



## **Manage disks**

### **ONTAP 9.8 REST API reference**

NetApp  
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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":
  "50000394:0808AA88:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000",
  "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"
    }
  }
}
```

---

## Modifying storage disk

The storage disk PATCH API modifies disk ownership or encrypting drive authentication keys (AKs) in the cluster.

---

## Examples

**Rekey the data AK of all encrypting drives to an AK selected automatically by the system.**

---

```

# The API:
/api/storage/disks

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

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

```

## Retrieve a collection of disks

GET /storage/disks

**Introduced In:** 9.6

Retrieves a collection of disks.

### Related ONTAP commands

- `storage disk show`

### Learn more

- [DOC /storage/disks](#)

### Parameters

Name	Type	In	Required	Description
dr_node.uuid	string	query	False	Filter by dr_node.uuid
dr_node.name	string	query	False	Filter by dr_node.name
aggregates.uuid	string	query	False	Filter by aggregates.uuid
aggregates.name	string	query	False	Filter by aggregates.name

Name	Type	In	Required	Description
container_type	string	query	False	Filter by container_type
protection_mode	string	query	False	Filter by protection_mode  • Introduced in: 9.7
state	string	query	False	Filter by state
serial_number	string	query	False	Filter by serial_number
bay	integer	query	False	Filter by bay
shelf.uid	string	query	False	Filter by shelf.uid
usable_size	integer	query	False	Filter by usable_size
firmware_version	string	query	False	Filter by firmware_version
uid	string	query	False	Filter by uid
class	string	query	False	Filter by class
type	string	query	False	Filter by type
name	string	query	False	Filter by name
rpm	integer	query	False	Filter by rpm
model	string	query	False	Filter by model
key_id.fips	string	query	False	Filter by key_id.fips  • Introduced in: 9.7
key_id.data	string	query	False	Filter by key_id.data  • Introduced in: 9.7



Name	Type	In	Required	Description
rated_life_used_percent	integer	query	False	Filter by rated_life_used_percent
home_node.name	string	query	False	Filter by home_node.name
home_node.uuid	string	query	False	Filter by home_node.uuid
drawer.id	integer	query	False	Filter by drawer.id
drawer.slot	integer	query	False	Filter by drawer.slot
fips_certified	boolean	query	False	Filter by fips_certified  • Introduced in: 9.7
self_encrypting	boolean	query	False	Filter by self_encrypting  • Introduced in: 9.7
pool	string	query	False	Filter by pool
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
vendor	string	query	False	Filter by vendor
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"> <li>• Default value: 1</li> </ul>
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"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>
order_by	array[string]	query	False	Order results by specified fields and optional [asc

## Response

Status: 200, Ok

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

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

\_links

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

aggregates

Aggregate

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

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	<a href="#">_links</a>	
name	string	
uuid	string	

shelf

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

disk

Name	Type	Description
aggregates	array[ <a href="#">aggregates</a> ]	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	<a href="#">dr_node</a>	
drawer	<a href="#">drawer</a>	

Name	Type	Description
encryption_operation	string	Encryption operation to apply to the drives. Possible values are: <ul style="list-style-type: none"> <li>• rekey_data_default</li> <li>• rekey_data_auto_id</li> </ul>
fips_certified	boolean	
firmware_version	string	
home_node	<a href="#">home_node</a>	
key_id	<a href="#">key_id</a>	
model	string	
name	string	Cluster-wide disk name
node	<a href="#">node</a>	
pool	string	Pool to which disk is assigned
protection_mode	string	Mode of drive data protection and FIPS compliance. Possible values are: <ul style="list-style-type: none"> <li>• <i>open</i> - Disk is unprotected</li> <li>• <i>data</i> - Data protection only without FIPS compliance</li> <li>• <i>part</i> - Partial protection with FIPS compliance only</li> <li>• <i>full</i> - Full data and FIPS compliance protection</li> </ul>
rated_life_used_percent	integer	Percentage of rated life used
rpm	integer	Revolutions per minute
self_encrypting	boolean	
serial_number	string	
shelf	<a href="#">shelf</a>	
state	string	State
type	string	Disk interface type
uid	string	The unique identifier for a disk
usable_size	integer	



Name	Type	Description
vendor	string	

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### error

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

## Update disk ownership, change authentication keys, or sanitize disks

PATCH `/storage/disks`

**Introduced In:** 9.7

Updates disk ownership or authentication keys.

### Related ONTAP commands

- `storage disk assign`
- `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
name	string	query	False	Disk name
encryption_operation	string	query	False	Name of the operation to apply to encrypting disks. <ul style="list-style-type: none"><li>enum: ["rekey_data_default", "rekey_data_auto_id"]</li></ul>
return_records	boolean	query	False	The default is false. If set to true, the records are returned. <ul style="list-style-type: none"><li>Default value:</li></ul>

## Request Body

Name	Type	Description
aggregates	array[ <a href="#">aggregates</a> ]	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	<a href="#">dr_node</a>	
drawer	<a href="#">drawer</a>	
encryption_operation	string	Encryption operation to apply to the drives. Possible values are: <ul style="list-style-type: none"><li>rekey_data_default</li><li>rekey_data_auto_id</li></ul>
fips_certified	boolean	
firmware_version	string	
home_node	<a href="#">home_node</a>	
key_id	<a href="#">key_id</a>	

Name	Type	Description
model	string	
name	string	Cluster-wide disk name
node	<a href="#">node</a>	
pool	string	Pool to which disk is assigned
protection_mode	string	<p>Mode of drive data protection and FIPS compliance. Possible values are:</p> <ul style="list-style-type: none"> <li>• <i>open</i> - Disk is unprotected</li> <li>• <i>data</i> - Data protection only without FIPS compliance</li> <li>• <i>part</i> - Partial protection with FIPS compliance only</li> <li>• <i>full</i> - Full data and FIPS compliance protection</li> </ul>
rated_life_used_percent	integer	Percentage of rated life used
rpm	integer	Revolutions per minute
self_encrypting	boolean	
serial_number	string	
shelf	<a href="#">shelf</a>	
state	string	State
type	string	Disk interface type
uid	string	The unique identifier for a disk
usable_size	integer	
vendor	string	

## Example request

