

# Step-by-Step Guide

## Backup to attached Tape Drive using Open-E DSS V7

**Software Version: DSS ver. 7.00 up54**

Presentation updated: February 2016

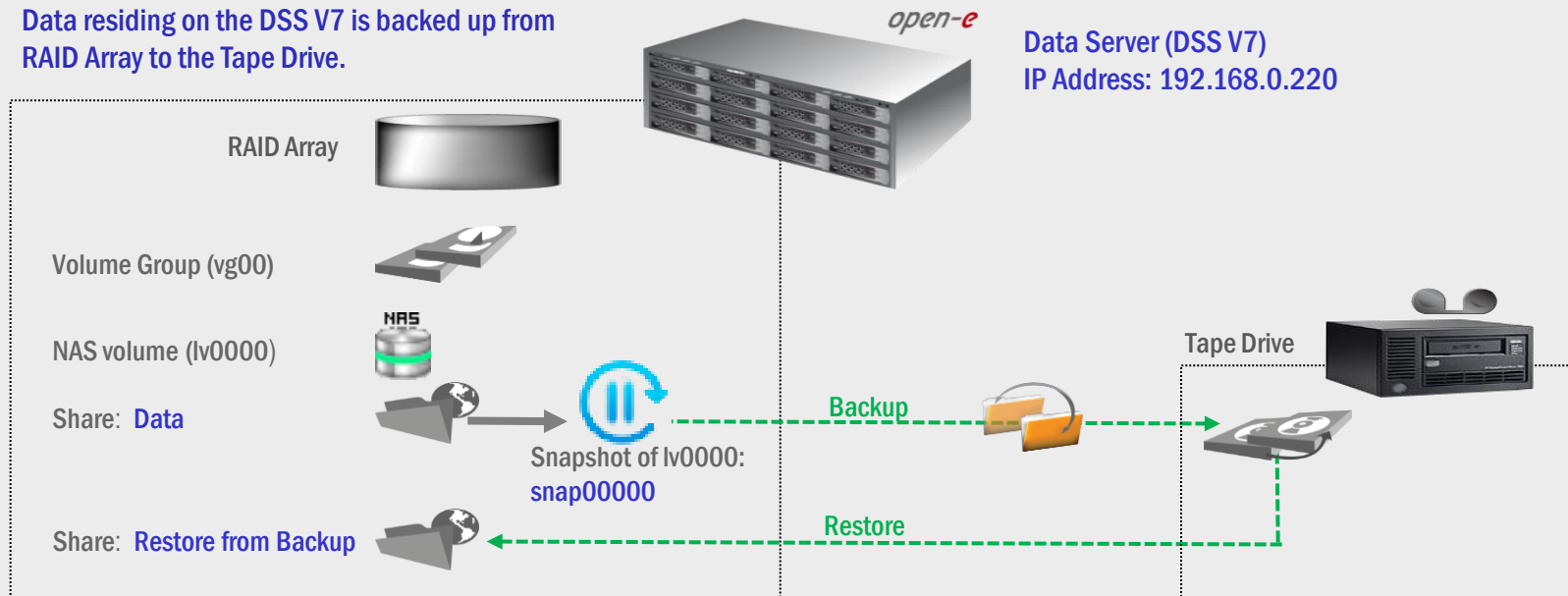
To set up a backup to an attached Tape Drive, perform the following steps:

1. Hardware configuration
2. Creating Volume group, NAS Volume and snapshot
3. Configure the Backup to use with a Tape Drive
4. Create the Restore from Backup

# Backup to attached Tape Drive

## 1. Hardware configuration

Data residing on the DSS V7 is backed up from RAID Array to the Tape Drive.



# Backup to attached Tape Drive



Data Server (DSS)  
IP Address:192.168.0.220

## 2. Creating Volume group, NAS volume and Snapshot volume

Under the "CONFIGURATION" tab, select "Volume manager" and next "Volume groups"

In the Unit manager add the selected physical units (Unit S001) to create a new volume group (in this case, vg00) and click **apply** button.

