Manage disks

REST API reference

NetApp
September 12, 2025

This PDF was generated from https://docs.netapp.com/us-en/ontap-restapi-97/storage_disks_endpoint_overview.html on September 12, 2025. Always check docs.netapp.com for the latest.

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Manage disks

Storage disks endpoint overview

Retrieving storage disk information

The storage disk GET API retrieves all of the disks in the cluster.

Examples

1) Retrieve a list of disks from the cluster

The following example shows the response with a list of disks in the cluster:

```
# The API:
/api/storage/disks

# The call:
curl -X GET "https://<mgmt-ip>/api/storage/disks" -H "accept:
application/hal+json"

# The response:
{
"records": [
  {
    "name": "1.24.4",
    "_links": {
      "self": {
        "href": "/api/storage/disks/1.24.4"
      }
    }
  },
  {
    "name": "1.24.3",
    "_links": {
      "self": {
        "href": "/api/storage/disks/1.24.3"
      }
    }
  },
  {
    "name": "1.24.5",
    "_links": {
```

```
      "self": {
        "href": "/api/storage/disks/1.24.5"
      }
    }
  },
  {
    "name": "1.24.0",
    "_links": {
      "self": {
        "href": "/api/storage/disks/1.24.0"
      }
    }
  },
  {
    "name": "1.24.2",
    "_links": {
      "self": {
        "href": "/api/storage/disks/1.24.2"
      }
    }
  },
  {
    "name": "1.24.1",
    "_links": {
      "self": {
        "href": "/api/storage/disks/1.24.1"
      }
    }
  }
],
"num_records": 6,
"_links": {
  "self": {
    "href": "/api/storage/disks"
  }
}
}
```

2) Retrieve a specific disk from the cluster

The following example shows the response of the requested disk. If there is no disk with the requested name, an error is returned.

```
```

```
# The API:
/api/storage/disks/{name}

# The call:
curl -X GET "https://<mgmt-ip>/api/storage/disks/1.24.3" -H "accept:
application/hal+json"

# The response:
{
"name": "1.24.3",
"uid":
"50000394:0808AA88:00000000:00000000:00000000:00000000:00000000:00000000:0
0000000:00000000",
"serial_number": "EC47PC5021SW",
"model": "X421_FAL12450A10",
"vendor": "NETAPP",
"firmware_version": "NA02",
"usable_size": 438304768000,
"rpm": 10000,
"type": "sas",
"class": "performance",
"container_type": "aggregate",
"pool": "pool0",
"state": "present",
"node": {
  "uuid": "3a89ed49-8c6d-11e8-93bc-00a0985a64b6",
  "name": "node-2",
  "_links": {
    "self": {
      "href": "/api/cluster/nodes/3a89ed49-8c6d-11e8-93bc-00a0985a64b6"
    }
  }
},
"home_node": {
  "uuid": "3a89ed49-8c6d-11e8-93bc-00a0985a64b6",
  "name": "node-2",
  "_links": {
    "self": {
      "href": "/api/cluster/nodes/3a89ed49-8c6d-11e8-93bc-00a0985a64b6"
    }
  }
},
"aggregates": [
  {
    "uuid": "3fd9c345-ba91-4949-a7b1-6e2b898d74e3",
    "name": "node_2_SAS_1",
```

```
    "_links": {
      "self": {
        "href": "/api/storage/aggregates/3fd9c345-ba91-4949-a7b1-
6e2b898d74e3"
      }
    }
  }
],
"shelf": {
  "uid": "10318311901725526608",
  "_links": {
    "self": {
      "href": "/api/storage/shelves/10318311901725526608"
    }
  }
},
"bay": 3,
"_links": {
  "self": {
    "href": "/api/storage/disks/1.24.3"
  }
}
}
```

3) Rekey the data authentication key (AK) of all encrypting drives to an AK

created and maintained by the system.

```
# The API:
/api/storage/disks

# The call:
curl -X PATCH "https://<mgmt-ip>/api/storage/disks?name=*" -d
'{"encrypt_operation" : "rekey_data_auto_id"}' -H "accept:
application/hal+json" -H "Content-Type: application/hal+json"

# The response contain the number of disks attempted.
{
 "num_records": 32
}
```

Retrieve a collection of disks

GET `/storage/disks`

Retrieves a collection of disks.

