtain the newly
created key manager configuration

----

# The API:
POST /api/security/key-managers

# The call:
curl -X POST 'https://<mgmt-ip>/api/security/key-
managers?return_records=true' -H 'accept: application/hal+json' -d "{
\"external\": { \"client_certificate\": { \"uuid\": \"5fb1701a-d922-11e8-
bfe8-005056bb017d\" }, \"server_ca_certificates\": [ { \"uuid\":
\"827d7d31-d6c8-11e8-b5bf-005056bb017d\" }],\"servers\": [ { \"server\":
\"10.225.89.33:5696\", \"secondary_key_servers\": [ \"1.1.1.1\",
\"10.72.204.27:5696\" ] } ] } }"

# The response:
{
"num_records": 1,
"records": [
  {
```

```
    "uuid": "815e9462-dc57-11e8-9b2c-005056bb017d",
    "external": {
      "client_certificate": {
        "uuid": "5fb1701a-d922-11e8-bfe8-005056bb017d"
      },
      "server_ca_certificates": [
        {
          "uuid": "827d7d31-d6c8-11e8-b5bf-005056bb017d"
        }
      ],
      "servers": [
        {
          "server": "10.225.89.33:5696",
          "secondary_key_servers": [
            "1.1.1.1",
            "10.72.204.27:5096"
          ]
        }
      ]
    },
    "_links": {
      "self": {
        "href": "/api/security/key-managers/815e9462-dc57-11e8-9b2c-
005056bb017d"
      }
    }
  }
]
}
----

'''

=== Creating an external key manager with 1 key server for an SVM

The example key manager is configured at the SVM-scope with one key
server. Note that the UUIDs of the certificates are those that are already
installed in that SVM. Note the _return_records=true_ query parameter is
used to obtain the newly created key manager configuration

----

# The API:
POST /api/security/key-managers

# The call:
```

```
curl -X POST 'https://<mgmt-ip>/api/security/key-
managers?return_records=true' -H 'accept: application/hal+json' -d "{
\"svm\": { \"uuid\": \"216e6c26-d6c6-11e8-b5bf-005056bb017d\" },
\"external\": { \"client_certificate\": { \"uuid\": \"91dcaf7c-dbbd-11e8-
9b2c-005056bb017d\" }, \"server_ca_certificates\": [ { \"uuid\":
\"a4d4b8ba-dbbd-11e8-9b2c-005056bb017d\" }],\"servers\": [ { \"server\":
\"10.225.89.34:5696\" } ] } }"

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "80af63f2-dbbf-11e8-9b2c-005056bb017d",
    "svm": {
      "uuid": "216e6c26-d6c6-11e8-b5bf-005056bb017d"
    },
    "external": {
      "client_certificate": {
      "uuid": "91dcaf7c-dbbd-11e8-9b2c-005056bb017d"
      },
      "server_ca_certificates": [
        {
          "uuid": "a4d4b8ba-dbbd-11e8-9b2c-005056bb017d"
        }
      ],
      "servers": [
        {
          "server": "10.225.89.34:5696"
        }
      ]
    },
    "_links": {
      "self": {
        "href": "/api/security/key-managers/80af63f2-dbbf-11e8-9b2c-
005056bb017d"
      }
    }
  }
]
}
----

'''

=== Creating an onboard key manager for a cluster
```

```
The following example shows how to create an onboard key manager for a
cluster with the onboard key manager configured at the cluster-scope.

----

# The API:
POST /api/security/key-managers

# The call:
curl -X POST 'https://<mgmt-ip>/api/security/key-managers' -H 'accept:
application/hal+json' -d '{ "onboard": { "passphrase": "passphrase" } }'
----

'''

=== Retrieving the key manager configurations for all clusters and SVMs

The following example shows how to retrieve all configured key managers
along with their configurations.

----

# The API:
GET /api/security/key-managers

# The call:
curl -X GET 'https://<mgmt-ip>/api/security/key-managers?fields=*' -H
'accept: application/hal+json'

# The response:
{
"records": [
  {
    "uuid": "2345f09c-d6c9-11e8-b5bf-005056bb017d",
    "scope": "svm",
    "svm": {
      "uuid": "0f22f8f3-d6c6-11e8-b5bf-005056bb017d",
      "name": "vs0"
    },
    "external": {
      "client_certificate": {
        "uuid": "4cb15482-d6c8-11e8-b5bf-005056bb017d",
        "_links": {
          "self": {
            "href": "/api/security/certificates/4cb15482-d6c8-11e8-b5bf-
005056bb017d/"
```

```
          }
        }
      },
      "server_ca_certificates": [
        {
          "uuid": "8a17c858-d6c8-11e8-b5bf-005056bb017d",
          "_links": {
            "self": {
              "href": "/api/security/certificates/8a17c858-d6c8-11e8-b5bf-
005056bb017d/"
            }
          }
        }
      ],
      "servers": [
        {
          "server": "10.2.30.4:5696",
          "timeout": 25,
          "username": "",
          "_links": {
            "self": {
              "href": "/api/security/key-managers/2345f09c-d6c9-11e8-b5bf-
005056bb017d/key-servers/10.2.30.4:5696/"
            }
          }
        },
        {
          "server": "vs0.local1:3678",
          "timeout": 25,
          "username": "",
          "secondary_key_servers": [
            "1.1.1.1",
            "10.72.204.27:5096"
          ],
          "_links": {
            "self": {
              "href": "/api/security/key-managers/2345f09c-d6c9-11e8-b5bf-
005056bb017d/key-servers/vs0.local1:3678/"
            }
          }
        }
      ]
    },
    "_links": {
      "self": {
        "href": "/api/security/key-managers/2345f09c-d6c9-11e8-b5bf-
```

```
005056bb017d"
      }
    }
  },
  {
    "uuid": "815e9462-dc57-11e8-9b2c-005056bb017d",
    "scope": "cluster",
    "external": {
      "client_certificate": {
        "uuid": "5fb1701a-d922-11e8-bfe8-005056bb017d",
        "_links": {
          "self": {
            "href": "/api/security/certificates/5fb1701a-d922-11e8-bfe8-
005056bb017d/"
          }
        }
      },
      "server_ca_certificates": [
        {
          "uuid": "827d7d31-d6c8-11e8-b5bf-005056bb017d",
          "_links": {
            "self": {
              "href": "/api/security/certificates/827d7d31-d6c8-11e8-b5bf-
005056bb017d/"
            }
          }
        }
      ],
      "servers": [
        {
          "server": "10.225.89.33:5696",
          "timeout": 25,
          "username": "",
          "_links": {
            "self": {
              "href": "/api/security/key-managers/815e9462-dc57-11e8-9b2c-
005056bb017d/key-servers/10.225.89.33:5696/"
            }
          }
        }
      ]
    },
    "_links": {
      "self": {
        "href": "/api/security/key-managers/815e9462-dc57-11e8-9b2c-
005056bb017d"
```

```
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/security/key-managers?fields=*"
  }
}
}
----

'''

=== Retrieving the key manager configurations for all clusters and SVMs
(showing Onboard Key Manager)

The following example shows how to retrieve all configured key managers
along with their configurations.

----

# The API:
GET /api/security/key-managers

# The call:
curl -X GET 'https://<mgmt-ip>/api/security/key-managers?fields=*' -H
'accept: application/hal+json'

# The response:
{
"records": [
  {
    "uuid": "8ba52e0f-ae22-11e9-b747-005056bb7636",
    "scope": "cluster",
    "onboard": {
      "enabled": true,
      "key_backup": "-------------------------BEGIN
BACKUP-------------------------\n <Backup Data>
\n-------------------------END BACKUP-------------------------\n"
    },
    "volume_encryption": {
      "supported": false,
      "message": "The following nodes do not support volume granular
encryption: ntap-vsim2.",
```

```
      "code": 65536935
    },
    "is_default_data_at_rest_encryption_disabled": false
  }
],
"num_records": 1
}
----

'''

=== Retrieving expensive fields such as, status.code and status.message,
associated with a key manager.

These values are not retreived by default with the 'fields=*' option.
The following example shows how to retrieve the expensive objects
associated with a key manager.

----

# The API:
GET /api/security/key-managers

# The call:
curl -X GET "https://<mgmt-ip>/api/security/key-
managers?fields=status.message,status.code" -H 'accpt:
application/hal+jon'

# The response:
{
"records": [
  {
    "uuid": "ac305d46-aef4-11e9-ad3c-005056bb7636",
    "status": {
      "message": "No action needed at this time.",
      "code": 65537200
    },
    "_links": {
      "self": {
        "href": "/api/security/key-managers/ac305d46-aef4-11e9-ad3c-
005056bb7636"
      }
    }
  }
],
"num_records": 1,
```

```
"_links": {
  "self": {
    "href": "/api/security/key-managers?fields=status.message,status.code"
  }
}
}
----

'''

=== Retrieving a specific key manager configuration

The following example shows how to retrieve a specific key manager
configuration.

----

# The API:
GET /api/security/key-managers/{uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/security/key-managers/<uuid>?fields=*'
-H 'accept: application/hal+json'

# The response:
{
"uuid": "2345f09c-d6c9-11e8-b5bf-005056bb017d",
"scope": "svm",
"svm": {
  "uuid": "0f22f8f3-d6c6-11e8-b5bf-005056bb017d",
  "name": "vs0"
},
"external": {
  "client_certificate": {
    "uuid": "4cb15482-d6c8-11e8-b5bf-005056bb017d",
    "_links": {
      "self": {
        "href": "/api/security/certificates/4cb15482-d6c8-11e8-b5bf-
005056bb017d/"
      }
    }
  },
  "server_ca_certificates": [
    {
      "uuid": "8a17c858-d6c8-11e8-b5bf-005056bb017d",
      "_links": {
```

```
        "self": {
          "href": "/api/security/certificates/8a17c858-d6c8-11e8-b5bf-
005056bb017d/"
        }
      }
    }
  ],
  "servers": [
    {
      "server": "10.2.30.4:5696",
      "timeout": 25,
      "username": "",
      "_links": {
        "self": {
          "href": "/api/security/key-managers/2345f09c-d6c9-11e8-b5bf-
005056bb017d/key-servers/10.2.30.4:5696/"
        }
      }
    },
    {
      "server": "vs0.local1:3678",
      "timeout": 25,
      "username": "",
      "_links": {
        "self": {
          "href": "/api/security/key-managers/2345f09c-d6c9-11e8-b5bf-
005056bb017d/key-servers/vs0.local1:3678/"
        }
      }
    }
  ]
},
"_links": {
  "self": {
    "href": "/api/security/key-managers/2345f09c-d6c9-11e8-b5bf-
005056bb017d"
  }
}
}
----

'''

=== Updating the configuration of an external key manager

The following example shows how to update the server_ca configuration of
```

```
an external key manager.

----

# The API:
PATCH /api/security/key-managers/{uuid}

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/security/key-managers/<uuid>?' -H
'accept: application/hal+json' -d "{ \"external\": {
\"server_ca_certificates\": [ { \"uuid\": \"23b05c58-d790-11e8-b5bf-
005056bb017d\" }] } }"
----

'''

=== Updating the passphrase of an Onboard Key Manager

The following example shows how to update the passphrase of a given key
manager.

----

# The API:
PATCH /api/security/key-managers/{uuid}

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/security/key-managers/<uuid>?' -H
'accept: application/hal+json' -d "{ \"onboard\": {
\"existing_passphrase\": \"existing_passphrase\", \"passphrase\":
\"new_passphrase\" } }"
----

'''

=== Synchronizing the passphrase of the Onboard Key Manager on a cluster

The following example shows how to synchronize the passphrase on a cluster
where the Onboard Key Manager is already configured.

----

# The API:
PATCH /api/security/key-managers/{uuid}

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/security/key-managers/<uuid>?' -H
```

```
'accept: application/hal+json' -d "{  \"onboard\": {
\"existing_passphrase\": \"existing_passphrase\",    \"synchronize\": true
}}"
----

'''

=== Configuring the Onboard Key Manager on a cluster

The following example shows how to configure the Onboard Key Manager on a
cluster where the Onboard Key Manager is not configured, but is configured
on an MetroCluster partner cluster.

----

# The API:
POST /api/security/key-managers

# The call:
curl -X POST 'https://<mgmt-ip>/api/security/key-
managers?return_records=false' -H  'accept: application/hal+json' -H
"Content-Type: application/json" -d "{  \"onboard\": {    \"passphrase\":
\"passphrase\",    \"synchronize\": true  }}"
----

'''

=== Deleting a configured key manager

The following example shows how to delete a key manager given its UUID.

----

# The API:
DELETE /api/security/key-managers/{uuid}

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/security/key-managers/<uuid>?' -H
'accept: application/hal+json'
----

'''

=== Adding a key server to an external key manager

The following example shows how to add a key server with two secondary key
servers to an external key manager.
```

```
----

# The API:
POST /api/security/key-managers/{uuid}/key-servers

# The call:
curl -X POST 'https://<mgmt-ip>/api/security/key-managers/<uuid>/key-
servers?return_records=true' -H 'accept: application/hal+json' -d "{
\"server\": \"10.225.89.34:5696\", \"secondary_key_servers\": [
\"1.1.1.1\", \"10.72.204.27:5696\" ] }"

# The response:
{
"num_records": 1,
"records": [
  {
    "server": "10.225.89.34:5696",
    "secondary_key_servers": [
      "1.1.1.1",
      "10.72.204.27:5096"
    ],
    "_links": {
      "self": {
        "href": "/api/security/key-managers/43e0c191-dc5c-11e8-9b2c-
005056bb017d/key-servers/10.225.89.34%3A5696"
      }
    }
  }
]
}
----

'''

=== Adding 2 key servers to an external key manager

The following example shows how to add 2 key servers to an external key
manager. Note that the _records_ property is used to add multiple key
servers to the key manager in a single API call.

----

# The API:
POST /api/security/key-managers/{uuid}/key-servers
```

```
# The call:
curl -X POST 'https://<mgmt-ip>/api/security/key-managers/<uuid>/key-
servers?return_records=true' -H 'accept: application/hal+json' -d "{
\"records\": [ { \"server\": \"10.225.89.34:5696\" }, { \"server\":
\"10.225.89.33:5696\" } ] }"

# The response:
{
"num_records": 1,
"records": [
  {
    "_links": {
      "self": {
        "href": "/api/security/key-managers/43e0c191-dc5c-11e8-9b2c-
005056bb017d/key-servers/"
      }
    }
  }
]
}
----

'''

=== Retrieving all the key servers configured in an external key manager

The following example shows how to retrieve all key servers configured in
an external key manager.

