



SVM

ONTAP 9.11.1 REST API reference

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SVM

SVM overview

Overview

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

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

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

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

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

SVM migration

SVM migrations endpoint overview

Overview

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

Precondition

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

SVM migration APIs

The following APIs are used to manage SVM migration:

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

Starting a migration

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

Monitoring the status of the SVM migration

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

Possible errors before starting the migration

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

Polling the migration operation

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

Errors during the migration operation

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

Pausing the migration operation

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

Resuming the migration operation

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

Aborting the migration operation

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

Retrieving the migration status

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

Retrieving the volume transfer status

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

Retrieving the volume transfer status of a specific volume

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

Examples

Starting a Migration

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

POST body included from file

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

Inline POST body

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

POST Response

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

Retrieving POST Job status

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

Request

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

Response

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

Retrieving all migrations

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

Request

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

Response

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

Retrieving a specific migration

Request

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

Response

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



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

Pausing a migration

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

Request

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

Response

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

Monitoring PATCH job status

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

Request

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

Response

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

Aborting a migration

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

Request

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

Response

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

Monitoring DELETE job status

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

Request

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

Response

```

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

```

Retrieve the SVM migration status

GET /svm/migrations

Introduced In: 9.10

Retrieves the SVM migration status.

Related ONTAP commands

- `vserver migrate show`

Parameters

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

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

| Name | Type | In | Required | Description |
|--------------------------|---------------|-------|----------|---|
| restart_count | integer | query | False | Filter by restart_count |
| last_operation | string | query | False | Filter by last_operation |
| current_operation | string | query | False | Filter by current_operation |
| uuid | string | query | False | Filter by uuid |
| messages.code | integer | query | False | Filter by messages.code |
| messages.message | string | query | False | Filter by messages.message |
| last_failed_state | string | query | False | Filter by last_failed_state |
| point_of_no_return | boolean | query | False | Filter by point_of_no_return |
| destination.ipspace.name | string | query | False | Filter by destination.ipspace.name |
| destination.ipspace.uuid | string | query | False | Filter by destination.ipspace.uuid |
| fields | array[string] | query | False | Specify the fields to return. |
| max_records | integer | query | False | Limit the number of records returned. |
| return_records | boolean | query | False | <p>The default is true for GET calls. When set to false, only the number of records is returned.</p> <ul style="list-style-type: none"> • Default value: 1 |

| Name | Type | In | Required | Description |
|----------------|---------------|-------|----------|--|
| return_timeout | integer | query | False | <p>The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |
| order_by | array[string] | query | False | Order results by specified fields and optional [asc |

Response

Status: 200, Ok

| Name | Type | Description |
|-------------|--|-------------------|
| _links | _links | |
| num_records | integer | Number of records |
| records | array[svm_migration] | |

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": {
    "current_operation": "none",
    "destination": {
      "ipspace": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "exchange",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "volume_placement": {
        "aggregates": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "aggr1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "volume_aggregate_pairs": {
          "aggregate": {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            },
            "name": "aggr1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          },
          "volume": {
            "_links": {
              "self": {
```

```

        "href": "/api/resourcelink"
      }
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  }
}
},
"ip_interface_placement": {
  "ip_interfaces": {
    "interface": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ip": {
        "address": "10.10.10.7"
      },
      "name": "lif1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  }
},
"last_failed_state": "precheck_started",
"last_operation": "none",
"messages": {
},
"restart_count": 0,
"source": {
  "cluster": {
    "_links": {
      "self": {

```

```

        "href": "/api/resourcelink"
      }
    },
    "name": "cluster1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
},
"state": "precheck_started",
"time_metrics": {
  "cutover_complete_time": "2020-12-02T19:30:19-08:00",
  "cutover_start_time": "2020-12-02T18:20:19-08:00",
  "cutover_trigger_time": "2020-12-02T19:15:19-08:00",
  "end_time": "2020-12-02T19:36:19-08:00",
  "last_pause_time": "2020-12-02T18:50:19-08:00",
  "last_resume_time": "2020-12-02T18:54:19-08:00",
  "start_time": "2020-12-02T18:36:19-08:00"
},
"uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
}

```

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|---------------------------|
| 13172783 | Migrate RDB lookup failed |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

ipSPACE

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

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

aggregates

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

aggregate

Aggregate to use for volume creation.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |

| Name | Type | Description |
|------|--------|-------------|
| uuid | string | |

volume

Property indicating the source volume.

| Name | Type | Description |
|------------------------|------------------------|--|
| _links | _links | |
| name | string | The name of the volume. |
| uuid | string | <p>Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move.</p> <ul style="list-style-type: none"> • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 |

volume_aggregate_pairs

Volume-aggregate pair information.

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

volume_placement

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

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

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

destination

Destination cluster details for the SVM migration.

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

ip

IP information

| Name | Type | Description |
|---------|--------|----------------------|
| address | string | IPv4 or IPv6 address |

interface

Network interface on the source SVM.

| Name | Type | Description |
|--------|--------|---|
| _links | _links | |
| ip | ip | IP information |
| name | string | The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in. |
| uuid | string | The UUID that uniquely identifies the interface. |

node

| Name | Type | Description |
|------|--------|--|
| name | string | Name of node on which the port is located. |

port

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

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| node | node | |
| uuid | string | |

ip_interfaces

IP interface and network port pair information.

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

svm_migration_ip_interface_placement

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

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

messages

Specifies failure codes and messages.

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

cluster

Source cluster for the SVM migration.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

Source SVM

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

source

Source cluster details for the SVM migration.

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

time_metrics

Various time metrics details

| Name | Type | Description |
|-----------------------|--------|--------------------|
| cutover_complete_time | string | Cutover end time |
| cutover_start_time | string | Cutover start time |

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

svm_migration

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

| Name | Type | Description |
|------------------------|--|---|
| auto_cutover | boolean | Optional property that when set to true automatically performs cutover when the migration state reaches "ready for cutover". |
| auto_source_cleanup | boolean | Optional property that when set to true automatically cleans up the SVM on the source cluster after the migration cutover. |
| check_only | boolean | Optional property that when set to true performs only migration pre-checks not the actual migration. |
| current_operation | string | |
| destination | destination | Destination cluster details for the SVM migration. |
| ip_interface_placement | svm_migration_ip_interface_placement | Optional property used to specify the list of source SVM's IP interface and network port pairs in the destination for migrating the source SVM IP interfaces. Note that the SVM migration does not perform any reachability checks on the IP interfaces provided. |

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

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

Create an SVM migration operation

POST /svm/migrations

Introduced In: 9.10

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

Required properties

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

Optional properties

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

Related ONTAP commands

- `vserver migrate start`

Parameters

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|--|
| return_timeout | integer | query | False | <p>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.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |
| return_records | boolean | query | False | <p>The default is false. If set to true, the records are returned.</p> <ul style="list-style-type: none"> • Default value: |

Request Body

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

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

| Name | Type | Description |
|-------------|-------------|--------------------|
| uuid | string | SVM migration UUID |

Example request

```
{
  "current_operation": "none",
  "destination": {
    "ipspace": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "exchange",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "volume_placement": {
      "aggregates": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "aggr1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "volume_aggregate_pairs": {
        "aggregate": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "aggr1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "volume": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "volumel",
          "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
        }
      }
    }
  }
},
```



```

"ip_interface_placement": {
  "ip_interfaces": {
    "interface": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ip": {
        "address": "10.10.10.7"
      },
      "name": "lif1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "elb",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "last_failed_state": "precheck_started",
  "last_operation": "none",
  "messages": {
  },
  "restart_count": 0,
  "source": {
    "cluster": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "cluster1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "svm": {
      "_links": {
        "self": {

```

```

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

```

Response

Status: 202, Accepted

| Name | Type | Description |
|------|--------------------------|-------------|
| job | job_link | |

Example response

```

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

```

Error

Status: Default

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

ipSPACE

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

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

aggregates

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

aggregate

Aggregate to use for volume creation.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

volume

Property indicating the source volume.

| Name | Type | Description |
|------------------------|------------------------|--|
| _links | _links | |
| name | string | The name of the volume. |
| uuid | string | <p>Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move.</p> <ul style="list-style-type: none"> • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 |

volume_aggregate_pairs

Volume-aggregate pair information.

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

volume_placement

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

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

destination

Destination cluster details for the SVM migration.

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

ip

IP information

| Name | Type | Description |
|---------|--------|----------------------|
| address | string | IPv4 or IPv6 address |

interface

Network interface on the source SVM.

| Name | Type | Description |
|------------------------|------------------------|---|
| _links | _links | |
| ip | ip | IP information |
| name | string | The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in. |
| uuid | string | The UUID that uniquely identifies the interface. |

node

| Name | Type | Description |
|------|--------|--|
| name | string | Name of node on which the port is located. |

port

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

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| node | node | |
| uuid | string | |

ip_interfaces

IP interface and network port pair information.

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

svm_migration_ip_interface_placement

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

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

messages

Specifies failure codes and messages.

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

cluster

Source cluster for the SVM migration.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

Source SVM

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

source

Source cluster details for the SVM migration.

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

time_metrics

Various time metrics details

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

svm_migration

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

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

| Name | Type | Description |
|---------------|------------------------------|--|
| restart_count | integer | Number of times SVM migration was restarted since initially started. |
| source | source | Source cluster details for the SVM migration. |
| state | string | Indicates the state of the migration. |
| time_metrics | time_metrics | Various time metrics details |
| uuid | string | SVM migration UUID |

job_link

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Retrieve transfer status of volumes in an SVM

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

Introduced In: 9.10

Retrieves the transfer status of the volumes in the SVM.

Related ONTAP commands

- `vserver migrate show-volume`

Parameters

| Name | Type | In | Required | Description |
|--------------------|---------------|-------|----------|--|
| svm_migration.uuid | string | path | True | Migration UUID |
| fields | array[string] | query | False | Specify the fields to return. |
| max_records | integer | query | False | Limit the number of records returned. |
| return_records | boolean | query | False | The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none">• Default value: 1 |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none">• Default value: 1• Max value: 120• Min value: 0 |

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

Response

Status: 200, Ok

| Name | Type | Description |
|-------------|---|-------------------|
| _links | _links | |
| num_records | integer | Number of records |
| records | array[svm_migration_volume] | |

Example response

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

