



# Manage iSCSI services

## REST API reference

NetApp  
September 12, 2025

This PDF was generated from [https://docs.netapp.com/us-en/ontap-restapi-9131/protocols\\_san\\_iscsi\\_services\\_endpoint\\_overview.html](https://docs.netapp.com/us-en/ontap-restapi-9131/protocols_san_iscsi_services_endpoint_overview.html) on September 12, 2025. Always check [docs.netapp.com](https://docs.netapp.com) for the latest.

# Table of Contents

Manage iSCSI services	1
Protocols SAN iSCSI services endpoint overview	1
Overview	1
Performance monitoring	1
Examples	1
Retrieve iSCSI services	7
Expensive properties	7
Related ONTAP commands	7
Learn more	7
Parameters	7
Response	12
Error	14
Definitions	15
Create an iSCSI service	22
Required properties	23
Related ONTAP commands	23
Learn more	23
Parameters	23
Request Body	23
Response	25
Error	27
Definitions	28
Delete an iSCSI service	35
Related ONTAP commands	36
Learn more	36
Parameters	36
Response	36
Error	36
Definitions	37
Retrieve an iSCSI service	38
Related ONTAP commands	38
Learn more	38
Parameters	38
Response	38
Error	41
Definitions	42
Update an iSCSI service	49
Related ONTAP commands	49
Learn more	49
Parameters	49
Request Body	50
Response	52
Error	52

Definitions .....	52
Retrieve historical performance metrics for the iSCSI protocol of an SVM .....	59
Parameters .....	60
Response .....	62
Error .....	64
Definitions .....	64

# Manage iSCSI services

## Protocols SAN iSCSI services endpoint overview

### Overview

An iSCSI service defines the properties of the iSCSI target for an SVM. There can be at most one iSCSI service for an SVM. An SVM's iSCSI service must be created before iSCSI initiators can log in to the SVM.

The iSCSI service REST API allows you to create, update, delete, and discover iSCSI services for SVMs.

### Performance monitoring

Performance of the SVM can be monitored by the `metric.*` and `statistics.*` properties. These show the performance of the SVM in terms of IOPS, latency and throughput. The `metric.*` properties denote an average whereas `statistics.*` properties denote a real-time monotonically increasing value aggregated across all nodes.

### Examples

#### Creating an iSCSI service for an SVM

The simplest way to create an iSCSI service is to specify only the SVM, either by name or UUID. By default, the new iSCSI service is enabled and uses the SVM name as its target alias.

In this example, the `return_records` query parameter is used to retrieve the new iSCSI service object in the REST response.

```

# The API:
POST /api/protocols/san/iscsi/services

# The call:
curl -X POST 'https://<mgmt-
ip>/api/protocols/san/iscsi/services?return_records=true' -H 'Accept:
application/hal+json' -d '{ "svm": { "name": "svm1" } }'

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "19d04b8e-94d7-11e8-8370-005056b48fd2",
        "name": "svm1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/19d04b8e-94d7-11e8-8370-005056b48fd2"
          }
        },
        "enabled": true,
        "target": {
          "name": "iqn.1992-
08.com.netapp:sn.19d04b8e94d711e88370005056b48fd2:vs.4",
          "alias": "svm1"
        },
        "_links": {
          "self": {
            "href": "/api/protocols/san/iscsi/services/19d04b8e-94d7-11e8-
8370-005056b48fd2"
          }
        }
      }
    ]
  }
}

```

## Retrieving the iSCSI services for all SVMs in the cluster

```

# The API:
GET /api/protocols/san/iscsi/services

```

```

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/iscsi/services' -H
'Accept: application/hal+json'

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "19d04b8e-94d7-11e8-8370-005056b48fd2",
        "name": "svm1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/19d04b8e-94d7-11e8-8370-005056b48fd2"
          }
        },
        "_links": {
          "self": {
            "href": "/api/protocols/san/iscsi/services/19d04b8e-94d7-11e8-8370-005056b48fd2"
          }
        }
      }
    },
    {
      "svm": {
        "uuid": "25f617cf-94d7-11e8-8370-005056b48fd2",
        "name": "svm2",
        "_links": {
          "self": {
            "href": "/api/svm/svms/25f617cf-94d7-11e8-8370-005056b48fd2"
          }
        },
        "_links": {
          "self": {
            "href": "/api/protocols/san/iscsi/services/25f617cf-94d7-11e8-8370-005056b48fd2"
          }
        }
      }
    }
  ],
  "num_records": 2,
  "_links": {
    "self": {
      "href": "/api/protocols/san/iscsi/services"
    }
  }
}