----

# The API:
GET /api/security/key-managers/{uuid}/key-servers

# The call:
curl -X GET 'https://<mgmt-ip>/api/security/key-managers/<uuid>/key-
servers?fields=*' -H 'accept: application/hal+json'

# The response:
{
"records": [
  {
    "uuid": "43e0c191-dc5c-11e8-9b2c-005056bb017d",
    "server": "10.225.89.33:5696",
    "timeout": 25,
    "username": "",
```

```
    "secondary_key_servers": [
      "1.1.1.1",
      "10.72.204.27:5096"
    ],
    "_links": {
      "self": {
        "href": "/api/security/key-managers/43e0c191-dc5c-11e8-9b2c-
005056bb017d/key-servers/10.225.89.33%3A5696"
      }
    }
  },
  {
    "uuid": "43e0c191-dc5c-11e8-9b2c-005056bb017d",
    "server": "10.225.89.34:5696",
    "timeout": 25,
    "username": "",
    "_links": {
      "self": {
        "href": "/api/security/key-managers/43e0c191-dc5c-11e8-9b2c-
005056bb017d/key-servers/10.225.89.34%3A5696"
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/security/key-managers/43e0c191-dc5c-11e8-9b2c-
005056bb017d/key-servers?fields=*"
  }
}
}
----

'''

=== Retrieving a specific key server configured in an external key manager

The following example shows how to retrieve a specific key server
configured in an external key manager.

----

# The API:
GET /api/security/key-managers/{uuid}/key-servers/{server}
```

```
# The call:
curl -X GET 'https://<mgmt-ip>/api/security/key-managers/<uuid>/key-
servers/{server}?fields=*' -H 'accept: application/hal+json'

# The response:
{
"uuid": "43e0c191-dc5c-11e8-9b2c-005056bb017d",
"server": "10.225.89.34:5696",
"timeout": 25,
"username": "",
"_links": {
  "self": {
    "href": "/api/security/key-managers/43e0c191-dc5c-11e8-9b2c-
005056bb017d/key-servers/10.225.89.34:5696"
  }
}
}
----

'''

=== Updating a specific key server configuration configured in an external
key manager

The following example shows how to update a specific key server configured
in an external key manager.

----

# The API:
PATCH /api/security/key-managers/{uuid}/key-servers/{server}

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/security/key-managers/<uuid>/key-
servers/{server}' -H 'accept: application/hal+json' -d "{ \"timeout\": 45
}"
----

'''

The following example shows how to update the set of secondary key servers
associated with a key server.

----

# The API:
PATCH /api/security/key-managers/{uuid}/key-servers/{server}
```

```
# The call:
curl -X PATCH 'https://<mgmt-ip>/api/security/key-managers/<uuid>/key-
servers/{server}' -H 'accept: application/hal+json' -d "{
\"secondary_key_servers\": [ \"1.1.1.1\", \"10.72.204.27:5696\" ] }"
----

'''

=== Deleting a key server from an external key manager

The following example shows how to delete a key server from an external
key manager.

----

# The API:
DELETE /api/security/key-managers/{uuid}/key-servers/{server}

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/security/key-managers/<uuid>/key-
servers/{server}' -H 'accept: application/hal+json'
----

'''




[[ID8af5be8f74ca396895e06b0b5fedac0d]]
= Retrieve key managers

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/key-managers`#

*Introduced In:* 9.6

Retrieves key managers.

== Expensive properties

There is an added cost to retrieving values for these properties. They are
not included by default in GET results and must be explicitly requested
using the `fields` query parameter. See
xref:{relative_path}getting_started_with_the_ontap_rest_api.html#Requestin
g_specific_fields[Requesting specific fields] to learn more.
```

```
* `status.message`
* `status.code`

== Related ONTAP commands

* `security key-manager show-keystore`
* `security key-manager external show`
* `security key-manager external show-status`
* `security key-manager onboard show-backup`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|scope
|string
|query
|False
a|Filter by scope


|status.message
|string
|query
|False
a|Filter by status.message

* Introduced in: 9.7


|status.code
|integer
|query
|False
a|Filter by status.code

* Introduced in: 9.7
```

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

* Introduced in: 9.9


|volume_encryption.code
|integer
|query
|False
a|Filter by volume_encryption.code

* Introduced in: 9.7


|volume_encryption.supported
|boolean
|query
|False
a|Filter by volume_encryption.supported

* Introduced in: 9.7


|volume_encryption.message
|string
|query
|False
a|Filter by volume_encryption.message

* Introduced in: 9.7


|external.client_certificate.uuid
|string
|query
|False
a|Filter by external.client_certificate.uuid


|external.client_certificate.name
|string
|query
```

```
|False
a|Filter by external.client_certificate.name

* Introduced in: 9.8


|external.server_ca_certificates.uuid
|string
|query
|False
a|Filter by external.server_ca_certificates.uuid


|external.server_ca_certificates.name
|string
|query
|False
a|Filter by external.server_ca_certificates.name

* Introduced in: 9.8


|external.servers.timeout
|integer
|query
|False
a|Filter by external.servers.timeout


|external.servers.secondary_key_servers
|string
|query
|False
a|Filter by external.servers.secondary_key_servers

* Introduced in: 9.8


|external.servers.server
|string
|query
|False
a|Filter by external.servers.server


|external.servers.username
|string
```

```
|query
|False
a|Filter by external.servers.username


|is_default_data_at_rest_encryption_disabled
|boolean
|query
|False
a|Filter by is_default_data_at_rest_encryption_disabled

* Introduced in: 9.7


|uuid
|string
|query
|False
a|Filter by uuid


|onboard.key_backup
|string
|query
|False
a|Filter by onboard.key_backup

* Introduced in: 9.7


|onboard.enabled
|boolean
|query
|False
a|Filter by onboard.enabled


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


|svm.name
|string
|query
```

```
|False
a|Filter by svm.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_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


|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


|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 records


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

|===


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

```
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "external": {
        "client_certificate": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "cert1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "server_ca_certificates": [
          {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            },
            "name": "cert1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          }
        ],
        "servers": [
          {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            },
            "secondary_key_servers": [
              "string"
            ],
            "server": "keyserver1.com:5698",
            "timeout": "60",
            "username": "admin"
          }
        ]
      },
      "onboard": {
        "existing_passphrase": "The cluster password of length 32-256
ASCII characters.",
        "key_backup": "'-------------------------BEGIN
BACKUP-------------------------
```

```
TmV0QXBwIEtleSBCbG9iAAEAAAAEAAAAcAEAAAAAAAAxBFWWAAAAACEAAAAAAAAA
QAAAAAAAAABzDyyVAAAAALI5Jsjvy6gUxnT78KoDKXHYb6sSeraM00quOULY6BeV
n6dMFxuErCD1lbERaOQZSuaYy1p8oQHtTEfGMLZM4TYiAAAAAAAAACgAAAAAAAAA
3WTh7gAAAAAAAAAAAAAAAAIAAAAAAAAgAZJEIWvdeHr5RCAvHGclo+wAAAAAAAAAAAA
IgAAAAAAAAAoAAAAAAAAAEOTcR0AAAAAAAAAAAAAAAACAAAAAAAJAGr3tJA/LRzU
QRHwv+1aWvAAAAAAAAAAACQAAAAAAAAAgAAAAAAAAADV1Vd/AAAAAMFM9Q229Bhp
mDaTSdqku5DCd8wG+fOZSr4bx4JT5WHvV/r5gJnXDQQAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAABOZXRBcHAgS2V5IEJsb2IA
AQAAAMAAAAYAQAAAAAAAALgePkcAAAAAIgAAAAAAAAAoAAAAAAAAAEOTcR0AAAAA
AAAAAAAAAACAAAAAAAJAGr3tJA/LRzUQRHwv+1aWvAAAAAAAAAAACIAAAAAAAAAAA
KAAAAAAAAACIlCHZAAAAAAAAAAAAAAAAAgAAAAAAAQCafcabsxRXMM7gxhLRrzxh
AAAAAAAAAAAkAAAAAAAAAAIAAAAAAAAAAAA2JjQBQAAAACt4IqXcNpVggahl0axLsN4
yQjnNVKWY7mANB29O42hI7b70DTGCTaVAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAE5ldEFwcCBLZXkgQmxvYgABAAAAAwAAABgBAAAAAAAAA
7sbaoQAAAAAiAAAAAAAAACgAAAAAAAAAQ5NxHQAAAAAAAAAAAAAAAAIAAAAAAAkA
ave0kD8tHNRBEfC/7Vpa8AAAAAAAAAAAIgAAAAAAAAAoAAAAAAAAAALOHfWkAAAAA
AAAAAAAAAACAAAAAAABAMoI9UxrHOGthQm/CB+EHdAAAAAAAAAAAACQAAAAAAAAAA
gAAAAAAAAACnMmUtAAAAAGVk8AtPzENFgsGdsFvnmucmYrlQCsFew0HDSFKaZqK6
W8IEVzBAhPoAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
---------------------------END BACKUP---------------------------'",
        "synchronize": null
      },
      "policy": "string",
      "scope": "string",
      "status": {
        "code": "346758",
        "message": "This cluster is part of a MetroCluster configuration.
Use the REST API POST method security/key_managers/ with the synchronize
option and the same passphrase on the partner cluster before proceeding
with any key manager operations.  Failure to do so could lead to
switchover or switchback failure."
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
```

```
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "uuid": "string",
      "volume_encryption": {
        "code": "346758",
        "message": "No platform support for volume encryption in following
nodes - node1, node2."
      }
    }
  ]
}
====

== 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|

|===


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

Client certificate


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

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

|name
|string
a|Certificate name


|uuid
|string
a|Certificate UUID
```

```
|===


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

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

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

|name
|string
a|Certificate name


|uuid
|string
a|Certificate UUID


|===


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

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

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

|===
```

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

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

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

|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|server
|string
a|External key server for key management. If no port is provided, a
default port of 5696 is used.


|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.


|username
|string
a|Username credentials for connecting with the key server.


|===


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

Configures external key management
```

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

|client_certificate
|link:#client_certificate[client_certificate]
a|Client certificate


|server_ca_certificates
|array[link:#server_ca_certificates[server_ca_certificates]]
a|The UUIDs of the server CA certificates already installed in the cluster
or SVM. The array of certificates are common for all the keyservers per
SVM.


|servers
|array[link:#key_server_readcreate[key_server_readcreate]]
a|The set of external key servers.


|===


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

Configures onboard key management. After configuring onboard key
management, save the encrypted configuration data in a safe location so
that you can use it if you need to perform a manual recovery operation.


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

|enabled
|boolean
a|Is the onboard key manager enabled?


|existing_passphrase
```

```
|string
a|The cluster-wide passphrase. This is not audited.


|key_backup
|string
a|Backup of the onboard key manager's key hierarchy. It is required to
save this backup after configuring the onboard key manager to help in the
recovery of the cluster in case of catastrophic failures.


|===


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

Optional status information on the current state of the key manager
indicating if it is fully setup or requires more action.


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

|code
|integer
a|Code corresponding to the status message. Returns 0 if the setup is
complete. This is an advanced property; there is an added cost to
retrieving its value. The property is not populated for either a
collection GET or an instance GET unless it is explicitly requested using
the `fields` query parameter or GET for all advanced properties is
enabled.


|message
|string
a|Current state of the key manager indicating any additional steps to
perform to finish the setup. This is an advanced property; there is an
added cost to retrieving its value. The property is not populated for
either a collection GET or an instance GET unless it is explicitly
requested using the `fields` query parameter or GET for all advanced
properties is enabled.
```

```
|===


[#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.


|===


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

Indicates whether volume encryption is supported in the cluster.


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

|code
|integer
a|Code corresponding to the status message. Returns a 0 if volume
```

```
encryption is supported in all nodes of the cluster.


|message
|string
a|Reason for not supporting volume encryption.


|supported
|boolean
a|Set to true when volume encryption support is available on all nodes of
the cluster.


|===


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

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

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

|external
|link:#external[external]
a|Configures external key management


|is_default_data_at_rest_encryption_disabled
|boolean
a|Indicates whether default data-at-rest encryption is disabled in the
cluster. This field is deprecated in ONTAP 9.8 and later. Use the
"software_data_encryption.disabled_by_default" of /api/security endpoint.

* Default value:
* Introduced in: 9.7
* x-ntap-readModify: true
```

```
|onboard
|link:#onboard[onboard]
a|Configures onboard key management. After configuring onboard key
management, save the encrypted configuration data in a safe location so
that you can use it if you need to perform a manual recovery operation.


|policy
|string
a|Security policy associated with the key manager. This value is currently
ignored if specified for the onboard key manager.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|status
|link:#status[status]
a|Optional status information on the current state of the key manager
indicating if it is fully setup or requires more action.


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

|uuid
|string
a|

|volume_encryption
|link:#volume_encryption[volume_encryption]
a|Indicates whether volume encryption is supported in the cluster.


|===


[#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
====



[[IDfca8d31019923c2cf5a7c1b53ee7757f]]
= Create a key manager

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/key-managers`#

*Introduced In:* 9.6

Creates a key manager.

== Required properties

* `svm.uuid` or `svm.name` - Existing SVM in which to create a key
manager.
* `external.client_certificate` - Client certificate. Required only when
creating an external key manager.
* `external.server_ca_certificates` - Server CA certificates. Required
only when creating an external key manager.
* `external.servers.server` - Key servers. Required only when creating an
external key manager.
* `onboard.passphrase` - Cluster-wide passphrase. Required only when
creating an Onboard Key Manager.
* `synchronize` - Synchronizes missing onboard keys on any node in the
cluster. Required only when creating an Onboard Key Manager at the partner
site of a MetroCluster configuration.

== Related ONTAP commands

* `security key-manager external enable`
* `security key-manager onboard enable`
* `security key-manager onboard sync`


== 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

|external
|link:#external[external]
a|Configures external key management


|onboard
|link:#onboard[onboard]
a|Configures onboard key management. After configuring onboard key
management, save the encrypted configuration data in a safe location so
that you can use it if you need to perform a manual recovery operation.


|policy
|string
a|Security policy associated with the key manager. This value is currently
ignored if specified for the onboard key manager.


