storage tape commands

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Table of Contents

storage tape commands . . . 1
- storage tape offline . . . 1
- storage tape online . . . 1
- storage tape position . . . 2
- storage tape reset . . . 3
- storage tape show-errors . . . 4
- storage tape show-media-changer . . . 6
- storage tape show-supported-status . . . 8
- storage tape show-tape-drive . . . 10
- storage tape show . . . 12
- storage tape trace . . . 17
- storage tape alias clear . . . 17
- storage tape alias set . . . 18
- storage tape alias show . . . 19
- storage tape config-file delete . . . 20
- storage tape config-file get . . . 21
- storage tape config-file show . . . 21
- storage tape library config show . . . 22
- storage tape library path show-by-initiator . . . 24
- storage tape library path show . . . 26
- storage tape load-balance modify . . . 28
- storage tape load-balance show . . . 29

storage tape commands

storage tape offline

Take a tape drive offline

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command takes the specified tape drive offline.

Parameters

`-node {<nodename>|local}` - Node

Use this parameter to specify the node to which the tape drive is attached.

{ `-name <text>` - Tape Drive Device Name

Use this parameter to specify the device name of the tape drive that needs to be taken offline. The format of the device `-name` name includes a prefix to specify how the tape cartridge is handled and a suffix to describe the density of the tape. The prefix suggests 'r', 'nr' or 'ur' for rewind, no rewind, or unload/reload and a suffix shows density of 'l', 'm', 'h' or 'a'. For example, a tape device name for this operation might have the form "nrst8m" were 'nr' is the 'no rewind' prefix, 'st8' is the alias-name and 'm' is the tape density. You can use the 'storage tape show -device-names' command to find more information about device names of tape drives attached to a node.

| `-device-id <text>` - Tape Drive Device ID }

Use this parameter to specify the device ID of the tape drive that needs to be taken offline.

Examples

The following example takes the tape drive with device name 'nrst8m' offline. This tape drive is attached to cluster1-01.

```
cluster1::> storage tape offline -node cluster1-01 -name nrst8m
```

storage tape online

Bring a tape drive online

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command brings a specified tape drive online.

Parameters

`-node {<nodename>|local}` - Node

Use this parameter to specify the node to which the tape drive is attached.

{ `-device-id <text>` - Tape Drive Device ID

Use this parameter to specify the device ID of the tape drive that needs to be brought online.

| `-name <text>` - Tape Drive Device Name }

Use this parameter to specify the device name of the tape drive that needs to be brought online. The format of the device `-name` name includes a prefix to specify how the tape cartridge is handled and a suffix to describe the density of the tape. The prefix suggests 'r', 'nr' or 'ur' for rewind, no rewind, or unload/reload and a suffix shows density of 'l', 'm', 'h' or 'a'. For example, a tape device name for this operation might have the form "nrst8m" were 'nr' is the 'no rewind' prefix, 'st8' is the alias-name and 'm' is the tape density. You can use the 'storage tape show -device-names' command to find more information about device names of tape drives attached to a node.

Examples

The following example brings the tape drive with device id sw4:2.126L4 attached to the node, cluster1-01, online.

```
cluster1::> storage tape online -node cluster1-01 -device-id sw4:2.126L4
```

storage tape position

Modify a tape drive cartridge position

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command changes the tape drive cartridge position.

Parameters

`-node {<nodename>|local}` - Node

Use this parameter to specify the node to which the tape drive is attached.

`-name <text>` - Tape Drive Device Name

Use this parameter to specify the device name of the tape drive whose cartridge position needs to be changed. The format of the device `-name` includes a prefix to specify how the tape cartridge is handled and a suffix to describe the density of the tape. The prefix suggests 'r', 'nr' or 'ur' for rewind, no rewind, or unload/reload and a suffix shows density of 'l', 'm', 'h' or 'a'. For example, a tape device name for this operation might have the form "nrst8m" were 'nr' is the 'no rewind' prefix, 'st8' is the alias-name and 'm' is the tape density. You can use the 'storage tape show -device-names' command to find more information about device names of tape drives attached to a node.

`-operation {weof|fsf|bsf|fsr|bsr|rewind|erase|eom}` - Tape Position Operation

Use this parameter to specify the tape positioning operation. The possible values for `-operation` are:

- weof - Write end-of-file marks
- fsf - Forward space end-of-file marks
- bsf - Backward space end-of-file marks
- fsr - Forward space records
- bsr - Backward space records
- rewind - Rewind the tape
- erase - Erase then entire tape media from current position
- eom - Position the tape at end of data (end of media if full)

`[-count <integer>]` - Count for Positioning

Use this parameter to specify the count for a tape positioning operation. You can specify this parameter only with the following operations: weof, fsf, bsf, fsr, and bsr. The default value of this parameter is one.