The screenshot shows the open-e web interface with the following elements:

- Navigation tabs: SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP.
- Breadcrumbs: You are here: Configuration > Volume manager > Volume groups.
- Left sidebar: Vol. groups (selected), Vol. replication.
- Unit manager table:

Unit	Size (GB)	Serial number	Status
<input checked="" type="checkbox"/> Unit S001	298.10	N/A	available
- Action: new volume group (dropdown menu)
- Name: vg00 (input field)
- apply button
- Message: Please apply changes or press "reload" button to discard
- Drive identifier table:

Unit	Serial number	Status
<input type="checkbox"/> Unit S000	9SY0QWBT	
<input type="checkbox"/> Unit S001	9RA6VDG3	
- apply button
- Event Viewer icon at the bottom left.
- Footer: Data Storage Software V7 - All rights reserved.

# Backup to attached Tape Drive



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Data Server (DSS)  
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## 2. ... Continue

Select the appropriate volume group (vg00) from the list on the left.

Create a new NAS volume of the required size. This logical volume will be the source of the backup process. After assigning an appropriate amount of space for the NAS volume, click the **apply** button.

The screenshot shows the open-e web interface for configuring a new NAS volume. The breadcrumb trail is Configuration > Volume manager > Volume groups > vg00. The 'Vol. groups' panel on the left lists 'vg00' as the selected volume group. The 'Volume manager' panel on the right shows the 'Action' dropdown set to 'new NAS volume'. Below this, there are checkboxes for 'Use volume replication' and 'WORM', both of which are unchecked. A slider and input field are used to specify the volume size, currently set to 60 GB. The 'apply' button is highlighted in red. At the bottom of the page, there is an 'Event Viewer' section and a footer with the text 'Data Storage Software V7 - All rights reserved'.

# Backup to attached Tape Drive



Data Server (DSS)  
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## 2. ... Continue

To run the local backup process, you must first define a new snapshot in the Volume manager of the volume to be backed up.  
After assigning an appropriate amount of space for the snapshot, click **apply** button.

The screenshot shows the open-e Volume manager interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'Configuration > Volume manager > Volume groups > vg00'. The main content area is divided into three sections: 'Vol. groups', 'Vol. replication', and 'Volume manager'. The 'Volume manager' section is active and displays a success message: 'Logical volume lv0000 has been created successfully.' Below this is a table of logical volumes:

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000					N/A	60.00

Below the table, there are sections for 'System volumes' and 'Free' space. The 'Free' section shows 230.06 GB available. The 'Action' dropdown is set to 'new snapshot', and the 'Assign to volume' dropdown is set to 'Just create snapshot volume'. A slider below these dropdowns shows the size of the snapshot volume, currently set to 6 GB. The 'apply' button is highlighted in red. At the bottom of the interface, there is an 'Event Viewer' section and a footer with the text 'Data Storage Software V7 - All rights reserved'.

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## 2. ... Continue

Assign **snap00000** to the logical volume to be backed up (in this example - **lv0000**) and click the **apply** button.

The screenshot shows the open-e web interface for configuring storage. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: Configuration > Volume manager > Volume groups > vg00.

The 'Vol. groups' section shows a list with 'vg00' selected. Below it, the 'Vol. replication' section is visible but empty.

The main configuration area for 'vg00' includes:

- Reserved for snapshots: 6.00
- Reserved for system: 4.00
- Reserved for replication: 0.00
- Free: 224.06

The 'Action:' dropdown is set to 'new NAS volume'. There are checkboxes for 'Use volume replication' and 'WORM', both of which are unchecked. A slider bar shows the current free space (0 to 224.06 GB) with an 'add:' field set to 0.00 GB. A red 'apply' button is located at the bottom right of this section.

The 'Snapshot definition' section contains a table with the following data:

Name	LV	Status
snap00000	lv0000	unused

A red 'apply' button is located below the table. A blue note at the bottom of this section reads: 'Please apply changes or press "reload" button to discard'.

At the bottom left of the interface, there is an 'Event Viewer' icon. The footer contains the text 'Data Storage Software V7 - All rights reserved'.