Related ONTAP commands

- `storage disk show`

Learn more

- DOC /storage/disks

Parameters

Name	Type	In	Required	Description
bay	integer	query	False	Filter by bay
model	string	query	False	Filter by model
self_encrypting	boolean	query	False	Filter by self_encrypting
home_node.uuid	string	query	False	Filter by home_node.uuid
home_node.name	string	query	False	Filter by home_node.name
key_id.fips	string	query	False	Filter by key_id.fips
key_id.data	string	query	False	Filter by key_id.data
rated_life_used_percent	integer	query	False	Filter by rated_life_used_percent
shelf.uid	string	query	False	Filter by shelf.uid
rpm	integer	query	False	Filter by rpm
state	string	query	False	Filter by state
firmware_version	string	query	False	Filter by firmware_version

Name	Type	In	Required	Description
vendor	string	query	False	Filter by vendor
name	string	query	False	Filter by name
class	string	query	False	Filter by class
protection_mode	string	query	False	Filter by protection_mode
node.uuid	string	query	False	Filter by node.uuid
node.name	string	query	False	Filter by node.name
uid	string	query	False	Filter by uid
type	string	query	False	Filter by type
serial_number	string	query	False	Filter by serial_number
container_type	string	query	False	Filter by container_type
usable_size	integer	query	False	Filter by usable_size
fips_certified	boolean	query	False	Filter by fips_certified
aggregates.name	string	query	False	Filter by aggregates.name
aggregates.uuid	string	query	False	Filter by aggregates.uuid
pool	string	query	False	Filter by pool
drawer.id	integer	query	False	Filter by drawer.id
drawer.slot	integer	query	False	Filter by drawer.slot
dr_node.uuid	string	query	False	Filter by dr_node.uuid

Name	Type	In	Required	Description
dr_node.name	string	query	False	Filter by dr_node.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.
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.
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[disk]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "aggregates": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "aggr1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "bay": 1,
      "class": "solid_state",
      "container_type": "spare",
      "dr_node": {
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "encryption_operation": "string",
      "firmware_version": "NA51",
      "home_node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "key_id": {
        "data": "string",
        "fips": "string"
      },
```