Examples

The following example specifies a rewind operation on a tape device. Note the -count parameter does not need to be specified for this type of operation.

```
cluster1::> storage tape position -node cluster1-01 -name nrst8m
-operation  rewind
```

The following example specifies an fsf (forward space filemark) operation on a tape device. Note the -count parameter specifies 5 forward space filemarks for this operation.

```
cluster1::> storage tape position -node cluster1-01 -name nrst1a
-operation fsf -count 5
```

The following example specifies an eom (end-of-media) operation on a tape device. The 'eom' positions a tape at end of data (end of media if full). Note the -count parameter does not need to be specified for this type of operation.

```
cluster1::> storage tape position -node cluster1-01 -name rst0h -operation
eom
```

storage tape reset

Reset a tape drive

Availability: This command is available to *cluster* administrators at the *advanced* privilege level.

Description

This command resets a specified tape drive.

Parameters

`-node {<nodename>|local}` - Node (privilege: advanced)

Use this parameter to specify the node to which the tape drive is attached.

`-device-id <text>` - Tape Drive Device ID (privilege: advanced)

Use this parameter to specify the device ID of the tape drive is to be reset.

Examples

The following example resets the tape drive with device ID sw4:2.126L3 attached to the node, cluster1-01.

```
cluster1::> storage tape reset -node cluster1-01 -device-id sw4:2.126L3
```

storage tape show-errors

Display tape drive errors

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `storage tape show-errors` command displays error information about tape drives attached to the cluster. By default, this command displays the following information about all tape drives:

- Node to which the tape drive is attached
- Device ID of the tape drive
- Type of device(tape drive)
- Description of the tape drive
- Alias name of the tape drive
- Tape drive errors

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Node

Displays detailed information about tape drives on the specified node.

[-device-id <text>] - Device ID

Selects the tape drive with the specified device ID.

[-device-type <text>] - Device Type

Selects the devices with the specified type of tape drive.

[-description <text>] - Description

Selects the tape drives with the specified description.

[-alias-name <text>] - Alias Name

Selects the tape drive with the specified alias name.

[-wwnn <text>] - World Wide Node Name

Selects the tape drives with the specified World Wide Node Name.

[-wwpn <text>] - World Wide Port Name

Selects the tape drive with the specified World Wide Port Name.

[-serial-number <text>] - Serial Number

Selects the tape drive with the specified serial number.

[-error <text>] - Tape Drive Error Description

Selects the tape drives with the specified error string.

[-initiator <text>] - Initiator Port

Selects the tape drives with the specified initiator port.

Examples

The following example shows error information for all tape drives attached to cluster1.

```
cluster1::> storage tape show-errors
         Node: node1
    Device ID: 0d.125
  Device Type: tape drive
  Description: Hewlett-Packard LTO-5
        Alias: st0
Errors: hardware error; repair or replace tape drive
Node: node1
    Device ID: 2d.0
  Device Type: tape drive
  Description: IBM LTO-6 ULT3580
        Alias: st2
Errors: -
```

The following example shows error information for tape drive sw4:2.126L1 attached to the node, node1.

```
cluster1::> storage tape show-errors -device-id sw4:2.126L1 -node node1
Node: node1
    Device ID: sw4:2.126L1
  Device Type: tape drive
  Description: Hewlett-Packard LTO-3
        Alias: st3
Errors: -
```

storage tape show-media-changer

Display information about media changers

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This `storage tape show-media-changer` command displays information about media changers attached to the cluster. By default, this command displays the following information about all media changers:

- Device ID of media changer
- Description of media changer
- World Wide Node Name of media changer
- World Wide Port Name of media changer
- Serial number of media changer
- Media changer errors
- Node to which the media changer is attached
- Initiator port which hosts the media changer
- Alias name of media changer
- Operational state of media changer
- Functional status of media changer

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-device-id <text>] - Device ID

Selects the media changer with the specified device ID.

[-node {<nodename>|local}] - Node

Displays detailed information about media changers on the specified node.

[-description <text>] - Description

Selects the media changers with the specified description.

[-alias-name <text>] - Alias Name

Selects the media changer with the specified alias name.

[-wwnn <text>] - World Wide Node Name

Selects the media changers with the specified World Wide Node Name.

[-wwpn <text>] - World Wide Port Name

>Selects the media changer with the specified World Wide Port Name.

[-serial-number <text>] - Serial Number

Selects the media changer with the specified serial number.

[-device-if-type {unknown|fibre-channel|SAS|pSCSI}] - Device If Type

Selects the media changers with the specified interface type.

