Manage disks

ONTAP 9.9.1 REST API reference

NetApp
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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",
"effective_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"
    }
  }
},
"local": true,
"paths": [
{
   "initiator": "3a",
   "port_name": "B",
   "port_type": "sas",
   "wwnn": "5000cca02f0e6768",
   "wwpn": "5000cca02f0e676a"
 },
 {
   "initiator": "3d",
   "port_name": "A",
   "port_type": "sas",
   "wwnn": "5000cca02f0e6768",
   "wwpn": "5000cca02f0e6769"
},
{
   "initiator": "3d",
   "port_name": "A",
   "port_type": "sas",
   "wwnn": "5000cca02f0e6768",
   "wwpn": "5000cca02f0e6769"
},
{
   "initiator": "3a",
   "port_name": "B",
   "port_type": "sas",
   "wwnn": "5000cca02f0e6768",
   "wwpn": "5000cca02f0e676a"
```

```
}
],
"outage": {
  "persistently_failed": true,
  "reason": {
    "message": "Failed disk. Reason: \"admin failed\".",
    "code": "721081"
  }
},
"bay": 3,
"_links": {
  "self": {
    "href": "/api/storage/disks/1.24.3"
  }
},
"error": [
{
  "reason": {
    "message": "\"The node is configured with All-Flash Optimized
personality and this disk is not an SSD. The disk needs to be removed from
the system.\"",
    "code": "721082"
  },
  "type": "notallflashdisk"
}
],
"bytes_per_sector": 512,
"sector_count": 1172123568,
"stats": {
  "average_latency": 6,
  "throughput": 1957888,
  "iops_total": 12854,
  "path_error_count": 0,
  "power_on_hours": 11797
 }
}
```


Modifying storage disk

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

Updating the disk ownership for a specified disk

1. When the disk is not assigned

When the disk is a spare (or unowned) disk and node name is specified, the PATCH opertaion assigns the disk to the specified node.

2. When the disk is already assigned

When the disk is already assigned (aleady has a owner), and a new node is specified, the PATCH operation changes the ownership to the new node.

Examples

1. Update the disk ownership for an unowned disk

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

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

# The response:
{
}
```