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

```
|uuid
|string
a|

|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "external": {
    "client_certificate": {
      "name": "cert1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "server_ca_certificates": [
      {
        "name": "cert1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ],
    "servers": [
      {
        "secondary_key_servers": [
          "string"
        ],
        "server": "keyserver1.com:5698",
        "timeout": "60",
        "username": "admin"
      }
    ]
  },
  "is_default_data_at_rest_encryption_disabled": null,
  "onboard": {
    "existing_passphrase": "The cluster password of length 32-256 ASCII
characters.",
    "key_backup": "'-------------------------BEGIN
BACKUP-------------------------
TmV0QXBwIEtleSBCbG9iAAEAAAAEAAAAcAEAAAAAAAAxBFWWAAAAACEAAAAAAAAA
QAAAAAAAAABzDyyVAAAAALI5Jsjvy6gUxnT78KoDKXHYb6sSeraM00quOULY6BeV
n6dMFxuErCD1lbERaOQZSuaYy1p8oQHtTEfGMLZM4TYiAAAAAAAAACgAAAAAAAAA
3WTh7gAAAAAAAAAAAAAAAAIAAAAAAAgAZJEIWvdeHr5RCAvHGclo+wAAAAAAAAAA
IgAAAAAAAAAoAAAAAAAAAEOTcR0AAAAAAAAAAAAAAAACAAAAAAAJAGr3tJA/LRzU
QRHwv+1aWvAAAAAAAAAACQAAAAAAAAgAAAAAAAADV1Vd/AAAAAMFM9Q229Bhp
```

```
mDaTSdqku5DCd8wG+fOZSr4bx4JT5WHvV/r5gJnXDQQAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAABOZXRBcHAgS2V5IEJsb2IA
AQAAAAMAAAAYAQAAAAAAALgePkcAAAAAIgAAAAAAAAAoAAAAAAAAAEOTcR0AAAAA
AAAAAAAAAAACAAAAAAAJAGr3tJA/LRzUQRHwv+1aWvAAAAAAAAAAAACIAAAAAAAAA
KAAAAAAAAACIlCHZAAAAAAAAAAAAAAAAAgAAAAAAAQCafcabsxRXMM7gxhLRrzxh
AAAAAAAAAAAkAAAAAAAAAIAAAAAAAAAAAA2JjQBQAAAACt4IqXcNpVggahl0axLsN4
yQjnNVKWY7mANB29O42hI7b70DTGCTaVAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAE5ldEFwcCBLZXkgQmxvYgABAAAAAwAAABgBAAAAAAAA
7sbaoQAAAAAiAAAAAAAAAACgAAAAAAAAAAQ5NxHQAAAAAAAAAAAAAAAAIAAAAAAAkA
ave0kD8tHNRBEfC/7Vpa8AAAAAAAAAAAIgAAAAAAAAAAoAAAAAAAAAALOHfWkAAAAA
AAAAAAAAAAACAAAAAAAABAMoI9UxrHOGthQm/CB+EHdAAAAAAAAAAAACQAAAAAAAAAA
gAAAAAAAAACnMmUtAAAAAGVk8AtPzENFgsGdsFvnmucmYrlQCsFew0HDSFKaZqK6
W8IEVzBAhPoAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
---------------------------END BACKUP---------------------------'",
    "passphrase": "The cluster password of length 32-256 ASCII
characters."
  },
  "policy": "string",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "string"
}
====

== Response
```

Status: 201, Created

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

```
|num_records
|integer
a|Number of records


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

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "records": [
    {
      "external": {
        "client_certificate": {
          "name": "cert1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "server_ca_certificates": [
          {
            "name": "cert1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          }
        ],
        "servers": [
          {
            "secondary_key_servers": [
              "string"
            ],
            "server": "keyserver1.com:5698",
            "timeout": "60",
            "username": "admin"
          }
        ]
      },
      "is_default_data_at_rest_encryption_disabled": null,
      "onboard": {
        "existing_passphrase": "The cluster password of length 32-256
ASCII characters.",
        "key_backup": "'-------------------------BEGIN
```

```
BACKUP---------------------------
TmV0QXBwIEtleSBCbG9iAAEAAAAEAAAAcAEAAAAAAAAxBFWWAAAAACEAAAAAAAAA
QAAAAAAAAABzDyyVAAAAALI5Jsjvy6gUxnT78KoDKXHYb6sSeraM00quOULY6BeV
n6dMFxuErCD1lbERaOQZSuaYy1p8oQHtTEfGMLZM4TYiAAAAAAAAAAACgAAAAAAAAAA
3WTh7gAAAAAAAAAAAAAAAAIAAAAAAAAgAZJEIWvdeHr5RCAvHGclo+wAAAAAAAAAAAA
IgAAAAAAAAAAoAAAAAAAAAAAEOTcR0AAAAAAAAAAAAAAAAACAAAAAAAAJAGr3tJA/LRzU
QRHwv+1aWvAAAAAAAAAAAAACQAAAAAAAAAAAgAAAAAAAAAAADV1Vd/AAAAAMFM9Q229Bhp
mDaTSdqku5DCd8wG+fOZSr4bx4JT5WHvV/r5gJnXDQQAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAABOZXRBcHAgS2V5IEJsb2IA
AQAAAMAAAAYAQAAAAAAAAALgePkcAAAAAIgAAAAAAAAAAoAAAAAAAAAAAEOTcR0AAAAA
AAAAAAAAAAACAAAAAAAAJAGr3tJA/LRzUQRHwv+1aWvAAAAAAAAAAAAACIAAAAAAAAAAA
KAAAAAAAAAACIlCHZAAAAAAAAAAAAAAAAAgAAAAAAAAAQCafcabsxRXMM7gxhLRrzxh
AAAAAAAAAAAkAAAAAAAAAAAIAAAAAAAAAAAAA2JjQBQAAAACt4IqXcNpVggahl0axLsN4
yQjnNVKWY7mANB29O42hI7b70DTGCTaVAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAE5ldEFwcCBLZXkgQmxvYgABAAAAAwAAABgBAAAAAAAAAA
7sbaoQAAAAAiAAAAAAAAAAACgAAAAAAAAAAAQ5NxHQAAAAAAAAAAAAAAAAAIAAAAAAAAkA
ave0kD8tHNRBEfC/7Vpa8AAAAAAAAAAAAAIgAAAAAAAAAAAoAAAAAAAAAAALOHfWkAAAAA
AAAAAAAAAAACAAAAAAAABAMoI9UxrHOGthQm/CB+EHdAAAAAAAAAAAAAACQAAAAAAAAAAA
gAAAAAAAAAAACnMmUtAAAAAGVk8AtPzENFgsGdsFvnmucmYrlQCsFew0HDSFKaZqK6
W8IEVzBAhPoAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
---------------------------END BACKUP---------------------------'",
        "passphrase": "The cluster password of length 32-256 ASCII
characters."
      },
      "policy": "string",
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "uuid": "string"
    }
  ]
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65536038
| A maximum of 4 active key servers are allowed.

| 65536214
| Failed to generate cluster key encryption key.

| 65536216
| Failed to add cluster key encryption key.

| 65536310
| Failed to setup the Onboard Key Manager because the MetroCluster peer is
unhealthy.

| 65536341
| Failed to setup the Onboard Key Manager because the MetroCluster peer is
unhealthy.

| 65536508
| The platform does not support data at rest encryption.

| 65536821
| The certificate is not installed.

| 65536822
| Multitenant key management is not supported in the current cluster
version.

| 65536823
| The SVM has key manager already configured.

| 65536824
| Multitenant key management is not supported in MetroCluster
configurations.

| 65536834
| Failed to get existing key-server details for the SVM.

| 65536852
| Failed to query supported KMIP protocol versions.
```

```
| 65536870
| Key management servers already configured.

| 65536871
| Duplicate key management servers exist.

| 65536876
| External key management requires client and server CA certificates
installed and with one or more key servers provided.

| 65536878
| External key management cannot be configured as one or more volume
encryption keys of the SVM are stored in cluster key management server.

| 65536895
| External key manager cannnot be configured since this cluster is part of
a MetroCluster configuration and the partner site of this MetroCluster
configuration has Onboard Key Manager configured.

| 65536900
| The Onboard Key Manager cannot be configured because this cluster is
part of a MetroCluster configuration and the partner site has the external
key manager configured.

| 65536903
| The Onboard Key Manager has failed to configure on some nodes in the
cluster. Use the CLI to sync the Onboard Key Manager configuration on
failed nodes.

| 65536906
| The Onboard Key Manager has already been configured at the partner site.
Use the CLI to sync the Onboard Key Manager with the same passphrase.

| 65536907
| The Onboard Key Manager is already configured. Use the CLI to sync any
nodes with the Onboard Key Manager configuration.

| 65536916
| The Onboard Key Manager is only supported for an admin SVM.

| 65536920
| The Onboard Key Manager passphrase length is incorrect.

| 65537240
| The Onboard Key Manager passphrase must be provided when performing a
POST/synchronize operation.
```

```
| 65537241
| The Onboard Key Manager existing_passphrase must not be provided when
performing a POST/synchronize operation.

| 65537244
| Unable to sync/create Onboard Key Manager on the local cluster; Onboard
Key Manager is already configured on the cluster.

| 65537245
| Unable to sync/create Onboard Key Manager on the local cluster; Onboard
Key Manager is not configured on the partner cluster.

| 65537246
| Unable to sync/create Onboard Key Manager on local cluster. This cluster
is not part of a MetroCluster configuration.

| 66060338
| Failed to establish secure connection for a key management server due to
incorrect server_ca certificates.

| 66060339
| Failed to establish secure connection for a key management server due to
incorrect client certificates.

| 66060340
| Failed to establish secure connection for a key management server due to
Cryptsoft error.
|===


== 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
[#client_certificate]
[.api-collapsible-fifth-title]
client_certificate

Client certificate


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

|name
|string
a|Certificate name


|uuid
|string
a|Certificate UUID


|===


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

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

```
|name
|string
a|Certificate name


|uuid
|string
a|Certificate UUID


|===


[#self_link]
[.api-collapsible-fifth-title]
self_link
[#key_server_readcreate]
[.api-collapsible-fifth-title]
key_server_readcreate

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

|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|server
|string
a|External key server for key management. If no port is provided, a
default port of 5696 is used.


|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.


|username
|string
a|Username credentials for connecting with the key server.
```

```
|===


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

Configures external key management


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

|client_certificate
|link:#client_certificate[client_certificate]
a|Client certificate


|server_ca_certificates
|array[link:#server_ca_certificates[server_ca_certificates]]
a|The UUIDs of the server CA certificates already installed in the cluster
or SVM. The array of certificates are common for all the keyservers per
SVM.


|servers
|array[link:#key_server_readcreate[key_server_readcreate]]
a|The set of external key servers.


|===


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

Configures onboard key management. After configuring onboard key
management, save the encrypted configuration data in a safe location so
that you can use it if you need to perform a manual recovery operation.


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

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

|enabled
|boolean
a|Is the onboard key manager enabled?


|existing_passphrase
|string
a|The cluster-wide passphrase. This is not audited.


|key_backup
|string
a|Backup of the onboard key manager's key hierarchy. It is required to
save this backup after configuring the onboard key manager to help in the
recovery of the cluster in case of catastrophic failures.


|passphrase
|string
a|The cluster-wide passphrase. This is not audited.


|synchronize
|boolean
a|Synchronizes missing onboard keys on any node in the cluster. If a node
is added to a cluster that has onboard key management configured, the
synchronize operation needs to be performed in a PATCH operation. In a
MetroCluster configuration, if onboard key management is enabled on one
site, then the synchronize operation needs to be run as a POST operation
on the remote site providing the same passphrase.


|===


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

Optional status information on the current state of the key manager
indicating if it is fully setup or requires more action.
```

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

|code
|integer
a|Code corresponding to the status message. Returns 0 if the setup is
complete. This is an advanced property; there is an added cost to
retrieving its value. The property is not populated for either a
collection GET or an instance GET unless it is explicitly requested using
the `fields` query parameter or GET for all advanced properties is
enabled.


|message
|string
a|Current state of the key manager indicating any additional steps to
perform to finish the setup. This is an advanced property; there is an
added cost to retrieving its value. The property is not populated for
either a collection GET or an instance GET unless it is explicitly
requested using the `fields` query parameter or GET for all advanced
properties is enabled.


|===


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

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

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


|uuid
|string
```

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


|===


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

Indicates whether volume encryption is supported in the cluster.


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

|code
|integer
a|Code corresponding to the status message. Returns a 0 if volume
encryption is supported in all nodes of the cluster.


|message
|string
a|Reason for not supporting volume encryption.


|supported
|boolean
a|Set to true when volume encryption support is available on all nodes of
the cluster.


|===


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

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

```
|Description

|external
|link:#external[external]
a|Configures external key management


|onboard
|link:#onboard[onboard]
a|Configures onboard key management. After configuring onboard key
management, save the encrypted configuration data in a safe location so
that you can use it if you need to perform a manual recovery operation.


|policy
|string
a|Security policy associated with the key manager. This value is currently
ignored if specified for the onboard key manager.


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

|uuid
|string
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
====



[[IDafb0929c68aed67745bcd43260f09798]]
= Delete key managers
```

```
[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/key-managers/{uuid}`#

*Introduced In:* 9.6

Deletes a key manager.

== Related ONTAP commands

* `security key-manager external disable`
* `security key-manager onboard disable`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|Key manager UUID

|===

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description
```

```
| 65536208
| Failed to delete the SVM Key ID.

| 65536233
| Internal error. Deletion of km_wrapped_kdb key database has failed for
the Onboard Key Manager.

| 65536234
| Internal error. Deletion of cluster_kdb key database has failed for the
Onboard Key Manager.

| 65536239
| Encrypted volumes are found for the SVM.

| 65536242
| One or more Storage Encryption devices are assigned an authentication
key.

| 65536242
| One or more Storage Encryption devices are assigned an authentication
key.

| 65536800
| Failed to lookup onboard keys.

| 65536813
| Encrypted kernel core files found.

| 65536817
| Failed to determine if key manager is safe to disable.

| 65536822
| Multitenant key management is not supported in the current cluster
version.

| 65536827
| Failed to determine if the SVM has any encrypted volumes.

| 65536828
| External key management is not enabled for the SVM.

| 65536867
| Encrypted volumes are found for the SVM.

| 196608301
| Failed to determine the type of encryption.
```

```
| 196608305
| NAE aggregates are found in the cluster.
|===



[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
====



[[ID4cc055b813810cc9377d5ceb2cc74cdc]]
= Retrieve key managers

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/key-managers/{uuid}`#

*Introduced In:* 9.6

Retrieves key managers.

== Expensive properties

There is an added cost to retrieving values for these properties. They are
not included by default in GET results and must be explicitly requested
using the `fields` query parameter. See
xref:{relative_path}getting_started_with_the_ontap_rest_api.html#Requestin
g_specific_fields[Requesting specific fields] to learn more.

* `status.message`
* `status.code`

== Related ONTAP commands

* `security key-manager show-keystore`
* `security key-manager external show`
* `security key-manager external show-status`
* `security key-manager onboard show-backup`


== Parameters

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

```
|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|Key manager UUID


|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|

|external
|link:#external[external]
a|Configures external key management


|is_default_data_at_rest_encryption_disabled
|boolean
a|Indicates whether default data-at-rest encryption is disabled in the
cluster. This field is deprecated in ONTAP 9.8 and later. Use the
"software_data_encryption.disabled_by_default" of /api/security endpoint.
```

```
* Default value: 1
* Introduced in: 9.7
* x-ntap-readModify: true


|onboard
|link:#onboard[onboard]
a|Configures onboard key management. After configuring onboard key
management, save the encrypted configuration data in a safe location so
that you can use it if you need to perform a manual recovery operation.


|policy
|string
a|Security policy associated with the key manager. This value is currently
ignored if specified for the onboard key manager.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|status
|link:#status[status]
a|Optional status information on the current state of the key manager
indicating if it is fully setup or requires more action.