```

```
    }
}
}
```

## Retrieving details for a specific iSCSI service

The iSCSI service is identified by the UUID of its SVM.

```
# The API:
GET /api/protocols/san/iscsi/services/{svm.uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/iscsi/services/19d04b8e-94d7-11e8-8370-005056b48fd2' -H 'Accept: application/hal+json'

# The response:
{
  "svm": {
    "uuid": "19d04b8e-94d7-11e8-8370-005056b48fd2",
    "name": "svm1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/19d04b8e-94d7-11e8-8370-005056b48fd2"
      }
    },
    "enabled": true,
    "target": {
      "name": "iqn.1992-08.com.netapp:sn.19d04b8e94d711e88370005056b48fd2:vs.4",
      "alias": "svm1"
    },
    "_links": {
      "self": {
        "href": "/api/protocols/san/iscsi/services/19d04b8e-94d7-11e8-8370-005056b48fd2"
      }
    }
}
```

## Disabling an iSCSI service

Disabling an iSCSI service shuts down all active iSCSI sessions for the SVM and prevents the creation of new iSCSI sessions.

The iSCSI service to update is identified by the UUID of its SVM.

```
# The API:  
PATCH /api/protocols/san/iscsi/services/{svm.uuid}  
  
# The call:  
curl -X PATCH 'https://<mgmt-  
ip>/api/protocols/san/iscsi/services/19d04b8e-94d7-11e8-8370-005056b48fd2'  
-H 'Accept: application/hal+json' -d '{ "enabled": "false" }'
```

You can retrieve the iSCSI service to confirm the change.

In this example, the `fields` query parameter is used to limit the response to the `enabled` property and iSCSI service identifiers.

```

# The API:
GET /api/protocols/san/iscsi/services/{svm.uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/iscsi/services/19d04b8e-94d7-11e8-8370-005056b48fd2?fields=enabled' -H 'Accept: application/hal+json'

# The response:
{
  "svm": {
    "uuid": "19d04b8e-94d7-11e8-8370-005056b48fd2",
    "name": "svml1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/19d04b8e-94d7-11e8-8370-005056b48fd2"
      }
    },
    "enabled": false,
    "_links": {
      "self": {
        "href": "/api/protocols/san/iscsi/services/19d04b8e-94d7-11e8-8370-005056b48fd2"
      }
    }
  }
}

```

## Deleting an iSCSI service

The iSCSI service must be disabled before it can be deleted.

The iSCSI service to be deleted is identified by the UUID of its SVM.

```

# The API:
DELETE /api/protocols/san/iscsi/services/{svm.uuid}

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/protocols/san/iscsi/services/19d04b8e-94d7-11e8-8370-005056b48fd2' -H 'Accept: application/hal+json'

```

# Retrieve iSCSI services

GET /protocols/san/iscsi/services

**Introduced In:** 9.6

Retrieves iSCSI services.

## Expensive properties

There is an added computational 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.

- `statistics.*`
- `metric.*`

## Related ONTAP commands

- `vserver iscsi show`

## Learn more

- [DOC /protocols/san/iscsi/services](#)

## Parameters

Name	Type	In	Required	Description
<code>statistics.latency_ra</code> <code>w.read</code>	integer	query	False	Filter by <code>statistics.latency_ra</code> <code>w.read</code> <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>
<code>statistics.latency_ra</code> <code>w.other</code>	integer	query	False	Filter by <code>statistics.latency_ra</code> <code>w.other</code> <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>
<code>statistics.latency_ra</code> <code>w.write</code>	integer	query	False	Filter by <code>statistics.latency_ra</code> <code>w.write</code> <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>

Name	Type	In	Required	Description
statistics.latency_rw.total	integer	query	False	Filter by statistics.latency_rw.total <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
statistics.iops_raw.read	integer	query	False	Filter by statistics.iops_raw.read <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
statistics.iops_raw.other	integer	query	False	Filter by statistics.iops_raw.other <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
statistics.iops_raw.write	integer	query	False	Filter by statistics.iops_raw.write <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
statistics.iops_raw.total	integer	query	False	Filter by statistics.iops_raw.total <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
statistics.status	string	query	False	Filter by statistics.status <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
statistics.timestamp	string	query	False	Filter by statistics.timestamp <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>