# Backup to attached Tape Drive



Data Server (DSS)  
IP Address:192.168.0.220

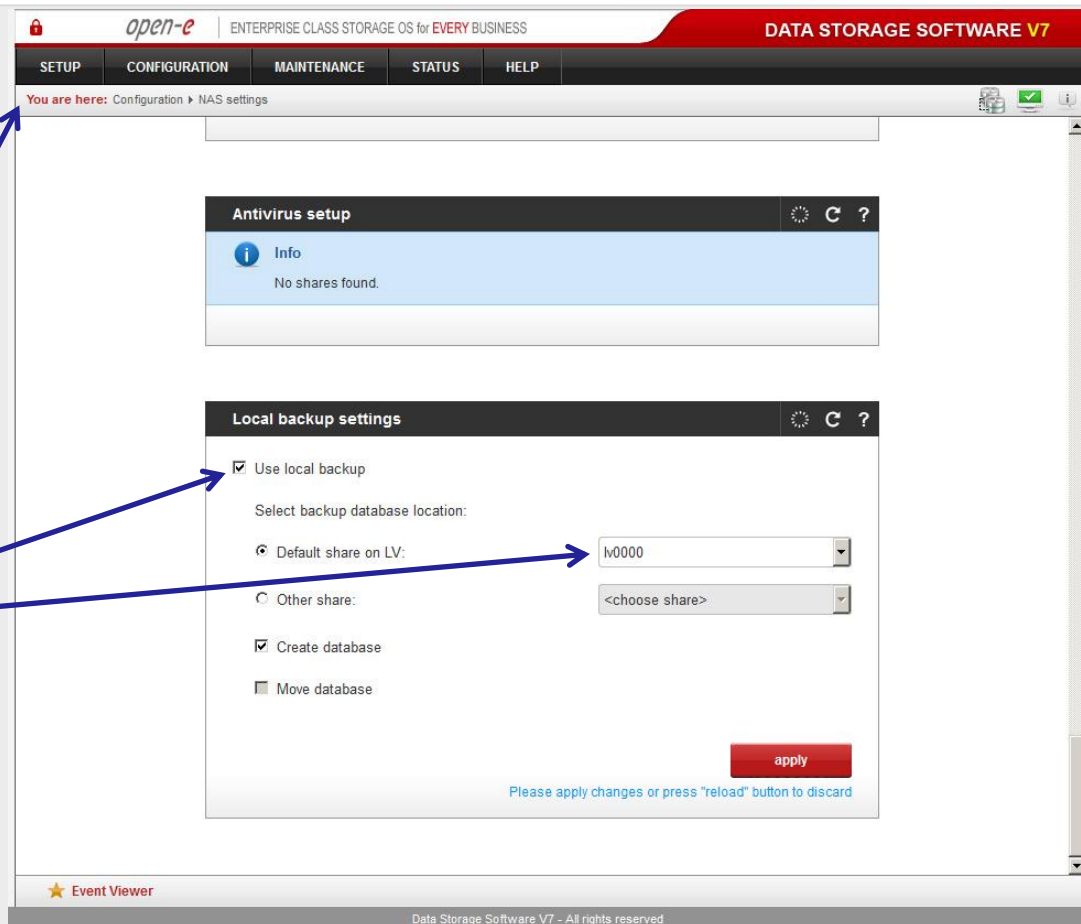
## 3. Configure the Backup to be used with the Tape Drive

Under the "CONFIGURATION" tab, select the "NAS settings" menu.

Check to Use local backup box. Also select, Default share on LV as lv0000, and click the **apply** button.

### NOTE:

In order to increase safety of the backup to the tape drive, it is recommended to place database on another volume (e.g. lv0001).



The screenshot shows the open-e web interface. At the top, there's a navigation bar with 'CONFIGURATION' selected. Below it, the breadcrumb path is 'Configuration > NAS settings'. The main content area shows two panels: 'Antivirus setup' and 'Local backup settings'. The 'Local backup settings' panel is expanded and contains the following options:

- Use local backup
- Select backup database location:
- Default share on LV: lv0000
- Other share: <choose share>
- Create database
- Move database

An 'apply' button is located at the bottom right of the 'Local backup settings' panel. Below the panel, there is a blue text prompt: 'Please apply changes or press "reload" button to discard'. At the bottom of the interface, there is a footer with 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



# Backup to attached Tape Drive



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## 3. ... Continue

Under the "CONFIGURATION", select the "NAS resources" and "Shares".