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

|uuid
|string
a|

|volume_encryption
|link:#volume_encryption[volume_encryption]
a|Indicates whether volume encryption is supported in the cluster.


|===
```

.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "external": {
    "client_certificate": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "cert1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "server_ca_certificates": [
      {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cert1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ],
    "servers": [
      {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "secondary_key_servers": [
          "string"
        ],
        "server": "keyserver1.com:5698",
        "timeout": "60",
        "username": "admin"
      }
    ]
```

```
  },
  "onboard": {
    "existing_passphrase": "The cluster password of length 32-256 ASCII
characters.",
    "key_backup": "'--------------------------BEGIN
BACKUP--------------------------
TmV0QXBwIEtleSBCbG9iAAEAAAAEAAAAcAEAAAAAAAAAxBFWWAAAAACEAAAAAAAAA
QAAAAAAAAABzDyyVAAAAALI5Jsjvy6gUxnT78KoDKXHYb6sSeraM00quOULY6BeV
n6dMFxuErCD1lbERaOQZSuaYy1p8oQHtTEfGMLZM4TYiAAAAAAAAACgAAAAAAAAA
3WTh7gAAAAAAAAAAAAAAAAIAAAAAAAgAZJEIWvdeHr5RCAvHGclo+wAAAAAAAAAA
IgAAAAAAAAAoAAAAAAAAAAEOTcR0AAAAAAAAAAAAAAAACAAAAAAAJAGr3tJA/LRzU
QRHwv+1aWvAAAAAAAAAAAACQAAAAAAAAAgAAAAAAAAAADV1Vd/AAAAAMFM9Q229Bhp
mDaTSdqku5DCd8wG+fOZSr4bx4JT5WHvV/r5gJnXDQQAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAABOZXRBcHAgS2V5IEJsb2IA
AQAAAAMAAAAYAQAAAAAAAALgePkcAAAAAIgAAAAAAAAAoAAAAAAAAAAEOTcR0AAAAA
AAAAAAAAAACAAAAAAAJAGr3tJA/LRzUQRHwv+1aWvAAAAAAAAAAACIAAAAAAAAA
KAAAAAAAAACIlCHZAAAAAAAAAAAAAAAAAAgAAAAAAAAQCafcabsxRXMM7gxhLRrzxh
AAAAAAAAAAAkAAAAAAAAAIAAAAAAAAAA2JjQBQAAAACt4IqXcNpVggahl0axLsN4
yQjnNVKWY7mANB29O42hI7b70DTGCTaVAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAE5ldEFwcCBLZXkgQmxvYgABAAAAAwAAABgBAAAAAAAA
7sbaoQAAAAAiAAAAAAAAAACgAAAAAAAAAQ5NxHQAAAAAAAAAAAAAAAAAIAAAAAAAkA
ave0kD8tHNRBEfC/7Vpa8AAAAAAAAAAAIgAAAAAAAAAoAAAAAAAAAALOHfWkAAAAA
AAAAAAAAAACAAAAAAABAMoI9UxrHOGthQm/CB+EHdAAAAAAAAAAACQAAAAAAAAAA
gAAAAAAAAACnMmUtAAAAAGVk8AtPzENFgsGdsFvnmucmYrlQCsFew0HDSFKaZqK6
W8IEVzBAhPoAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
---------------------------END BACKUP---------------------------'",
    "synchronize": null
  },
  "policy": "string",
  "scope": "string",
  "status": {
    "code": "346758",
    "message": "This cluster is part of a MetroCluster configuration. Use
the REST API POST method security/key_managers/ with the synchronize
option and the same passphrase on the partner cluster before proceeding
with any key manager operations.  Failure to do so could lead to
switchover or switchback failure."
```

```
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "string",
  "volume_encryption": {
    "code": "346758",
    "message": "No platform support for volume encryption in following
nodes - node1, node2."
  }
}
====

== 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|

|===


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

Client certificate


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

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

|name
|string
a|Certificate name


|uuid
|string
a|Certificate UUID


|===


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

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

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

```
a|

|name
|string
a|Certificate name


|uuid
|string
a|Certificate UUID


|===


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

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

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

|===


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

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

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

|secondary_key_servers
```

```
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|server
|string
a|External key server for key management. If no port is provided, a
default port of 5696 is used.


|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.


|username
|string
a|Username credentials for connecting with the key server.


|===


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

Configures external key management


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

|client_certificate
|link:#client_certificate[client_certificate]
a|Client certificate


|server_ca_certificates
|array[link:#server_ca_certificates[server_ca_certificates]]
a|The UUIDs of the server CA certificates already installed in the cluster
or SVM. The array of certificates are common for all the keyservers per
SVM.
```

```
|servers
|array[link:#key_server_readcreate[key_server_readcreate]]
a|The set of external key servers.


|===


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

Configures onboard key management. After configuring onboard key
management, save the encrypted configuration data in a safe location so
that you can use it if you need to perform a manual recovery operation.


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

|enabled
|boolean
a|Is the onboard key manager enabled?


|existing_passphrase
|string
a|The cluster-wide passphrase. This is not audited.


|key_backup
|string
a|Backup of the onboard key manager's key hierarchy. It is required to
save this backup after configuring the onboard key manager to help in the
recovery of the cluster in case of catastrophic failures.


|===


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

```
status

Optional status information on the current state of the key manager
indicating if it is fully setup or requires more action.


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

|code
|integer
a|Code corresponding to the status message. Returns 0 if the setup is
complete. This is an advanced property; there is an added cost to
retrieving its value. The property is not populated for either a
collection GET or an instance GET unless it is explicitly requested using
the `fields` query parameter or GET for all advanced properties is
enabled.


|message
|string
a|Current state of the key manager indicating any additional steps to
perform to finish the setup. This is an advanced property; there is an
added cost to retrieving its value. The property is not populated for
either a collection GET or an instance GET unless it is explicitly
requested using the `fields` query parameter or GET for all advanced
properties is enabled.


|===


[#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.


|===


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

Indicates whether volume encryption is supported in the cluster.


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

|code
|integer
a|Code corresponding to the status message. Returns a 0 if volume
encryption is supported in all nodes of the cluster.


|message
|string
a|Reason for not supporting volume encryption.


|supported
|boolean
a|Set to true when volume encryption support is available on all nodes of
the cluster.


|===
```

```
[#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
====



[[IDabf8df4b793c1c602a2b601b627164dd]]
= Update key managers

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/key-managers/{uuid}`#

*Introduced In:* 9.6

Updates a key manager.

== Required properties

* `onboard.existing_passphrase` - Cluster-wide passphrase. Required only
when synchronizing the passphrase of the Onboard Key Manager.
* `synchronize` - Synchronizes missing Onboard Key Manager keys on any
node in the cluster. Required only when synchronizing the Onboard Key
Manager keys in a local cluster.

== Related ONTAP commands

* `security key-manager external modify`
* `security key-manager onboard sync`
* `security key-manager onboard update-passphrase`


== Parameters

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

|Name
|Type
```

```
|In
|Required
|Description

|uuid
|string
|path
|True
a|Key manager UUID

|===

== Request Body



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

|external
|link:#external[external]
a|Configures external key management


|is_default_data_at_rest_encryption_disabled
|boolean
a|Indicates whether default data-at-rest encryption is disabled in the
cluster. This field is deprecated in ONTAP 9.8 and later. Use the
"software_data_encryption.disabled_by_default" of /api/security endpoint.

* Default value: 1
* Introduced in: 9.7
* x-ntap-readModify: true


|onboard
|link:#onboard[onboard]
a|Configures onboard key management. After configuring onboard key
management, save the encrypted configuration data in a safe location so
that you can use it if you need to perform a manual recovery operation.


|policy
|string
```

```
a|Security policy associated with the key manager. This value is currently
ignored if specified for the onboard key manager.


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

|uuid
|string
a|

|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "external": {
    "client_certificate": {
      "name": "cert1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "server_ca_certificates": [
      {
        "name": "cert1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ],
    "servers": [
      {
        "secondary_key_servers": [
          "string"
        ],
        "timeout": "60",
        "username": "admin"
      }
    ]
  },
  "onboard": {
    "existing_passphrase": "The cluster password of length 32-256 ASCII
characters.",
    "key_backup": "'--------------------------BEGIN
BACKUP--------------------------
```

```
TmV0QXBwIEtleSBCbG9iAAEAAAAEAAAAcAEAAAAAAAAxBFWWAAAAACEAAAAAAAAA
QAAAAAAAAABzDyyVAAAAALI5Jsjvy6gUxnT78KoDKXHYb6sSeraM00quOULY6BeV
n6dMFxuErCD1lbERaOQZSuaYy1p8oQHtTEfGMLZM4TYiAAAAAAAACgAAAAAAAA
3WTh7gAAAAAAAAAAAAAAAAIAAAAAAAgAZJEIWvdeHr5RCAvHGclo+wAAAAAAAAA
IgAAAAAAAAoAAAAAAAAAEOTcR0AAAAAAAAAAAAAAAACAAAAAAJAGr3tJA/LRzU
QRHwv+1aWvAAAAAAAAAACQAAAAAAAAgAAAAAAAADV1Vd/AAAAAMFM9Q229Bhp
mDaTSdqku5DCd8wG+fOZSr4bx4JT5WHvV/r5gJnXDQQAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAABOZXRBcHAgS2V5IEJsb2IA
AQAAAAMAAAAYAQAAAAAAAALgePkcAAAAAIgAAAAAAAAAoAAAAAAAAAEOTcR0AAAAA
AAAAAAAAAAACAAAAAAAJAGr3tJA/LRzUQRHwv+1aWvAAAAAAAAAAACIAAAAAAAAA
KAAAAAAAAACIlCHZAAAAAAAAAAAAAAAAAgAAAAAAAQCafcabsxRXMM7gxhLRrzxh
AAAAAAAAAAAkAAAAAAAAAIAAAAAAAAAAA2JjQBQAAAACt4IqXcNpVggahl0axLsN4
yQjnNVKWY7mANB29O42hI7b70DTGCTaVAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAE5ldEFwcCBLZXkgQmxvYgABAAAAAwAAABgBAAAAAAAA
7sbaoQAAAAAiAAAAAAAAAACgAAAAAAAAAQ5NxHQAAAAAAAAAAAAAAAAIAAAAAAAkA
ave0kD8tHNRBEfC/7Vpa8AAAAAAAAAAAIgAAAAAAAAAoAAAAAAAAAALOHfWkAAAAA
AAAAAAAAAACAAAAAAABAMoI9UxrHOGthQm/CB+EHdAAAAAAAAAAACQAAAAAAAAAA
gAAAAAAAAACnMmUtAAAAAGVk8AtPzENFgsGdsFvnmucmYrlQCsFew0HDSFKaZqK6
W8IEVzBAhPoAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
---------------------------END BACKUP---------------------------'",
    "passphrase": "The cluster password of length 32-256 ASCII
characters."
  },
  "policy": "string",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "string"
}
====
```

== Response

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65536139
| The existing passphrase value provided does not match the configured
passphrase.

| 65536150
| The new passphrase is same as old passphrase.

| 65536404
| The passphrase does not match the accepted length.

| 65536406
| The change of passphrase failed.

| 65536407
| The passphrase update failed on some nodes.

| 65536802
| The passphrase does not match the accepted length in common criteria
mode.

| 65536821
| The certificate is not installed.

| 65536822
| Multitenant key management is not supported in the current cluster
version.

| 65536828
| External key management is not enabled for the SVM.

| 65536850
| New client certificate public or private keys are different from the
existing client certificate.

| 65536852
| Failed to query supported KMIP protocol versions.
```

```
| 65536917
| Updating an onboard passhrase requires both new and existing cluster
passphrase.

| 65537242
| The Onboard Key Manager existing_passphrase must be provided when
performing a PATCH/synchronize operation.

| 65537243
| The Onboard Key Manager passphrase must not be provided when performing
a PATCH/synchronize operation.

| 66060338
| Failed to establish secure connection for a key management server due to
incorrect server_ca certificates.

| 66060339
| Failed to establish secure connection for a key management server due to
incorrect client certificates.

| 66060340
| Failed to establish secure connection for a key management server due to
Cryptsoft error.
|===


== 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
[#client_certificate]
[.api-collapsible-fifth-title]
client_certificate

Client certificate


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

|name
|string
a|Certificate name


|uuid
|string
a|Certificate UUID


|===


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

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

|name
|string
a|Certificate name
```

```
|uuid
|string
a|Certificate UUID


|===


[#self_link]
[.api-collapsible-fifth-title]
self_link
[#key_server_readcreate]
[.api-collapsible-fifth-title]
key_server_readcreate

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

|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.


|username
|string
a|Username credentials for connecting with the key server.


|===


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

Configures external key management
```

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

|client_certificate
|link:#client_certificate[client_certificate]
a|Client certificate


|server_ca_certificates
|array[link:#server_ca_certificates[server_ca_certificates]]
a|The UUIDs of the server CA certificates already installed in the cluster
or SVM. The array of certificates are common for all the keyservers per
SVM.


|servers
|array[link:#key_server_readcreate[key_server_readcreate]]
a|The set of external key servers.


|===


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

Configures onboard key management. After configuring onboard key
management, save the encrypted configuration data in a safe location so
that you can use it if you need to perform a manual recovery operation.


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

|enabled
|boolean
a|Is the onboard key manager enabled?
```

```
|existing_passphrase
|string
a|The cluster-wide passphrase. This is not audited.


|key_backup
|string
a|Backup of the onboard key manager's key hierarchy. It is required to
save this backup after configuring the onboard key manager to help in the
recovery of the cluster in case of catastrophic failures.


|passphrase
|string
a|The cluster-wide passphrase. This is not audited.


|synchronize
|boolean
a|Synchronizes missing onboard keys on any node in the cluster. If a node
is added to a cluster that has onboard key management configured, the
synchronize operation needs to be performed in a PATCH operation. In a
MetroCluster configuration, if onboard key management is enabled on one
site, then the synchronize operation needs to be run as a POST operation
on the remote site providing the same passphrase.


|===


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

Optional status information on the current state of the key manager
indicating if it is fully setup or requires more action.


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

|code
|integer
a|Code corresponding to the status message. Returns 0 if the setup is
```

```
complete. This is an advanced property; there is an added cost to
retrieving its value. The property is not populated for either a
collection GET or an instance GET unless it is explicitly requested using
the `fields` query parameter or GET for all advanced properties is
enabled.


|message
|string
a|Current state of the key manager indicating any additional steps to
perform to finish the setup. This is an advanced property; there is an
added cost to retrieving its value. The property is not populated for
either a collection GET or an instance GET unless it is explicitly
requested using the `fields` query parameter or GET for all advanced
properties is enabled.


|===


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

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

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


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


|===


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

```
Indicates whether volume encryption is supported in the cluster.


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

|code
|integer
a|Code corresponding to the status message. Returns a 0 if volume
encryption is supported in all nodes of the cluster.


|message
|string
a|Reason for not supporting volume encryption.


|supported
|boolean
a|Set to true when volume encryption support is available on all nodes of
the cluster.


|===


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

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

|external
|link:#external[external]
a|Configures external key management


|is_default_data_at_rest_encryption_disabled
|boolean
a|Indicates whether default data-at-rest encryption is disabled in the
```

```
cluster. This field is deprecated in ONTAP 9.8 and later. Use the
"software_data_encryption.disabled_by_default" of /api/security endpoint.

* Default value: 1
* Introduced in: 9.7
* x-ntap-readModify: true


|onboard
|link:#onboard[onboard]
a|Configures onboard key management. After configuring onboard key
management, save the encrypted configuration data in a safe location so
that you can use it if you need to perform a manual recovery operation.


|policy
|string
a|Security policy associated with the key manager. This value is currently
ignored if specified for the onboard key manager.


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

|uuid
|string
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
```

```
[[IDe9c1554f0c9a636ad77bcc405372a0bd]]
= Migrate SVM keys between security key managers

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/key-managers/{source.uuid}/migrate`#

*Introduced In:* 9.7

Migrates the keys belonging to an SVM between the cluster's key manager
and the SVM's key manager. This operation can run for several minutes.