```
}  
}  
}
```

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|---------------------------|
| 13172783 | Migrate RDB lookup failed |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

self_link

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

errors

Specifies failure codes and messages.

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

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

node

Node in the destination cluster where the volume is hosted

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

SVM information

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

volume

Volume information in the destination cluster

| Name | Type | Description |
|--------|------------------------|--|
| _links | _links | |
| name | string | The name of the volume. |
| uuid | string | <p>Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move.</p> <ul style="list-style-type: none"> • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 |

svm_migration_volume

Volume transfer information

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Retrieve the volume transfer status for a volume

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

Introduced In: 9.10

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

Related ONTAP commands

- `vserver migrate show-volume`

Parameters

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

| Name | Type | In | Required | Description |
|----------------|---------------|-------|----------|---|
| node.uuid | string | query | False | Filter by node.uuid |
| node.name | string | query | False | Filter by node.name |
| volume.name | string | query | False | Filter by volume.name |
| transfer_state | string | query | False | Filter by transfer_state |
| svm.uuid | string | query | False | Filter by svm.uuid |
| svm.name | string | query | False | Filter by svm.name |
| fields | array[string] | query | False | Specify the fields to return. |
| max_records | integer | query | False | Limit the number of records returned. |
| return_records | boolean | query | False | The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> • Default value: 1 |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |

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

Response

Status: 200, Ok

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

Example response

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

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|---------------------------|
| 13172783 | Migrate RDB lookup failed |

| Name | Type | Description |
|-------|-----------------------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

self_link

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

errors

Specifies failure codes and messages.

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

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

node

Node in the destination cluster where the volume is hosted

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

SVM information

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

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

volume

Volume information in the destination cluster

| Name | Type | Description |
|------------------------|------------------------|--|
| _links | _links | |
| name | string | The name of the volume. |
| uuid | string | <p>Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move.</p> <ul style="list-style-type: none"> • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 |

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Delete SVM migrations

```
DELETE /svm/migrations/{uuid}
```

Introduced In: 9.10

Deletes the SVM migration.

Related ONTAP commands

- `vserver migrate abort`

Parameters

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|--|
| uuid | string | path | True | SVM migration UUID. |
| return_timeout | integer | query | False | <p>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.</p> <ul style="list-style-type: none">• Default value: 1• Max value: 120• Min value: 0 |

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|---------------------------|
| 13172783 | Migrate RDB lookup failed |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Retrieve the migration status for an SVM

GET /svm/migrations/{uuid}

Introduced In: 9.10

Retrieves the migration status of an individual SVM.

Important notes

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

Example

Retrieving an individual SVM migration status.

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

Parameters

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

Response

Status: 200, Ok

| Name | Type | Description |
|------------------------|--|---|
| auto_cutover | boolean | Optional property that when set to true automatically performs cutover when the migration state reaches "ready for cutover". |
| auto_source_cleanup | boolean | Optional property that when set to true automatically cleans up the SVM on the source cluster after the migration cutover. |
| check_only | boolean | Optional property that when set to true performs only migration pre-checks not the actual migration. |
| current_operation | string | |
| destination | destination | Destination cluster details for the SVM migration. |
| ip_interface_placement | svm_migration_ip_interface_placement | Optional property used to specify the list of source SVM's IP interface and network port pairs in the destination for migrating the source SVM IP interfaces. Note that the SVM migration does not perform any reachability checks on the IP interfaces provided. |
| last_failed_state | string | Indicates the state of the migration. |
| last_operation | string | |
| messages | array[messages] | Errors and warnings returned/displayed during migration. |

| Name | Type | Description |
|--------------------|------------------------------|--|
| point_of_no_return | boolean | Indicates if the migration has progressed beyond the point of no return. When true, the migration cannot be aborted or paused. When false, the migration can be paused or aborted. |
| restart_count | integer | Number of times SVM migration was restarted since initially started. |
| source | source | Source cluster details for the SVM migration. |
| state | string | Indicates the state of the migration. |
| time_metrics | time_metrics | Various time metrics details |
| uuid | string | SVM migration UUID |

Example response

```
{
  "current_operation": "none",
  "destination": {
    "ipspace": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "exchange",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "volume_placement": {
      "aggregates": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "aggr1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "volume_aggregate_pairs": {
        "aggregate": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "aggr1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "volume": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "volumel",
          "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
        }
      }
    }
  }
},
```

```

"ip_interface_placement": {
  "ip_interfaces": {
    "interface": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ip": {
        "address": "10.10.10.7"
      },
      "name": "lif1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "elb",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "last_failed_state": "precheck_started",
  "last_operation": "none",
  "messages": {
  },
  "restart_count": 0,
  "source": {
    "cluster": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "cluster1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "svm": {
      "_links": {
        "self": {

```

```

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

```

Error

Status: Default, Error

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

```

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

```

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

ipSPACE

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

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

aggregates

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

aggregate

Aggregate to use for volume creation.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

volume

Property indicating the source volume.

| Name | Type | Description |
|------------------------|------------------------|--|
| _links | _links | |
| name | string | The name of the volume. |
| uuid | string | <p>Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move.</p> <ul style="list-style-type: none"> • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 |

volume_aggregate_pairs

Volume-aggregate pair information.

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

volume_placement

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

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

destination

Destination cluster details for the SVM migration.

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

ip

IP information

| Name | Type | Description |
|---------|--------|----------------------|
| address | string | IPv4 or IPv6 address |

interface

Network interface on the source SVM.

| Name | Type | Description |
|------------------------|------------------------|---|
| _links | _links | |
| ip | ip | IP information |
| name | string | The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in. |
| uuid | string | The UUID that uniquely identifies the interface. |

node

| Name | Type | Description |
|------|--------|--|
| name | string | Name of node on which the port is located. |

port

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

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| node | node | |
| uuid | string | |

ip_interfaces

IP interface and network port pair information.

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

svm_migration_ip_interface_placement

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

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

messages

Specifies failure codes and messages.

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

cluster

Source cluster for the SVM migration.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

Source SVM

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

source

Source cluster details for the SVM migration.

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

time_metrics

Various time metrics details

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Update actions performed during an SVM migration

PATCH /svm/migrations/{uuid}

Introduced In: 9.10

Actions that can be performed during an SVM migration.

Related ONTAP commands

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

Parameters

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

| Name | Type | In | Required | Description |
|--------------|---------|-------|----------|--|
| action | string | query | False | <p>The pause action pauses the SVM migration. This action stops data transfer and configuration replication. This operation must be performed on the destination cluster. The resume action resumes an SVM migration from a paused or failed state. This operation must be performed on the destination cluster. The cutover action triggers the cutover of an SVM from the source cluster to the destination cluster. The source_clean up action performs a clean up of the SVM on the source cluster.</p> <ul style="list-style-type: none"> enum: ["pause", "resume", "cutover", "source_cleanup"] |
| auto_cutover | boolean | query | False | <p>Optional property that when set to true automatically performs cutover when the migration state reaches "ready for cutover".</p> <ul style="list-style-type: none"> Default value: 1 |

| Name | Type | In | Required | Description |
|---------------------|---------|-------|----------|--|
| auto_source_cleanup | boolean | query | False | <p>Optional property that when set to true automatically cleans up the SVM on the source cluster after the migration cutover.</p> <ul style="list-style-type: none"> • Default value: 1 |
| return_timeout | integer | query | False | <p>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.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |

Request Body

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

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

Example request

```
{
  "current_operation": "none",
  "destination": {
    "ipspace": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "exchange",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "volume_placement": {
      "aggregates": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "aggr1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "volume_aggregate_pairs": {
        "aggregate": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "aggr1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "volume": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "volumel",
          "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
        }
      }
    }
  }
},
```

```

"ip_interface_placement": {
  "ip_interfaces": {
    "interface": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ip": {
        "address": "10.10.10.7"
      },
      "name": "lif1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "elb",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "last_failed_state": "precheck_started",
  "last_operation": "none",
  "messages": {
  },
  "restart_count": 0,
  "source": {
    "cluster": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "cluster1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "svm": {
      "_links": {
        "self": {

```

```

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

```

Response

Status: 202, Accepted

| Name | Type | Description |
|------|--------------------------|-------------|
| job | job_link | |

Example response