```
      "model": "X421_HCOBE450A10",
      "name": "1.0.1",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "pool": "pool0",
      "protection_mode": "string",
      "rated_life_used_percent": 10,
      "rpm": 15000,
      "serial_number": "KHG2VX8R",
      "shelf": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "uid": 7777841915827391056
      },
      "state": "present",
      "type": "ssd",
      "uid":
"002538E5:71B00B2F:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000",
      "usable_size": 959934889984,
      "vendor": "NETAPP"
    }
  ]
}
```


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

Aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

dr_node

Name	Type	Description
name	string	
uuid	string	

drawer

Name	Type	Description
id	integer	
slot	integer	

home_node

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	
uuid	string	

key_id

Name	Type	Description
data	string	Key ID of the data authentication key
fips	string	Key ID of the FIPS authentication key

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

shelf_reference

Shelf

Name	Type	Description
_links	_links	
uid	string	

disk

Name	Type	Description
aggregates	array[aggregates]	List of aggregates sharing this disk
bay	integer	Disk shelf bay
class	string	Disk class
container_type	string	Type of overlying disk container
dr_node	dr_node	
drawer	drawer	

Name	Type	Description
encryption_operation	string	Encryption operation to apply to the drives. Possible values are: • rekey_data_default • rekey_data_auto_id
fips_certified	boolean	
firmware_version	string	
home_node	home_node	
key_id	key_id	
model	string	
name	string	Cluster-wide disk name
node	node	
pool	string	Pool to which disk is assigned
protection_mode	string	Mode of drive data protection and FIPS compliance. Possible values are: • *open* - Disk is unprotected • *data* - Data protection only without FIPS compliance • *part* - Partial protection with FIPS compliance only • *full* - Full data and FIPS compliance protection
rated_life_used_percent	integer	Percentage of rated life used
rpm	integer	Revolutions per minute
self_encrypting	boolean	
serial_number	string	
shelf	shelf_reference	Shelf
state	string	State
type	string	Disk interface type
uid	string	The unique identifier for a disk

Name	Type	Description
usable_size	integer	
vendor	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 disk ownership, change authentication keys, or sanitize disks

PATCH `/storage/disks`

Updates the encryption controls of self-encrypting disks.

Related ONTAP commands

- `storage encryption disk modify -data-key-id`
- `security key-manager key query -key-type NSE-AK`

Learn more

- DOC /storage/disks

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned.
name	string	query	True	Disk name
encryption_operation	string	query	True	Name of the operation to apply to encrypting disks. • enum: ["rekey_data_default", "rekey_data_auto_id"]

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1441795	Setting the data key ID to the manufacture secure ID is not allowed when in FIPS-compliance mode.
14155777	The operation failed on one or more disks.
14155778	No self-encrypting disks were specified.
14155779	Status from a node shows that a conflicting operation has occurred. Some disk controls might have changed.
14155780	Could not retrieve the required key ID from the key manager.

Retrieve a specific disk

GET `/storage/disks/{name}`

Retrieves a specific disk.

Related ONTAP commands

- `storage disk show`

Learn more

- DOC /storage/disks

Parameters

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

Response

```
Status: 200, Ok
```

Name	Type	Description
aggregates	array[aggregates]	List of aggregates sharing this disk
bay	integer	Disk shelf bay
class	string	Disk class
container_type	string	Type of overlying disk container
dr_node	dr_node	
drawer	drawer	
encryption_operation	string	Encryption operation to apply to the drives. Possible values are: • rekey_data_default • rekey_data_auto_id
fips_certified	boolean	
firmware_version	string	
home_node	home_node	
key_id	key_id	

Name	Type	Description
model	string	
name	string	Cluster-wide disk name
node	node	
pool	string	Pool to which disk is assigned
protection_mode	string	Mode of drive data protection and FIPS compliance. Possible values are: • *open* - Disk is unprotected • *data* - Data protection only without FIPS compliance • *part* - Partial protection with FIPS compliance only • *full* - Full data and FIPS compliance protection
rated_life_used_percent	integer	Percentage of rated life used
rpm	integer	Revolutions per minute
self_encrypting	boolean	
serial_number	string	
shelf	shelf_reference	Shelf
state	string	State
type	string	Disk interface type
uid	string	The unique identifier for a disk
usable_size	integer	
vendor	string	

Example response


```
{
  "aggregates": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "aggr1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "bay": 1,
  "class": "solid_state",
  "container_type": "spare",
  "dr_node": {
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "encryption_operation": "string",
  "firmware_version": "NA51",
  "home_node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "key_id": {
    "data": "string",
    "fips": "string"
  },
  "model": "X421_HCOBE450A10",
  "name": "1.0.1",
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
```

```
  },
  "pool": "pool0",
  "protection_mode": "string",
  "rated_life_used_percent": 10,
  "rpm": 15000,
  "serial_number": "KHG2VX8R",
  "shelf": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uid": 7777841915827391056
  },
  "state": "present",
  "type": "ssd",
  "uid":
"002538E5:71B00B2F:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000",
  "usable_size": 959934889984,
  "vendor": "NETAPP"
}
```


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

Aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

dr_node

Name	Type	Description
name	string	
uuid	string	

drawer

Name	Type	Description
id	integer	
slot	integer	

home_node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

key_id

Name	Type	Description
data	string	Key ID of the data authentication key
fips	string	Key ID of the FIPS authentication key

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

shelf_reference

Shelf

Name	Type	Description
_links	_links	
uid	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.

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