== Required properties

* `source.uuid` - UUID of the source key manager.
* `uuid` - UUID of the destination key manager.
The UUID of onboard and external KMIP key manager can be fetched using
[`GET /api/security/key-managers`].
The UUID of Azure Key Vault key manager can be fetched using [`GET
/api/security/azure-key-vaults`].
The UUID of Google Cloud key manager can be fetched using [`GET
/api/security/gcp-kms`].

== Related ONTAP commands

* `security key-manager migrate`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|source.uuid
|string
|path
|True
a|Migration source key manager UUID
```

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

* Default value: 1
* Max value: 120
* Min value: 0


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

* Default value:

|===

== Request Body



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

|uuid
|string
a|Key manager UUID


|===


.Example request
[%collapsible%closed]
```

```
====
[source,json,subs=+macros]
{
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563434"
}
====

== Response
```

Status: 202, Accepted

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

|job
|link:#job_link[job_link]
a|

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "job": {
    "uuid": "string"
  }
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65536886
```

```
| The specified migration option is not supported in this release.

| 65536959
| The source-uuid and UUID must be different values.

| 65536968
| Check that all nodes of the cluster are healthy and retry the operation.

| 65537117
| The migrate operation cannot be started because a UUID cannot be
converted to an SVM name.

| 65537117
| Cannot start migration because a key manager referenced by a provided
UUID does not exist.

| 65537551
| Top-level internal key protection key (KEK) is unavailable on one or
more nodes.

| 65537552
| Embedded KMIP server status is not available.

| 65537564
| Check that the Azure Key Vault Service is healthy and retry the
operation.

| 65537720
| Failed to configure the Google Cloud Key Management Service for an SVM
because a key manager is already configured.

| 65537736
| Check that the Google Cloud Key Management Service is healthy and retry
the operation.

| 65538107
| Key migration to an IBM Key Lore key manager is not supported.
|===


== 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
[#info]
[.api-collapsible-fifth-title]
info

Migration destination key manager UUID


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

|uuid
|string
a|Key manager UUID


|===


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

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

```
|Name
|Type
|Description

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


|===


[#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
====



[[ID20c5fdbaed2763775ed0e123c42d35e1]]
= List key servers configured in an external key manager

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/key-managers/{uuid}/key-servers`#

*Introduced In:* 9.6

Retrieves the list of key servers configured in an external key manager.


== Parameters

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

|Name
|Type
|In
|Required
```

```
|Description

|uuid
|string
|path
|True
a|External key manager UUID


|timeout
|integer
|query
|False
a|Filter by timeout


|username
|string
|query
|False
a|Filter by username


|secondary_key_servers
|string
|query
|False
a|Filter by secondary_key_servers

* Introduced in: 9.8


|server
|string
|query
|False
a|Filter by server


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


|max_records
```

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


|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


|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


|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 records


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

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "password": "password",
      "secondary_key_servers": [
        "string"
      ],
      "server": "keyserver1.com:5698",
      "timeout": "60",
      "username": "username"
```

```
    }
  ]
}
====

== 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|

|===


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

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

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

|password
|string
a|Password credentials for connecting with the key server. This is not
audited.


|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|server
|string
a|External key server for key management. If no port is provided, a
default port of 5696 is used. Not valid in POST if `records` is provided.


|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.
```

```
|username
|string
a|KMIP username credentials for connecting with the key server.


|===


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

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

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

|password
|string
a|Password credentials for connecting with the key server. This is not
audited.


|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|server
|string
a|External key server for key management. If no port is provided, a
default port of 5696 is used. Not valid in POST if `records` is provided.


|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.


|username
|string
```

```
a|KMIP username credentials for connecting with the key server.


|===


[#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
====



[[IDf2e3842031e3ba5cb80a655d0f4f1638]]
= Add primary key servers to an external key manager

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/key-managers/{uuid}/key-servers`#

*Introduced In:* 9.6

Adds key servers to a configured external key manager.

== Required properties

* `uuid` - UUID of the external key manager.
* `server` - Key server name.

== Related ONTAP commands

* `security key-manager external add-servers`


== Parameters

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

|Name
|Type
```

```
|In
|Required
|Description

|uuid
|string
|path
|True
a|External key manager UUID


|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

|password
|string
a|Password credentials for connecting with the key server. This is not
audited.


|records
|array[link:#records[records]]
a|An array of key servers specified to add multiple key servers to a key
manager in a single API call. Valid in POST only and not valid if `server`
is provided.


|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
```

```
server.


|server
|string
a|External key server for key management. If no port is provided, a
default port of 5696 is used. Not valid in POST if `records` is provided.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "password": "password",
  "records": [
    {
      "password": "password",
      "secondary_key_servers": [
        "string"
      ],
      "server": "keyserver1.com:5698"
    }
  ],
  "secondary_key_servers": [
    "string"
  ],
  "server": "keyserver1.com:5698"
}
====

== Response
```

Status: 201, Created

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

|num_records
|integer
a|Number of records


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

|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "records": [
    {
      "password": "password",
      "records": [
        {
          "password": "password",
          "secondary_key_servers": [
            "string"
          ],
          "server": "keyserver1.com:5698"
        }
      ],
      "secondary_key_servers": [
        "string"
      ],
      "server": "keyserver1.com:5698"
    }
  ]
}
====

== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65536038
| A maximum of 4 active key servers are allowed.

| 65536821
| The certificate is not installed.

| 65536822
| Multitenant key management is not supported in the current cluster
version.

| 65536824
| Multitenant key management is not supported in MetroCluster
configurations.

| 65536828
| External key management is not enabled for the SVM.

| 65536834
| Failed to get existing key-server details for the SVM.

| 65536852
| Failed to query supported KMIP protocol versions.

| 65536870
| Key management servers are already configured.

| 65536871
| Duplicate key management servers exist.

| 65536921
| The following issues were found. Unable to execute command on KMIP
server.

| 66060338
| Unable to establish secure connection to KMIP server due to incorrect
server_ca certificates.

| 66060339
| Unable to establish secure connection to KMIP server due to incorrect
```

```
client certificates.

| 66060340
| Unable to establish secure connection to KMIP server due to Cryptsoft
error.
|===


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

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

|password
|string
```

```
a|Password credentials for connecting with the key server. This is not
audited.


|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|server
|string
a|External key server for key management. If no port is provided, a
default port of 5696 is used. Not valid in POST if `records` is provided.


|===


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

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

|password
|string
a|Password credentials for connecting with the key server. This is not
audited.


|records
|array[link:#records[records]]
a|An array of key servers specified to add multiple key servers to a key
manager in a single API call. Valid in POST only and not valid if `server`
is provided.


|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.
```

```
|server
|string
a|External key server for key management. If no port is provided, a
default port of 5696 is used. Not valid in POST if `records` is provided.


|===


[#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
====



[[ID6f20a7dde8fcbe1f352920bb4087b057]]
= Delete a primary key server

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/key-managers/{uuid}/key-servers/{server}`#

*Introduced In:* 9.6

Deletes a key server.

== Related ONTAP commands

* `security key-manager external remove-servers`


== Parameters

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

|Name
|Type
|In
```

```
|Required
|Description

|uuid
|string
|path
|True
a|External key manager UUID


|server
|string
|path
|True
a|Key server configured in the external key manager.

|===

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65536700
| The key server contains keys that are currently in use and not available
from any other configured key server in the SVM.

| 65536822
| Multitenant key management is not supported in the current cluster
version.

| 65536824
| Multitenant key management is not supported in MetroCluster
configurations.

| 65536828
| External key management is not enabled for the SVM.
```

```
| 65536843
| The key management server is not configured for 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
====



[[IDc879ac1e2a1092acc795220db7e366cc]]
= Retrieve key servers configured in an external key manager

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/key-managers/{uuid}/key-servers/{server}`#

*Introduced In:* 9.6

Retrieves key servers configured in an external key manager.

== Related ONTAP commands

* `security key-manager external show`
* `security key-manager external show-status`


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|External key manager UUID
```

```
|server
|string
|path
|True
a|Key server configured in the key manager.


|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|

|password
|string
a|Password credentials for connecting with the key server. This is not
audited.


|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|server
|string
a|External key server for key management. If no port is provided, a
default port of 5696 is used. Not valid in POST if `records` is provided.
```

```
|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.


|username
|string
a|KMIP username credentials for connecting with the key server.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "password": "password",
  "secondary_key_servers": [
    "string"
  ],
  "server": "keyserver1.com:5698",
  "timeout": "60",
  "username": "username"
}
====

== 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|

|===


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

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

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

|password
|string
a|Password credentials for connecting with the key server. This is not
audited.


|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|server
```

```
|string
a|External key server for key management. If no port is provided, a
default port of 5696 is used. Not valid in POST if `records` is provided.


|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.


|username
|string
a|KMIP username credentials for connecting with the key server.


|===


[#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
====



[[ID256f328ae12c5607c3ed23659a9935e5]]
= Update a primary key server

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/key-managers/{uuid}/key-servers/{server}`#

*Introduced In:* 9.6

Updates a key server.

== Related ONTAP commands

* `security key-manager external modify-server`
```

```
== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|External key manager UUID


|server
|string
|path
|True
a|Key server configured in the external key manager.

|===

== Request Body



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

|password
|string
a|Password credentials for connecting with the key server. This is not
audited.


|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.
```

```
|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.


|username
|string
a|KMIP username credentials for connecting with the key server.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "password": "password",
  "secondary_key_servers": [
    "string"
  ],
  "timeout": "60",
  "username": "username"
}
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 65536822
| Multitenant key management is not supported in the current cluster
version.
```

```
| 65536824
| Multitenant key management is not supported in MetroCluster
configurations.

| 65536828
| External key management is not enabled for the SVM.

| 65536843
| The key management server is not configured for the SVM.

| 65536845
| Missing username.

| 65536846
| Missing password.
|===


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

```
records

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

|password
|string
a|Password credentials for connecting with the key server. This is not
audited.


|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.


|username
|string
a|KMIP username credentials for connecting with the key server.


|===


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

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

|password
|string
a|Password credentials for connecting with the key server. This is not
audited.
```

```
|secondary_key_servers
|array[string]
a|A list of the secondary key servers associated with the primary key
server.


|timeout
|integer
a|I/O timeout in seconds for communicating with the key server.


|username
|string
a|KMIP username credentials for connecting with the key server.


|===


[#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
====



= View and update login message configuration

:leveloffset: +1


[[IDb36289384c83e08ab2d2051b180d3a02]]
= Security login messages endpoint overview



== Overview
```

```
You can use this API to display and manage the login messages
configuration. The GET request retrieves all of the login messages in the
cluster. GET operations on /security/login/messages/\{uuid} retrieve the
login messages configuration by UUID. PATCH operations on
/security/login/messages/\{uuid} update the login messages configuration
by UUID.
 +

'''

== Examples

=== Retrieving all of the login messages in the cluster

'''

----

# The API:
/api/security/login/messages

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

# The response:
{
"records": [
  {
    "uuid": "2581e5aa-9fe3-11e8-b309-005056bbef18",
    "scope": "cluster",
    "banner": "*** WARNING: DO NOT PROCEED IF YOU ARE NOT AUTHORIZED!
****\n",
    "message": "#### Welcome to Cluster X ####\n",
    "show_cluster_message": true,
    "_links": {
      "self": {
        "href": "/api/security/login/messages/2581e5aa-9fe3-11e8-b309-
005056bbef18"
      }
    }
  },
  {
    "uuid": "7b1b3715-9ffa-11e8-a5dd-005056bbef18",
    "scope": "svm",
    "svm": {
```

```
      "uuid": "7b1b3715-9ffa-11e8-a5dd-005056bbef18",
      "name": "svm1"
    },
    "message": "#### Welcome to SVM1 ####\n",
    "show_cluster_message": true,
    "_links": {
      "self": {
        "href": "/api/security/login/messages/7b1b3715-9ffa-11e8-a5dd-
005056bbef18"
      }
    }
  },
  {
    "uuid": "8ddee11e-a58c-11e8-85e0-005056bbef18",
    "scope": "svm",
    "svm": {
      "uuid": "8ddee11e-a58c-11e8-85e0-005056bbef18",
      "name": "svm3"
    },
    "banner": "*** WARNING: This system is for the use of authorized users
only. ****\n",
    "_links": {
      "self": {
        "href": "/api/security/login/messages/8ddee11e-a58c-11e8-85e0-
005056bbef18"
      }
    }
  },
  {
    "uuid": "f7e41c99-9ffa-11e8-a5dd-005056bbef18",
    "scope": "svm",
    "svm": {
      "uuid": "f7e41c99-9ffa-11e8-a5dd-005056bbef18",
      "name": "svm2"
    },
    "_links": {
      "self": {
        "href": "/api/security/login/messages/f7e41c99-9ffa-11e8-a5dd-
005056bbef18"
      }
    }
  }
],
"num_records": 4,
"_links": {
  "self": {
```

```
    "href": "/api/security/login/messages?fields=*"
  }
}
}
----

'''

=== Retrieving the login messages configuration at the cluster scope

'''

----

# The API:
/api/security/login/messages

# The call:
curl -X GET "https://<mgmt-
ip>/api/security/login/messages?scope=cluster&fields=*" -H "accept:
application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "2581e5aa-9fe3-11e8-b309-005056bbef18",
    "scope": "cluster",
    "banner": "*** WARNING: DO NOT PROCEED IF YOU ARE NOT AUTHORIZED!
****\n",
    "message": "#### Welcome to Cluster X ####\n",
    "show_cluster_message": true,
    "_links": {
      "self": {
        "href": "/api/security/login/messages/2581e5aa-9fe3-11e8-b309-
005056bbef18"
      }
    }
  }
],
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/security/login/messages?scope=cluster&fields=*"
  }
}
```

```
}
----

'''

=== Retrieving the login banner configured at the cluster scope

'''

----

# The API:
/api/security/login/messages

# The call:
curl -X GET "https://<mgmt-
ip>/api/security/login/messages?scope=cluster&fields=banner" -H "accept:
application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "2581e5aa-9fe3-11e8-b309-005056bbef18",
    "scope": "cluster",
    "banner": "*** WARNING: DO NOT PROCEED IF YOU ARE NOT AUTHORIZED!
****\n",
    "_links": {
      "self": {
        "href": "/api/security/login/messages/2581e5aa-9fe3-11e8-b309-
005056bbef18"
      }
    }
  }
],
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/security/login/messages?scope=cluster&fields=banner"
  }
}
}
----

'''
```

```
=== Retrieving the login messages configuration of a specific SVM

'''

----

# The API:
/api/security/login/messages

# The call:
curl -X GET "https://<mgmt-
ip>/api/security/login/messages?svm.name=svm1&fields=*" -H "accept:
application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "7b1b3715-9ffa-11e8-a5dd-005056bbef18",
    "scope": "svm",
    "svm": {
      "uuid": "7b1b3715-9ffa-11e8-a5dd-005056bbef18",
      "name": "svm1"
    },
    "message": "#### Welcome to SVM1 ####\n",
    "show_cluster_message": true,
    "_links": {
      "self": {
        "href": "/api/security/login/messages/7b1b3715-9ffa-11e8-a5dd-
005056bbef18"
      }
    }
  }
],
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/security/login/messages?svm.name=svm1&fields=*"
  }
}
}
----

'''

=== Retrieving the login messages configuration by UUID, including all
```

```
fields

'''