```

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

```

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|---------------------------|
| 13172783 | Migrate RDB lookup failed |

| Name | Type | Description |
|-------|-----------------------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

ipospace

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

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

aggregates

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

aggregate

Aggregate to use for volume creation.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

volume

Property indicating the source volume.

| Name | Type | Description |
|------------------------|------------------------|--|
| _links | _links | |
| name | string | The name of the volume. |
| uuid | string | <p>Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move.</p> <ul style="list-style-type: none"> • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6 |

volume_aggregate_pairs

Volume-aggregate pair information.

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

volume_placement

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

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

destination

Destination cluster details for the SVM migration.

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

ip

IP information

| Name | Type | Description |
|---------|--------|----------------------|
| address | string | IPv4 or IPv6 address |

interface

Network interface on the source SVM.

| Name | Type | Description |
|------------------------|------------------------|---|
| _links | _links | |
| ip | ip | IP information |
| name | string | The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in. |
| uuid | string | The UUID that uniquely identifies the interface. |

node

| Name | Type | Description |
|------|--------|--|
| name | string | Name of node on which the port is located. |

port

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

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| node | node | |
| uuid | string | |

ip_interfaces

IP interface and network port pair information.

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

svm_migration_ip_interface_placement

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

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

messages

Specifies failure codes and messages.

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

cluster

Source cluster for the SVM migration.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

Source SVM

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

source

Source cluster details for the SVM migration.

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

time_metrics

Various time metrics details

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

svm_migration

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

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

| Name | Type | Description |
|---------------|------------------------------|--|
| restart_count | integer | Number of times SVM migration was restarted since initially started. |
| source | source | Source cluster details for the SVM migration. |
| state | string | Indicates the state of the migration. |
| time_metrics | time_metrics | Various time metrics details |
| uuid | string | SVM migration UUID |

job_link

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Manage SVM peer permissions

SVM peer-permissions endpoint overview

Managing SVM peer permissions

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

SVM peer permission APIs

The following APIs are used to manage SVM peer permissions:

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

Retrieve SVM peer permissions

GET /svm/peer-permissions

Introduced In: 9.6

Retrieves the list of SVM peer permissions.

Related ONTAP commands

- `vserver peer permission show`

Examples

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

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

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

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

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

Learn more

- [DOC /svm/peer-permissions](#)

Parameters

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

| Name | Type | In | Required | Description |
|----------------|---------------|-------|----------|--|
| return_timeout | integer | query | False | <p>The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |
| order_by | array[string] | query | False | Order results by specified fields and optional [asc |

Response

Status: 200, Ok

| Name | Type | Description |
|-------------|--|-------------------|
| _links | _links | |
| num_records | integer | Number of records |
| records | array[svm_peer_permission] | |

Example response

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

Error

Status: Default

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

cluster_peer

Peer cluster details

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

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

svm_peer_permission

Manage SVM peer permissions.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Create an SVM peer permission

POST /svm/peer-permissions

Introduced In: 9.6

Creates an SVM peer permission.

Required properties

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

Related ONTAP commands

- `vserver peer permission create`

Examples

The following examples show how to create SVM peer permissions.

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

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

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

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

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

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

Learn more

- [DOC /svm/peer-permissions](#)

Parameters

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

Request Body

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

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

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "applications": [
    "snapmirror",
    "flexcache"
  ],
  "cluster_peer": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cluster2",
    "uuid": "ebe27c49-1adf-4496-8335-ab862aebef2"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 201, Created

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

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "applications": [
    "snapmirror",
    "flexcache"
  ],
  "cluster_peer": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cluster2",
    "uuid": "ebe27c49-1adf-4496-8335-ab862aebbf2"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default

ONTAP Error Response Codes

| Error codes | Description |
|-------------|--|
| 26345572 | {field} is a required field. |
| 26345573 | Failed to find the SVM or volume UUID with name. |
| 26345574 | Failed to find the SVM or volume name with UUID. |

| Error codes | Description |
|-------------|---|
| 26345575 | The specified peer cluster name and peer cluster UUID do not match. |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

cluster_peer

Peer cluster details

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

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

svm_peer_permission

Manage SVM peer permissions.

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

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Delete SVM peer permissions

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

Introduced In: 9.6

Deletes the SVM peer permissions.

Related ONTAP commands

- `verver peer permission delete`

Example

Deletes an SVM peer permission.

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

Learn more

- [DOC /svm/peer-permissions](#)

Parameters

| Name | Type | In | Required | Description |
|-------------------|--------|------|----------|---|
| cluster_peer.uuid | string | path | True | Peer cluster UUID <ul style="list-style-type: none">• Introduced in: 9.7 |
| svm.uuid | string | path | True | SVM UUID |

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-----------------------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Retrieve an SVM peer permission instance

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

Introduced In: 9.6

Retrieves the SVM peer permission instance.

Related ONTAP commands

- `vserver peer permission show`

Example

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

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

Learn more

- [DOC /svm/peer-permissions](#)

Parameters

| Name | Type | In | Required | Description |
|-------------------|---------------|-------|----------|---|
| cluster_peer.uuid | string | path | True | Peer cluster UUID <ul style="list-style-type: none">• Introduced in: 9.7 |
| svm.uuid | string | path | True | SVM UUID |
| fields | array[string] | query | False | Specify the fields to return. |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none">• Default value: 1• Max value: 120• Min value: 0 |

Response

Status: 200, Ok

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

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "applications": [
    "snapmirror",
    "flexcache"
  ],
  "cluster_peer": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cluster2",
    "uuid": "ebe27c49-1adf-4496-8335-ab862aebef2"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

cluster_peer

Peer cluster details

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

| Name | Type | Description |
|-----------|--|-------------------|
| arguments | array[error_arguments] | Message arguments |

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

Update SVM peer permissions

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

Introduced In: 9.6

Updates the SVM peer permissions.

Related ONTAP commands

- `vserver peer permission modify`

Example

Updates an SVM peer permission.

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

Learn more

- [DOC /svm/peer-permissions](#)

Parameters

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

Request Body

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

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "applications": [
    "snapmirror",
    "flexcache"
  ],
  "cluster_peer": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cluster2",
    "uuid": "ebe27c49-1adf-4496-8335-ab862aebef2"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 200, Ok

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

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "applications": [
    "snapmirror",
    "flexcache"
  ],
  "cluster_peer": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cluster2",
    "uuid": "ebe27c49-1adf-4496-8335-ab862aebbf2"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default

ONTAP Error Response Codes

| Error codes | Description |
|-------------|--|
| 26345572 | {field} is a required field. |
| 26345574 | Failed to find the SVM or volume name with UUID. |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

cluster_peer

Peer cluster details

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

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

svm_peer_permission

Manage SVM peer permissions.

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

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Manage SVM peer relationships

SVM peers endpoint overview

Managing SVM peers

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

SVM peer APIs

The following APIs are used to manage SVM peers:

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

Retrieve SVM peer relationships

GET /svm/peers

Introduced In: 9.6

Retrieves the list of SVM peer relationships.

Related ONTAP commands

- `vserver peer show`

Examples

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

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

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

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

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

Learn more

- [DOC /svm/peers](#)

Parameters

| Name | Type | In | Required | Description |
|-------------------|--------|-------|----------|-----------------------------|
| svm.uuid | string | query | False | Filter by svm.uuid |
| svm.name | string | query | False | Filter by svm.name |
| uuid | string | query | False | Filter by uuid |
| applications | string | query | False | Filter by applications |
| name | string | query | False | Filter by name |
| peer.cluster.uuid | string | query | False | Filter by peer.cluster.uuid |
| peer.cluster.name | string | query | False | Filter by peer.cluster.name |

| Name | Type | In | Required | Description |
|----------------|---------------|-------|----------|---|
| peer.svm.uuid | string | query | False | Filter by peer.svm.uuid |
| peer.svm.name | string | query | False | Filter by peer.svm.name |
| state | string | query | False | Filter by state |
| fields | array[string] | query | False | Specify the fields to return. |
| max_records | integer | query | False | Limit the number of records returned. |
| return_records | boolean | query | False | The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> • Default value: 1 |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |
| order_by | array[string] | query | False | Order results by specified fields and optional [asc |

Response

Status: 200, Ok

| Name | Type | Description |
|-------------|-----------------------------------|-------------------|
| _links | _links | |
| num_records | integer | Number of records |
| records | array[svm_peer] | |

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "applications": [
      "snapmirror",
      "lun_copy"
    ],
    "peer": {
      "cluster": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cluster2",
        "uuid": "ebe27c49-1adf-4496-8335-ab862aebef2"
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    },
    "state": "peered",
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    }
  }
}
```

```

    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "string"
}
}

```

Error

Status: Default

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

```

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

```

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

cluster

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

peer

Details for a peer SVM object.

| Name | Type | Description |
|---------|-------------------------|-------------|
| cluster | cluster | |
| svm | svm | |

svm

Local SVM details

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

svm_peer

An SVM peer relation object.

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Create a new SVM peer relationship

POST /svm/peers

Introduced In: 9.6

Creates a new SVM peer relationship.

Important notes

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

Required properties

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

Related ONTAP commands

- `vserver peer create`

Example

Creates a new SVM peer relationship.

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

Learn more

- [DOC /svm/peers](#)

Parameters

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|--|
| return_timeout | integer | query | False | <p>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.</p> <ul style="list-style-type: none">• Default value: 1• Max value: 120• Min value: 0 |

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

Request Body

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

Example request

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

Response

Status: 202, Accepted

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

Example response

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

Error

Status: Default

ONTAP Error Response Codes

| Error codes | Description |
|-------------|---|
| 13434889 | Internal error. Wait and retry. |
| 26345575 | The specified peer cluster name and peer cluster UUID do not match. |
| 26345579 | The specified field is invalid. |
| 26345580 | SVM name or SVM UUID must be provided. |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

cluster

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

peer

Details for a peer SVM object.

| Name | Type | Description |
|---------|-------------------------|-------------|
| cluster | cluster | |
| svm | svm | |

svm

Local SVM details

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

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

svm_peer

An SVM peer relation object.

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Delete an SVM peer relationship

```
DELETE /svm/peers/{uuid}
```

Introduced In: 9.6

Deletes the SVM peer relationship.

Related ONTAP commands

- `vserver peer delete`

Example

1. Deletes an SVM peer relationship.

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

1. Deletes an SVM peer relationship using force flag

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

Learn more

- [DOC /svm/peers](#)

Parameters

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|---|
| uuid | string | path | True | SVM peer relationship UUID <ul style="list-style-type: none">• Introduced in: 9.7 |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. <ul style="list-style-type: none">• Default value: 1• Max value: 120• Min value: 0 |

Response

```
Status: 202, Accepted
```

Error

Status: Default

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-----------------------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Retrieve an SVM peer relationship instance

```
GET /svm/peers/{uuid}
```

Introduced In: 9.6

Retrieves the SVM peer relationship instance.