A tree listing of NAS shared volumes in "Shares" will appear on the left side of the DSS V7 web GUI. In the example, a shared volume named Data is to be created on lv0000.

The screenshot displays the open-e web interface for configuring shares. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'Configuration > NAS resources > Shares'. On the left, a tree view under 'Shares' shows a single entry: '1. backup\_db\_lv0000'. Below this are sections for 'Users' and 'Groups', each with a tree view showing '1. users'. The main content area is titled 'Create new share' and contains a form with the following fields: 'Name' (containing 'Data'), 'Comment' (empty), 'Default path' (a dropdown menu showing '/lv0000/Data'), and 'Specified path' (a text input field containing '/'). A red 'apply' button is located at the bottom right of the form. Below the form is the 'ACL (Access control list)' section, which has tabs for 'Browser', 'Users & Groups', and 'Access Permissions'. The 'Browser' tab is active, showing a tree view with '1. users' and 'lv0000'. At the bottom of the page, there is an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.

# Backup to attached Tape Drive

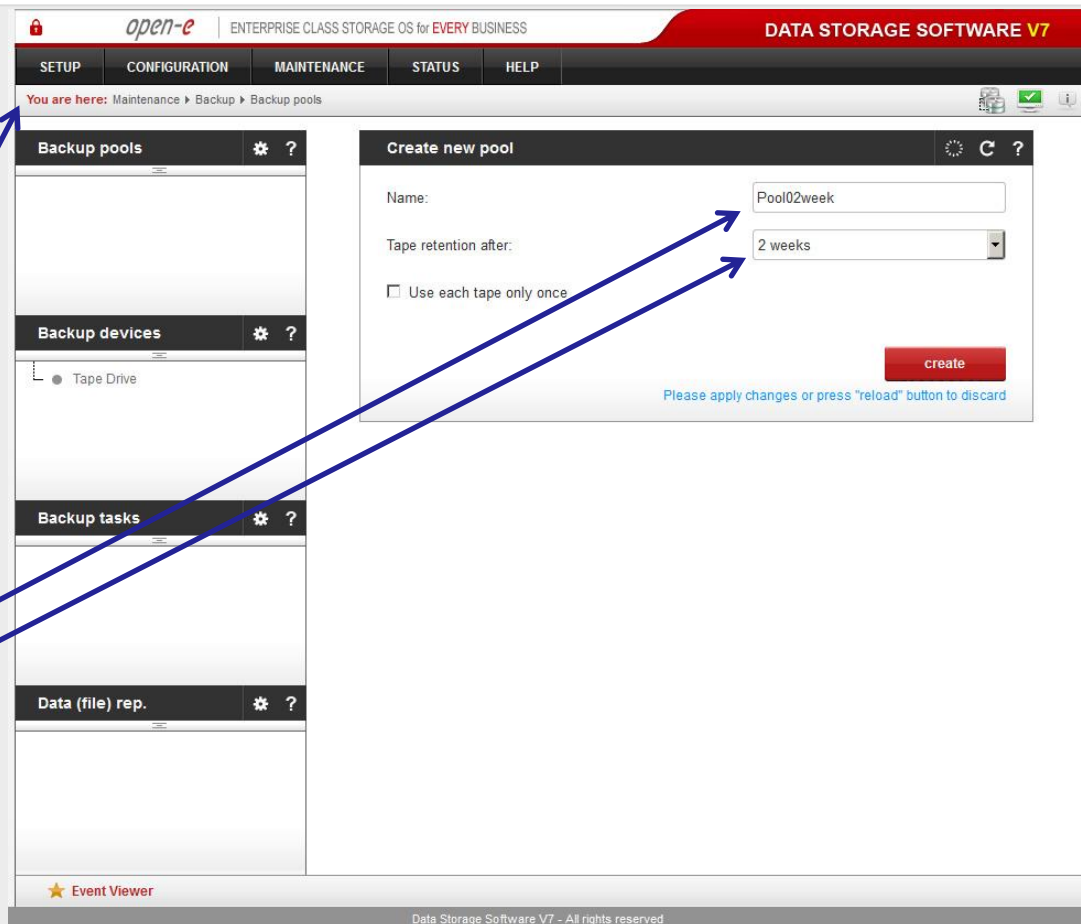


Data Server (DSS)  
IP Address:192.168.0.220

## 3. ... Continue

Under the "MAINTENANCE" tab, select "Backup" and "Backup pools"

In the Create new pool, enter a name for the pool and select Tape retention after. In this example, enter 2 weeks (14 days) and click on the **create** button.