[-device-state {unknown|available|ready-write-enabled|ready-write-protected|offline|in-use|error|reserved-by-another-host|normal}] - Operational State of Device

Selects the media changers with the specified operational state.

[-error <text>] - Media Changer Error Description

Selects the media changers with the specified error string.

[-initiator <text>] - Initiator Port

Selects the media changers with the specified initiator port.

Examples

The following example displays information about all media changers attached to the cluster:

```
cluster1::> storage tape show-media-changer

Media Changer: sw4:10.11L1
  Description: PX70-TL
         WWNN: 2:00a:000e11:10b919
         WWPN: 2:00b:000e11:10b919
Serial Number: 00FRU7800000_LL1
Errors: -

Paths:
Node                      Initiator  Alias    Device State
Status
------------------------  ---------  -------  ------------------------
--------
cluster1-01               2b         mc0      in-use
normal

Media Changer: sw4:12.4L1
  Description: NEO-TL
         WWNN: 2:001:000e11:10b919
         WWPN: 2:002:000e11:10b919
Serial Number: 00FRU7800000_LL0
Errors: -
Paths:
Node                      Initiator  Alias    Device State
Status
------------------------  ---------  -------  ------------------------
--------
cluster1-01               5a         mc1      available
normal
```

storage tape show-supported-status

Displays the qualification and supported status of tape drives

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command displays the supported and qualification status of all tape drives recognized by Data ONTAP attached to a node in the cluster. This includes nonqualified tape drives. Such tape drives do not have a Tape Configuration File (TCF) on the storage system. A nonqualified tape drive can be used if the tape drive emulates a qualified tape drive or if the appropriate TCF for the nonqualified tape drive is downloaded from the NetApp Support Site to the storage system.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Node

Selects the tape drives that match this parameter value.

[-tape-drive <text>] - Tape Drive Name

Selects the tape drives that match this parameter value.

[-is-supported {true|false}] - Tape Drive Supported

Selects the tape drives that match this parameter value.

[-status <text>] - Supported Status

Selects the tape drives that match this parameter value.

Examples

The following example displays support and qualification status of tape drives recognized by Data ONTAP. The command also identifies tape drives attached to the node that are nonqualified (not supported).

```
cluster1::> storage tape show-supported-status
Node: Node1
                                Is
     Tape Drive                 Supported  Support Status
     -------------------------- ---------
---------------------------------
     sw4:2.126L6                false      Nonqualified tape drive
     Hewlett-Packard C1533A     true       Qualified
     Hewlett-Packard C1553A     true       Qualified
     Hewlett-Packard Ultrium 1  true       Qualified
     Sony SDX-300C              true       Qualified
     Sony SDX-500C              true       Qualified
     StorageTek T9840C          true       Dynamically Qualified
     StorageTek T9840D          true       Dynamically Qualified
     Tandberg LTO-2 HH          true       Dynamically Qualified
The following example displays support and qualification status of tape
     drives selected by tape-drive. The command identifies the supported
     status of the selected tape drive.
cluster1::> storage tape show-supported-status -tape-drive "Sony SDX-300C"
Node: Node1
                                   Is
  Tape Drives                      Supported  Support Status
  -------------------------------  ---------
-------------------------------
  Sony SDX-300C                    true       Qualified
```

storage tape show-tape-drive

Display information about tape drives

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This `storage tape show-tape-drive` command displays information about tape drives attached to the cluster. By default, this command displays the following information about all tape drives:

- Device ID of tape drive
- Description of tape drive
- World Wide Node Name of tape drive
- World Wide Port Name of tape drive
- Serial Number of tape drive
- Tape drive errors
- Node to which the tape drive is attached

- Initiator port which hosts the tape drive
- Alias name of tape drive
- Operational state of tape drive
- Functional status of tape drive

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-device-id <text>] - Device ID

Selects the tape drive with the specified device ID.

[-node {<nodename>|local}] - Node

Displays detailed information about tape drives on the specified node.

[-description <text>] - Description

Selects the tape drives with the specified description.

[-alias-name <text>] - Alias Name

Selects the tape drive with the specified alias name.

[-wwnn <text>] - World Wide Node Name

Selects the tape drives with the specified World Wide Node Name.

[-wwpn <text>] - World Wide Port Name

Selects the tape drive with the specified World Wide Port Name.

[-serial-number <text>] - Serial Number

Selects the tape drive with the specified serial number.

[-device-if-type {unknown|fibre-channel|SAS|pSCSI}] - Device If Type

Selects the tape drives with the specified interface type.