----

# The API:
/api/security/login/messages/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/security/login/messages/7b1b3715-9ffa-
11e8-a5dd-005056bbef18?fields=*" -H "accept: application/hal+json"

# The response:
{
"uuid": "7b1b3715-9ffa-11e8-a5dd-005056bbef18",
"scope": "svm",
"svm": {
  "uuid": "7b1b3715-9ffa-11e8-a5dd-005056bbef18",
  "name": "svm1"
},
"message": "#### Welcome to SVM1 ####\n",
"show_cluster_message": true,
"_links": {
  "self": {
    "href": "/api/security/login/messages/7b1b3715-9ffa-11e8-a5dd-
005056bbef18"
  }
}
}
----

'''

=== Configuring the login banner in a cluster

'''

----

# The API:
/api/security/login/messages

# The call:
curl -X PATCH "https://<mgmt-
ip>/api/security/login/messages?scope=cluster" -H "accept:
application/hal+json" -H "Content-Type: appplication/json" -d "{
```

```
\"banner\": \"You are entering secure area.\" }"

# The response:
{
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/security/login/messages?scope=cluster"
  }
}
}
----

'''

=== Configuring the message of the day (MOTD) in a cluster

'''

----

# The API:
/api/security/login/messages

# The call:
curl -X PATCH "https://<mgmt-
ip>/api/security/login/messages?scope=cluster" -H "accept:
application/hal+json" -H "Content-Type: appplication/json" -d "{
\"message\": \"Welcome to Cluster X\",  \"show_cluster_message\": true }"

# The response:
{
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/security/login/messages?scope=cluster"
  }
}
}
----

'''

=== Clearing the login banner and message of the day (MOTD) in a cluster

'''
```

```
----

# The API:
/api/security/login/messages

# The call:
curl -X PATCH "https://<mgmt-
ip>/api/security/login/messages?scope=cluster" -H "accept:
application/hal+json" -H "Content-Type: appplication/json" -d "{
\"banner\": \"\", \"message\": \"\" }"

# The response:
{
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/security/login/messages?scope=cluster"
  }
}
}
----

'''

=== Configuring the login messages for a specific SVM

'''

----

# The API:
/api/security/login/messages

# The call:
curl -X PATCH "https://<mgmt-
ip>/api/security/login/messages?svm.name=svm1" -H  "accept:
application/hal+json" -H  "Content-Type: application/json" -d "{
\"banner\" : \"AUTHORIZED ACCESS ONLY\", \"message\": \"WELCOME!\" }"

# The response:
{
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/security/login/messages?svm.name=svm1"
  }
}
```

```
}
----

'''

=== Configuring the login messages by UUID

'''

----

# The API:
/api/security/login/messages/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/security/login/messages/7b1b3715-
9ffa-11e8-a5dd-005056bbef18" -H  "accept: application/hal+json" -H
"Content-Type: application/json" -d "{ \"banner\" : \"AUTHORIZED ACCESS
ONLY\", \"message\": \"WELCOME!\" }"
----

'''

=== Clearing the login messages configuration by UUID

'''

----

# The API:
/api/security/login/messages/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/security/login/messages/7b1b3715-
9ffa-11e8-a5dd-005056bbef18" -H "accept: application/hal+json" -H
"Content-Type: appplication/json" -d "{ \"banner\": \"\", \"message\":
\"\" }"
----

'''




[[ID1b8a1aeef63ea6852006d5ea477c3fe1]]
= Retrieve login banner and messages of the day
```

```
[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/login/messages`#

*Introduced In:* 9.6

Retrieves the login banner and messages of the day (MOTD) configured in
the cluster
and in specific SVMs.


== Parameters

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

|Name
|Type
|In
|Required
|Description

|scope
|string
|query
|False
a|Filter by scope


|show_cluster_message
|boolean
|query
|False
a|Filter by show_cluster_message


|uuid
|string
|query
|False
a|Filter by uuid


|svm.uuid
|string
|query
|False
```

```
a|Filter by svm.uuid


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


|message
|string
|query
|False
a|Filter by message


|banner
|string
|query
|False
a|Filter by banner


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


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


|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


|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


|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 records


|records
|array[link:#login_messages[login_messages]]
a|
```

```
|===


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

== 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.


|===


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

The login banner and message of the day (MOTD) configuration.


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

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

|banner
|string
```

```
a|The login banner text. This message is displayed during SSH and console
device
login just before the password prompt displays. When configured, a
cluster-level
login banner is used for every incoming connection. Each data SVM can
override
the cluster-level banner to instead display when you log into the SVM. To
restore
the default setting for a data SVM, set the banner to an empty string.
New lines are supplied as either LF or CRLF but are always returned as LF.
Optional in the PATCH body.


|message
|string
a|The message of the day (MOTD). This message appears just before the
clustershell
prompt after a successful login. When configured, the cluster message
displays first. If you log in as a data SVM administrator, the
SVM message is then printed. The cluster-level MOTD can be disabled
for a given data SVM using the "show_cluster_message" property.
New lines are supplied as either LF or CRLF but are always returned as LF.
Optional in the PATCH body.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|show_cluster_message
|boolean
a|Specifies whether to show a cluster-level message before the SVM message
when logging in as an SVM administrator.
This setting can only be modified by the cluster administrator.
Optional in the PATCH body.


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

|uuid
|string
a|The unique identifier (ID) of the login messages configuration.
```

```
|===


[#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
====



[[IDbc39cc6730531c2c44032ada3e64dab1]]
= Retrieve login messages configuration by UUID

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/login/messages/{uuid}`#

*Introduced In:* 9.6

Retrieves the login messages configuration by UUID.


== Parameters

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|Login messages configuration UUID
```

```
|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|

|banner
|string
a|The login banner text. This message is displayed during SSH and console
device
login just before the password prompt displays. When configured, a
cluster-level
login banner is used for every incoming connection. Each data SVM can
override
the cluster-level banner to instead display when you log into the SVM. To
restore
the default setting for a data SVM, set the banner to an empty string.
New lines are supplied as either LF or CRLF but are always returned as LF.
Optional in the PATCH body.


|message
|string
a|The message of the day (MOTD). This message appears just before the
clustershell
prompt after a successful login. When configured, the cluster message
displays first. If you log in as a data SVM administrator, the
SVM message is then printed. The cluster-level MOTD can be disabled
for a given data SVM using the "show_cluster_message" property.
New lines are supplied as either LF or CRLF but are always returned as LF.
```

```
Optional in the PATCH body.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|show_cluster_message
|boolean
a|Specifies whether to show a cluster-level message before the SVM message
when logging in as an SVM administrator.
This setting can only be modified by the cluster administrator.
Optional in the PATCH body.


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

|uuid
|string
a|The unique identifier (ID) of the login messages configuration.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "banner": "string",
  "message": "string",
  "scope": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
```

```
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "string"
}
====

== 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
====



[[IDa835c7f8864dd136118149daa558ccbf]]
= Update login messages configuration

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/login/messages/{uuid}`#

*Introduced In:* 9.6

Updates the login messages configuration.
There are no required fields. An empty body makes no modifications.


== Parameters
```

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

|Name
|Type
|In
|Required
|Description

|uuid
|string
|path
|True
a|Login messages configuration UUID

|===

== Request Body



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

|banner
|string
a|The login banner text. This message is displayed during SSH and console
device
login just before the password prompt displays. When configured, a
cluster-level
login banner is used for every incoming connection. Each data SVM can
override
the cluster-level banner to instead display when you log into the SVM. To
restore
the default setting for a data SVM, set the banner to an empty string.
New lines are supplied as either LF or CRLF but are always returned as LF.
Optional in the PATCH body.


|message
|string
a|The message of the day (MOTD). This message appears just before the
clustershell
prompt after a successful login. When configured, the cluster message
```

```
displays first. If you log in as a data SVM administrator, the
SVM message is then printed. The cluster-level MOTD can be disabled
for a given data SVM using the "show_cluster_message" property.
New lines are supplied as either LF or CRLF but are always returned as LF.
Optional in the PATCH body.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|show_cluster_message
|boolean
a|Specifies whether to show a cluster-level message before the SVM message
when logging in as an SVM administrator.
This setting can only be modified by the cluster administrator.
Optional in the PATCH body.


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

|uuid
|string
a|The unique identifier (ID) of the login messages configuration.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "banner": "string",
  "message": "string",
  "scope": "string",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "string"
}
```

```
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response codes

|===
| Error codes | Description

| 10225636
| Only a cluster administrator can modify the `show_cluster_message`
property.
|===


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

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

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


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


|===


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

The login banner and message of the day (MOTD) configuration.


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

|banner
|string
a|The login banner text. This message is displayed during SSH and console
device
login just before the password prompt displays. When configured, a
cluster-level
login banner is used for every incoming connection. Each data SVM can
override
```

```
the cluster-level banner to instead display when you log into the SVM. To
restore
the default setting for a data SVM, set the banner to an empty string.
New lines are supplied as either LF or CRLF but are always returned as LF.
Optional in the PATCH body.


|message
|string
a|The message of the day (MOTD). This message appears just before the
clustershell
prompt after a successful login. When configured, the cluster message
displays first. If you log in as a data SVM administrator, the
SVM message is then printed. The cluster-level MOTD can be disabled
for a given data SVM using the "show_cluster_message" property.
New lines are supplied as either LF or CRLF but are always returned as LF.
Optional in the PATCH body.


|scope
|string
a|Set to "svm" for interfaces owned by an SVM. Otherwise, set to
"cluster".


|show_cluster_message
|boolean
a|Specifies whether to show a cluster-level message before the SVM message
when logging in as an SVM administrator.
This setting can only be modified by the cluster administrator.
Optional in the PATCH body.


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

|uuid
|string
a|The unique identifier (ID) of the login messages configuration.


|===


[#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 security roles

:leveloffset: +1


[[ID57a9b77f5c77b26c8c546a9da2b58659]]
= Security roles endpoint overview



== Overview

ONTAP supports Role Based Access Control (RBAC) wherein a user account
must be associated with a role and the role defines the privileges and
rights for that user account. A privilege defines the access level of the
API as either "none", "readonly", or "all". This specifies whether the
user account can perform only a GET operation or POST, PATCH, and DELETE
operations as well. A role can comprise of multiple tuples and each tuple
consists of the REST API and its access level.
For example, "role1" might be a role that has a tuple
{"access":"all","path":"/api/storage/volume"}, which means that a user
account with "role1" can perform all GET, POST, PATCH, and DELETE requests
on the _api/storage/volume_ API or derived APIs which have
_api/storage/volume_ as the prefix.

In cases where a role has tuples with multiple APIs having the same
prefix, the highest match wins out.
For example, if "role1" has the following tuples:
{"access":"readonly","path":"/api/cluster"} and
{"access":"all","path":"/api/cluster/schedules"}, then only a GET request
is allowed on APIs with _api/cluster_ as the prefix; while POST, PATCH and
DELETE requests are possible on the _api/cluster/schedules_ API.
```

```
=== Predefined (built-in) roles

Related REST APIs are used to form predefined cluster-scoped and SVM-
scoped roles, such as: "admin", "backup", "readonly" for cluster and
"vsadmin", "vsadmin-backup", "vsadmin-protocol" for SVMs.
These can be retrieved by calling a GET request on _/api/security/roles_
API and can be assigned to user accounts. See the examples for
_api/security/accounts_.

These predefined roles cannot be modified or deleted.

=== Mapped roles

Before REST APIs, the RBAC roles (legacy roles) were defined to contain
the CLI commands and their access levels. Now, almost all REST APIs map to
one or more CLI commands. When a role is created using a POST request on
_/api/security/roles_, a mapped legacy role is created. This legacy role
has the same access level (as that of the REST API) for the mapped CLI
commands. However, if a legacy role with the same name already exists, the
POST operation fails and you need to choose a unique name for the role.
The legacy roles cannot be managed using the REST endpoint
_/api/security/roles_ or its derivatives. Legacy roles are managed using
the CLI commands "security login role <create \| modify \| delete> -role
+++<rolename>+++".+++</rolename>+++

Note that the mapped legacy role (for the REST API role created) cannot be
manipulated using the CLI.

The reverse case is not true; the creation of a legacy role will not
create a mapped role with equivalent REST APIs.

=== API restrictions

Numerous APIs are scoped for the cluster level only. This results in an
access error if assigned to an SVM-scoped role. For example,
_api/cluster/nodes_ does not work when added as a tuple entry for an SVM-
scoped role.

A number of APIs allowed for an SVM-scoped role might have restrictions on
the access level. For example, _/api/network/ethernet/ports_ cannot have
an access level of "all" for an SVM-scoped role; this results in an access
error when a POST or PATCH request is made.

Roles created with a REST API path prefix which is common to many APIs
might have restrictions based on the scope of the role; cluster or SVM.
For example, {"access":"all","path":"/api/security"} might be a tuple
```

```
entry for an SVM role. Any GET, POST, PATCH, or DELETE operation fails on
API _/api/security/accounts_ while the same on
_/api/security/login/messages_ succeeds. However, a role with exactly the
same tuple when created at the cluster-scope level allows the operations.

Numerous APIs have restrictions on the objects that can be operated on
based on the context of the SVM or cluster. For example, a POST request on
_/api/security/authentication/password_ API changes the password for a
user account. If executed in the context of an SVM (POST request on an SVM
interface), only the password of the user executing the POST can be
modified, and attempts to modify the password of any other user results in
an access error. However, if a POST request is performed by a cluster
administrator account, the password for any user account (cluster or SVM)
can be modified.

== Examples

=== Creating a cluster-scoped custom role

Specify the role name and the tuples (of REST APIs and their access level)
in the body of the POST request. The owner.uuid or owner.name are not
required to be specified for a cluster-scoped role.

----

# The API:
POST "/api/security/roles"

# The call:
curl -X POST "https://<mgmt-ip>/api/security/roles" -d
'{"name":"cluster_role", "privileges" :
[{"access":"readonly","path":"/api/cluster/jobs"},{"access":"all","path":"
/api/application/applications"},{"access":"readonly","path":"/api/applicat
ion/templates"}]}'
----

=== Creating an SVM-scoped custom role

For an SVM-scoped role, specify either owner.name or owner.uuid in the
request body along with other parameters for the role. These correspond to
the name or UUID of the SVM for which the role is being created and can be
obtained from the response body of the GET request performed on the
_/api/svm/svms_ API.

----

# The API:
```

```
POST "/api/security/roles"

# The call:
curl -X POST "https://<mgmt-ip>/api/security/roles" -d '{"owner": {"uuid"
: "9f93e553-4b02-11e9-a3f9-005056bb7acd"},"name":"svm_role", "privileges"
:
[{"access":"readonly","path":"/api/cluster/jobs"},{"access":"all","path":"
/api/application/applications"},{"access":"readonly","path":"/api/applicat
ion/templates"}]}'
----

=== Retrieving the configured roles

All of the roles or a filtered list of roles (for example by name,
predefined, and so on) can be retrieved.

----

# The API:
GET "/api/security/roles"

# The call to retrieve all the roles configured in the cluster:
curl -X GET "https://<mgmt-ip>/api/security/roles"

# The response:
{
"records": [
  {
    "owner": {
      "uuid": "2903de6f-4bd2-11e9-b238-0050568e2e25",
      "name": "cluster1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/2903de6f-4bd2-11e9-b238-0050568e2e25"
        }
      }
    },
    "name": "admin",
    "privileges": [
      {
        "path": "/api",
        "access": "all",
        "_links": {
          "self": {
            "href": "/api/security/roles/2903de6f-4bd2-11e9-b238-
0050568e2e25/admin/privileges/%2Fapi"
```

```
          }
        }
      }
    ],
    "builtin": true,
    "scope": "cluster",
    "_links": {
      "self": {
        "href": "/api/security/roles/2903de6f-4bd2-11e9-b238-
0050568e2e25/admin"
      }
    }
  },
  {
    "owner": {
      "uuid": "aaef7c38-4bd3-11e9-b238-0050568e2e25",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/aaef7c38-4bd3-11e9-b238-0050568e2e25"
        }
      }
    },
    "name": "vsadmin",
    "privileges": [
      {
        "path": "/api/application/applications",
        "access": "all",
        "_links": {
          "self": {
            "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/vsadmin/privileges/%2Fapi%2Fapplication%2Fapplications"
          }
        }
      },
      {
        "path": "/api/application/templates",
        "access": "readonly",
        "_links": {
          "self": {
            "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/vsadmin/privileges/%2Fapi%2Fapplication%2Ftemplates"
          }
        }
      },
      {
```

```
        "path": "/api/cluster",
        "access": "readonly",
        "_links": {
          "self": {
            "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/vsadmin/privileges/%2Fapi%2Fcluster"
          }
        }
      },
      {
        "path": "/api/svm/svms",
        "access": "readonly",
        "_links": {
          "self": {
            "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/vsadmin/privileges/%2Fapi%2Fsvm%2Fsvms"
          }
        }
      },
      {
        "path": "/api/svms",
        "access": "readonly",
        "_links": {
          "self": {
            "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/vsadmin/privileges/%2Fapi%2Fsvms"
          }
        }
      }
    ],
    "builtin": true,
    "scope": "svm",
    "_links": {
      "self": {
        "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/vsadmin"
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/security/roles"
  }
}
```

```
}
----

=== Using a scoped call to retrieve the configured roles

----

# Scoped call to retrieve all the roles for a particular SVM using
owner.uuid:
curl -X GET "https://<mgmt-ip>/api/security/roles/?owner.uuid=aaef7c38-
4bd3-11e9-b238-0050568e2e25"

# Scoped call to retrieve all the roles for a particular SVM using
owner.name:
curl -X GET "https://<mgmt-ip>/api/security/roles/?owner.name=svm1"

# Scoped call to retrieve the roles having vsadmin as the prefix in the
role name:
curl -X GET "https://<mgmt-ip>/api/security/roles/?name=vsadmin*"

# Scoped call to retrieve the predefined roles:
curl -X GET "https://<mgmt-ip>/api/security/roles/?builtin=true"

# Scoped call to retrieve the custom roles:
curl -X GET "https://<mgmt-ip>/api/security/roles/?builtin=false"
----




[[ID0b9d49fd7364de8d1a6646c82eb40c34]]
= Retrieve a list of roles configured in the cluster

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/roles`#

*Introduced In:* 9.6

Retrieves a list of roles configured in the cluster.

== Related ONTAP commands

* `security login rest-role show`

== Learn more
```

```
* xref:{relative_path}security_roles_endpoint_overview.html[DOC
/security/roles]


== Parameters

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

|Name
|Type
|In
|Required
|Description

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

* Introduced in: 9.7


|privileges.access
|string
|query
|False
a|Filter by privileges.access

* Introduced in: 9.7


|privileges.path
|string
|query
|False
a|Filter by privileges.path

* Introduced in: 9.7


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