The screenshot shows the open-e web interface. The top navigation bar includes 'open-e', 'ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS', and 'DATA STORAGE SOFTWARE V7'. The main menu has 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail is 'You are here: Maintenance > Backup > Backup pools'. The left sidebar shows 'Backup pools', 'Backup devices', 'Backup tasks', and 'Data (file) rep.'. The 'Backup devices' section shows a 'Tape Drive' icon. The 'Create new pool' dialog is open, with 'Name' set to 'Pool02week' and 'Tape retention after' set to '2 weeks'. There is an unchecked checkbox for 'Use each tape only once' and a red 'create' button. A note at the bottom of the dialog says 'Please apply changes or press "reload" button to discard'. The footer includes '★ Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

# Backup to attached Tape Drive

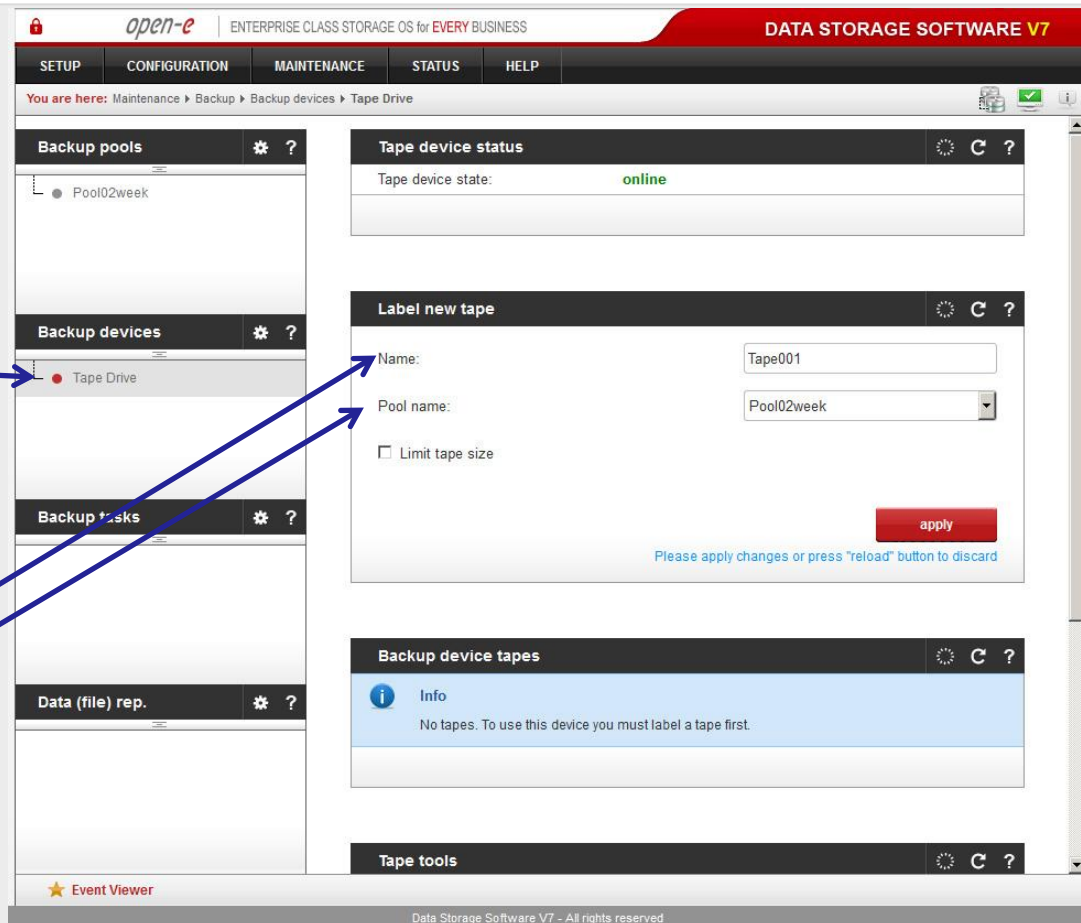


Data Server (DSS)  
IP Address:192.168.0.220

## 3. ... Continue

Next, choose Tape Drive, in the "Backup devices" tree.