[-device-state {unknown|available|ready-write-enabled|ready-write-protected|offline|in-use|error|reserved-by-another-host|normal}] - Operational State of Device

Selects the tape drives with the specified operational state.

[-error <text>] - Tape Drive Error Description

Selects the tape drives with the specified error string.

[-initiator <text>] - Initiator Port

Selects the tape drives with the specified initiator port.

`[-resv-type {off|persistent|scsi}]` - Reservation type for device

Selects the tape drives with the specified type.

Examples

The following example displays information about all tape drives attached to the cluster:

```
cluster1::> storage tape show-tape-drive
Tape Drive: sw4:11.126
  Description: StorageTek T10000C
         WWNN: 5:001:04f000:b39ec8
         WWPN: 5:001:04f000:b39ec9
Serial Number: 576004000041
Errors: -

Paths:
Node                      Initiator  Alias    Device State
Status
------------------------  ---------  -------  ------------------------
--------
cluster1-01               2a         st0      ready-write-enabled
normal
Tape Drive: sw4:12.4
  Description: HP LTO-3
         WWNN: 2:001:000e11:10b919
         WWPN: 2:002:000e11:10b919
Serial Number: 1068000371
Errors: -

Paths:
Node                      Initiator  Alias    Device State
Status
------------------------  ---------  -------  ------------------------
--------
cluster1-01               0b         st1      ready-write-enabled
normal
```

storage tape show

Display information about tape drives and media changers

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `storage tape show` command displays information about tape drives and media changers attached to

the cluster. Where it appears in the remainder of this document "device" may refer to either a tape drive or a media changer. By default, this command displays the following information about all tape drives and media changers:

- Node to which the tape drive/media changer is attached
- Device ID of the tape drive/media changer
- Description of the tape drive/media changer
- Type of device: tape drive or media changer
- Functional status of the tape drive/media changer

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-alias]

Displays the tape drive/media changer alias with the following details:

- Node to which tape drive/media changer is attached
- Device ID of the tape drive/media changer
- Alias name of the tape drive/media changer
- Alias mapping for tape drive/media changer

| [-connectivity]

Displays the connectivity from the node to the tape drive/media changer with the following details:

- Node to which tape drive/media changer is attached
- Device ID of the tape drive/media changer
- Tape drive/media changer description
- Type of device: tape drive or media changer
- Interface type for the tape drive/media changer
- World Wide Node Name of tape drive/media changer
- World Wide Port Name of tape drive/media changer
- Serial Number of tape drive/media changer
- Tape drive/media changer errors
- Initiator port which hosts the tape drive/media changer
- Alias name of the tape drive/media changer
- Operational state of tape drive/media changer
- Functional status of tape drive/media changer

| [-device-names]

Displays the tape drive names for used tape positioning using the following details: rewind, no rewind, unload/reload and density

- Node to which tape drive/media changer is attached
- Device ID of the tape drive/media changer
- Tape drive/media changer description
- Device Names that include Rewind, no Rewind, Unload/Reload

| [-status]

Displays the status of tape drive/media changer with the following details:

- Device ID of the tape drive/media changer
- Tape drive/media changer description
- World Wide Node Name of tape drive/media changer
- World Wide Port Name of tape drive/media changer
- Serial Number of tape drive/media changer
- Alias name of the tape drive/media changer
- Format used for tape cartridge mounted by tape drive
- Tape drive/media changer errors
- Node to which tape drive/media changer is attached
- Operational state of tape drive/media changer
- File number following last tape drive I/O operation
- Block number following last tape drive I/O operation
- Residual count following last tape drive I/O operation

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-device-id <text>] - Device ID

Selects the tape drive/media changer with the specified device ID.

[-node {<nodename>|local}] - Node

Displays detailed information about tape drives or media changers on the specified node.

[-device-type <text>] - Device Type

Selects the devices with the specified type of tape drive or media changer.

[-description <text>] - Description

Selects the tape drives/media changers with the specified description.

[-alias-name <text>] - Alias Name

Selects the tape drive/media changer with the specified alias name.

[-alias-mapping <text>] - Alias Mapping

Selects the tape drive/media changer with the specified alias mapping.

[-wwnn <text>] - World Wide Node Name

Selects the tape drives/media changers with the specified World Wide Node Name.

[-wwpn <text>] - World Wide Port Name

Selects the tape drive/media changer with the specified World Wide Port Name.

[-serial-number <text>] - Serial Number

Selects the tape drive/media changer with the specified serial number.

[-functional-status {unknown|normal|error}] - Functional Status

Selects the tape drives/media changers with the specified functional status of the device.

[-device-if-type {unknown|fibre-channel|SAS|pSCSI}] - Device Interface Type

Selects the tape drives/media changers with the specified interface type.