---

2. Update the disk ownership for an already owned disk.

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

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

# The response:
{
}
```

---

3. 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
}
```

4. Cryptographically sanitize a spare or broken disk.

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

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

# The response contains the number of disks attempted.
{
 "num_records": 1
}
```

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
usable_size	integer	query	False	Filter by usable_size
class	string	query	False	Filter by class
serial_number	string	query	False	Filter by serial_number
state	string	query	False	Filter by state
aggregates.name	string	query	False	Filter by aggregates.name
aggregates.uuid	string	query	False	Filter by aggregates.uuid
container_type	string	query	False	Filter by container_type
self_encrypting	boolean	query	False	Filter by self_encrypting • Introduced in: 9.7
vendor	string	query	False	Filter by vendor
name	string	query	False	Filter by name
shelf.uid	string	query	False	Filter by shelf.uid
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
effective_type	string	query	False	Filter by effective_type • Introduced in: 9.9
sector_count	integer	query	False	Filter by sector_count • Introduced in: 9.9
paths.port_name	string	query	False	Filter by paths.port_name • Introduced in: 9.9
paths.wwpn	string	query	False	Filter by paths.wwpn • Introduced in: 9.9
paths.wwnn	string	query	False	Filter by paths.wwnn • Introduced in: 9.9
paths.initiator	string	query	False	Filter by paths.initiator • Introduced in: 9.9
paths.port_type	string	query	False	Filter by paths.port_type • Introduced in: 9.9
uid	string	query	False	Filter by uid

Name	Type	In	Required	Description
key_id.data	string	query	False	Filter by key_id.data • Introduced in: 9.7
key_id.fips	string	query	False	Filter by key_id.fips • Introduced in: 9.7
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
stats.path_error_count	integer	query	False	Filter by stats.path_error_count • Introduced in: 9.9
stats.power_on_hours	integer	query	False	Filter by stats.power_on_hours • Introduced in: 9.9
stats.iops_total	integer	query	False	Filter by stats.iops_total • Introduced in: 9.9
stats.throughput	integer	query	False	Filter by stats.throughput • Introduced in: 9.9
stats.average_latency	integer	query	False	Filter by stats.average_latency • Introduced in: 9.9

Name	Type	In	Required	Description
fips_certified	boolean	query	False	Filter by fips_certified • Introduced in: 9.7
local	boolean	query	False	Filter by local • Introduced in: 9.9
protection_mode	string	query	False	Filter by protection_mode • Introduced in: 9.7
model	string	query	False	Filter by model
home_node.name	string	query	False	Filter by home_node.name
home_node.uuid	string	query	False	Filter by home_node.uuid
firmware_version	string	query	False	Filter by firmware_version
bytes_per_sector	integer	query	False	Filter by bytes_per_sector • Introduced in: 9.9
pool	string	query	False	Filter by pool
bay	integer	query	False	Filter by bay
error.reason.code	string	query	False	Filter by error.reason.code • Introduced in: 9.9

Name	Type	In	Required	Description
error.reason.message	string	query	False	Filter by error.reason.message • Introduced in: 9.9
error.type	string	query	False	Filter by error.type • Introduced in: 9.9
outage.persistently_failed	boolean	query	False	Filter by outage.persistently_failed • Introduced in: 9.9
outage.reason.message	string	query	False	Filter by outage.reason.message • Introduced in: 9.9
outage.reason.code	string	query	False	Filter by outage.reason.code • Introduced in: 9.9
rated_life_used_percent	integer	query	False	Filter by rated_life_used_percent
type	string	query	False	Filter by type
rpm	integer	query	False	Filter by rpm
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. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 1 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[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",
    "bytes_per_sector": "520",
    "class": "solid_state",
    "container_type": "spare",
    "dr_node": {
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "effective_type": "vmdisk",
    "error": {
      "reason": {
        "code": "string",
        "message": "not responding"
      },
      "type": "notallflashdisk"
    },
    "firmware_version": "NA51",
    "home_node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
```

```
    },
    "model": "X421_HCOBE450A10",
    "name": "1.0.1",
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "outage": {
      "reason": {
        "code": "721081",
        "message": "not responding"
      }
    },
    "paths": {
      "initiator": "3a",
      "port_name": "A",
      "port_type": "sas",
      "wwnn": "5000c2971c1b2b8c",
      "wwpn": "5000c2971c1b2b8d"
    },
    "pool": "pool0",
    "protection_mode": "open",
    "rated_life_used_percent": "10",
    "rpm": "15000",
    "sector_count": "1172123568",
    "serial_number": "KHG2VX8R",
    "shelf": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "uid": "7777841915827391056"
    },
    "state": "present",
    "stats": {
      "average_latency": "3",
      "iops_total": "12854",
      "path_error_count": "0",
      "power_on_hours": "21016",
      "throughput": "1957888"
```

```
    },
    "type": "ssd",
    "uid":
"002538E5:71B00B2F:00000000:00000000:00000000:00000000:00000000:0000000
0:00000000:00000000",
    "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	

reason

Name	Type	Description
code	string	Provides an error code.

Name	Type	Description
message	string	Provides an error message detailing the error state of this disk.

disk_error_info

Name	Type	Description
reason	reason	
type	string	Disk error type.

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	

reason

Name	Type	Description
code	string	This field provides the error code explaining why a disk failed.

Name	Type	Description