Name	Type	In	Required	Description
statistics.throughput._raw.total	integer	query	False	Filter by statistics.throughput._raw.total <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
statistics.throughput._raw.write	integer	query	False	Filter by statistics.throughput._raw.write <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
statistics.throughput._raw.read	integer	query	False	Filter by statistics.throughput._raw.read <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.duration	string	query	False	Filter by metric.duration <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.throughput.total	integer	query	False	Filter by metric.throughput.total <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.throughput.write	integer	query	False	Filter by metric.throughput.write <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.throughput.read	integer	query	False	Filter by metric.throughput.read <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>

Name	Type	In	Required	Description
metric.status	string	query	False	Filter by metric.status <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.timestamp	string	query	False	Filter by metric.timestamp <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.iops.read	integer	query	False	Filter by metric.iops.read <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.iops.other	integer	query	False	Filter by metric.iops.other <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.iops.write	integer	query	False	Filter by metric.iops.write <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.iops.total	integer	query	False	Filter by metric.iops.total <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.latency.read	integer	query	False	Filter by metric.latency.read <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
metric.latency.other	integer	query	False	Filter by metric.latency.other <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>

Name	Type	In	Required	Description
metric.latency.write	integer	query	False	Filter by metric.latency.write <ul style="list-style-type: none"> <li>Introduced in: 9.7</li> </ul>
metric.latency.total	integer	query	False	Filter by metric.latency.total <ul style="list-style-type: none"> <li>Introduced in: 9.7</li> </ul>
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
target.alias	string	query	False	Filter by target.alias <ul style="list-style-type: none"> <li>maxLength: 128</li> <li>minLength: 1</li> </ul>
target.name	string	query	False	Filter by target.name <ul style="list-style-type: none"> <li>maxLength: 128</li> <li>minLength: 1</li> </ul>
enabled	boolean	query	False	Filter by enabled
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"> <li>Default value: 1</li> </ul>

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

## Response

Status: 200, Ok

Name	Type	Description
_links	<a href="#">_links</a>	
num_records	integer	The number of records in the response.
records	array[ <a href="#">iscsi_service</a> ]	

## Example response

```
{  
  "_links": {  
    "next": {  
      "href": "/api/resourcelink"  
    },  
    "self": {  
      "href": "/api/resourcelink"  
    }  
  },  
  "num_records": 1,  
  "records": [  
    {  
      "_links": {  
        "self": {  
          "href": "/api/resourcelink"  
        }  
      },  
      "metric": {  
        "_links": {  
          "self": {  
            "href": "/api/resourcelink"  
          }  
        }  
      },  
      "duration": "PT15S",  
      "iops": {  
        "read": 200,  
        "total": 1000,  
        "write": 100  
      },  
      "latency": {  
        "read": 200,  
        "total": 1000,  
        "write": 100  
      },  
      "status": "ok",  
      "throughput": {  
        "read": 200,  
        "total": 1000,  
        "write": 100  
      },  
      "timestamp": "2017-01-25 11:20:13 +0000"  
    },  
    "statistics": {  
      "iops_raw": {  
        "read": 200,  
        "total": 1000,  
        "write": 100  
      }  
    }  
  ]  
}
```

```

    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25 11:20:13 +0000"
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"target": {
  "alias": "svm1",
  "name": "iqn.1992-
08.com.netapp:sn.574caf71890911e8a6b7005056b4ea79:vs.2"
}
}
]
}

```

## Error

Status: Default, Error

Name	Type	Description
error	error	

## Example error

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

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

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

\_links

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

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

## throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

## metric

Name	Type	Description
_links	<a href="#">_links</a>	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	<a href="#">iops</a>	The rate of I/O operations observed at the storage object.