Related ONTAP commands

- `vserver peer show`

Example

Retrieves the parameters of an SVM peer relationship.

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

Learn more

- [DOC /svm/peers](#)

Parameters

| Name | Type | In | Required | Description |
|----------------|---------------|-------|----------|--|
| uuid | string | path | True | SVM peer relation UUID <ul style="list-style-type: none">• Introduced in: 9.7 |
| fields | array[string] | query | False | Specify the fields to return. |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none">• Default value: 1• Max value: 120• Min value: 0 |

Response

Status: 200, Ok

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

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

Example response

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


Error

Status: Default

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-----------------------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

cluster

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

peer

Details for a peer SVM object.

| Name | Type | Description |
|---------|-------------------------|-------------|
| cluster | cluster | |
| svm | svm | |

svm

Local SVM details

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

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Update an SVM peer relationship

PATCH /svm/peers/{uuid}

Introduced In: 9.6

Updates the SVM peer relationship.

Related ONTAP commands

- `vserver peer modify`

Examples

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

1. Accepts an SVM peer relationship

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

1. Updates the local name of an SVM peer relationship

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

1. Suspends an SVM peer relationship using force flag

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

Learn more

- [DOC /svm/peers](#)

Parameters

| Name | Type | In | Required | Description |
|------|--------|------|----------|--|
| uuid | string | path | True | SVM peer relationship UUID <ul style="list-style-type: none">• Introduced in: 9.7 |

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|--|
| return_timeout | integer | query | False | <p>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.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |

Request Body

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

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

Example request

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

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

| Error codes | Description |
|-------------|---|
| 13434889 | Internal error. Wait and retry. |
| 26345575 | The specified peer cluster name and peer cluster UUID do not match. |
| 26345576 | Given peer state is invalid. |
| 26345577 | One of the following is required: applications, state, or name. |
| 26345578 | Internal error. Unable to retrieve local or peer SVM name. |
| 26345579 | The specified field is invalid. |
| 26345581 | Peer cluster name could not be retrieved or validated. |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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


Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

cluster

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

peer

Details for a peer SVM object.

| Name | Type | Description |
|---------|-------------------------|-------------|
| cluster | cluster | |
| svm | svm | |

svm

Local SVM details

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

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

svm_peer

An SVM peer relation object.

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Manage SVMs

SVM svms endpoint overview

Managing SVMs

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

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

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

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

Retrieve SVMs and SVM properties

GET /svm/svms

Introduced In: 9.6

Retrieves a list of SVMs and individual SVM properties. This includes protocol configurations such as CIFS

and NFS, export policies, name service configurations, and network services.

Important notes

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

Expensive properties

There is an added cost to retrieving values for these properties. They are not included by default in GET results and must be explicitly requested using the `fields` query parameter. See [Requesting specific fields](#) to learn more.

- `snapmirror.*`

Related ONTAP commands

- `vserver show`

Examples

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Learn more

- [DOC /svm/svms](#)

Parameters

| Name | Type | In | Required | Description |
|-----------------|---------|-------|----------|--|
| nis.enabled | boolean | query | False | Filter by nis.enabled |
| nis.servers | string | query | False | Filter by nis.servers |
| nis.domain | string | query | False | Filter by nis.domain |
| nvme.allowed | boolean | query | False | Filter by nvme.allowed <ul style="list-style-type: none">• Introduced in: 9.9 |
| nvme.enabled | boolean | query | False | Filter by nvme.enabled |
| language | string | query | False | Filter by language |
| nfs.allowed | boolean | query | False | Filter by nfs.allowed <ul style="list-style-type: none">• Introduced in: 9.9 |
| nfs.enabled | boolean | query | False | Filter by nfs.enabled |
| comment | string | query | False | Filter by comment |
| aggregates.name | string | query | False | Filter by aggregates.name |
| aggregates.uuid | string | query | False | Filter by aggregates.uuid |

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|---|
| subtype | string | query | False | Filter by subtype |
| dns.servers | string | query | False | Filter by dns.servers |
| dns.domains | string | query | False | Filter by dns.domains |
| fcp.allowed | boolean | query | False | Filter by fcp.allowed • Introduced in: 9.9 |
| fcp.enabled | boolean | query | False | Filter by fcp.enabled |
| iscsi.allowed | boolean | query | False | Filter by iscsi.allowed • Introduced in: 9.9 |
| iscsi.enabled | boolean | query | False | Filter by iscsi.enabled |
| name | string | query | False | Filter by name |
| ipSPACE.uuid | string | query | False | Filter by ipSPACE.uuid |
| ipSPACE.name | string | query | False | Filter by ipSPACE.name |
| ldap.base_dn | string | query | False | Filter by ldap.base_dn |
| ldap.servers | string | query | False | Filter by ldap.servers |
| ldap.enabled | boolean | query | False | Filter by ldap.enabled |
| ldap.bind_dn | string | query | False | Filter by ldap.bind_dn |
| ldap.ad_domain | string | query | False | Filter by ldap.ad_domain |

| Name | Type | In | Required | Description |
|------------------------------------|---------|-------|----------|---|
| uuid | string | query | False | Filter by uuid |
| cifs.name | string | query | False | Filter by cifs.name |
| cifs.ad_domain.fqdn | string | query | False | Filter by cifs.ad_domain.fqdn |
| cifs.ad_domain.organizational_unit | string | query | False | Filter by cifs.ad_domain.organizational_unit |
| cifs.allowed | boolean | query | False | Filter by cifs.allowed <ul style="list-style-type: none">• Introduced in: 9.9 |
| cifs.enabled | boolean | query | False | Filter by cifs.enabled |
| s3.name | string | query | False | Filter by s3.name <ul style="list-style-type: none">• Introduced in: 9.7 |
| s3.enabled | boolean | query | False | Filter by s3.enabled <ul style="list-style-type: none">• Introduced in: 9.7 |
| ndmp.allowed | boolean | query | False | Filter by ndmp.allowed <ul style="list-style-type: none">• Introduced in: 9.10 |
| nsswitch.netgroup | string | query | False | Filter by nsswitch.netgroup |
| nsswitch.group | string | query | False | Filter by nsswitch.group |
| nsswitch.hosts | string | query | False | Filter by nsswitch.hosts |
| nsswitch.namemap | string | query | False | Filter by nsswitch.namemap |

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

| Name | Type | In | Required | Description |
|--|---------------|-------|----------|--|
| anti_ransomware_de fault_volume_state | string | query | False | Filter by anti_ransomware_d efault_volume_state <ul style="list-style-type: none"> Introduced in: 9.10 |
| fields | array[string] | query | False | Specify the fields to return. |
| max_records | integer | query | False | Limit the number of records returned. |
| return_records | boolean | query | False | The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> Default value: 1 |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none"> Default value: 1 Max value: 120 Min value: 0 |
| order_by | array[string] | query | False | Order results by specified fields and optional [asc |

Response

```
Status: 200, Ok
```

| Name | Type | Description |
|--------------------------|---|-------------------|
| <code>_links</code> | <code>_links</code> | |
| <code>num_records</code> | integer | Number of records |
| <code>records</code> | array[<code>svm</code>] | |

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "aggregates": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "aggr1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "anti_ransomware_default_volume_state": "disabled",
    "certificate": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "cert1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "cifs": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ad_domain": {
        "fqdn": "example.com"
      },
      "name": "CIFS1"
    }
  }
}
```

```

},
"comment": "string",
"dns": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "domains": [
    "example.com",
    "example2.example3.com"
  ],
  "servers": [
    "10.224.65.20",
    "2001:db08:a0b:12f0::1"
  ]
},
"fc_interfaces": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "data_protocol": "fcp",
  "location": {
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "0a",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "name": "lif1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"fcp": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
}

```

```

    }
  },
  "ip_interfaces": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "ip": {
      "address": "10.10.10.7",
      "netmask": "24"
    },
    "location": {
      "broadcast_domain": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "bd1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "home_node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "name": "lif1",
      "service_policy": "default-management",
      "services": {
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "ipspace": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "exchange",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  }
}

```

```
},
"iscsi": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"language": "c.utf_8",
"ldap": {
  "servers": {
  }
},
"name": "svml",
"nfs": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"nis": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "servers": {
  }
},
"nsswitch": {
  "group": {
  },
  "hosts": {
  },
  "namemap": {
  },
  "netgroup": {
  },
  "passwd": {
  }
},
"nvme": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
}
```

```

    }
  },
  "qos_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "max_throughput_iops": 10000,
    "max_throughput_mbps": 500,
    "min_throughput_iops": 2000,
    "min_throughput_mbps": 500,
    "name": "performance",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "routes": {
    "destination": {
      "address": "10.10.10.7",
      "family": "ipv4",
      "netmask": "24"
    },
    "gateway": "10.1.1.1"
  },
  "s3": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "certificate": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "cert1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "name": "s3-server-1"
  },
  "snapmirror": {
    "protected_volumes_count": 0
  },
  "snapshot_policy": {
    "_links": {

```