message	string	This field provides the error message explaining why a disk failed.

outage

Indicates if a disk has an entry in the failed disk registry, along with the reason for the failure.

Name	Type	Description
persistently_failed	boolean	Indicates whether RAID maintains the state of this disk as failed accross reboots.
reason	reason	

disk_path_info

Name	Type	Description
initiator	string	Initiator port.
port_name	string	Name of the disk port.
port_type	string	Disk port type.
wwnn	string	Target device's World Wide Node Name.
wwpn	string	Target device's World Wide Port Name.

shelf

Name	Type	Description
_links	_links	
uid	string	

stats

Name	Type	Description
average_latency	integer	Average I/O latency across all active paths, in milliseconds.

Name	Type	Description
iops_total	integer	Total I/O operations per second read and written to this disk across all active paths.
path_error_count	integer	Disk path error count; failed I/O operations.
power_on_hours	integer	Hours powered on.
throughput	integer	Total disk throughput per second across all active paths, in bytes.

disk

Name	Type	Description
aggregates	array[aggregates]	List of aggregates sharing this disk
bay	integer	Disk shelf bay
bytes_per_sector	integer	Bytes per sector.
class	string	Disk class
container_type	string	Type of overlying disk container
dr_node	dr_node	
drawer	drawer	
effective_type	string	Effective Disk type
encryption_operation	string	This field should only be set as a query parameter in a PATCH operation. It is input only and won't be returned by a subsequent GET.
error	array[disk_error_info]	List of disk errors information.
fips_certified	boolean	
firmware_version	string	
home_node	home_node	
key_id	key_id	

Name	Type	Description
local	boolean	Indicates if a disk is locally attached versus being remotely attached. A locally attached disk resides in the same proximity as the host cluster versus been attached to the remote cluster.
model	string	
name	string	Cluster-wide disk name
node	node	
outage	outage	Indicates if a disk has an entry in the failed disk registry, along with the reason for the failure.
paths	array[disk_path_info]	List of paths to a disk
pool	string	Pool to which disk is assigned
protection_mode	string	Mode of drive data protection and FIPS compliance. Possible values are: • *open* - Data is unprotected • *data* - Data protection only, without FIPS compliance • *part* - Data is unprotected; other FIPS compliance settings present • *full* - Full data and FIPS compliance protection • *miss* - Protection mode information is not available
rated_life_used_percent	integer	Percentage of rated life used
rpm	integer	Revolutions per minute
sector_count	integer	Number of sectors on the disk.
self_encrypting	boolean	
serial_number	string	
shelf	shelf	

Name	Type	Description
state	string	State
stats	stats	
type	string	Disk interface type
uid	string	The unique identifier for a disk
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`

Introduced In: 9.7

Updates disk ownership, changes authentication keys, or sanitizes disks.

Related ONTAP commands

- `storage disk assign`

- `storage encryption disk modify -data-key-id`
- `storage encryption disk sanitize`
- `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
node	string	query	False	Node to assign disk • Introduced in: 9.8

Name	Type	In	Required	Description
encryption_operation	string	query	False	Name of the operation to apply to encrypting disks. • rekey_data_default changes the data authentication key (AK) to the drive-unique Manufacture Secure ID (MSID) value. Allows the drive to be attached to other clusters. Disables data-at-rest protection without erasing the data. • rekey_data_auto_id changes the data authentication key (AK) to an AK the cluster selects automatically. Enables data-at-rest protection. • sanitize_disk cryptographically erases all user data from a spare or broken drive by altering the data encryption key. Resets the data AK to the drive-unique MSID value and disables data-at-rest protection. Used when a drive is being repurposed or returned. • enum: ["rekey_data_default", "rekey_data_auto_id",

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

Request Body

Name	Type	Description
aggregates	array[aggregates]	List of aggregates sharing this disk
bay	integer	Disk shelf bay
bytes_per_sector	integer	Bytes per sector.
class	string	Disk class
container_type	string	Type of overlying disk container
dr_node	dr_node	
drawer	drawer	
effective_type	string	Effective Disk type
encryption_operation	string	This field should only be set as a query parameter in a PATCH operation. It is input only and won't be returned by a subsequent GET.
error	array[disk_error_info]	List of disk errors information.
fips_certified	boolean	
firmware_version	string	
home_node	home_node	
key_id	key_id	
local	boolean	Indicates if a disk is locally attached versus being remotely attached. A locally attached disk resides in the same proximity as the host cluster versus been attached to the remote cluster.
model	string	

Name	Type	Description
name	string	Cluster-wide disk name
node	node	
outage	outage	Indicates if a disk has an entry in the failed disk registry, along with the reason for the failure.
paths	array[disk_path_info]	List of paths to a disk
pool	string	Pool to which disk is assigned
protection_mode	string	Mode of drive data protection and FIPS compliance. Possible values are: • *open* - Data is unprotected • *data* - Data protection only, without FIPS compliance • *part* - Data is unprotected; other FIPS compliance settings present • *full* - Full data and FIPS compliance protection • *miss* - Protection mode information is not available
rated_life_used_percent	integer	Percentage of rated life used
rpm	integer	Revolutions per minute
sector_count	integer	Number of sectors on the disk.
self_encrypting	boolean	
serial_number	string	
shelf	shelf	
state	string	State
stats	stats	
type	string	Disk interface type
uid	string	The unique identifier for a disk
usable_size	integer	

Name	Type	Description
vendor	string	

Example request