```
* Introduced in: 9.7


|owner.name
|string
|query
|False
a|Filter by owner.name

* Introduced in: 9.7


|scope
|string
|query
|False
a|Filter by scope

* Introduced in: 9.7


|builtin
|boolean
|query
|False
a|Filter by builtin

* Introduced in: 9.7


|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 records


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

|===


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

```
            }
          },
          "access": "readonly",
          "path": "/api/storage/volumes"
        }
      ],
      "scope": "string"
    }
  ]
}
====

== 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|

|===


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

Owner name and UUID that uniquely identifies the role.


[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.


|===
```

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

A tuple containing the REST endpoint and the access level assigned to that
endpoint.


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

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

|access
|string
a|Access level for the REST endpoint.


|path
|string
a|REST URI/endpoint


|===


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

A named set of privileges that defines the rights an account has when it
is assigned the role.


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

|_links
```

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

|builtin
|boolean
a|Indicates if this is a built-in (pre-defined) role which cannot be
modified or deleted.


|name
|string
a|Role name


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the role.


|privileges
|array[link:#role_privilege[role_privilege]]
a|The list of privileges that this role has been granted.


|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|===


[#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
====
```

```
[[ID28ee0a72c1bd6368dfa21a24fb4cd49a]]
= Create a new cluster-scoped or SVM-scoped role

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/roles`#

*Introduced In:* 9.6

Creates a new cluster-scoped role or an SVM-scoped role. For an SVM-scoped
role, specify either the SVM name as the owner.name or SVM UUID as the
owner.uuid in the request body along with other parameters for the role.
The owner.uuid or owner.name are not required to be specified for a
cluster-scoped role.

== Required parameters

* `name` - Name of the role to be created.
* `privileges` - Array of privilege tuples. Each tuple consists of a REST
API path and its desired access level.

== Optional parameters

* `owner.name` or `owner.uuid`  - Name or UUID of the SVM for an SVM-
scoped role.

== Related ONTAP commands

* `security login rest-role create`

== Learn more

* xref:{relative_path}security_roles_endpoint_overview.html[DOC
/security/roles]


== 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

|builtin
|boolean
a|Indicates if this is a built-in (pre-defined) role which cannot be
modified or deleted.


|name
|string
a|Role name


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the role.


|privileges
|array[link:#role_privilege[role_privilege]]
a|The list of privileges that this role has been granted.


|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|===
```

```
.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "name": "admin",
  "owner": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "privileges": [
    {
      "access": "readonly",
      "path": "/api/storage/volumes"
    }
  ],
  "scope": "string"
}
====

== Response
```

Status: 201, Created

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 2621462
| The supplied SVM does not exist.

| 5636129
| Role with given name has not been defined.

| 5636143
| Vserver admin cannot use the API with this access level.

| 5636144
```

```
| Invalid value specified for access level.

| 5636169
| Invalid character in URI.

| 5636170
| URI does not exist.

| 5636171
| Role already exists in legacy role table.

| 13434890
| Vserver-ID failed for Vserver roles.

| 13434891
| UUID lookup failed for Vserver roles.

| 13434892
| Roles is a required field.
|===


== 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
[#owner]
[.api-collapsible-fifth-title]
owner

Owner name and UUID that uniquely identifies the role.


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

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


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


|===


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

A tuple containing the REST endpoint and the access level assigned to that
endpoint.


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

|access
|string
a|Access level for the REST endpoint.
```

```
|path
|string
a|REST URI/endpoint


|===


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

A named set of privileges that defines the rights an account has when it
is assigned the role.


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

|builtin
|boolean
a|Indicates if this is a built-in (pre-defined) role which cannot be
modified or deleted.


|name
|string
a|Role name


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the role.


|privileges
|array[link:#role_privilege[role_privilege]]
a|The list of privileges that this role has been granted.


|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.
```

```
|===


[#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


= View or delete a role

:leveloffset: +1


[[ID90fcbc95c36a3da75d9783fd915c0d29]]
= Security roles owner.uuid name endpoint overview



== Overview

This APi is used to retrieve or delete a role. The role can be SVM-scoped
or cluster-scoped.

Specify the owner UUID and the role name in the URI path. The owner UUID
corresponds to the UUID of the SVM for which the role has been created and
can be obtained from the response body of a GET call performed on one of
the following APIs:
_/api/security/roles_ for all roles
_/api/security/roles/?scope=svm_ for SVM-scoped roles
_/api/security/roles/?owner.name=\{svm-name}_ for roles in a specific SVM
This API response contains the complete URI for each role that can be used
for retrieving or deleting a role.
```

```
NOTE: The pre-defined roles can be retrieved but cannot be deleted.

== Examples

=== Retrieving a role configuration

----

# The API:
GET "/api/security/roles/{owner.uuid}/{name}"

# The call:
curl -X GET "https://<mgmt-ip>/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/secure_role"

# The response:
{
"owner": {
  "uuid": "aaef7c38-4bd3-11e9-b238-0050568e2e25",
  "name": "svm1",
  "_links": {
    "self": {
      "href": "/api/svm/svms/aaef7c38-4bd3-11e9-b238-0050568e2e25"
    }
  }
},
"name": "secure_role",
"privileges": [
  {
    "path": "/api/security",
    "access": "all",
    "_links": {
      "self": {
        "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/secure_role/privileges/%2Fapi%2Fsecurity"
      }
    }
  }
],
"builtin": false,
"scope": "svm",
"_links": {
  "self": {
    "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/secure_role"
  }
```

```
}
}
----

=== Deleting a custom role

----

# The API:
DELETE "/api/security/roles/{owner.uuid}/{name}"

# The call:
curl -X DELETE "https://<mgmt-ip>/api/security/roles/aaef7c38-4bd3-11e9-
b238-0050568e2e25/svm_role1"
----




[[IDddfc9a2079a4229f3b788df601cd3b83]]
= Delete a role

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/roles/{owner.uuid}/{name}`#

*Introduced In:* 9.6

Deletes the specified role.

== Required parameters

* `name` - Name of the role to be deleted.
* `owner.uuid` - UUID of the SVM housing the role.

== Related ONTAP commands

* `security login rest-role delete`

== Learn more

*
xref:{relative_path}security_roles_owner.uuid_name_endpoint_overview.html[
DOC /security/roles/{owner.uuid}/\{name}]
* xref:{relative_path}security_roles_endpoint_overview.html[DOC
/security/roles]
```

```
== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Role owner UUID


|name
|string
|path
|True
a|Role name to be deleted.

|===

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 5636172
| User accounts detected with this role assigned. Update or delete those
accounts before deleting this role.

| 5636173
```

```
| Features require an effective cluster version of 9.6 or later.

| 13434890
| Vserver-ID failed for Vserver roles.

| 13434893
| The SVM does not exist.
|===



[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
====



[[IDe0800835b33272921d84ee718ea88ecd]]
= Retrieve the details of a role

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/roles/{owner.uuid}/{name}`#

*Introduced In:* 9.6

Retrieves the details of the specified role.

== Related ONTAP commands

* `security login rest-role show`

== Learn more

*
xref:{relative_path}security_roles_owner.uuid_name_endpoint_overview.html[
DOC /security/roles/{owner.uuid}/\{name}]
* xref:{relative_path}security_roles_endpoint_overview.html[DOC
/security/roles]


== Parameters

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

|Name
|Type
```

```
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Role owner UUID


|name
|string
|path
|True
a|Role name


|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|

|builtin
|boolean
a|Indicates if this is a built-in (pre-defined) role which cannot be
modified or deleted.
```

```
|name
|string
a|Role name


|owner
|link:#owner[owner]
a|Owner name and UUID that uniquely identifies the role.


|privileges
|array[link:#role_privilege[role_privilege]]
a|The list of privileges that this role has been granted.


|scope
|string
a|Scope of the entity. Set to "cluster" for cluster owned objects and to
"svm" for SVM owned objects.


|===


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

```
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "access": "readonly",
      "path": "/api/storage/volumes"
    }
  ],
  "scope": "string"
}
====

== 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|

|===


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

```
Owner name and UUID that uniquely identifies the role.


[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.


|===


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

A tuple containing the REST endpoint and the access level assigned to that
endpoint.


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

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

|access
|string
```

```
a|Access level for the REST endpoint.


|path
|string
a|REST URI/endpoint


|===


[#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 role privilege details

:leveloffset: +1


[[ID62eb8f60216f9934ca262c8fdb027977]]
= Security roles owner.uuid name privileges endpoint overview



== Overview

This API is used to configure the role privileges (tuples of REST URI path
and its access levels). It also retrieves all of the privilege tuples for
a role and can add a tuple to an existing role.

The role can be SVM-scoped or cluster-scoped.

Specify the owner UUID and the role name in the URI path. The owner UUID
```

```
corresponds to the UUID of the SVM for which the role has been created and
can be obtained from the response body of a GET request performed on one
of the following APIs:
_/api/security/roles_ for all the roles
_/api/security/roles/?scope=svm_ for SVM-scoped roles
_/api/security/roles/?owner.name=+++<svm-name>+++</i> for roles in a
specific SVM This API response contains the complete URI for each role and
can be used after suffixing it with _"privileges"_.+++</svm-name>+++_

NOTE: The pre-defined roles can be retrieved but cannot be updated.

== Examples

=== Adding a privilege tuple for an existing custom role

----

# The API:
POST "/security/roles/{owner.uuid}/{name}/privileges"

# The call:
curl -X POST "https://<mgmt-ip>/api/security/roles/aaef7c38-4bd3-11e9-
b238-0050568e2e25/svm_role1/privileges" -d
'{"access":"readonly","path":"/api/protocols"}'
----

=== Retrieving all the privilege tuples for a role

----

# The API:
GET "/api/security/roles/{owner.uuid}/{name}/privileges"

# The call:
curl -X GET "https://<mgmt-ip>/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/svm_role1/privileges"

# The response:
{
"records": [
  {
    "path": "/api/application",
    "access": "all",
    "_links": {
      "self": {
        "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/svm_role1/privileges/%2Fapi%2Fapplication"
```

```
      }
    }
  },
  {
    "path": "/api/protocols",
    "access": "readonly",
    "_links": {
      "self": {
        "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/svm_role1/privileges/%2Fapi%2Fprotocols"
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/svm_role1/privileges"
  }
}
}
----




[[ID76c93a48a551e67cd55aa6097995540b]]
= Retrieve privilege details of the specified role

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/roles/{owner.uuid}/{name}/privileges`#

*Introduced In:* 9.6

Retrieves privilege details of the specified role.