[-device-state {unknown|available|ready-write-enabled|ready-write-protected|offline|in-use|error|reserved-by-another-host|normal}] - Operational State of Device

Selects the tape drives/media changers with the specified operational state.

[-format <text>,…] - Tape Cartridge Format

Selects the tape drives with the specified tape format.

[-error <text>] - Tape Error

Selects the tape drives/media changers with the specified error string.

[-initiator <text>] - Initiator Port

Selects the tape drives/media changers with the specified initiator port.

[-file-number <integer>] - File Number

Selects the tape drives/media changers with the specified file number. The file number is the number of file marks between the beginning of media and current logical position. File number gets modified on write file mark, and forward or backward space file operations. A value of -1 indicates unknown position on the tape media or tape not loaded in the tape drive.

[-block-number <integer>] - Block Number

Selects the tape drives/media changers with the specified block number. The block number is the number of logical blocks between the beginning of tape media or the prior file mark and the current logical position on the tape media. Block number gets modified on writes, reads, and forward or backward space over records (blocks). The block number also gets reset to zero when a file mark is crossed or another file mark is written that designates a new file. If the tape is back spaced to a prior file mark, the block number might be zeroed. A value of -1 indicates unknown position on the tape media or that a tape not loaded in the tape drive.

[-residual-count <integer>] - Residual Count of Last I/O Operation

Selects the tape drives with the specified residual count.

[-device-name-r <text>,…] - Device Name for Rewind

Selects the tape drives with the specified device name for rewind.

[-device-name-nr <text>,…] - Device Name for No Rewind

Selects the tape drives with the specified device name for no rewind.

[-device-name-ur <text>,…] - Device Name for Unload Reload

Selects the tape drives with the specified device name for unload/reload.

[-resv-type {off|persistent|scsi}] - Reservation Type for device

Selects the tape drives with the specified type.

Examples

The following example displays information about all tape drives and media changers attached to the cluster:

```
cluster1::> storage tape show

Node: cluster1-01
Device ID                Device Type     Description
Status
----------------------  --------------  ------------------------------
--------
sw4:10.11                tape drive      HP LTO-3
error
Node: cluster1-01
Device ID                Device Type     Description
Status
----------------------  --------------  ------------------------------
--------
sw4:10.11L1              media changer   PX70-TL
normal
```

The following example displays detailed information about a tape drive named sw4:10.11

```
cluster1::> storage tape show -device-id sw4:10.11

Node: cluster1-01
Device ID                Device Type     Description
Status
----------------------  --------------  ------------------------------
--------
sw4:10.11                tape drive      HP LTO-3
error
```

storage tape trace

Enable/disable tape trace operations

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command enables or disables diagnostic tape trace operations for all tape drives attached to the node you have specified.

Parameters

`-node {<nodename>|local}` - Node

Use this parameter to specify the node on which the tape trace feature is enabled or disbled.

`[-is-trace-enabled {true|false}]` - Tape Trace Enabled or Disabled

Use this parameter to enable or disable the tape trace feature. By default, the tape trace feature is enabled.

Examples

The following example enables tape trace operation on the node, cluster1-01.

```
cluster1::> storage tape trace -node cluster1-01 -is-trace-enabled true
```

storage tape alias clear

Clear alias names

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command clears alias names for a tape drive or media changer.

Parameters

`-node {<nodename>|local}` - Node

Use this parameter to specify the node to which the tape drive is attached.

`{ -name <text>` - Alias Name That Is to Be Cleared

Use this parameter to specify the alias name that is to be cleared. You can use the 'storage tape show -alias' command to find more information about alias names of tape drives and media changers attached to a node. The `-clear-scope` and `-name` parameters are mutually exclusive. If you specify the `-name` parameter, a single alias name is cleared.

`| -clear-scope {tape|media-changer|all}` - Scope of Alias Clear Operation }

Use this parameter to specify the scope of the alias clear operation. The `-clear-scope` and `-name`

parameters are mutually exclusive. If you specify the `-clear-scope` parameter, multiple aliases are cleared depending upon the value of the parameter.

The possible values for `-clear-scope` are as follows:

- tape - Clear all tape drive aliases
- media-changer - Clear all media-changer aliases
- all - Clear both tape drive and media-changer aliases

Examples

The following example clears an alias name 'st3' attached to the node, cluster1-01.

```
cluster1::> storage tape alias clear -node cluster1-01 -name st3
```

The following example clears all tape drive alias names attached to the node, cluster1-01.

```
cluster1::> storage tape alias clear -node cluster1-01 -clear-scope tape
```

The following example clears all media changer alias names attached to the node, cluster1-01.

```
cluster1::> storage tape alias clear -node cluster1-01 -clear-scope media-
changer
```

The following example clears both tape and media changer alias names attached to the node, cluster1-01.

```
cluster1::> storage tape alias clear -node cluster1-01 -clear-scope all
```

storage tape alias set

Set an alias name for tape drive or media changer

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command sets an alias name for a tape drive or media changer.

