

Manage storage tape devices

ONTAP 9.12.1 REST API reference

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Table of Contents

Manage storage tape devices	
Storage tape-devices endpoint overview	
Retrieve tape devices	10
Retrieve a tape device	19
Update a tape device	2!

Manage storage tape devices

Storage tape-devices endpoint overview

Retrieving storage tape information

The storage tape GET API retrieves all of the tapes in the cluster.

Examples

1) Retrieving a list of tapes from the cluster

The following example returns the list of tapes in the cluster:

```
# The API:
/api/storage/tape-devices
# The call:
curl -X GET "https://<mgmt-ip>/api/storage/tape-devices" -H "accept:
application/hal+json"
# The response:
{
"records": [
    "node": {
      "uuid": "4083be52-5315-11eb-a839-00a0985ebbe7",
      "name": "st-8020-1-01",
      " links": {
        "self": {
          "href": "/api/cluster/nodes/4083be52-5315-11eb-a839-
00a0985ebbe7"
      }
    "device id": "2d.0",
    " links": {
      "self": {
        "href": "/api/storage/tape-devices/4083be52-5315-11eb-a839-
00a0985ebbe7/2d.0"
  },
```

```
"node": {
      "uuid": "4083be52-5315-11eb-a839-00a0985ebbe7",
      "name": "st-8020-1-01",
      " links": {
        "self": {
          "href": "/api/cluster/nodes/4083be52-5315-11eb-a839-
00a0985ebbe7"
     }
    "device_id": "2d.0L1",
    " links": {
      "self": {
        "href": "/api/storage/tape-devices/4083be52-5315-11eb-a839-
00a0985ebbe7/2d.0L1"
    }
  },
    "node": {
      "uuid": "4083be52-5315-11eb-a839-00a0985ebbe7",
      "name": "st-8020-1-01",
      " links": {
        "self": {
          "href": "/api/cluster/nodes/4083be52-5315-11eb-a839-
00a0985ebbe7"
       }
     }
    "device_id": "qeg-tape-brocade2-8g:0.126",
    " links": {
      "self": {
        "href": "/api/storage/tape-devices/4083be52-5315-11eb-a839-
00a0985ebbe7/qeg-tape-brocade2-8g%3A0.126"
      }
   }
  },
    "node": {
      "uuid": "4083be52-5315-11eb-a839-00a0985ebbe7",
      "name": "st-8020-1-01",
      " links": {
        "self": {
          "href": "/api/cluster/nodes/4083be52-5315-11eb-a839-
00a0985ebbe7"
```

```
}
   },
    "device id": "stsw-broc6510-01:11.126",
    " links": {
     "self": {
        "href": "/api/storage/tape-devices/4083be52-5315-11eb-a839-
00a0985ebbe7/stsw-broc6510-01%3A11.126"
   }
  },
   "node": {
      "uuid": "4083be52-5315-11eb-a839-00a0985ebbe7",
     "name": "st-8020-1-01",
      " links": {
       "self": {
          "href": "/api/cluster/nodes/4083be52-5315-11eb-a839-
00a0985ebbe7"
       }
     }
    "device id": "stsw-broc6510-01:15.126",
    " links": {
      "self": {
        "href": "/api/storage/tape-devices/4083be52-5315-11eb-a839-
00a0985ebbe7/stsw-broc6510-01%3A15.126"
   }
 },
   "node": {
      "uuid": "4083be52-5315-11eb-a839-00a0985ebbe7",
      "name": "st-8020-1-01",
     " links": {
        "self": {
          "href": "/api/cluster/nodes/4083be52-5315-11eb-a839-
00a0985ebbe7"
       }
     }
    "device id": "stsw-broc6510-01:15.126L1",
    " links": {
     "self": {
        "href": "/api/storage/tape-devices/4083be52-5315-11eb-a839-
00a0985ebbe7/stsw-broc6510-01%3A15.126L1"
```

```
},
    "node": {
      "uuid": "4083be52-5315-11eb-a839-00a0985ebbe7",
      "name": "st-8020-1-01",
      " links": {
        "self": {
          "href": "/api/cluster/nodes/4083be52-5315-11eb-a839-
00a0985ebbe7"
       }
     }
    },
    "device id": "stsw-broc6510-01:22.126",
    " links": {
     "self": {
        "href": "/api/storage/tape-devices/4083be52-5315-11eb-a839-
00a0985ebbe7/stsw-broc6510-01%3A22.126"
   }
  },
    "node": {
      "uuid": "4083be52-5315-11eb-a839-00a0985ebbe7",
      "name": "st-8020-1-01",
      " links": {
       "self": {
          "href": "/api/cluster/nodes/4083be52-5315-11eb-a839-
00a0985ebbe7"
       }
     }
    "device id": "stsw-broc6510-01:23.126",
   " links": {
    "self": {
        "href": "/api/storage/tape-devices/4083be52-5315-11eb-a839-
00a0985ebbe7/stsw-broc6510-01%3A23.126"
   }
 },
],
"num records": 7,
" links": {
 "self": {
    "href": "/api/storage/tape-devices"
```

```
}
}
}
```

