system smtape commands

ONTAP 9.6 commands

NetApp
February 11, 2024

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Abort an active SMTape session

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

Description

This command aborts the backup or restore operations based on the session identifier. You can perform SMTape operations using the system smtape backup or system smtape restore commands. A unique session identifier is assigned for each new SMTape operation. This command aborts sessions that are in active and waiting states.

Parameters

`-session <Sequence Number>` - Session Identifier
Use this parameter to specify the session identifier for a backup or restore session.

Examples

Abort the SMTape session with the session identifier *20*

```
cluster1::> system smtape abort -session 20
Abort posted to session 20.
```

Related Links

- system smtape backup
- system smtape restore

system smtape backup

Backup a volume to tape devices

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

Description

This command performs a baseline backup of a specified volume path to a tape device. You can use the command `system hardware tape drive show` to view the list of tape devices in the cluster. You must specify a Snapshot copy name to perform an SMTape backup operation. The Snapshot copy name specified is used as the base Snapshot copy. A new unique session ID is assigned for this SMTape operation and the status of the session can be monitored using the command `system smtape status`. This session ID can be subsequently used to perform other operations such as to find the SMTape status, abort an SMTape operation, and continue an SMTape operation.

The volume and tape device must reside on the same node in the cluster. You must retain the base Snapshot copy created during this backup operation in order to use this Snapshot copy to re-establish a SnapMirror relationship upon a restore.

Parameters

`-vserver <vserver name>` - Vserver Name

Use this parameter to specify the Vserver name on which the volume is located. You need not specify this parameter if only one cluster Vserver exists.

`-volume <volume name>` - Volume Name

Use this parameter to specify the name of the volume that needs to be backed up to tape.

`-backup-snapshot <snapshot name>` - Snapshot Name

Use this parameter to specify the name of the Snapshot copy while performing an SMTape backup operation.

`-tape </node_name/tape_device>` - Tape Name

Use this parameter to specify the name of the tape device which is used for this SMTape operation. The format of the tape device name is `/node_name/tape_device`, where `node_name` is the name of the cluster node owning the tape and `tape_device` is the name of the tape device.

`[-tape-block-size <integer>]` - Tape Record Size in KB

Use this parameter to specify the tape record size in KB for backup and restore operations. The tape record size is in multiples of 4KB, ranging from 4KB to 256KB. The default tape record size is 240KB unless it is specified.

Examples

The following example will start the backup of a volume *datavol* in a Vserver *vserver0* to a tape *rst0a*. Both the volume and tape reside on the same node *cluster1-01*. The Snapshot copy to be backed up is *datavol_snapshot* and the tape record size has the value of 256KB.

```
cluster1::> system smtape backup -vserver vserver0 -volume datavol
    -backup-snapshot datavol_snapshot -tape /cluster1-01/rst0a
    -tape-block-size 256

Session 21 created successfully
```

The following example will start the backup of a volume *datavol* in a Vserver *vserver0* to a tape *rst0a*. The volume *datavol* is in a Vserver *vserver0*. Both the volume and tape reside on the same node *cluster1-01*. The Snapshot copy to be backed up is *datavol_snapshot* and the tape record size has the default value of 240KB.

```
cluster1::> system smtape backup -vserver vserver0 -volume datavol
    -backup-snapshot datavol_snapshot -tape /cluster1-01/nrst0l
Session 22 created successfully
```

system smtape break

Make a restored volume read-write

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

Description

This command breaks the relationship between the tape backup of a volume and a restored volume, changing the restored volume from read-only to read/write.

Parameters

`-vserver <vserver name>` - Vserver Name

Use this parameter to specify the Vserver name on which the volume is located. You need not specify this parameter if only one cluster Vserver exists.

`-volume <volume name>` - Volume Name

Use this parameter to specify the name of the read-only volume that needs to be made read/writeable after a restore.