In Label new tape, enter a name for the new tape (Tape001), and select the Pool name. In this example choose Pool02week and click the **apply** button.



The screenshot shows the open-e web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail is 'You are here: Maintenance > Backup > Backup devices > Tape Drive'. The left sidebar contains a tree view with sections: 'Backup pools' (containing Pool02week), 'Backup devices' (containing Tape Drive), 'Backup tasks', and 'Data (file) rep.'. The main content area is split into two panels. The right panel shows 'Tape device status' (Tape device state: online) and 'Label new tape' (Name: Tape001, Pool name: Pool02week, Limit tape size: unchecked, apply button). Below this is 'Backup device tapes' (Info: No tapes. To use this device you must label a tape first.) and 'Tape tools'. The bottom status bar shows 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

# Backup to attached Tape Drive

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## 3. ... Continue

After the DSS V7 WEB page has been reloaded, the new Backup device tapes (Tape001) should appear.

The screenshot shows the open-e web interface for 'DATA STORAGE SOFTWARE V7'. The navigation menu includes SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Maintenance > Backup > Backup devices > Tape Drive'. The interface is divided into several sections:

- Backup pools:** Shows 'Pool02week'.
- Backup devices:** Shows 'Tape Drive' with a red dot indicating it is selected.
- Backup tasks:** Empty section.
- Data (file) rep.:** Empty section.
- Tape device status:** Shows 'Tape device state: online'.
- Label new tape:** Form with fields for 'Name', 'Pool name' (set to 'Pool02week'), and a checkbox for 'Limit tape size'. An 'apply' button is at the bottom right.
- Backup device tapes:** A table with the following data:

Name	Pool	Status	Used/size	Action
▼ Tape001	Pool02week	Append	0.00kB/(n/a)	[Refresh] [Delete]
- Tape tools:** Empty section.

An arrow from the blue text box points to the 'Tape001' entry in the 'Backup device tapes' table.


# Backup to attached Tape Drive



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## 3. ... Continue

Next, select "Backup tasks". In the **Create new backup task** function enter a name for the backup tasks and select the **Logical volume**. In this example choose **lv0000**.

Next, you must select the shares for the local backup (**Data**). Move the shares you want to back up from **Available** list to **Assigned** list by clicking  button.