Parameters

`-node {<nodename>|local}` - Node

Use this parameter to specify the node to which the tape drive is attached.

`-name <text>` - Alias Name for Tape Drive or Media Changer

Use this parameter to specify the alias name for tape drive or media changer. For a tape drive alias name, the format is 'st' followed by one or more digits. For a media changer alias name, the format is 'mc' followed by one or more digits.

`-mapping <text>` - Mapping for Alias Name

Use this parameter to specify the mapping for an alias name. Use the format 'SN[*<serial-number>*]'. Valid mapping for serial numbers are in the format 'SN[*<serial-number>*]' where the *<serial-number>* is from 2 to 90 characters long and includes the following characters: 0-9, a-z, and A-Z.

Examples

The following example sets an alias name 'st3' for a tape drive with serial number SN[123456]L4 attached to the node, node1.

```
cluster1::storage tape alias> set  -node node1 -name st3 -mapping
SN[123456]L4.
```

The following example sets an alias name 'mc1' for a media changer with serial number SN[65432] attached to the node, node1.

```
cluster1::storage tape alias> set  -node node1 -name mc1 -mapping
SN[65432].
```

storage tape alias show

Displays aliases of all tape drives and media changers

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command displays aliases of all tape drives and media changers attached to every node in the cluster.

Parameters

`{ [-fields <fieldname>,…]`

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

`| [-instance ] }`

If you specify the `-instance` parameter, the command displays detailed information about all fields.

`[-node {<nodename>|local}]` - Node

Displays the tape drive and media changer aliases on the specified node.

[-alias-list <text>,…] - List of Aliases

Displays the node with the specified list of tape drive and media changer aliases.

Examples

The following example shows the aliases of all tape drives and media changers attached to every node in the cluster:

```
cluster1::> storage tape alias show

Node: node1

Alias                                   Mapping
---------------------------------------
----------------------------------------
mc0                                     SN[00FRU7800000_LL0]L1
mc1                                     SN[00FRU7800000_LL1]L1
mc2                                     SN[aa6a64c69360a0980248c8]
mc3                                     SN[c940abe8b0c3a0980248c8]
mc4                                     SN[fba082e6b335a0980248c8]L5
st0                                     SN[HU19487T7N]
st1                                     SN[1068000230]
st10                                    SN[fba0c508b335a0980248c8]L7

Node: node2

Alias                                   Mapping
---------------------------------------
----------------------------------------
mc1                                     SN[c940982fc48c8]
st3                                     SN[ST456HT8N]L3
st2                                     SN[HG68000230]L2
st11                                    SN[aba673980248c8]L7
```

storage tape config-file delete

Delete a tape config file

Availability: This command is available to *cluster* administrators at the *advanced* privilege level.

Description

The `storage tape config-file delete` command deletes the specified tape drive configuration file from all nodes that are currently part of the cluster.

Parameters

`-filename <text>` - Config File Filename (privilege: advanced)

This parameter specifies the name of the tape configuration file that will be deleted from all nodes that are currently part of the cluster.

Examples

The following example deletes the specified tape drive configuration files on every node that is currently part of the cluster:

```
cluster1::> storage tape config-file delete -filename XYZ_LTO-6.TCF
```

storage tape config-file get

Get a tape drive configuration file

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `storage tape config-file get` command uploads a specified tape drive configuration file to each node that is currently part of the cluster.

Parameters

`-url <text>` - Config File URL

This parameter specifies the URL that provides the location of the package to be fetched. Standard URL schemes, including HTTP and TFTP, are accepted.

Examples

The following example uploads the specified tape drive configuration file to each node that is currently part of the cluster:

```
cluster1::> storage tape config-file get -url
http://example.com/~tapeconfigfile/XYZ_LTO-6.TCF
```

storage tape config-file show

Display the list of tape drive configuration files on the given node

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `storage tape config-file show` command lists the tape drive configuration files loaded onto each

node in the cluster.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Node

Selects information about tape drive configuration files for the specified node.

[-config-file <text>] - Tape Config File

Selects information about the tape drive configuration file specified.