Name	Type	Description
latency	<a href="#">latency</a>	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	<a href="#">throughput</a>	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

### iops\_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### latency\_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### throughput\_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

## statistics

Name	Type	Description
iops_raw	<a href="#">iops_raw</a>	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	<a href="#">latency_raw</a>	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	<p>Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data".</p> <p>"Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated.</p> <p>"Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.</p>
throughput_raw	<a href="#">throughput_raw</a>	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

## svm

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

## target

Name	Type	Description
alias	string	<p>The iSCSI target alias of the iSCSI service.</p> <p>The target alias can contain one (1) to 128 characters and feature any printable character except space (" "). A PATCH request with an empty alias ("") clears the alias.</p> <p>Optional in POST and PATCH. In POST, this defaults to the name of the SVM.</p>
name	string	<p>The iSCSI target name of the iSCSI service. This is generated for the SVM during POST.</p> <p>If required, the target name can be modified using the ONTAP command line.</p> <ul style="list-style-type: none"> <li>example: iqn.1992-08.com.netapp:sn.574caf71890911e8a6b7005056b4ea79:vs.2</li> <li>maxLength: 128</li> <li>minLength: 1</li> <li>readOnly: 1</li> <li>Introduced in: 9.6</li> <li>x-nullable: true</li> </ul>

## iscsi\_service

An iSCSI service defines the properties of the iSCSI target for an SVM. There can be at most one iSCSI service for an SVM. An SVM's iSCSI service must be created before iSCSI initiators can log in to the SVM.

An iSCSI service is identified by the UUID of its SVM.

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the iSCSI service. The iSCSI service can be disabled to block all iSCSI connectivity to the SVM.  Optional in POST and PATCH. The default setting is <i>true</i> (enabled) in POST.
metric	metric	
statistics	statistics	
svm	svm	
target	target	

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 iSCSI service

POST /protocols/san/iscsi/services

**Introduced In:** 9.6

Creates an iSCSI service.

## Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the iSCSI service.

## Related ONTAP commands

- `vserver iscsi create`

## Learn more

- [DOC /protocols/san/iscsi/services](#)

## Parameters

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

## Request Body

Name	Type	Description
enabled	boolean	<p>The administrative state of the iSCSI service. The iSCSI service can be disabled to block all iSCSI connectivity to the SVM.</p> <p>Optional in POST and PATCH. The default setting is <i>true</i> (enabled) in POST.</p>
metric	metric	
statistics	statistics	
svm	svm	
target	target	

## Example request

```
{  
  "metric": {  
    "duration": "PT15S",  
    "iops": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "latency": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "status": "ok",  
    "throughput": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "timestamp": "2017-01-25 11:20:13 +0000"  
  },  
  "statistics": {  
    "iops_raw": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "latency_raw": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "status": "ok",  
    "throughput_raw": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "timestamp": "2017-01-25 11:20:13 +0000"  
  },  
  "svm": {  
    "name": "svml",  
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"  
  },  
}
```

```
"target": {
    "alias": "svm1",
    "name": "iqn.1992-08.com.netapp:sn.574caf71890911e8a6b7005056b4ea79:vs.2"
}
```

## Response

Status: 201, Created

Name	Type	Description
num_records	integer	The number of records in the response.
records	array[ <a href="#">iscsi_service</a> ]	

## Example response

```
{  
  "num_records": 1,  
  "records": [  
    {  
      "metric": {  
        "duration": "PT15S",  
        "iops": {  
          "read": 200,  
          "total": 1000,  
          "write": 100  
        },  
        "latency": {  
          "read": 200,  
          "total": 1000,  
          "write": 100  
        },  
        "status": "ok",  
        "throughput": {  
          "read": 200,  
          "total": 1000,  
          "write": 100  
        },  
        "timestamp": "2017-01-25 11:20:13 +0000"  
      },  
      "statistics": {  
        "iops_raw": {  
          "read": 200,  
          "total": 1000,  
          "write": 100  
        },  
        "latency_raw": {  
          "read": 200,  
          "total": 1000,  
          "write": 100  
        },  
        "status": "ok",  
        "throughput_raw": {  
          "read": 200,  
          "total": 1000,  
          "write": 100  
        },  
        "timestamp": "2017-01-25 11:20:13 +0000"  
      },  
      "svm": {
```

```

        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "target": {
        "alias": "svm1",
        "name": "iqn.1992-
08.com.netapp:sn.574caf71890911e8a6b7005056b4ea79:vs.2"
    }
}
]
}

```

## Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

## Error

Status: Default

### ONTAP Error Response Codes

Error Code	Description
1115127	The cluster lacks a valid iSCSI license.
2621462	The supplied SVM does not exist.
2621507	The iSCSI protocol is not allowed for the specified SVM.
2621706	The specified <code>svm.uuid</code> and <code>svm.name</code> do not refer to the same SVM.
2621707	No SVM was specified. Either <code>svm.name</code> or <code>svm.uuid</code> must be supplied.
5373966	An iSCSI service cannot be created in an SVM that is configured for NVMe.
5374077	An iSCSI service already exists for the specified SVM.
5374893	The SVM is stopped. The SVM must be running to create an iSCSI service.