2) Retrieving a specific tape device from the cluster

The following example returns the requested tape device. If there is no tape with the requested UID, an error is returned.

```
# The API:
/api/storage/tape-devices/{node.uuid}/{device id}
# The call:
curl -X GET "https://<mgmt-ip>/api/storage/tape-devices/5f5275eb-5315-
11eb-8ac4-00a0985e0dcf/2d.0" -H "accept: application/hal+json"
# The response:
"node": {
  "uuid": "5f5275eb-5315-11eb-8ac4-00a0985e0dcf",
  "name": "st-8020-1-02",
  " links": {
   "self": {
      "href": "/api/cluster/nodes/5f5275eb-5315-11eb-8ac4-00a0985e0dcf"
    }
 }
},
"device id": "2d.0",
"type": "tape",
"description": "IBM LTO-6 ULT3580",
"alias": {
  "name": "st7",
  "mapping": "SN[1068000245]"
},
"aliases": [
    "name": "st7",
    "mapping": "SN[1068000245]"
 }
],
"wwnn": "5001697722ee0010",
"wwpn": "5001697722ee0011",
"serial number": "1068000245",
```

```
"interface": "sas",
"device state": "offline",
"formats": [
  "LTO-4/5 Native Density",
 "LTO-4/5 Compressed",
 "LTO-6 2.5TB",
 "LTO-6 6.25TB Compressed"
],
"storage port": {
 "name": "2d"
},
"file number": -1,
"block number": -1,
"residual count": 0,
"density": "low",
"device names": [
 {
    "rewind device": "rst01",
    "no rewind device": "nrst01",
    "unload reload device": "urst01"
  },
    "rewind device": "rst0m",
   "no rewind device": "nrst0m",
    "unload reload device": "urst0m"
  },
   "rewind device": "rst0h",
    "no rewind device": "nrst0h",
    "unload reload device": "urst0h"
  },
    "rewind device": "rst0a",
    "no rewind device": "nrst0a",
    "unload reload device": "urst0a"
 }
],
"reservation type": "off",
" links": {
 "self": {
    "href": "/api/storage/tape-devices/5f5275eb-5315-11eb-8ac4-
00a0985e0dcf/2d.0"
}
}
```

Updating a tape device

The tape PATCH API allows the tape device to be set online or offline, positioned, and given an alias.

Examples

1) Taking a tape device offline

The following example takes a tape device offline:

2) Bringing a tape device online

The following example brings a tape device online:

3) Giving a tape device an alias

The following example assigns an alias to a tape device:

```
# The API:
/api/storage/tape-devices/{node.uuid}/{device_id}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/storage/tape-devices/5f5275eb-5315-
11eb-8ac4-00a0985e0dcf/2d.0" -H "accept: application/hal+json" -H
"Content-Type: application/hal_json" -d '{"aliases": [{"name": "st0"}]}'

# The response:
{
}
```

4) Removing a tape device's aliases

The following example clears any aliases previously assigned to a tape device:

```
# The API:
/api/storage/tape-devices/{node.uuid}/{device_id}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/storage/tape-devices/5f5275eb-5315-
11eb-8ac4-00a0985e0dcf/2d.0" -H "accept: application/hal+json" -H
"Content-Type: application/hal_json" -d '{"aliases": []}'

# The response:
{
}
```

5) Rewinding a tape device

The following example rewinds a tape device:

6) Forwarding the tape five files

The following example moves the tape forward five file records:

Retrieve tape devices

GET /storage/tape-devices

Introduced In: 9.9

Retrieves a collection of tape devices.