```
    "self": {
      "href": "/api/resourcelink"
    },
    "name": "default",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "state": "running",
  "subtype": "default",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
```

Error

Status: Default, Error

| Name | Type | Description |
|-------|-----------------------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

aggregates

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

certificate

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

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

ad_domain

| Name | Type | Description |
|---------------------|--------|--|
| fqdn | string | The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. |
| organizational_unit | string | Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. |
| password | string | The account password used to add this CIFS server to the Active Directory. This is not audited. Valid in POST only. |
| user | string | The user account used to add this CIFS server to the Active Directory. Valid in POST only. |

cifs

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

dns

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

| Name | Type | Description |
|---------|---------------|--|
| domains | array[string] | <p>A list of DNS domains. Domain names have the following requirements:</p> <ul style="list-style-type: none"> • The name must contain only the following characters: A through Z, a through z, 0 through 9, ".", "-", or "_". • The first character of each label, delimited by ".", must be one of the following characters: A through Z or a through z or 0 through 9. • The last character of each label, delimited by ".", must be one of the following characters: A through Z, a through z, or 0 through 9. • The top level domain must contain only the following characters: A through Z, a through z. • The system reserves the following names: "all", "local", and "localhost". |
| servers | array[string] | The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses. |

node

The node on which the FC port is located.

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

fc_port_reference

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

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

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

location

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

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

fc_interface_svm

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

fcv

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

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

ip

IP information

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

broadcast_domain

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

home_node

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

location

Home_node is optional.

| Name | Type | Description |
|------------------|----------------------------------|-------------|
| broadcast_domain | broadcast_domain | |
| home_node | home_node | |

ip_interface_svm

Interface parameters. Name and home_node are optional.

| Name | Type | Description |
|----------------|--------------------------|--|
| _links | _links | |
| ip | ip | IP information |
| location | location | Home_node is optional. |
| name | string | The name of the interface (optional). |
| service_policy | string | Built-in service policies for SVMs. |
| services | array[string] | The services associated with the interface. |
| uuid | string | The UUID that uniquely identifies the interface. |

ipspace

Either the UUID or name may be supplied on input.

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

iscsi

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

ldap

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

ndmp

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

nfs

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

nis

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

nsswitch

Name service switch configuration

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

nvme

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

qos_policy

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

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

ip_info

IP information

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

network_route_for_svm

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

certificate

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

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

s3

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

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

snapmirror

Specifies attributes for SVM DR protection.

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

snapshot_policy

This is a reference to the Snapshot copy policy.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

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

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

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

Create and provision an SVM

POST /svm/svms

Introduced In: 9.6

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

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

Required properties

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

Recommended optional properties

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

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

Default property values

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

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

Related ONTAP commands

- `vserver create`
- `vserver add-aggregates`
- `network interface create`
- `network route create`
- `vserver services name-service dns create`
- `vserver nfs create`
- `vserver services name-service ldap client create`

- vserver cifs create
- vserver services name-service nis-domain create
- vserver iscsi create
- vserver nvme create
- vserver fcp create
- vserver services name-service ns-switch create
- vserver object-store-server create
- vserver add-protocols
- vserver remove-protocols

Examples

1. Creates an SVM with default "snapshot_policy"

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

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

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

1. Creates an SVM and configures NVMe

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

1. Creates an SVM and configures LDAP

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

1. Creates an SVM and configures NIS

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

1. Creates an SVM and configures DNS

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

1. Creates an SVM and configures a LIF

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

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

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

1. Creates an SVM and configures CIFS

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

1. Creates an SVM and configures an S3 server

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

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

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

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

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

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

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

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

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

Learn more

- [DOC /svm/svms](#)

Parameters

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

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|--|
| return_timeout | integer | query | False | <p>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.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |

Request Body

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

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

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

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

Example request

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

```

    "example.com",
    "example2.example3.com"
  ],
  "servers": [
    "10.224.65.20",
    "2001:db08:a0b:12f0::1"
  ]
},
"fc_interfaces": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "data_protocol": "fcp",
  "location": {
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "0a",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "name": "lif1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"fcp": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"ip_interfaces": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ip": {

```

```
"address": "10.10.10.7",
"netmask": "24"
},
"location": {
  "broadcast_domain": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "name": "bd1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"home_node": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"name": "node1",
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
},
"name": "lif1",
"service_policy": "default-management",
"services": {
},
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"ipspace": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"name": "exchange",
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"iscsi": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
}
},
"language": "c.utf_8",
```

```
"ldap": {
  "servers": {
  }
},
"name": "svml",
"nfs": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"nis": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "servers": {
  }
},
"nsswitch": {
  "group": {
  },
  "hosts": {
  },
  "namemap": {
  },
  "netgroup": {
  },
  "passwd": {
  }
},
"nvme": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"qos_policy": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
```

```
"max_throughput_iops": 10000,
"max_throughput_mbps": 500,
"min_throughput_iops": 2000,
"min_throughput_mbps": 500,
"name": "performance",
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"routes": {
  "destination": {
    "address": "10.10.10.7",
    "family": "ipv4",
    "netmask": "24"
  },
  "gateway": "10.1.1.1"
},
"s3": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "certificate": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cert1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "name": "s3-server-1"
},
"snapmirror": {
  "protected_volumes_count": 0
},
"snapshot_policy": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "default",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"state": "running",
"subtype": "default",
```

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

Response

Status: 202, Accepted

| Name | Type | Description |
|------|----------|-------------|
| job | job_link | |

Example response

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

Error

Status: Default

ONTAP Error Response Codes

| Error codes | Description |
|-------------|---|
| 2621580 | Cannot specify options other than SVM name, comment and ipspace for a Vserver that is being configured as the destination for SVM DR. |
| 2621634 | "sync-source" SVM can only be created in a MetroCluster configuration. |
| 2621657 | "sync-destination" SVM can only be created by the system. |
| 13434884 | Cannot create an SVM because of incorrect fields. |
| 13434885 | Non-UTF8 language(s) not supported. |

| Error codes | Description |
|-------------|---|
| 13434888 | IPspace UUID and IPspace name mismatch. |
| 13434889 | Internal Error. Wait and retry. |
| 13434894 | Maximum allowed SVM jobs exceeded. Wait for the existing SVM jobs to complete and try again. |
| 13434908 | Invalid SVM name. The name is already in use by another SVM, IPspace or cluster. |
| 13434909 | Internal Error. Failed to identify the aggregate to host SVM root volume. |
| 13434910 | Internal Error. Failed to allocate new SVM ID. |
| 13434911 | Invalid SVM name. Maximum supported length is 41 if SVM is of type \"sync-source\", otherwise 47. |
| 13434912 | Failed to find IPspace. |
| 13434913 | Internal error: Failed to check if an SVM create operation is in progress. Contact technical support for assistance. |
| 13434914 | Request to create the root volume of the SVM failed because there is not enough space in specified aggregate. |
| 13434915 | Failed to unlock the SVM because SVM create or delete job is in progress. Wait a few minutes, and then try the command again. |
| 13434916 | SVM is in the process of being created. Wait a few minutes, and then try the command again. |
| 13434917 | SVM creation successful. |
| 13434918 | IPspace name not provided for creating an SVM. |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

aggregates

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

certificate

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

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

ad_domain

| Name | Type | Description |
|---------------------|--------|--|
| fqdn | string | The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. |
| organizational_unit | string | Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. |

| Name | Type | Description |
|----------|--------|---|
| password | string | The account password used to add this CIFS server to the Active Directory. This is not audited. Valid in POST only. |
| user | string | The user account used to add this CIFS server to the Active Directory. Valid in POST only. |

cifs

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

dns

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

| Name | Type | Description |
|---------|---------------|--|
| domains | array[string] | <p>A list of DNS domains. Domain names have the following requirements:</p> <ul style="list-style-type: none"> • The name must contain only the following characters: A through Z, a through z, 0 through 9, ".", "-", or "_". • The first character of each label, delimited by ".", must be one of the following characters: A through Z or a through z or 0 through 9. • The last character of each label, delimited by ".", must be one of the following characters: A through Z, a through z, or 0 through 9. • The top level domain must contain only the following characters: A through Z, a through z. • The system reserves the following names: "all", "local", and "localhost". |
| servers | array[string] | The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses. |

node

The node on which the FC port is located.

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

fc_port_reference

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

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |

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

location

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

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

fc_interface_svm

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

fcv

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

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

ip

IP information

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

broadcast_domain

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

home_node

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

location

Home_node is optional.

| Name | Type | Description |
|------------------|----------------------------------|-------------|
| broadcast_domain | broadcast_domain | |
| home_node | home_node | |

ip_interface_svm

Interface parameters. Name and home_node are optional.

| Name | Type | Description |
|----------------|--------------------------|--|
| _links | _links | |
| ip | ip | IP information |
| location | location | Home_node is optional. |
| name | string | The name of the interface (optional). |
| service_policy | string | Built-in service policies for SVMs. |
| services | array[string] | The services associated with the interface. |
| uuid | string | The UUID that uniquely identifies the interface. |

ipspace

Either the UUID or name may be supplied on input.

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

iscsi

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

ldap

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

ndmp

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

nfs

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

nis

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

nsswitch

Name service switch configuration

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

nvme

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

qos_policy

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

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

ip_info

IP information

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

network_route_for_svm

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

certificate

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

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

s3

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

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

snapmirror

Specifies attributes for SVM DR protection.

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

snapshot_policy

This is a reference to the Snapshot copy policy.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

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

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

job_link

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Delete an SVM

```
DELETE /svm/svms/{uuid}
```

Introduced In: 9.6

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

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

Related ONTAP commands

- `vserver delete`

Example

Deleting an individual SVM in the cluster.

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

Learn more

- [DOC /svm/svms](#)

Parameters

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

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|--|
| return_timeout | integer | query | False | <p>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.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |

Response

Status: 202, Accepted

| Name | Type | Description |
|------|--------------------------|-------------|
| job | job_link | |

Example response

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

Error

Status: Default

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

job_link

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Retrieve SVM properties

GET /svm/svms/{uuid}

Introduced In: 9.6

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

Important notes

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

Expensive properties

There is an added cost to retrieving values for these properties. They are not included by default in GET results and must be explicitly requested using the `fields` query parameter. See [Requesting specific fields](#) to learn more.

- `snapmirror.*`

Example

Retrieving an individual SVM in the cluster

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

Parameters

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

Response