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.

Name	Type	Description
write	integer	Performance metric for write I/O operations.

## throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

## metric

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.

Name	Type	Description
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

#### iops\_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### latency\_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### throughput\_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### statistics

Name	Type	Description
iops_raw	<a href="#">iops_raw</a>	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	<a href="#">latency_raw</a>	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	<p>Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data".</p> <p>"Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated.</p> <p>"Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.</p>
throughput_raw	<a href="#">throughput_raw</a>	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

svm

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

## target

Name	Type	Description
alias	string	<p>The iSCSI target alias of the iSCSI service.</p> <p>The target alias can contain one (1) to 128 characters and feature any printable character except space (" "). A PATCH request with an empty alias ("") clears the alias.</p> <p>Optional in POST and PATCH. In POST, this defaults to the name of the SVM.</p>
name	string	<p>The iSCSI target name of the iSCSI service. This is generated for the SVM during POST.</p> <p>If required, the target name can be modified using the ONTAP command line.</p> <ul style="list-style-type: none"> <li>example: iqn.1992-08.com.netapp:sn.574caf71890911e8a6b7005056b4ea79:vs.2</li> <li>maxLength: 128</li> <li>minLength: 1</li> <li>readOnly: 1</li> <li>Introduced in: 9.6</li> <li>x-nullable: true</li> </ul>

## iscsi\_service

An iSCSI service defines the properties of the iSCSI target for an SVM. There can be at most one iSCSI service for an SVM. An SVM's iSCSI service must be created before iSCSI initiators can log in to the SVM.

An iSCSI service is identified by the UUID of its SVM.

Name	Type	Description
enabled	boolean	The administrative state of the iSCSI service. The iSCSI service can be disabled to block all iSCSI connectivity to the SVM.
		Optional in POST and PATCH. The default setting is <i>true</i> (enabled) in POST.
metric	metric	
statistics	statistics	
svm	svm	
target	target	

#### 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 iSCSI service

DELETE /protocols/san/iscsi/services/{svm.uuid}

**Introduced In:** 9.6

Deletes an iSCSI service. An iSCSI service must be disabled before it can be deleted.

## Related ONTAP commands

- `vserver iscsi delete`

## Learn more

- [DOC /protocols/san/iscsi/services](#)

## Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	The unique identifier of the SVM for which to delete the iSCSI service.

## Response

```
Status: 200, Ok
```

## Error

```
Status: Default
```

## ONTAP Error Response Codes

Error Code	Description
2621462	An SVM with the specified UUID does not exist.
5373960	The iSCSI service is enabled. The iSCSI service must be disabled before it can be deleted.
5374078	The SVM does not have an iSCSI service.

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

## Example error

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

## Definitions

### See Definitions

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

# Retrieve an iSCSI service

GET /protocols/san/iscsi/services/{svm.uuid}

**Introduced In:** 9.6

Retrieves an iSCSI service.

## Related ONTAP commands

- vserver iscsi show

## Learn more

- [DOC /protocols/san/iscsi/services](#)

## Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	The unique identifier of the SVM for which to retrieve the iSCSI service.
fields	array[string]	query	False	Specify the fields to return.

## Response

Status: 200, Ok

Name	Type	Description
_links	<a href="#">_links</a>	
enabled	boolean	The administrative state of the iSCSI service. The iSCSI service can be disabled to block all iSCSI connectivity to the SVM.  Optional in POST and PATCH. The default setting is <i>true</i> (enabled) in POST.
metric	<a href="#">metric</a>	
statistics	<a href="#">statistics</a>	
svm	<a href="#">svm</a>	

Name	Type	Description
target	target	

## Example response

```
{  
  "_links": {  
    "self": {  
      "href": "/api/resourcelink"  
    }  
  },  
  "metric": {  
    "_links": {  
      "self": {  
        "href": "/api/resourcelink"  
      }  
    },  
    "duration": "PT15S",  
    "iops": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "latency": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "status": "ok",  
    "throughput": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "timestamp": "2017-01-25 11:20:13 +0000"  
  },  
  "statistics": {  
    "iops_raw": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "latency_raw": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "status": "ok",  
    "throughput_raw": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    }  
  }  
}
```

```

    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25 11:20:13 +0000"
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"target": {
  "alias": "svm1",
  "name": "iqn.1992-
08.com.netapp:sn.574caf71890911e8a6b7005056b4ea79:vs.2"
}
}

```

## Error

Status: Default

### ONTAP Error Response Codes

Error Code	Description
2621462	An SVM with the specified UUID does not exist.
5374078	The SVM does not have an iSCSI service.