```
{
  "aggregates": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "aggr1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "bay": "1",
  "bytes_per_sector": "520",
  "class": "solid_state",
  "container_type": "spare",
  "dr_node": {
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "effective_type": "vmdisk",
  "error": {
    "reason": {
      "code": "string",
      "message": "not responding"
    },
    "type": "notallflashdisk"
  },
  "firmware_version": "NA51",
  "home_node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "model": "X421_HCOBE450A10",
  "name": "1.0.1",
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
```

```
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "outage": {
    "reason": {
      "code": "721081",
      "message": "not responding"
    }
  },
  "paths": {
    "initiator": "3a",
    "port_name": "A",
    "port_type": "sas",
    "wwnn": "5000c2971c1b2b8c",
    "wwpn": "5000c2971c1b2b8d"
  },
  "pool": "pool0",
  "protection_mode": "open",
  "rated_life_used_percent": "10",
  "rpm": "15000",
  "sector_count": "1172123568",
  "serial_number": "KHG2VX8R",
  "shelf": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uid": "7777841915827391056"
  },
  "state": "present",
  "stats": {
    "average_latency": "3",
    "iops_total": "12854",
    "path_error_count": "0",
    "power_on_hours": "21016",
    "throughput": "1957888"
  },
  "type": "ssd",
  "uid":
"002538E5:71B00B2F:00000000:00000000:00000000:00000000:00000000:0000000
0:00000000:00000000",
  "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.
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	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	

reason

Name	Type	Description
code	string	Provides an error code.
message	string	Provides an error message detailing the error state of this disk.

disk_error_info

Name	Type	Description
reason	reason	
type	string	Disk error type.

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	

reason

Name	Type	Description
code	string	This field provides the error code explaining why a disk failed.
message	string	This field provides the error message explaining why a disk failed.

outage

Indicates if a disk has an entry in the failed disk registry, along with the reason for the failure.

Name	Type	Description
persistently_failed	boolean	Indicates whether RAID maintains the state of this disk as failed accross reboots.
reason	reason	

disk_path_info

Name	Type	Description
initiator	string	Initiator port.
port_name	string	Name of the disk port.
port_type	string	Disk port type.
wwnn	string	Target device's World Wide Node Name.
wwpn	string	Target device's World Wide Port Name.

shelf

Name	Type	Description
_links	_links	
uid	string	

stats

Name	Type	Description
average_latency	integer	Average I/O latency across all active paths, in milliseconds.
iops_total	integer	Total I/O operations per second read and written to this disk across all active paths.
path_error_count	integer	Disk path error count; failed I/O operations.
power_on_hours	integer	Hours powered on.

Name	Type	Description
throughput	integer	Total disk throughput per second across all active paths, in bytes.

disk

Name	Type	Description
aggregates	array[aggregates]	List of aggregates sharing this disk
bay	integer	Disk shelf bay
bytes_per_sector	integer	Bytes per sector.
class	string	Disk class
container_type	string	Type of overlying disk container
dr_node	dr_node	
drawer	drawer	
effective_type	string	Effective Disk type
encryption_operation	string	This field should only be set as a query parameter in a PATCH operation. It is input only and won't be returned by a subsequent GET.
error	array[disk_error_info]	List of disk errors information.
fips_certified	boolean	
firmware_version	string	
home_node	home_node	
key_id	key_id	
local	boolean	Indicates if a disk is locally attached versus being remotely attached. A locally attached disk resides in the same proximity as the host cluster versus been attached to the remote cluster.
model	string	
name	string	Cluster-wide disk name

Name	Type	Description
node	node	
outage	outage	Indicates if a disk has an entry in the failed disk registry, along with the reason for the failure.
paths	array[disk_path_info]	List of paths to a disk
pool	string	Pool to which disk is assigned
protection_mode	string	Mode of drive data protection and FIPS compliance. Possible values are: • *open* - Data is unprotected • *data* - Data protection only, without FIPS compliance • *part* - Data is unprotected; other FIPS compliance settings present • *full* - Full data and FIPS compliance protection • *miss* - Protection mode information is not available
rated_life_used_percent	integer	Percentage of rated life used
rpm	integer	Revolutions per minute
sector_count	integer	Number of sectors on the disk.
self_encrypting	boolean	
serial_number	string	
shelf	shelf	
state	string	State
stats	stats	
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[aggregates]	List of aggregates sharing this disk
bay	integer	Disk shelf bay
bytes_per_sector	integer	Bytes per sector.
class	string	Disk class
container_type	string	Type of overlying disk container
dr_node	dr_node	
drawer	drawer	
effective_type	string	Effective Disk type