```
Status: 200, Ok
```

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

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

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

| Name | Type | Description |
|-----------------|--|--|
| routes | array[network_route_for_svm] | Optional array of routes for the SVM |
| s3 | s3 | |
| snapmirror | snapmirror | Specifies attributes for SVM DR protection. |
| snapshot_policy | snapshot_policy | This is a reference to the Snapshot copy policy. |
| state | string | SVM State |
| subtype | string | SVM subtype. The SVM subtype sync_destination is created automatically when an SVM of subtype sync_source is created on the source MetroCluster cluster. A POST request with sync_destination as SVM subtype is invalid. |
| uuid | string | The unique identifier of the SVM. |

Example response

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

```

    "example.com",
    "example2.example3.com"
  ],
  "servers": [
    "10.224.65.20",
    "2001:db08:a0b:12f0::1"
  ]
},
"fc_interfaces": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "data_protocol": "fcp",
  "location": {
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "0a",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "name": "lif1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"fcp": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"ip_interfaces": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ip": {

```



```
"address": "10.10.10.7",
"netmask": "24"
},
"location": {
  "broadcast_domain": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "bd1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "home_node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  }
},
"name": "lif1",
"service_policy": "default-management",
"services": {
},
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"ipspace": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "exchange",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"iscsi": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"language": "c.utf_8",
```

```
"ldap": {
  "servers": {
  }
},
"name": "svml",
"nfs": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"nis": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "servers": {
  }
},
"nsswitch": {
  "group": {
  },
  "hosts": {
  },
  "namemap": {
  },
  "netgroup": {
  },
  "passwd": {
  }
},
"nvme": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"qos_policy": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
```

```
"max_throughput_iops": 10000,
"max_throughput_mbps": 500,
"min_throughput_iops": 2000,
"min_throughput_mbps": 500,
"name": "performance",
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"routes": {
  "destination": {
    "address": "10.10.10.7",
    "family": "ipv4",
    "netmask": "24"
  },
  "gateway": "10.1.1.1"
},
"s3": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "certificate": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "cert1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "name": "s3-server-1"
},
"snapmirror": {
  "protected_volumes_count": 0
},
"snapshot_policy": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "default",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"state": "running",
"subtype": "default",
```

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

Error

Status: Default, Error

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

aggregates

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

certificate

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

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

ad_domain

| Name | Type | Description |
|---------------------|--------|--|
| fqdn | string | The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. |
| organizational_unit | string | Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. |

| Name | Type | Description |
|----------|--------|---|
| password | string | The account password used to add this CIFS server to the Active Directory. This is not audited. Valid in POST only. |
| user | string | The user account used to add this CIFS server to the Active Directory. Valid in POST only. |

cifs

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

dns

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

| Name | Type | Description |
|---------|---------------|--|
| domains | array[string] | <p>A list of DNS domains. Domain names have the following requirements:</p> <ul style="list-style-type: none"> • The name must contain only the following characters: A through Z, a through z, 0 through 9, ".", "-", or "_". • The first character of each label, delimited by ".", must be one of the following characters: A through Z or a through z or 0 through 9. • The last character of each label, delimited by ".", must be one of the following characters: A through Z, a through z, or 0 through 9. • The top level domain must contain only the following characters: A through Z, a through z. • The system reserves the following names: "all", "local", and "localhost". |
| servers | array[string] | The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses. |

node

The node on which the FC port is located.

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

fc_port_reference

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

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

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

location

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

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

fc_interface_svm

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

fcv

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

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

ip

IP information

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

broadcast_domain

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

home_node

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

location

Home_node is optional.

| Name | Type | Description |
|------------------|----------------------------------|-------------|
| broadcast_domain | broadcast_domain | |
| home_node | home_node | |

ip_interface_svm

Interface parameters. Name and home_node are optional.

| Name | Type | Description |
|----------------|--------------------------|--|
| _links | _links | |
| ip | ip | IP information |
| location | location | Home_node is optional. |
| name | string | The name of the interface (optional). |
| service_policy | string | Built-in service policies for SVMs. |
| services | array[string] | The services associated with the interface. |
| uuid | string | The UUID that uniquely identifies the interface. |

ipspace

Either the UUID or name may be supplied on input.

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

iscsi

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

ldap

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

ndmp

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

nfs

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

nis

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

nsswitch

Name service switch configuration

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

nvme

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

qos_policy

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

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

ip_info

IP information

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

network_route_for_svm

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

certificate

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

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

s3

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

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

snapmirror

Specifies attributes for SVM DR protection.

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

snapshot_policy

This is a reference to the Snapshot copy policy.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Update SVM properties

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

Introduced In: 9.6

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

Related ONTAP commands

- `vserver modify`
- `vserver rename`
- `vserver start`
- `vserver stop`
- `security ssl modify`
- `vserver add-protocols`
- `vserver remove-protocols`

Examples

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


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

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

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

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

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

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

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

1. Updates the aggregates for an individual SVM

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

1. Updates the Snapshot copy policy for an individual SVM

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

1. Updates the TLS certificate for an individual SVM

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

1. Updates the QoS policy for the SVM

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

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

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

1. Updates the max volume limit for the SVM

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

Learn more

- [DOC /svm/svms](#)

Parameters

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

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|--|
| return_timeout | integer | query | False | <p>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.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |

Request Body

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

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

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

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

Example request

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

```

    "example.com",
    "example2.example3.com"
  ],
  "servers": [
    "10.224.65.20",
    "2001:db08:a0b:12f0::1"
  ]
},
"fc_interfaces": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "data_protocol": "fcp",
  "location": {
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "0a",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "name": "lif1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"fcp": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"ip_interfaces": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ip": {

```



```
    "address": "10.10.10.7",
    "netmask": "24"
  },
  "location": {
    "broadcast_domain": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "bd1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "home_node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "name": "lif1",
  "service_policy": "default-management",
  "services": {
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"ipspace": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "exchange",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"iscsi": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
}
},
"language": "c.utf_8",
```

```
"ldap": {
  "servers": {
  }
},
"name": "svml",
"nfs": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"nis": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "servers": {
  }
},
"nsswitch": {
  "group": {
  },
  "hosts": {
  },
  "namemap": {
  },
  "netgroup": {
  },
  "passwd": {
  }
},
"nvme": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
"qos_policy": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
},
```

```

    "max_throughput_iops": 10000,
    "max_throughput_mbps": 500,
    "min_throughput_iops": 2000,
    "min_throughput_mbps": 500,
    "name": "performance",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "routes": {
    "destination": {
      "address": "10.10.10.7",
      "family": "ipv4",
      "netmask": "24"
    },
    "gateway": "10.1.1.1"
  },
  "s3": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "certificate": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "cert1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "name": "s3-server-1"
  },
  "snapmirror": {
    "protected_volumes_count": 0
  },
  "snapshot_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "default",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "state": "running",
  "subtype": "default",

```

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

Response

Status: 202, Accepted

| Name | Type | Description |
|------|----------|-------------|
| job | job_link | |

Example response

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

Error

Status: Default

ONTAP Error Response Codes

| Error codes | Description |
|-------------|---|
| 13434880 | Failed to modify SVM parameters. |
| 13434881 | Failed to rename SVM. |
| 13434883 | SVM parameters except name modified successfully. |
| 13434885 | Non-UTF8 language(s) not supported. |
| 13434886 | Invalid Snapshot copy policy. |
| 13434902 | Modification of NSSwitch parameters failed for the SVM. |

| Error codes | Description |
|-------------|---|
| 13434906 | Operation not supported for an SVM of type sync-destination. |
| 12451843 | Certificate does not exist. |
| 13434908 | Invalid SVM name. The name is already in use by another SVM, IPspace or cluster. |
| 13434916 | SVM is in the process of being created. Wait a few minutes, and then try the command again. |
| 13434915 | Failed to unlock the SVM because SVM create or delete job is in progress. Wait a few minutes, and then try the command again. |
| 13434911 | Invalid SVM name. Maximum supported length is 41 if SVM is of type \"sync-source\", otherwise 47. |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

aggregates

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

certificate

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

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

ad_domain

| Name | Type | Description |
|---------------------|--------|--|
| fqdn | string | The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. |
| organizational_unit | string | Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. |

| Name | Type | Description |
|----------|--------|---|
| password | string | The account password used to add this CIFS server to the Active Directory. This is not audited. Valid in POST only. |
| user | string | The user account used to add this CIFS server to the Active Directory. Valid in POST only. |

cifs

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

dns

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

| Name | Type | Description |
|---------|---------------|--|
| domains | array[string] | <p>A list of DNS domains. Domain names have the following requirements:</p> <ul style="list-style-type: none"> • The name must contain only the following characters: A through Z, a through z, 0 through 9, ".", "-", or "_". • The first character of each label, delimited by ".", must be one of the following characters: A through Z or a through z or 0 through 9. • The last character of each label, delimited by ".", must be one of the following characters: A through Z, a through z, or 0 through 9. • The top level domain must contain only the following characters: A through Z, a through z. • The system reserves the following names: "all", "local", and "localhost". |
| servers | array[string] | The list of IP addresses of the DNS servers. Addresses can be either IPv4 or IPv6 addresses. |

node

The node on which the FC port is located.

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

fc_port_reference

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

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

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

location

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

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

fc_interface_svm

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

fcv

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |

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

ip

IP information

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

broadcast_domain

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

home_node

| Name | Type | Description |
|------------------------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

location

Home_node is optional.

| Name | Type | Description |
|------------------|----------------------------------|-------------|
| broadcast_domain | broadcast_domain | |
| home_node | home_node | |

ip_interface_svm

Interface parameters. Name and home_node are optional.

| Name | Type | Description |
|----------------|--------------------------|--|
| _links | _links | |
| ip | ip | IP information |
| location | location | Home_node is optional. |
| name | string | The name of the interface (optional). |
| service_policy | string | Built-in service policies for SVMs. |
| services | array[string] | The services associated with the interface. |
| uuid | string | The UUID that uniquely identifies the interface. |

ipspace

Either the UUID or name may be supplied on input.

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

iscsi

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

ldap

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

ndmp

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

nfs

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

nis

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

nsswitch

Name service switch configuration

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

nvme

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

qos_policy

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

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

ip_info

IP information

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

network_route_for_svm

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

certificate

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

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

s3

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

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

snapmirror

Specifies attributes for SVM DR protection.

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

snapshot_policy

This is a reference to the Snapshot copy policy.

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

svm

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

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

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

job_link

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Retrieve clients

SVM `svms svm.uuid top-metrics clients` endpoint overview

Overview

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

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

Enabling and disabling activity tracking feature

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

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

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

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

Excluded volumes list

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

Failure to return list of clients with most IO activity

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

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

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

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

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

Retrieve a list of the clients with the most IO activity

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

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

Examples

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

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

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

# The Response:
{
  "records": [
    {
      "svm": {
        "name": "vs1"
      },
      "iops": {
        "write": 1495,
        "error": {
          "lower_bound": 1495,
          "upper_bound": 1505
        }
      },
      "client_ip": "172.28.71.128"
    },
    {
      "svm": {
        "name": "vs1"
      },
      "iops": {
        "write": 1022,
```

```

    "error": {
      "lower_bound": 1022,
      "upper_bound": 1032
    }
  },
  "client_ip": "172.28.71.179"
},
{
  "svm": {
    "name": "vs1"
  },
  "iops": {
    "write": 345,
    "error": {
      "lower_bound": 345,
      "upper_bound": 355
    }
  },
  "client_ip": "172.28.51.62"
}
],
"num_records": 3,
"excluded_volumes": [
  {
    "volume": {
      "uuid": "5bbfc226-3fd8-42c9-a651-fa6167c2cf84",
      "name": "vol10",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/5bbfc226-3fd8-42c9-a651-
fa6167c2cf84"
        }
      }
    },
    "reason": {
      "message": "resource limit exceeded",
      "code": "12345"
    },
    "_links": {
      "self": {
        "href": "/api/storage/volumes/5bbfc226-3fd8-42c9-a651-
fa6167c2cf84"
      }
    }
  },
  {