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	

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

## throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

## metric

Name	Type	Description
_links	<a href="#">_links</a>	
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	<a href="#">iops</a>	The rate of I/O operations observed at the storage object.
latency	<a href="#">latency</a>	The round trip latency in microseconds observed at the storage object.

Name	Type	Description
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

### iops\_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### latency\_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### throughput\_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### statistics

Name	Type	Description
iops_raw	<a href="#">iops_raw</a>	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	<a href="#">latency_raw</a>	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	<p>Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data".</p> <p>"Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated.</p> <p>"Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.</p>
throughput_raw	<a href="#">throughput_raw</a>	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

svm

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

target

Name	Type	Description
alias	string	<p>The iSCSI target alias of the iSCSI service.</p> <p>The target alias can contain one (1) to 128 characters and feature any printable character except space (" "). A PATCH request with an empty alias ("") clears the alias.</p> <p>Optional in POST and PATCH. In POST, this defaults to the name of the SVM.</p>
name	string	<p>The iSCSI target name of the iSCSI service. This is generated for the SVM during POST.</p> <p>If required, the target name can be modified using the ONTAP command line.</p> <ul style="list-style-type: none"> <li>example: iqn.1992-08.com.netapp:sn.574caf71890911e8a6b7005056b4ea79:vs.2</li> <li>maxLength: 128</li> <li>minLength: 1</li> <li>readOnly: 1</li> <li>Introduced in: 9.6</li> <li>x-nullable: true</li> </ul>

error\_arguments

Name	Type	Description
code	string	Argument code

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

## Update an iSCSI service

PATCH /protocols/san/iscsi/services/{svm.uuid}

**Introduced In:** 9.6

Updates an iSCSI service.

### Related ONTAP commands

- vserver iscsi modify
- vserver iscsi start
- vserver iscsi stop

### Learn more

- [DOC /protocols/san/iscsi/services](#)

### Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	The unique identifier of the SVM for which to update the iSCSI service.

## Request Body

Name	Type	Description
enabled	boolean	<p>The administrative state of the iSCSI service. The iSCSI service can be disabled to block all iSCSI connectivity to the SVM.</p> <p>Optional in POST and PATCH. The default setting is <i>true</i> (enabled) in POST.</p>
metric	<a href="#">metric</a>	
statistics	<a href="#">statistics</a>	
svm	<a href="#">svm</a>	
target	<a href="#">target</a>	

## Example request

```
{  
  "metric": {  
    "duration": "PT15S",  
    "iops": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "latency": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "status": "ok",  
    "throughput": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "timestamp": "2017-01-25 11:20:13 +0000"  
  },  
  "statistics": {  
    "iops_raw": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "latency_raw": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "status": "ok",  
    "throughput_raw": {  
      "read": 200,  
      "total": 1000,  
      "write": 100  
    },  
    "timestamp": "2017-01-25 11:20:13 +0000"  
  },  
  "svm": {  
    "name": "svml",  
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"  
  },
```

```
"target": {
    "alias": "svm1",
    "name": "iqn.1992-08.com.netapp:sn.574caf71890911e8a6b7005056b4ea79:vs.2"
}
```

## Response

Status: 200, Ok

## Error

Status: Default

### ONTAP Error Response Codes

Error Code	Description
2621462	An SVM with the specified UUID does not exist.
5374078	The SVM does not have an iSCSI service.

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.

Name	Type	Description
write	integer	Performance metric for write I/O operations.

## throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

## metric

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.