Examples

The following example lists the tape drive config files loaded onto each node in the cluster:

```
cluster1::> storage tape config-file show

Node: node1

Tape Config Files
----------------------------------------
CERTANCE_LTO2_ULTRIUM.TCF
CERTANCE_LTO3_ULTRIUM.TCF
HP_LT09.TCF
HP_LTO2.TCF
HP_LTO3_ULTRIUM.TCF
HP_LTO4_ULTRIUM.TCF
HP_LTO5_ULTRIUM.TCF
HP_LTO6_ULTRIUM.TCF
IBM_3592.TCF
IBM_3592E05.TCF
IBM_5038_sdfkjl.TCF
IBM_LTO2_ULT3580.TCF
IBM_LTO2_ULTRIUM.TCF
```

storage tape library config show

Display connectivity to back-end storage tape libraries.

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command displays information such as how the storage tape libraries connect to the cluster, LUN groups, number of LUNs, WWPN, and switch port information. Use this command to verify the cluster's storage tape library configuration or to assist in troubleshooting.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-switch]

If you specify this parameter, switch port information is shown.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Controller Name

The name of the clustered node for which information is being displayed.

[-group <integer>] - LUN Group

A LUN group is a set of LUNs that shares the same path set.

[-target-wwpn <text>] - Library Target Ports

The World Wide Port Name of a storage tape library port.

[-initiator <text>] - Initiator

The host bus adapter that the clustered node uses to connect to storage tape libraries.

[-array-name <array name>] - Library Name

Name of the storage tape library that is connected to the clustered node.

[-target-side-switch-port <text>] - Target Side Switch Port

This identifies the switch port that connects to the tape library's target port.

[-initiator-side-switch-port <text>] - Initiator Side Switch Port

This identifies the switch port that connects to the node's initiator port.

[-lun-count <integer>] - Number of LUNS

This is a command-line switch (-lun-count) used to restrict what LUN groups are displayed in the output.

Examples

The following example displays the storage tape library configuration information.

```
cluster1::> storage tape library config show
             LUN   LUN
Node         Group Count                 Library Name     Library Target
Port Initiator
------------ ----- ----- ----------------------------
------------------------ ---------
cluster1-01
                 0     2                   TAPE_LIB_1
50050763124b4d6f        3d

cluster1::>
```

storage tape library path show-by-initiator

Display a list of LUNs on the given tape library

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command displays path information for every initiator port connected to a tape library. The output is similar to the storage library path show command but the output is listed by initiator.

Parameters

{ [-fields <fieldname>,…]

fields used to be used in this display

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Controller name

The name of the clustered node for which information is being displayed.

[-initiator <text>] - Initiator Port

Initiator port that the clustered node uses.

[-target-wwpn <text>] - Target Port

Target World Wide Port Name. Port on the storage tape library that is being used.

[-initiator-side-switch-port <text>] - Initiator Side Switch Port

Switch port connected to the clustered node.

[-target-side-switch-port <text>] - Target Side Switch Port

Switch port connected to the tape library.

[-array-name <array name>] - Library Name

Name of the storage tape library that is connected to the cluster.

[-tpgn <integer>] - Target Port Group Number

TPGN refers to the target port group to which the target port belongs. A target port group is a set of target ports which share the same LUN access characteristics and failover behaviors.

[-port-speed <text>] - Port Speed

Port Speed of the specified port.

[-path-io-kbps <integer>] - Kbytes of I/O per second on Path (Rolling Average)

Rolling average of Kbytes of I/O per second on the library path.

[-path-iops <integer>] - Number of I/O per second on Path (Rolling Average)

Rolling average of I/O per second on the library path.

[-initiator-io-kbps <integer>] - Kbytes of I/O per second on Initiator (Rolling Average)

Rolling average of Kbytes of I/O per second on the initiator port.

[-initiator-iops <integer>] - Number of I/O per second on Initiator (Rolling Average)

>Rolling average of I/O per second on the initiator port.

[-target-io-kbps <integer>] - Kbytes of I/O per second to Target (Rolling Average)

Rolling average of Kbytes of I/O per second on the target port.

[-target-iops <integer>] - Number of I/O per second to Target (Rolling Average)

Rolling average of I/O per second on the target port.