```

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

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

```

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

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

```

List clients with the most I/O activity

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

Introduced In: 9.11

Retrieves a list of clients with the most IO activity.

Parameters

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

| Name | Type | In | Required | Description |
|------------------------------|---------------|-------|----------|---|
| top_metric | string | query | False | IO activity type <ul style="list-style-type: none"> • Default value: 1 • enum: ["iops.read", "iops.write", "throughput.read", "throughput.write"] |
| svm.name | string | query | False | Filter by svm.name |
| iops.read | integer | query | False | Filter by iops.read |
| iops.write | integer | query | False | Filter by iops.write |
| iops.error.lower_bound | integer | query | False | Filter by iops.error.lower_bound |
| iops.error.upper_bound | integer | query | False | Filter by iops.error.upper_bound |
| client_ip | string | query | False | Filter by client_ip |
| throughput.error.lower_bound | integer | query | False | Filter by throughput.error.lower_bound |
| throughput.error.upper_bound | integer | query | False | Filter by throughput.error.upper_bound |
| throughput.write | integer | query | False | Filter by throughput.write |
| throughput.read | integer | query | False | Filter by throughput.read |
| fields | array[string] | query | False | Specify the fields to return. |
| max_records | integer | query | False | Limit the number of records returned. |

| Name | Type | In | Required | Description |
|----------------|---------------|-------|----------|---|
| return_records | boolean | query | False | The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> • Default value: 1 |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |
| order_by | array[string] | query | False | Order results by specified fields and optional [asc |

Response

Status: 200, Ok

| Name | Type | Description |
|------------------|---|--|
| _links | _links | |
| excluded_volumes | array[top_metrics_svm_client_excluded_volume] | List of volumes that are not included in the SVM activity tracking REST API. |
| notice | notice | Optional field that indicates why no records are returned by the SVM activity tracking REST API. |
| num_records | integer | Number of records. |

| Name | Type | Description |
|---------|---|-------------|
| records | array[top_metrics_svm_client] | |

Example response

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

```

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

```

Error

Status: Default

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

reason

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

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

volume

| Name | Type | Description |
|--------|------------------------|--|
| _links | _links | |
| name | string | The name of the volume. |
| uuid | string | Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. <ul style="list-style-type: none">• example: 028baa66-41bd-11e9-81d5-00a0986138f7• Introduced in: 9.6 |

top_metrics_svm_client_excluded_volume

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

| Name | Type | Description |
|--------|------------------------|-------------|
| reason | reason | |
| volume | volume | |

notice

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

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

top_metric_value_error_bounds

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

iops

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

svm

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

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

throughput

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

top_metrics_svm_client

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

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

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

Retrieve directories

SVM svms svm.uuid top-metrics directories endpoint overview

Overview

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

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

Enabling and disabling activity tracking feature

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

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

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

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

Excluded volumes list

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

Failure to return list of directories with most IO activity

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

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

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

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

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

Failure to return the pathnames

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

Retrieve a list of the directories with the most IO activity

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

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

Examples

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

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

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

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

```

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

```

```

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

```

```

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

```

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

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

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

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

```

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

```



```

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

```

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

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

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

List directories with the most I/O activity

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

Introduced In: 9.11

Retrieves a list of directories with the most IO activity.

Parameters

| Name | Type | In | Required | Description |
|------------------------------|---------|-------|----------|---|
| svm.uuid | string | path | True | SVM UUID |
| top_metric | string | query | False | IO activity type <ul style="list-style-type: none"> • Default value: 1 • enum: ["iops.read", "iops.write", "throughput.read", "throughput.write"] |
| max_records_per_svm | integer | query | False | Max records per svm. |
| path | string | query | False | Filter by path |
| throughput.error.lower_bound | integer | query | False | Filter by throughput.error.lower_bound |
| throughput.error.upper_bound | integer | query | False | Filter by throughput.error.upper_bound |
| throughput.write | integer | query | False | Filter by throughput.write |
| throughput.read | integer | query | False | Filter by throughput.read |
| iops.error.lower_bound | integer | query | False | Filter by iops.error.lower_bound |
| iops.error.upper_bound | integer | query | False | Filter by iops.error.upper_bound |
| iops.write | integer | query | False | Filter by iops.write |
| iops.read | integer | query | False | Filter by iops.read |
| junction-path | string | query | False | Filter by junction-path |

| Name | Type | In | Required | Description |
|----------------|---------------|-------|----------|---|
| volume.name | string | query | False | Filter by volume.name |
| volume.uuid | string | query | False | Filter by volume.uuid |
| svm.name | string | query | False | Filter by svm.name |
| fields | array[string] | query | False | Specify the fields to return. |
| max_records | integer | query | False | Limit the number of records returned. |
| return_records | boolean | query | False | The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> • Default value: 1 |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |
| order_by | array[string] | query | False | Order results by specified fields and optional [asc |

Response

Status: 200, Ok

| Name | Type | Description |
|------------------|--|--|
| _links | _links | |
| excluded_volumes | array[top_metrics_svm_directory_excluded_volume] | List of volumes that are not included in the SVM activity tracking REST API. |
| notice | notice | Optional field that indicates why no records are returned by the SVM activity tracking REST API. |
| num_records | integer | Number of records. |
| records | array[top_metrics_svm_directory] | |

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "excluded_volumes": {
    "reason": {
      "code": "111411",
      "message": "The volume is offline."
    },
    "volume": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "volume1",
      "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    }
  },
  "notice": {
    "code": "111411207",
    "message": "No read/write traffic on svm."
  },
  "records": {
    "_links": {
      "metadata": {
        "href": "/api/resourcelink"
      },
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "iops": {
      "error": {
        "lower_bound": 34,
        "upper_bound": 54
      },
      "read": 10,
      "write": 5
    }
  }
}
```

```

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

```

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|---|
| 124519405 | The activity tracking report for SVM svm.name returned zero records. Check whether the volumes belonging to the SVM have read/write traffic. Refer to the REST API documentation for more information on why there might be no records. |

| Error Code | Description |
|------------|--|
| 124519406 | Failed to get the activity tracking report for SVM svm.name. Reason:<Reason for="" failure="">.</Reason> |
| 124519407 | SVM wildcard queries are not supported for activity tracking reports. |
| 124519408 | Activity tracking is not supported on SVM svm.name, because it is configured as a destination for SVM DR. |
| 124519409 | Activity tracking is not supported on SVM svm.name, because it is configured as a destination of a MetroCluster SVM relationship and the SVM admin state is stopped. |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

reason

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

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

volume

| Name | Type | Description |
|--------|------------------------|--|
| _links | _links | |
| name | string | The name of the volume. |
| uuid | string | Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. <ul style="list-style-type: none">• example: 028baa66-41bd-11e9-81d5-00a0986138f7• Introduced in: 9.6 |

top_metrics_svm_directory_excluded_volume

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

| Name | Type | Description |
|--------|------------------------|-------------|
| reason | reason | |
| volume | volume | |

notice

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

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

_links

| Name | Type | Description |
|----------|----------------------|-------------|
| metadata | href | |
| self | href | |

top_metric_value_error_bounds

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

iops

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

svm

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

throughput

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

top_metrics_svm_directory

Information about a directory's IO activity.

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

Retrieve files

SVM svms svm.uuid top-metrics files endpoint overview

Overview

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

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

Enabling and disabling activity tracking feature

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

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

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

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

Excluded volumes list

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

Failure to return list of files with most IO activity

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

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

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

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

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

Failure to return the pathnames

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

Retrieve a list of the files with the most IO activity

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

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

Examples

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

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

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

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

```

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

```

```

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

```

```

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

```

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