== Related ONTAP commands

* `security login rest-role show`

== Learn more

*
xref:{relative_path}security_roles_owner.uuid_name_privileges_endpoint_ove
rview.html[DOC /security/roles/{owner.uuid}/\{name}/privileges]
```

```
* xref:{relative_path}security_roles_endpoint_overview.html[DOC
/security/roles]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Role owner UUID


|name
|string
|path
|True
a|Role 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 records
```

```
|records
|array[link:#role_privilege[role_privilege]]
a|

|===


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

== 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|

|===


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

A tuple containing the REST endpoint and the access level assigned to that
endpoint.
```

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

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

|access
|string
a|Access level for the REST endpoint.


|path
|string
a|REST URI/endpoint


|===


[#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
====



[[ID8e962f2189b3e5b019888e042b8196cf]]
= Add a privilege tuple to an existing role

[.api-doc-operation .api-doc-operation-post]#POST# [.api-doc-code-
block]#`/security/roles/{owner.uuid}/{name}/privileges`#

*Introduced In:* 9.6
```

```
Adds a privilege tuple (of REST URI and its access level) to an existing
role.

== Required parameters

* `owner.uuid` - UUID of the SVM that houses this role.
* `name` - Name of the role to be updated.
* `path` - REST URI path (example: "/api/storage/volumes").
* `access` - Desired access level for the REST URI path (one of "all",
"readonly" or "none").

== Related ONTAP commands

* `security login rest-role create`

== Learn more

*
xref:{relative_path}security_roles_owner.uuid_name_privileges_endpoint_ove
rview.html[DOC /security/roles/{owner.uuid}/\{name}/privileges]
* xref:{relative_path}security_roles_endpoint_overview.html[DOC
/security/roles]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Role owner UUID


|name
|string
|path
|True
a|Role name
```

```
|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

|access
|string
a|Access level for the REST endpoint.


|path
|string
a|REST URI/endpoint


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "access": "readonly",
  "path": "/api/storage/volumes"
}
====

== Response
```

Status: 201, Created

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 5636129
| A role with given name has not been defined.

| 5636143
| A Vserver admin cannot use the API with this access level.

| 5636144
| The value specified for the access level is not valid.

| 5636169
| A character in the URI is not valid.

| 5636170
| The URI does not exist.

| 5636173
| This feature requires an effective cluster version of 9.6 or later.

| 5636175
| Vserver admin cannot have access to given API.

| 13434890
| Vserver-ID failed for Vserver roles.

| 13434891
| UUID LookUp failed for Vserver roles.

| 13434892
| Roles is a required field.

| 13434893
| The SVM does not exist.
|===
```

```
== 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
[#role_privilege]
[.api-collapsible-fifth-title]
role_privilege

A tuple containing the REST endpoint and the access level assigned to that
endpoint.


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

|access
|string
a|Access level for the REST endpoint.
```

```
|path
|string
a|REST URI/endpoint


|===


[#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 role privilege path

:leveloffset: +1


[[ID96a4f64d603f0f1f7fd58e1d7a4aa113]]
= Security roles owner.uuid name privileges path endpoint overview



== Overview

A role can comprise of multiple tuples and each tuple consists of the REST
API path and its access level. These APIs can be used to retrieve and
modify the access level or delete one of the constituent REST API paths
within a role.

The role can be SVM-scoped or cluster-scoped.

Specify the owner UUID and the role name in the URI path. The owner UUID
corresponds to the UUID of the SVM for which the role has been created and
can be obtained from the response body of a GET request performed on one
```

```
of the following APIs:
_/api/security/roles_ for all roles
_/api/security/roles/?scope=svm_ for SVM-scoped roles
_/api/security/roles/?owner.name=+++<svm-name>+++</i> for roles in a
specific SVM This API response contains the complete URI for each tuple of
the role and can be used for GET, PATCH, or DELETE operations.+++</svm-
name>+++_

NOTE: The access level for paths in pre-defined roles cannot be updated.

== Examples

=== Updating the access level for a path in the privilege tuple of an
existing role

----

# The API:
PATCH "/api/security/roles/{owner.uuid}/{name}/privileges/{path}"

# The call:
curl -X PATCH "https://<mgmt-ip>/api/security/roles/aaef7c38-4bd3-11e9-
b238-0050568e2e25/svm_role1/privileges/%2Fapi%2Fprotocols" -d
'{"access":"all"}'
----

=== Retrieving the access level for a path in the privilege tuple of an
existing role

----

# The API:
GET "/api/security/roles/{owner.uuid}/{name}/privileges/{path}"

# The call:
curl -X GET "https://<mgmt-ip>/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/svm_role1/privileges/%2Fapi%2Fprotocols"

# The response:
{
"owner": {
  "uuid": "aaef7c38-4bd3-11e9-b238-0050568e2e25"
},
"name": "svm_role1",
"path": "/api/protocols",
"access": "all",
"_links": {
```

```
  "self": {
    "href": "/api/security/roles/aaef7c38-4bd3-11e9-b238-
0050568e2e25/svm_role1/privileges/%2Fapi%2Fprotocols"
  }
}
}
----

=== Deleting a privilege tuple from an existing role

----

# The API:
DELETE "/api/security/roles/{owner.uuid}/{name}/privileges/{path}"

# The call:
curl -X DELETE "https://<mgmt-ip>/api/security/roles/aaef7c38-4bd3-11e9-
b238-0050568e2e25/svm_role1/privileges/%2Fapi%2Fprotocols"
----




[[IDddd3fffd354ed52de0ea38e916a06ae0]]
= Delete a privilege tuple from the role

[.api-doc-operation .api-doc-operation-delete]#DELETE# [.api-doc-code-
block]#`/security/roles/{owner.uuid}/{name}/privileges/{path}`#

*Introduced In:* 9.6

Deletes a privilege tuple (of REST URI and its access level) from the
role.

== Required parameters

* `owner.uuid` - UUID of the SVM which houses this role.
* `name` - Name of the role to be updated.
* `path` - Constituent REST API path to be deleted from this role.

== Related ONTAP commands

* `security login rest-role delete`

== Learn more
```

```
*
xref:{relative_path}security_roles_owner.uuid_name_privileges_path_endpoin
t_overview.html[DOC
/security/roles/{owner.uuid}/\{name}/privileges/\{path}]
* xref:{relative_path}security_roles_endpoint_overview.html[DOC
/security/roles]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Role owner UUID


|name
|string
|path
|True
a|Role name


|path
|string
|path
|True
a|REST API path

|===

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 5636172
| User accounts detected with this role assigned. Update or delete those
accounts before deleting this role.

| 5636173
| This feature requires an effective cluster version of 9.6 or later.

| 13434890
| Vserver-ID failed for Vserver roles.

| 13434893
| The SVM does not exist.
|===



[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
====



[[IDd6a21bf62a039d37451ee2170c2876a1]]
= Retrieve the access level for a REST API path or command/command
directory path for a role

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/roles/{owner.uuid}/{name}/privileges/{path}`#

*Introduced In:* 9.6

Retrieves the privilege level for a REST API path for the specified role.

== Related ONTAP commands

* `security login rest-role show`
```

```
== Learn more

*
xref:{relative_path}security_roles_owner.uuid_name_privileges_path_endpoin
t_overview.html[DOC
/security/roles/{owner.uuid}/\{name}/privileges/\{path}]
* xref:{relative_path}security_roles_endpoint_overview.html[DOC
/security/roles]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Role owner UUID


|name
|string
|path
|True
a|Role name


|path
|string
|path
|True
a|REST API path


|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|

|access
|string
a|Access level for the REST endpoint.


|path
|string
a|REST URI/endpoint


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "access": "readonly",
  "path": "/api/storage/volumes"
}
====

== 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|

|===


[#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
====



[[IDb617a6d2ed7679a8dba8d7d423cce916]]
= Update the access level for a REST API path or command/command directory
path

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/roles/{owner.uuid}/{name}/privileges/{path}`#

*Introduced In:* 9.6
```

```
Updates the privilege level for a REST API path.

== Required parameters

* `owner.uuid` - UUID of the SVM that houses this role.
* `name` - Name of the role to be updated.
* `path` - Constituent REST API path whose access level has to be updated.
* `access` - Access level for the path (one of "all", "readonly", or
"none")

== Related ONTAP commands

* `security login rest-role modify`

== Learn more

*
xref:{relative_path}security_roles_owner.uuid_name_privileges_path_endpoin
t_overview.html[DOC
/security/roles/{owner.uuid}/\{name}/privileges/\{path}]
* xref:{relative_path}security_roles_endpoint_overview.html[DOC
/security/roles]


== Parameters

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

|Name
|Type
|In
|Required
|Description

|owner.uuid
|string
|path
|True
a|Role owner UUID


|name
|string
|path
|True
a|Role name
```

```
|path
|string
|path
|True
a|REST API path

|===

== Request Body



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

|access
|string
a|Access level for the REST endpoint.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "access": "readonly"
}
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default, Error

```
```

```
== 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
[#role_privilege]
[.api-collapsible-fifth-title]
role_privilege

A tuple containing the REST endpoint and the access level assigned to that
endpoint.


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

|access
|string
a|Access level for the REST endpoint.


|===
```

```
[#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 SSH server

:leveloffset: +1


[[ID3c486e404d596e3d087ac2ca54b03de7]]
= Security SSH endpoint overview



== Overview

ONTAP supports SSH server that can be accessed from any standard SSH
client. A user account needs to be associated with SSH as the application
(refer the documentation for _api/security/accounts_
xref:{relative_path}security_accounts_endpoint_overview.html[DOC
/security/accounts] . Upon connecting from a client, the user is
authenticated and a command line shell is presented.

This endpoint is used to retrieve or modify the SSH configuration at the
cluster level. The configuration consists of SSH security parameters
(security algorithms and maximum authentication retry attempts allowed
before closing the connection) and SSH connection limits.

The security algorithms include SSH key exchange algorithms, ciphers for
payload encryption, and MAC algorithms. This configuration is the default
for all newly created SVMs; existing SVM configurations are not impacted.
The SSH connection limits include maximum connections per second, maximum
```

```
simultaneous sessions from the same client host, and overall maximum SSH
connections at any given point in time. The connection limits are per node
and will be the same for all nodes in the cluster.

== Examples

=== Updating the SSH security parameters

Specify the algorithms in the body of the PATCH request.

----

# The API:
PATCH "/api/security/ssh"

# The call:
curl -X PATCH "https://<mgmt-ip>/api/security/ssh" -d '{ "ciphers": [
"aes256_ctr", "aes192_ctr" ], "key_exchange_algorithms": [
"diffie_hellman_group_exchange_sha256", "diffie_hellman_group14_sha1" ],
"mac_algorithms": [ "hmac_sha2_512_etm", "umac_128_etm" ],
"max_authentication_retry_count": 3 }'
----

=== Updating the SSH connection limits

Specify the connection limits in the body of the PATCH request.

----

# The API:
PATCH "/api/security/ssh"

# The call:
curl -X PATCH "https://<mgmt-ip>/api/security/ssh" -d '{
"connections_per_second": 8, "max_instances": 10, "per_source_limit": 5 }'
----

=== Retrieving the cluster SSH server configuration

----

# The API:
GET "/api/security/ssh"

# The call:
curl -X GET "https://<mgmt-ip>/api/security/ssh"
```

```
# The response:
{
"ciphers": [
  "aes256_ctr",
  "aes192_ctr"
],
"key_exchange_algorithms": [
  "diffie_hellman_group_exchange_sha256",
  "diffie_hellman_group14_sha1"
],
"mac_algorithms": [
  "hmac_sha2_512_etm",
  "umac_128_etm"
],
"max_authentication_retry_count": 3,
"connections_per_second": 8,
"max_instances": 10,
"per_source_limit": 5,
"_links": {
  "self": {
    "href": "/api/security/ssh"
  }
}
}
----




[[IDdcbb22299e9f6dccc604ac6a6a365bc5]]
= Retrieve cluster SSH server ciphers, MAC algorithms, key exchange
algorithms, and connection limits

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security/ssh`#

*Introduced In:* 9.7

Retrieves the cluster SSH server ciphers, MAC algorithms, key exchange
algorithms, and connection limits.

== Related ONTAP commands

* `security ssh`
* `security protocol ssh`
```

```
== Response
```

Status: 200, Ok

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

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

|ciphers
|array[string]
a|Ciphers for encrypting the data.


|connections_per_second
|integer
a|Maximum connections allowed per second.


|key_exchange_algorithms
|array[string]
a|Key exchange algorithms.


|mac_algorithms
|array[string]
a|MAC algorithms.


|max_authentication_retry_count
|integer
a|Maximum authentication retries allowed before closing the connection.


|max_instances
|integer
a|Maximum possible simultaneous connections.


|per_source_limit
```

```
|integer
a|Maximum connections from the same client host.


|===


.Example response
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ciphers": [
    "aes256_ctr",
    "aes192_ctr",
    "aes128_ctr"
  ],
  "key_exchange_algorithms": [
    "diffie_hellman_group_exchange_sha256",
    "diffie_hellman_group14_sha1"
  ],
  "mac_algorithms": [
    "hmac_sha1",
    "hmac_sha2_512_etm"
  ]
}
====

== 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|

|===


[#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
====



[[IDaeea4ec4b65f34f40997333693dace3a]]
= Update the SSH server setting for a cluster

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security/ssh`#

*Introduced In:* 9.7

Updates the SSH server setting for a cluster.

== Optional parameters

* `ciphers` - Encryption algorithms for the payload
* `key_exchange_algorithms` - SSH key exchange algorithms
* `mac_algorithms` - MAC algorithms
* `max_authentication_retry_count` - Maximum authentication retries
```

```
allowed before closing the connection
* `connections_per_second` - Maximum allowed connections per second
* `max_instances` - Maximum allowed connections per node
* `per_source_limit` - Maximum allowed connections from the same client
host

== Related ONTAP commands

* `security ssh`
* `security protocol ssh`


== 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

|ciphers
|array[string]
a|Ciphers for encrypting the data.
```

```
|connections_per_second
|integer
a|Maximum connections allowed per second.


|key_exchange_algorithms
|array[string]
a|Key exchange algorithms.


|mac_algorithms
|array[string]
a|MAC algorithms.


|max_authentication_retry_count
|integer
a|Maximum authentication retries allowed before closing the connection.


|max_instances
|integer
a|Maximum possible simultaneous connections.


|per_source_limit
|integer
a|Maximum connections from the same client host.


|===


.Example request
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "ciphers": [
    "aes256_ctr",
    "aes192_ctr",
    "aes128_ctr"
  ],
  "key_exchange_algorithms": [
    "diffie_hellman_group_exchange_sha256",
    "diffie_hellman_group14_sha1"
```

```
  ],
  "mac_algorithms": [
    "hmac_sha1",
    "hmac_sha2_512_etm"
  ]
}
====

== Response
```

Status: 200, Ok

```
== Error
```

Status: Default

```
ONTAP Error Response Codes

|===
| Error Code | Description

| 10682372
| There must be at least one key exchange algorithm associated with the
SSH configuration.

| 10682373
| There must be at least one cipher associated with the SSH configuration.

| 10682375
| Failed to modify SSH key exchange algorithms.

| 10682378
| Failed to modify SSH ciphers.

| 10682399
| Key exchange algorithm not supported in FIPS enabled mode.

| 10682400
| Failed to modify SSH MAC algorithms.

| 10682401
| MAC algorithm not supported in FIPS enabled mode.

| 10682403
| There must be at least one MAC algorithm with the SSH configuration.
```

```
| 10682413
| Failed to modify maximum authentication retry attempts.

| 10682413
| Failed to modify maximum authentication retry attempts.

| 10682418
| Cipher not supported in FIPS enabled mode.
|===


== 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
[#cluster_ssh_server]
[.api-collapsible-fifth-title]
cluster_ssh_server

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

```
|Description

|ciphers
|array[string]
a|Ciphers for encrypting the data.


|connections_per_second
|integer
a|Maximum connections allowed per second.


|key_exchange_algorithms
|array[string]
a|Key exchange algorithms.


|mac_algorithms
|array[string]
a|MAC algorithms.


|max_authentication_retry_count
|integer
a|Maximum authentication retries allowed before closing the connection.


|max_instances
|integer
a|Maximum possible simultaneous connections.


|per_source_limit
|integer
a|Maximum connections from the same client host.


|===


[#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*
```

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