Name	Type	Description
encryption_operation	string	This field should only be set as a query parameter in a PATCH operation. It is input only and won't be returned by a subsequent GET.
error	array[disk_error_info]	List of disk errors information.
fips_certified	boolean	
firmware_version	string	
home_node	home_node	
key_id	key_id	
local	boolean	Indicates if a disk is locally attached versus being remotely attached. A locally attached disk resides in the same proximity as the host cluster versus been attached to the remote cluster.
model	string	
name	string	Cluster-wide disk name
node	node	
outage	outage	Indicates if a disk has an entry in the failed disk registry, along with the reason for the failure.
paths	array[disk_path_info]	List of paths to a disk
pool	string	Pool to which disk is assigned

Name	Type	Description
protection_mode	string	Mode of drive data protection and FIPS compliance. Possible values are: • *open* - Data is unprotected • *data* - Data protection only, without FIPS compliance • *part* - Data is unprotected; other FIPS compliance settings present • *full* - Full data and FIPS compliance protection • *miss* - Protection mode information is not available
rated_life_used_percent	integer	Percentage of rated life used
rpm	integer	Revolutions per minute
sector_count	integer	Number of sectors on the disk.
self_encrypting	boolean	
serial_number	string	
shelf	shelf	
state	string	State
stats	stats	
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",
  "bytes_per_sector": "520",
  "class": "solid_state",
  "container_type": "spare",
  "dr_node": {
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "effective_type": "vmdisk",
  "error": {
    "reason": {
      "code": "string",
      "message": "not responding"
    },
    "type": "notallflashdisk"
  },
  "firmware_version": "NA51",
  "home_node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "model": "X421_HCOBE450A10",
  "name": "1.0.1",
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
```

```
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "outage": {
    "reason": {
      "code": "721081",
      "message": "not responding"
    }
  },
  "paths": {
    "initiator": "3a",
    "port_name": "A",
    "port_type": "sas",
    "wwnn": "5000c2971c1b2b8c",
    "wwpn": "5000c2971c1b2b8d"
  },
  "pool": "pool0",
  "protection_mode": "open",
  "rated_life_used_percent": "10",
  "rpm": "15000",
  "sector_count": "1172123568",
  "serial_number": "KHG2VX8R",
  "shelf": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uid": "7777841915827391056"
  },
  "state": "present",
  "stats": {
    "average_latency": "3",
    "iops_total": "12854",
    "path_error_count": "0",
    "power_on_hours": "21016",
    "throughput": "1957888"
  },
  "type": "ssd",
  "uid":
"002538E5:71B00B2F:00000000:00000000:00000000:00000000:00000000:0000000
0:00000000:00000000",
  "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	

reason

Name	Type	Description
code	string	Provides an error code.
message	string	Provides an error message detailing the error state of this disk.

disk_error_info

Name	Type	Description
reason	reason	
type	string	Disk error type.

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	

reason

Name	Type	Description
code	string	This field provides the error code explaining why a disk failed.
message	string	This field provides the error message explaining why a disk failed.

outage

Indicates if a disk has an entry in the failed disk registry, along with the reason for the failure.

Name	Type	Description
persistently_failed	boolean	Indicates whether RAID maintains the state of this disk as failed accross reboots.
reason	reason	

disk_path_info

Name	Type	Description
initiator	string	Initiator port.
port_name	string	Name of the disk port.
port_type	string	Disk port type.
wwnn	string	Target device's World Wide Node Name.
wwpn	string	Target device's World Wide Port Name.

shelf

Name	Type	Description
_links	_links	
uid	string	

stats

Name	Type	Description
average_latency	integer	Average I/O latency across all active paths, in milliseconds.
iops_total	integer	Total I/O operations per second read and written to this disk across all active paths.
path_error_count	integer	Disk path error count; failed I/O operations.
power_on_hours	integer	Hours powered on.

Name	Type	Description
throughput	integer	Total disk throughput per second across all active paths, in bytes.

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.