```
# The Call:
```



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

```
# The Response:
```

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

```

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

```

```

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

```

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

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

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

List files with the most I/O activity

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

Introduced In: 9.11

Retrieves a list of files with the most IO activity.

Parameters

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

| Name | Type | In | Required | Description |
|------------------------------|---------|-------|----------|---|
| top_metric | string | query | False | IO activity type <ul style="list-style-type: none"> • Default value: 1 • enum: ["iops.read", "iops.write", "throughput.read", "throughput.write"] |
| max_records_per_svm | integer | query | False | Max records per svm. |
| path | string | query | False | Filter by path |
| throughput.error.lower_bound | integer | query | False | Filter by throughput.error.lower_bound |
| throughput.error.upper_bound | integer | query | False | Filter by throughput.error.upper_bound |
| throughput.read | integer | query | False | Filter by throughput.read |
| throughput.write | integer | query | False | Filter by throughput.write |
| iops.error.lower_bound | integer | query | False | Filter by iops.error.lower_bound |
| iops.error.upper_bound | integer | query | False | Filter by iops.error.upper_bound |
| iops.write | integer | query | False | Filter by iops.write |
| iops.read | integer | query | False | Filter by iops.read |
| volume.name | string | query | False | Filter by volume.name |
| volume.uuid | string | query | False | Filter by volume.uuid |

| Name | Type | In | Required | Description |
|----------------|---------------|-------|----------|---|
| svm.name | string | query | False | Filter by svm.name |
| junction-path | string | query | False | Filter by junction-path |
| fields | array[string] | query | False | Specify the fields to return. |
| max_records | integer | query | False | Limit the number of records returned. |
| return_records | boolean | query | False | The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> • Default value: 1 |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |
| order_by | array[string] | query | False | Order results by specified fields and optional [asc |

Response

Status: 200, Ok

| Name | Type | Description |
|------------------|---|--|
| _links | _links | |
| excluded_volumes | array[top_metrics_svm_file_excluded_volume] | List of volumes that are not included in the SVM activity tracking REST API. |
| notice | notice | Optional field that indicates why no records are returned by the SVM activity tracking REST API. |
| num_records | integer | Number of records. |
| records | array[top_metrics_svm_file] | |

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "excluded_volumes": {
    "reason": {
      "code": "111411207",
      "message": "The volume is offline."
    },
    "volume": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "volume1",
      "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    }
  },
  "notice": {
    "code": "111411207",
    "message": "The volume is offline."
  },
  "records": {
    "_links": {
      "metadata": {
        "href": "/api/resourcelink"
      },
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "iops": {
      "error": {
        "lower_bound": 34,
        "upper_bound": 54
      },
      "read": 5,
      "write": 4
    }
  }
}
```



```

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

```

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|---|
| 124519405 | The activity tracking report for SVM svm.name returned zero records. Check whether the volumes belonging to the SVM have read/write traffic. Refer to the REST API documentation for more information on why there might be no records. |

| Error Code | Description |
|------------|--|
| 124519406 | Failed to get the activity tracking report for SVM svm.name. Reason:<Reason for="" failure="">.</Reason> |
| 124519407 | SVM wildcard queries are not supported for activity tracking reports. |
| 124519408 | Activity tracking is not supported on SVM svm.name, because it is configured as a destination for SVM DR. |
| 124519409 | Activity tracking is not supported on SVM svm.name, because it is configured as a destination of a MetroCluster SVM relationship and the SVM admin state is stopped. |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

reason

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

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

volume

| Name | Type | Description |
|--------|------------------------|--|
| _links | _links | |
| name | string | The name of the volume. |
| uuid | string | Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. <ul style="list-style-type: none">• example: 028baa66-41bd-11e9-81d5-00a0986138f7• Introduced in: 9.6 |

top_metrics_svm_file_excluded_volume

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

| Name | Type | Description |
|--------|------------------------|-------------|
| reason | reason | |
| volume | volume | |

notice

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

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

_links

| Name | Type | Description |
|----------|----------------------|-------------|
| metadata | href | |
| self | href | |

top_metric_value_error_bounds

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

iops

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

svm

| Name | Type | Description |
|---------------------|------------------------|-----------------------------------|
| <code>_links</code> | _links | |
| <code>name</code> | string | The name of the SVM. |
| <code>uuid</code> | string | The unique identifier of the SVM. |

throughput

| Name | Type | Description |
|--------------------|---|--|
| <code>error</code> | top_metric_value_error_bounds | |
| <code>read</code> | integer | Average number of read bytes received per second. |
| <code>write</code> | integer | Average number of write bytes received per second. |

top_metrics_svm_file

Information about a file's IO activity.

| Name | Type | Description |
|----------------------------|----------------------------|----------------------------|
| <code>_links</code> | _links | |
| <code>iops</code> | iops | |
| <code>junction-path</code> | string | Junction path of the file. |
| <code>path</code> | string | Path of the file. |
| <code>svm</code> | svm | |
| <code>throughput</code> | throughput | |
| <code>volume</code> | volume | |

error_arguments

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

error

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

Retrieve users

SVM svms svm.uuid top-metrics users endpoint overview

Overview

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

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

Enabling and disabling activity tracking feature

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

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

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

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

Excluded volumes list

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

Failure to return list of users with most IO activity

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

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

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

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

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

Failure to return the usernames

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

Retrieve a list of the users with the most IO activity

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

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

Examples

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

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

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

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

```

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

```



```

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

```

```

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

```

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

```

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

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

```

List users with the most I/O activity

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

Introduced In: 9.11

Retrieves a list of users with the most IO activity.

Parameters

| Name | Type | In | Required | Description |
|------------------------------|---------|-------|----------|--|
| svm.uuid | string | path | True | SVM UUID |
| top_metric | string | query | False | IO activity type <ul style="list-style-type: none">• Default value: 1• enum: ["iops.read", "iops.write", "throughput.read", "throughput.write"] |
| svm.name | string | query | False | Filter by svm.name |
| user_id | string | query | False | Filter by user_id |
| iops.write | integer | query | False | Filter by iops.write |
| iops.read | integer | query | False | Filter by iops.read |
| iops.error.lower_bound | integer | query | False | Filter by iops.error.lower_bound |
| iops.error.upper_bound | integer | query | False | Filter by iops.error.upper_bound |
| user_name | string | query | False | Filter by user_name |
| throughput.error.lower_bound | integer | query | False | Filter by throughput.error.lower_bound |

| Name | Type | In | Required | Description |
|------------------------------|---------------|-------|----------|---|
| throughput.error.upper_bound | integer | query | False | Filter by throughput.error.upper_bound |
| throughput.write | integer | query | False | Filter by throughput.write |
| throughput.read | integer | query | False | Filter by throughput.read |
| fields | array[string] | query | False | Specify the fields to return. |
| max_records | integer | query | False | Limit the number of records returned. |
| return_records | boolean | query | False | The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> • Default value: 1 |
| return_timeout | integer | query | False | The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |
| order_by | array[string] | query | False | Order results by specified fields and optional [asc |

Response

Status: 200, Ok

| Name | Type | Description |
|------------------|---|--|
| _links | _links | |
| excluded_volumes | array[top_metrics_svm_user_excluded_volume] | List of volumes that are not included in the SVM activity tracking REST API. |
| notice | notice | Optional field that indicates why no records are returned by the SVM activity tracking REST API. |
| num_records | integer | Number of records. |
| records | array[top_metrics_svm_user] | |

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "excluded_volumes": {
    "reason": {
      "code": "111411",
      "message": "The volume is offline."
    },
    "volume": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "volume1",
      "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    }
  },
  "notice": {
    "code": "111411207",
    "message": "The volume is offline."
  },
  "records": {
    "iops": {
      "error": {
        "lower_bound": 34,
        "upper_bound": 54
      },
      "read": 4,
      "write": 8
    },
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",

```

```

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

```

Error

Status: Default

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

reason

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

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

volume

| Name | Type | Description |
|--------|------------------------|--|
| _links | _links | |
| name | string | The name of the volume. |
| uuid | string | Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. <ul style="list-style-type: none">• example: 028baa66-41bd-11e9-81d5-00a0986138f7• Introduced in: 9.6 |

top_metrics_svm_user_excluded_volume

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

| Name | Type | Description |
|--------|------------------------|-------------|
| reason | reason | |
| volume | volume | |

notice

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

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

top_metric_value_error_bounds

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

iops

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

svm

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

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

throughput

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

top_metrics_svm_user

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

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

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

Web services security configuration

SVM svms svm.uuid web endpoint overview

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

Updating the web services security configuration

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

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

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

Examples

Retrieving the web services security configuration

```

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

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

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

```

Updating the web services security configuration

```

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

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

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

```

Retrieve the web services security configuration

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

Introduced In: 9.10

Retrieves the web services security configuration.

Parameters

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

Response

Status: 200, Ok

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

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

Example response

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

Error

Status: Default, Error

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

certificate

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

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

svm

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

| Name | Type | Description |
|-----------|--|-------------------|
| arguments | array[error_arguments] | Message arguments |

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

Update the web services security configuration

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

Introduced In: 9.10

Updates the web services security configuration.

Parameters

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|--|
| return_timeout | integer | query | False | <p>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.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |
| svm.uuid | string | path | True | UUID of the SVM to which this object belongs. |

Request Body

| Name | Type | Description |
|----------------|-----------------------------|---|
| _links | _links | |
| certificate | certificate | Certificate used by cluster and node management interfaces for TLS connection requests. |
| client_enabled | boolean | Indicates whether client authentication is enabled. |

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

Example request

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

Response

Status: 200, Ok

Response

Status: 202, Accepted

Error

Status: Default

ONTAP Error Response Codes

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

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

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

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

certificate

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

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

svm

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

web_svm

| Name | Type | Description |
|----------------|-----------------------------|---|
| _links | _links | |
| certificate | certificate | Certificate used by cluster and node management interfaces for TLS connection requests. |
| client_enabled | boolean | Indicates whether client authentication is enabled. |

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

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

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

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