```
{
  "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"
}

```

## Response

Status: 200, Ok

## Error

Status: Default

### ONTAP Error Response Codes

Error Code	Description
721066	Node is outside the list of controllers for disk.
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.

<b>Error Code</b>	<b>Description</b>
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.
14155786	Changes to encryption controls are not allowed with drive assignment.

## **Definitions**

## See Definitions

href

Name	Type	Description
href	string	

\_links

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

aggregates

Aggregate

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

shelf

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

disk

Name	Type	Description
aggregates	array[ <a href="#">aggregates</a> ]	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	<a href="#">dr_node</a>	
drawer	<a href="#">drawer</a>	
encryption_operation	string	Encryption operation to apply to the drives. Possible values are: <ul style="list-style-type: none"> <li>• rekey_data_default</li> <li>• rekey_data_auto_id</li> </ul>
fips_certified	boolean	
firmware_version	string	



Name	Type	Description
home_node	<a href="#">home_node</a>	
key_id	<a href="#">key_id</a>	
model	string	
name	string	Cluster-wide disk name
node	<a href="#">node</a>	
pool	string	Pool to which disk is assigned
protection_mode	string	Mode of drive data protection and FIPS compliance. Possible values are: <ul style="list-style-type: none"> <li>• <i>open</i> - Disk is unprotected</li> <li>• <i>data</i> - Data protection only without FIPS compliance</li> <li>• <i>part</i> - Partial protection with FIPS compliance only</li> <li>• <i>full</i> - Full data and FIPS compliance protection</li> </ul>
rated_life_used_percent	integer	Percentage of rated life used
rpm	integer	Revolutions per minute
self_encrypting	boolean	
serial_number	string	
shelf	<a href="#">shelf</a>	
state	string	State
type	string	Disk interface type
uid	string	The unique identifier for a disk
usable_size	integer	
vendor	string	

## Retrieve a specific disk

GET /storage/disks/{name}

Introduced In: 9.6

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[ <a href="#">aggregates</a> ]	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	<a href="#">dr_node</a>	
drawer	<a href="#">drawer</a>	
encryption_operation	string	Encryption operation to apply to the drives. Possible values are: <ul style="list-style-type: none"><li>• rekey_data_default</li><li>• rekey_data_auto_id</li></ul>
fips_certified	boolean	
firmware_version	string	
home_node	<a href="#">home_node</a>	
key_id	<a href="#">key_id</a>	

Name	Type	Description
model	string	
name	string	Cluster-wide disk name
node	<a href="#">node</a>	
pool	string	Pool to which disk is assigned
protection_mode	string	Mode of drive data protection and FIPS compliance. Possible values are: <ul style="list-style-type: none"> <li>• <i>open</i> - Disk is unprotected</li> <li>• <i>data</i> - Data protection only without FIPS compliance</li> <li>• <i>part</i> - Partial protection with FIPS compliance only</li> <li>• <i>full</i> - Full data and FIPS compliance protection</li> </ul>
rated_life_used_percent	integer	Percentage of rated life used
rpm	integer	Revolutions per minute
self_encrypting	boolean	
serial_number	string	
shelf	<a href="#">shelf</a>	
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	<a href="#">error</a>	

## Example error

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

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

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

aggregates

Aggregate

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

shelf

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

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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



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