Examples

Make the read-only volume *datavol* on Vserver *vserver0* writeable after a restore.

```
cluster1::> system smtape break -vserver vserver0 -volume datavol
  [Job 84] Job succeeded: SnapMirror Break Succeeded
```

system smtape continue

Continue SMTape session waiting at the end of tape

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

Description

This command continues the SMTape backup and restore operations using the specified tape device. You can use this command when an SMTape operation has reached the end of current tape and is in the wait state to write to or read from a new tape.

If a tape device is not specified, the original tape device will be used.

User has to make sure that the correct tape media is inserted in the device and positioned appropriately before issuing this command.

Parameters

`[-tape </node_name/tape_device>]` - Tape Name

Use this parameter to specify the name of the tape device which is used for this SMTape operation. The format of the tape device name is `/node_name /tape_device` , where `node_name` is the name of the cluster node owning the tape and `tape_device` is the name of the tape device.

`-session <Sequence Number>` - Session Identifier

Use this parameter to specify the session identifier for the SMTape backup or restore operations.

Examples

Continues an SMTape session having session ID *20* on tape device *rst0a* on the node *node1* in the cluster.

```
cluster1::> system smtape continue -session 20 -tape /node1/rst0a
 continue on session 20 succeeded
```

The following example continues session *40* on the same tape device that was being used by the session.

```
cluster1::> system smtape continue -session 40
 continue on session 40 succeeded
```

system smtape restore

Restore a volume from tape devices

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

Description

This command performs restore of a backup image created using the command system smtape backup in the specified tape device to a destination volume path. A new unique session ID is assigned for this operation; the status of the session can be monitored using the command `system smtape status` . It is required that the volume and tape device reside in the same cluster node. The volume must be of type DP (Data Protection) and should be placed in the restricted mode prior to a restore.

Any existing data on the volume will get overwritten upon a restore. The volume will remain as read-only and of type DP after the restore. You can use the command system smtape break to get read/write permissions on the volume. Restore can be done to a non-root DP volume.

Parameters

`-vserver <vserver name>` - Vserver Name

Use this parameter to specify the Vserver name on which the volume is located. You need not specify this parameter if only one cluster Vserver exists.

`-volume <volume name>` - Volume Name

Use this parameter to specify the volume name on which the tape content will be restored.

`-tape </node_name/tape_device>` - **Tape Name**

Use this parameter to specify the name of the tape device which is used for this SMTape operation. The format of the tape device name is `/node_name`/`tape_device`, where `node_name` is the name of the cluster node owning the tape and `tape_device` is the name of the tape device.

`[-tape-block-size <integer>]` - **Tape Record Size in KB**

Use this parameter to specify the tape record size in KB for backup and restore operations. The tape record size is in multiples of 4KB, ranging from 4KB to 256KB. The default tape record size is 240KB unless it is specified. Use the same record size which was used during the backup. If the tape record size is different from the tape record size that was used at the time of backup then `system smtape restore` will fail.

Examples

The following example will start the restore to a volume *datavol* from a tape *rst0a*. The volume *datavol* is in a Vserver *vserver0*. Both *vserver0* and *rst0a* reside on the same node *cluster1-01*.

```
cluster1::> system smtape restore -vserver vserver0 -volume datavol
        -tape /cluster1-01/rst0a -tape-block-size 256
Session 2 created successfully
```

The following example will start the restore to a volume *datavol* from a tape *rst0a*. The volume *datavol* is in a Vserver *vserver0*. Both *vserver0* and *rst0a* reside on the same node *cluster1-01*. The default tape record size of 240KB was used during backup.

```
cluster1::> system smtape restore -vserver vserver0 -volume datavol
        -tape /cluster1-01/rst0a
Session 5 created successfully
```

Related Links

- system smtape backup
- system smtape break

system smtape showheader

Display SMTape header

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

Description

This command displays the image header of a tape. The tape must have a valid backup of data. The following information about the backup is displayed:

- Tape Number - the tape number if the backup spans multiple tape devices.
- WAFL Version - WAFL version of the storage system when the volume was backed up on tape.