Name	Type	Description
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

### iops\_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### latency\_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### throughput\_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

### statistics

Name	Type	Description
iops_raw	<a href="#">iops_raw</a>	The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	<a href="#">latency_raw</a>	The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	<p>Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data".</p> <p>"Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated.</p> <p>"Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.</p>
throughput_raw	<a href="#">throughput_raw</a>	Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

svm

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

## target

Name	Type	Description
alias	string	<p>The iSCSI target alias of the iSCSI service.</p> <p>The target alias can contain one (1) to 128 characters and feature any printable character except space (" "). A PATCH request with an empty alias ("") clears the alias.</p> <p>Optional in POST and PATCH. In POST, this defaults to the name of the SVM.</p>
name	string	<p>The iSCSI target name of the iSCSI service. This is generated for the SVM during POST.</p> <p>If required, the target name can be modified using the ONTAP command line.</p> <ul style="list-style-type: none"> <li>example: iqn.1992-08.com.netapp:sn.574caf71890911e8a6b7005056b4ea79:vs.2</li> <li>maxLength: 128</li> <li>minLength: 1</li> <li>readOnly: 1</li> <li>Introduced in: 9.6</li> <li>x-nullable: true</li> </ul>

## iscsi\_service

An iSCSI service defines the properties of the iSCSI target for an SVM. There can be at most one iSCSI service for an SVM. An SVM's iSCSI service must be created before iSCSI initiators can log in to the SVM.

An iSCSI service is identified by the UUID of its SVM.

Name	Type	Description
enabled	boolean	The administrative state of the iSCSI service. The iSCSI service can be disabled to block all iSCSI connectivity to the SVM.
		Optional in POST and PATCH. The default setting is <i>true</i> (enabled) in POST.
metric	metric	
statistics	statistics	
svm	svm	
target	target	

#### 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 historical performance metrics for the iSCSI protocol of an SVM

GET /protocols/san/iscsi/services/{svm.uuid}/metrics

**Introduced In:** 9.7

Retrieves historical performance metrics for the iSCSI protocol of an SVM.

## Parameters

Name	Type	In	Required	Description
status	string	query	False	Filter by status
timestamp	string	query	False	Filter by timestamp
iops.read	integer	query	False	Filter by iops.read
iops.other	integer	query	False	Filter by iops.other
iops.write	integer	query	False	Filter by iops.write
iops.total	integer	query	False	Filter by iops.total
throughput.total	integer	query	False	Filter by throughput.total
throughput.write	integer	query	False	Filter by throughput.write
throughput.read	integer	query	False	Filter by throughput.read
duration	string	query	False	Filter by duration
latency.read	integer	query	False	Filter by latency.read
latency.other	integer	query	False	Filter by latency.other
latency.write	integer	query	False	Filter by latency.write
latency.total	integer	query	False	Filter by latency.total
svm.uuid	string	path	True	The unique identifier of the SVM.

Name	Type	In	Required	Description
interval	string	query	False	<p>The time range for the data. Examples can be 1h, 1d, 1m, 1w, 1y. The period for each time range is as follows:</p> <ul style="list-style-type: none"> <li>• 1h: Metrics over the most recent hour sampled over 15 seconds.</li> <li>• 1d: Metrics over the most recent day sampled over 5 minutes.</li> <li>• 1w: Metrics over the most recent week sampled over 30 minutes.</li> <li>• 1m: Metrics over the most recent month sampled over 2 hours.</li> <li>• 1y: Metrics over the most recent year sampled over a day.</li> <li>• Default value: 1</li> <li>• enum: ["1h", "1d", "1w", "1m", "1y"]</li> </ul>

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

## Response

Status: 200, Ok

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

## Example response

```
{  
  "_links": {  
    "next": {  
      "href": "/api/resourcelink"  
    },  
    "self": {  
      "href": "/api/resourcelink"  
    }  
  },  
  "num_records": 1,  
  "records": [  
    {  
      "_links": {  
        "self": {  
          "href": "/api/resourcelink"  
        }  
      },  
      "duration": "PT15S",  
      "iops": {  
        "read": 200,  
        "total": 1000,  
        "write": 100  
      },  
      "latency": {  
        "read": 200,  
        "total": 1000,  
        "write": 100  
      },  
      "status": "ok",  
      "svm": {  
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"  
      },  
      "throughput": {  
        "read": 200,  
        "total": 1000,  
        "write": 100  
      },  
      "timestamp": "2017-01-25 11:20:13 +0000"  
    }  
  ]  
}
```

## Error

Status: Default, Error

Name	Type	Description
error	error	

### Example error

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

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

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

\_links

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

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

svm

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

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

records

Performance numbers, such as IOPS latency and throughput, for SVM protocols.

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

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
svm	svm	
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

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.

## Copyright information

Copyright © 2025 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

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

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

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

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

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

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

## Trademark information

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