Related ONTAP commands

• storage tape show

Learn more

• DOC /storage/tape-devices

Parameters

Name	Туре	In	Required	Description
device_state	string	query	False	Filter by device_state

Name	Туре	In	Required	Description
wwpn	string	query	False	Filter by wwpn
online	boolean	query	False	• Introduced in: 9.11
serial_number	string	query	False	Filter by serial_number
aliases.mapping	string	query	False	Filter by aliases.mapping • Introduced in: 9.11
aliases.name	string	query	False	Filter by aliases.name • Introduced in: 9.11
block_number	integer	query	False	Filter by block_number
formats	string	query	False	Filter by formats
device_names.unloa d_reload_device	string	query	False	Filter by device_names.unloa d_reload_device
device_names.no_re wind_device	string	query	False	Filter by device_names.no_r ewind_device
device_names.rewin d_device	string	query	False	Filter by device_names.rewin d_device
node.uuid	string	query	False	Filter by node.uuid
node.name	string	query	False	Filter by node.name
reservation_type	string	query	False	Filter by reservation_type

Name	Туре	In	Required	Description
file_number	integer	query	False	Filter by file_number
density	string	query	False	Filter by density • Introduced in: 9.11
interface	string	query	False	Filter by interface
device_id	string	query	False	Filter by device_id
description	string	query	False	Filter by description
type	string	query	False	Filter by type
wwnn	string	query	False	Filter by wwnn
alias.name	string	query	False	Filter by alias.name
alias.mapping	string	query	False	Filter by alias.mapping
storage_port.name	string	query	False	Filter by storage_port.name
residual_count	integer	query	False	Filter by residual_count
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. • Default value: 1

Name	Туре	In	Required	Description
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	Туре	Description
_links	_links	
num_records	integer	Number of records
records	array[tape_device]	

```
" links": {
  "next": {
   "href": "/api/resourcelink"
 },
 "self": {
   "href": "/api/resourcelink"
 }
},
"num records": 1,
"records": {
  "alias": {
    "mapping": "SN[10WT000933]",
   "name": "st6"
  },
  "aliases": {
   "mapping": "SN[10WT000933]",
   "name": "st6"
  },
  "block number": 0,
  "density": "low",
  "description": "QUANTUM LTO-8 ULTRIUM",
  "device id": "1a.0",
  "device names": {
   "no rewind device": "nrst61",
   "rewind device": "rst61",
   "unload reload device": "urst61"
  },
  "device state": "read write enabled",
  "file number": 0,
  "formats": [
   "LTO-7 6TB",
   "LTO-7 15TB Compressed",
    "LTO-8 12TB",
   "LTO-8 30TB Compressed"
  ],
  "interface": "sas",
  "node": {
    " links": {
     "self": {
        "href": "/api/resourcelink"
     }
    },
    "name": "node1",
```

```
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "position": {
    "count": 5,
     "operation": "rewind"
    } ,
    "reservation type": "off",
    "residual count": 0,
   "serial number": "10WT00093",
    "storage port": {
    "name": "2b"
   },
   "type": "tape",
    "wwnn": "500507631295741c",
   "wwpn": "500507631295741c"
 }
}
```

Error

```
Status: Default, Error
```

Name	Туре	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	Туре	Description
href	string	

_links

Name	Туре	Description
next	href	
self	href	

alias

Name	Туре	Description
mapping	string	This field will no longer be supported in a future release. Use aliases.mapping instead.
name	string	This field will no longer be supported in a future release. Use aliases.name instead.

aliases

Name	Туре	Description
mapping	string	Alias mapping.
name	string	Alias name.

device_names

Name	Туре	Description
no_rewind_device	string	Device name for no rewind.
rewind_device	string	Device name for rewind.
unload_reload_device	string	Device name for unload or reload operations.

_links

Name	Туре	Description
self	href	

node

Name	Туре	Description
_links	_links	
name	string	
uuid	string	

position

Name	Туре	Description
count	integer	Number of times to run position operation.
operation	string	Position operation.

storage_port

Name	Туре	Description
name	string	Initiator port.

tape_device

Name	Туре	Description
alias	alias	
aliases	array[aliases]	
block_number	integer	Block number.
density	string	Density.
description	string	
device_id	string	
device_names	array[device_names]	
device_state	string	Operational state of the device.
file_number	integer	File number.
formats	array[string]	Tape cartridge format.