Examples

The following example displays the path information by initiator for a storage tape library.

```
cluster1::> storage tape library path show-by-initiator
Node: cluster1-01
          Initiator I/O       Initiator Side     Path I/O          Target
Side   Target I/O
Initiator        (KB/s)          Switch Port       (KB/s)          Switch
Port       (KB/s)      Target Port Library Name
--------- ------------- -------------------- ------------
-------------------- ------------ ---------------- ----------------
0b                     0 sw_tape:6                        0
sw_tape:0            0 510a09800000412d TAPE_LIB_1

sw_tape:1            0 510a09820000412d TAPE_LIB_1
3d                     0 N/A                              0
N/A            0 50050763124b4d6f TAPE_LIB_2
3 entries were displayed.
```

storage tape library path show

Display a list of Tape Libraries on the given path

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

This command displays path information for a tape library and has the following parameters by default:

- Node name
- Initiator port
- Target port
- TPGN (Target Port Group Number)
- Port speeds
- Path I/O in Kbytes/sec
- IOPs

Parameters

{ [-fields <fieldname>,…]

fields used to be used in this display

| [-detail]

Using this option displays the following:

- Target IOPs
- Target LUNs
- Path IOPs
- Path errors
- Path quality
- Path LUNs
- Initiator IOPs
- Initiator LUNs

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Controller name

The name of the clustered node for which information is being displayed.

[-array-name <array name>] - Library Name

Name of the storage tape library that is connected to the cluster.

[-target-wwpn <text>] - Target Port

Target World Wide Port Name. Port on the storage tape library that is being used.

[-initiator <text>] - Initiator Port

Initiator port that the clustered node uses.

[-initiator-side-switch-port <text>] - Initiator Side Switch Port

Switch port connected to the clustered node.

[-tpgn <integer>] - Target Port Group Number

TPGN refers to the target port group to which the target port belongs. A target port group is a set of target ports which share the same LUN access characteristics and failover behaviors.

[-port-speed <text>] - Port Speed

Port Speed of the specified port.

[-path-io-kbps <integer>] - Kbytes of I/O per second on Path(Rolling Average)

Rolling average of Kbytes of I/O per second on the library path.

[-path-iops <integer>] - Number of I/O per second on Path(Rolling Average)

Rolling average of I/O per second on the library path.

[-initiator-io-kbps <integer>] - Kbytes of I/O per second on Initiator(Rolling Average)

Rolling average of Kbytes of I/O per second on the initiator port.

[-initiator-iops <integer>] - Number of I/O per second on Initiator(Rolling Average)

>Rolling average of I/O per second on the initiator port.

[-target-io-kbps <integer>] - Kbytes of I/O per second to Target(Rolling Average)

Rolling average of Kbytes of I/O per second on the target port.

[-target-iops <integer>] - Number of I/O per second to Target(Rolling Average)

Rolling average of I/O per second on the target port.

[-target-side-switch-port <text>] - Target Side Switch Port

Switch port connected to the tape library.

[-path-link-errors <integer>] - Link Error count on path

Fibre Channel link error count.

[-path-quality <integer>] - Percentage of weighted error threshold

A number representing the threshold of errors that is allowed on the path. Path quality is a weighted error value. When the error weight of a path exceeds the threshold, I/O is routed to a different path.

[-path-lun-in-use-count <integer>] - Number of LUNs in the in-use state on this path

Number of LUNs on this path.

[-initiator-lun-in-use-count <integer>] - Number of LUNs in the in-use state on this initiator

Number of LUNs on this initiator.

[-target-lun-in-use-count <integer>] - Number of LUNs in the in-use state on this target

Number of LUNs on this target.

Examples

The following example displays the path information for a storage tape library

```
cluster1::> storage tape library path show
Node                    Initiator  Target Port              TPGN    Speed
(KB/s)          IOPs
---------------------  ---------  -----------------------  ------  -------
------------  ------------
cluster1-01
                        3d         50050763124b4d6f             61   4 Gb/S
0             0
cluster1-01
                        0b         510a09800000412d             35   4 Gb/S
0             0
cluster1-01
                        0b         510a09820000412d              1   4 Gb/S
0             0
3 entries were displayed.
```

storage tape load-balance modify

Modify the tape load balance configuration

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `storage tape load-balance modify` command modifies the tape load balance setting for a specified node in the cluster.

Parameters

-node {<nodename>|local} - Node

This parameter specifies the node on which the tape load balance setting is to be modified.

[-is-enabled {true|false}] - Is Tape Load Balance Enabled

This parameter specifies whether tape load balancing is enabled on the node. The default setting is false.

Examples

The following example modifies the tape load balance setting on node1 in the cluster:

```
cluster1::> storage tape load-balance modify -node node1 -is-enabled true
```

storage tape load-balance show

Displays the tape load balance configuration

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `storage tape load-balance show` command displays tape load balance settings for each node in the cluster.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Node

Selects information about tape load balancing for the specified node.

[-is-enabled {true|false}] - Is Tape Load Balance Enabled

Selects information about load balance configuration as specified by enabled or disabled setting.

Examples

The following example shows the load balance setting for each node in the cluster:

```
cluster1::> storage tape load-balance show

Node                        Enabled
--------------------------- ---------
node1                       false
node2                       false
2 entries were displayed.
```

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