- Backup Set ID - a unique backup set ID for the baseline backup.
- Source Storage System - the source storage system where the volume resided when the backup was performed.
- Source Volume - the source volume that was backed up to tape.
- Source Volume Capacity - the capacity of the source volume that was backed up to tape.
- Source Volume Used Size - the used size of the source volume that was backed up to tape.
- Source Snapshot - name of the Snapshot copy used for the backup.
- Volume Type - type of the volume.
- Is SIS Volume - this field is true if the backed up volume was a SIS volume.
- Backup Version - the SMTape backup version.
- Backup Sequence No - the backup sequence number.
- Backup Mode - this field describes the backup mode.
- Time of Backup - the time at which the backup was performed.
- Time of Previous Backup - the time at which the previous backup was performed; this information is displayed only if the previous backup was an incremental backup.
- Volume Total Inodes - number of inodes of the backed up volume.
- Volume Used Inodes - number of used inodes of the backed up volume.
- Number of Snapshots - number of Snapshot copies present in this backup.
- Snapshot ID - is the Snapshot ID of the backup Snapshot.
- Snapshot Time - time at which the backup Snapshot copy was created.
- Snapshot Name - name of the Snapshot copy which was backed up to tape.

Parameters

`-tape </node_name/tape_device>` - Tape Name

Use this parameter to specify the name of the tape device which is used for this SMTape operation. The format of the tape device name is `/node_name /tape_device` , where `node_name` is the name of the cluster node owning the tape and `tape_device` is the name of the tape device.

`[-tape-block-size <integer>]` - Tape Record Size in KB

Use this parameter to specify the tape record size in KB for backup and restore operations. The tape record size is in multiples of 4KB, ranging from 4KB to 256KB. The default tape record size is 240KB unless it is specified.

Examples

The following example reads the image header from the tape `nrst0l` residing on the node `cluster1-01` and displays relevant tape header information.

```
cluster1::> system smtape showheader -tape /cluster1-01/nrst0l
    -tape-block-size 240
Tape record size in KB: 240
            Tape Number: 1
           WAFL Version: 23577
          Backup Set ID: 7d0c9a15-8e20-11e1-8741-123478563412
  Source Storage System: cluster1-01
          Source Volume: /vs1/srcvol
Source Volume Capacity: 400.00MB
Source Volume Used Size: 0.00
        Source Snapshot: mysnap
            Volume Type: Flex
          Is SISVolume: no
         Backup Version: 1:3
     Backup Sequence No: 0
            Backup Mode: dw-data
         Time of Backup: 4/24/2012 15:16:38
Time of Previous Backup: 0/0/0 00:00:00
    Volume Total Inodes: 12789
     Volume Used Inodes: 100
    Number of Snapshots: 1
            Snapshot ID: 1
          Snapshot Time: 4/24/2012 15:16:10
          Snapshot Name: mysnap
```

system smtape status clear

Clear SMTape sessions

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

Description

This command clears SMTape sessions which are completed, failed or Unknown state.

Parameters

[-session <Sequence Number>] - Session Identifier
Use this parameter to clear the SMTape sessions with the specified session identifier.

[-node {<nodename>|local}] - Node Name
Use this parameter to clear the SMtape sessions related to the specified node.

[-type {backup|restore}] - Operation Type
Use this parameter to clear the SMTape sessions of the specified operation type. These can be either backup or restore sessions.

`[-status {COMPLETED|FAILED|UNKNOWN}]` - **Session Status**

Use this parameter to clear the SMTape sessions which have the status as specified in the parameter.

`[-path <text>]` - **Path Name**

Use this parameter to clear the SMTape sessions which have path as specified in the parameter.

`[-device <text>]` - **Device Name**

Use this parameter to clear the SMTape sessions on a specific tape device.

`[-backup-snapshot <snapshot name>]` - **Snapshot Name**

Use this parameter to clear the SMTape sessions using the Snapshot copy name as specified in the parameter.

`[-tape-block-size <integer>]` - **Tape Block Size**

Use this parameter to clear the SMTape sessions with the tape block size as specified in the parameter.