Name	Туре	Description
interface	string	Device interface type.
node	node	
online	boolean	
position	position	
reservation_type	string	
residual_count	integer	Residual count of the last I/O operation.
serial_number	string	
storage_port	storage_port	
type	string	Device type.
wwnn	string	World Wide Node Name.
wwpn	string	World Wide Port Name.

error_arguments

Name	Туре	Description
code	string	Argument code
message	string	Message argument

error

Name	Туре	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 a tape device

GET /storage/tape-devices/{node.uuid}/{device_id}

Introduced In: 9.9

Retrieves a specific tape device.

Related ONTAP commands

• storage tape show

Learn more

• DOC /storage/tape-devices

Parameters

Name	Туре	In	Required	Description
node.uuid	string	path	True	Node UUID
device_id	string	path	True	Device ID
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Туре	Description
alias	alias	
aliases	array[aliases]	
block_number	integer	Block number.
density	string	Density.
description	string	
device_id	string	
device_names	array[device_names]	
device_state	string	Operational state of the device.
file_number	integer	File number.
formats	array[string]	Tape cartridge format.

Name	Туре	Description
interface	string	Device interface type.
node	node	
online	boolean	
position	position	
reservation_type	string	
residual_count	integer	Residual count of the last I/O operation.
serial_number	string	
storage_port	storage_port	
type	string	Device type.
wwnn	string	World Wide Node Name.
wwpn	string	World Wide Port Name.

```
"alias": {
  "mapping": "SN[10WT000933]",
 "name": "st6"
},
"aliases": {
  "mapping": "SN[10WT000933]",
 "name": "st6"
},
"block number": 0,
"density": "low",
"description": "QUANTUM LTO-8 ULTRIUM",
"device id": "1a.0",
"device names": {
 "no rewind device": "nrst61",
 "rewind device": "rst61",
 "unload reload device": "urst61"
},
"device state": "read write enabled",
"file number": 0,
"formats": [
  "LTO-7 6TB",
  "LTO-7 15TB Compressed",
 "LTO-8 12TB",
 "LTO-8 30TB Compressed"
],
"interface": "sas",
"node": {
  " links": {
    "self": {
     "href": "/api/resourcelink"
   }
  "name": "node1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"position": {
 "count": 5,
 "operation": "rewind"
},
"reservation type": "off",
"residual count": 0,
"serial number": "10WT00093",
"storage port": {
```

```
"name": "2b"
},
"type": "tape",
"wwnn": "500507631295741c",
"wwpn": "500507631295741c"
}
```

Error

```
Status: Default, Error
```

Name	Туре	Description
error	error	

Example error

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

Definitions

See Definitions

alias

Name	Туре	Description
mapping	string	This field will no longer be supported in a future release. Use aliases.mapping instead.
name	string	This field will no longer be supported in a future release. Use aliases.name instead.

aliases

Name	Туре	Description
mapping	string	Alias mapping.
name	string	Alias name.

device_names

Name	Туре	Description
no_rewind_device	string	Device name for no rewind.
rewind_device	string	Device name for rewind.
unload_reload_device	string	Device name for unload or reload operations.

href

Name	Туре	Description
href	string	

_links

Name	Туре	Description
self	href	

node

Name	Туре	Description
_links	_links	

Name	Туре	Description
name	string	
uuid	string	

position

Name	Туре	Description
count	integer	Number of times to run position operation.
operation	string	Position operation.

storage_port

Name	Туре	Description
name	string	Initiator port.

error_arguments

Name	Туре	Description
code	string	Argument code
message	string	Message argument

error

Name	Туре	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 a tape device

PATCH /storage/tape-devices/{node.uuid}/{device id}

Introduced In: 9.11

Updates a specific tape device.

Related ONTAP commands

• storage tape alias-set

• storage tape alias-clear

• storage tape online

• storage tape offline

• storage tape position

Learn more

• DOC /storage/tape-devices

Parameters

Name	Туре	In	Required	Description
node.uuid	string	path	True	Node UUID
device_id	string	path	True	Device ID

Name	Туре	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 1 • Max value: 120 • Min value: 0

Request Body

Name	Туре	Description
alias	alias	
aliases	array[aliases]	
block_number	integer	Block number.
density	string	Density.
description	string	
device_id	string	
device_names	array[device_names]	

Name	Туре	Description
device_state	string	Operational state of the device.
file_number	integer	File number.
formats	array[string]	Tape cartridge format.
interface	string	Device interface type.
node	node	
online	boolean	
position	position	
reservation_type	string	
residual_count	integer	Residual count of the last I/O operation.
serial_number	string	
storage_port	storage_port	
type	string	Device type.
wwnn	string	World Wide Node Name.
wwpn	string	World Wide Port Name.

```
"alias": {
  "mapping": "SN[10WT000933]",
 "name": "st6"
},
"aliases": {
  "mapping": "SN[10WT000933]",
 "name": "st6"
},
"block number": 0,
"density": "low",
"description": "QUANTUM LTO-8 ULTRIUM",
"device id": "1a.0",
"device names": {
 "no rewind device": "nrst61",
 "rewind device": "rst61",
 "unload reload device": "urst61"
},
"device state": "read write enabled",
"file number": 0,
"formats": [
  "LTO-7 6TB",
  "LTO-7 15TB Compressed",
 "LTO-8 12TB",
 "LTO-8 30TB Compressed"
],
"interface": "sas",
"node": {
  " links": {
    "self": {
     "href": "/api/resourcelink"
   }
  "name": "node1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"position": {
 "count": 5,
 "operation": "rewind"
},
"reservation type": "off",
"residual count": 0,
"serial number": "10WT00093",
"storage port": {
```

```
"name": "2b"
},
"type": "tape",
"wwnn": "500507631295741c",
"wwpn": "500507631295741c"
}
```

Response

```
Status: 200, Ok
```

Response

```
Status: 202, Accepted
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
11403264	Tape operation " <operation>\" failed on tape device \"<device_id>\". This may indicate tape reached end of data, a hardware error, an illegal request, an invalid name format, or an aborted command.</device_id></operation>
11403265	Tape operation " <operation>\" failed because it encountered an unexpected file mark on tape device \"<device_id>\".</device_id></operation>
11403266	Internal error. Unknown tape parameter for tape device " <device_id>\".</device_id>
11403267	Tape device " <device_id>\" is busy.</device_id>
11403268	No tape loaded for " <operation>\" operation on tape drive \"<device_id>\".</device_id></operation>
11403269	Tape device " <device_id>\" unknown.</device_id>
11403270	Tape alias name " <alias>\" already exists.</alias>
11403271	The format of the tape alias name " <alias>\" is invalid. Use \"st\" or \"mc\" followed by one or more digits.</alias>

Error Code	Description
11403273	Internal error. Tape alias name " <alias>\" not saved.</alias>
11403274	Internal error. Tape alias operation " <operation>\" for alias name \"<alias>\" failed.</alias></operation>
11403275	Tape alias name " <alias>\" not found.</alias>
11403277	Tape device " <device_id>\" is reserved by another host.</device_id>
11403278	Invalid count value specified with operation " <operation>\". Valid values are from 0 to {1}.</operation>

Name	Туре	Description
error	error	

Example error

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

Definitions

See Definitions

alias

Name	Туре	Description
mapping	string	This field will no longer be supported in a future release. Use aliases.mapping instead.
name	string	This field will no longer be supported in a future release. Use aliases.name instead.

aliases

Name	Туре	Description
mapping	string	Alias mapping.
name	string	Alias name.

device_names

Name	Туре	Description
no_rewind_device	string	Device name for no rewind.
rewind_device	string	Device name for rewind.
unload_reload_device	string	Device name for unload or reload operations.

href

Name	Туре	Description
href	string	

_links

Name	Туре	Description
self	href	

node

Name	Туре	Description
_links	_links	

Name	Type	Description
name	string	
uuid	string	

position

Name	Туре	Description
count	integer	Number of times to run position operation.
operation	string	Position operation.

storage_port

Name	Туре	Description
name	string	Initiator port.

tape_device

Name	Туре	Description
alias	alias	
aliases	array[aliases]	
block_number	integer	Block number.
density	string	Density.
description	string	
device_id	string	
device_names	array[device_names]	
device_state	string	Operational state of the device.
file_number	integer	File number.
formats	array[string]	Tape cartridge format.
interface	string	Device interface type.
node	node	
online	boolean	
position	position	

Name	Туре	Description
reservation_type	string	
residual_count	integer	Residual count of the last I/O operation.
serial_number	string	
storage_port	storage_port	
type	string	Device type.
wwnn	string	World Wide Node Name.
wwpn	string	World Wide Port Name.

error_arguments

Name	Туре	Description
code	string	Argument code
message	string	Message argument

error

Name	Туре	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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