Examples

The following example clears all the completed SMTape sessions in the cluster:

```
cluster1::> system smtape status clear
5 sessions are purged.
```

The SMTape sessions on the node `node1` in the cluster are cleared.

```
cluster1::> system smtape status clear -node node1
3 sessions are purged.
```

system smtape status show

Show status of SMTape sessions

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

Description

This command lists the status of all SMTape sessions in the cluster. By default, this command lists the following information:

- Session
- Type
- Status
- Progress
- Path
- Device

- Node

Parameters

{ [-fields <fieldname>,…]

Use this parameter to display additional fields about each session apart from the default entries. This parameter is optional. Any combination of the following fields is valid:

- Session
- Node
- Type
- Status
- Path
- Device
- Progress
- Start-time
- End-time
- Update-time
- Backup-snapshot
- Tape-block-size
- Error

| [-instance] }

Displays detailed information about the specified sessions.

[-session <Sequence Number>] - Session Identifier

Selects information about a specific SMTape session. A Session Identifier is a number that is used to identify a particular SMTape session.

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

Selects information about sessions related to the specified node.

[-type {backup|restore}] - Operation Type

Selectsinformation about SMTape sessions of the specified operation type.

[-status {COMPLETED|FAILED|ACTIVE|WAITING|ABORTING|UNKNOWN}] - Session Status

Selects information about SMTape sessions having the specified status in the parameter.

[-path <text>] - Path Name

Selects information about SMTape sessions on a volume which is at the specified path name. This is the logical path of the volume and you must specify the path name in the following format: `/vserver_name /volume_name` .

[-device <text>] - Device Name

Selects information about the SMTape sessions on the specified tape device. You must specify the tape device name in the following format: `/node_name /tape_device` .

[-progress {<integer>[KB|MB|GB|TB|PB]}] - **Bytes Transferred**

Selects information about SMTape sessions in which the number of data bytes transferred in a particular session matches with the number specified in this parameter.

[-start-time <MM/DD/YYYY HH:MM:SS>] - **Start Time**

Selects information about SMTape sessions whose starting time matches the specified starting time.

[-end-time <MM/DD/YYYY HH:MM:SS>] - **End Time**

Selects information about SMTape sessions whose ending time matches the specified ending time.

[-backup-snapshot <snapshot name>] - **Snapshot Name**

Selects information about SMTape sessions that use a particular Snapshot copy name which matches the specified Snapshot copy name in the parameter in backup or restore operations.

[-tape-block-size <integer>] - **Tape Block Size**

Selects information about SMTape sessions that use a particular tape block size which matches the specified tape block size parameter in backup or restore operations.

[-error <text>] - **Error Description**

Selects information about SMTape sessions that have a particular error description which matches the specified error description in the parameter.

Examples

Displays default entries about the five SMTape sessions.

```
cluster1::> system smtape status show

Session Type     Status      Progress  Path          Device            Node
------- -------  ---------  --------   ------------  ---------------
-----------
5       Backup   COMPLETED     50MB   /vsrvr1/vol1 /cls1-01/nrst0l cluster1-
01
4       Restore  FAILED          0B   /vsrvr1/vol3 /cls1-02/nrst2l cluster1-
02
3       Backup   COMPLETED     50MB   /vsrvr1/vol3 /cls1-01/nrst0l cluster1-
01
2       Backup   COMPLETED     50MB   /vsrvr1/vol2 /cls1-03/nrst0m cluster1-
03
1       Backup   COMPLETED     50KB   /vsrvr1/vol5 /cls1-01/nrst0n cluster1-
01
5 entries were displayed.
```

The following example shows the output with the `-instance` argument.

```
cluster1::> system smtape status show -instance

Session Identifier: 1
          Node Name: node1
     Operation Type: Backup
             Status: COMPLETED
          Path Name: /vs1/vol1
        Device Name: /node1/rst0a
 Bytes Transferred: 2048
         Start Time: 1/4/2012 14:26:24
           End Time: 1/4/2012 14:29:45
       Last updated: 1/4/2012 14:29:45
      Snapshot Name: vol1.snapshot
    Tape Block Size: 240
  Error Description: None
```