# Backup to attached Tape Drive

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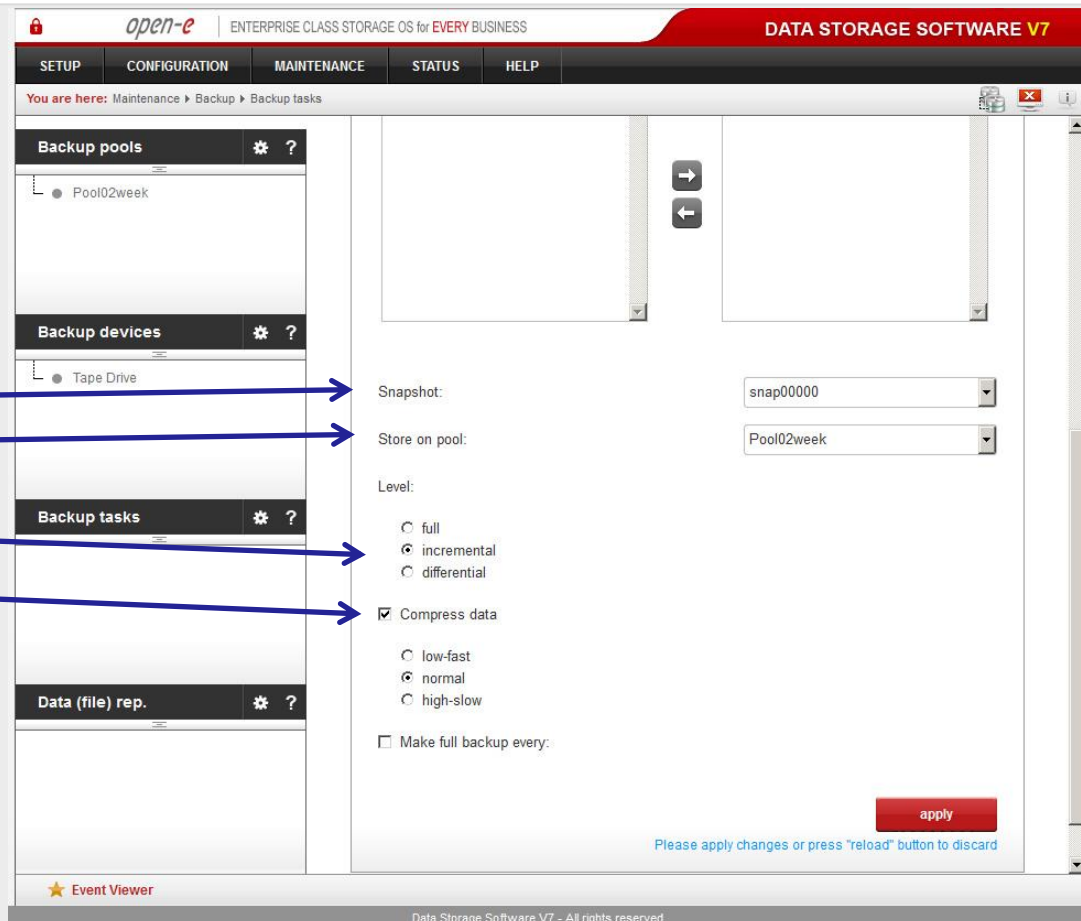
Data Server (DSS)  
IP Address:192.168.0.220

## 3. ... Continue

In the **Create new backup task** function, choose **Snapshot** and select **Store on pool**. In this example, **snap0000** and **Pool02week**. Next, select the backup **Level** (e.g. **incremental**) check box, **Compress data** (e.g. **normal**), and click the **apply** button.

### NOTE:

Most of the tape devices have internal compression for the data. If your tape device has internal compression, you can skip this option "Compress data".



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SETUP CONFIGURATION MAINTENANCE STATUS HELP

You are here: Maintenance > Backup > Backup tasks

Backup pools

- Pool02week

Backup devices

- Tape Drive

Backup tasks

Snapshot: snap00000

Store on pool: Pool02week

Level:

- full
- incremental
- differential

Compress data

- low-fast
- normal
- high-slow

Make full backup every:

apply

Please apply changes or press "reload" button to discard

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# Backup to attached Tape Drive

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## 3. ... Continue

After the DSS V7 WEB page has been reloaded, the new Backup tasks should appear. Next, click **BackupTask001**, in the "Backup tasks" tree.

In the Create new schedule for backup task function, enter a **Comment** for the new schedule and **Select time**. In this example choose **Weekly** and check the box for all of days of the week. Select time for the start task (8 pm). Next, click the **apply** button.

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SETUP CONFIGURATION MAINTENANCE STATUS HELP

You are here: Maintenance > Backup > Backup tasks > BackupTask001

Backup pools

- Pool02week

Backup devices

- Tape Drive

Backup tasks

- BackupTask001

Data (file) rep.

LV: lv0000

Snapshot: snap00000

Level: incremental

Compression: normal

Full backup every: off

Create new schedule for backup task

Comment: EveryDayAt8PM

Select time: Weekly

Monday  Saturday

Tuesday  Sunday

Wednesday

Thursday

Friday

Start 20 : 00

Every week

Every even week

Every odd week

apply

Please apply changes or press "reload" button to discard

★ Event Viewer


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# Backup to attached Tape Drive






Data Server (DSS)  
IP Address:192.168.0.220

## 3. ... Continue

After clicking  button in the Backup tasks function you can see status of the backup tasks.

The screenshot shows the open-e web interface with the following components:

- Header:** open-e logo, "ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS", and "DATA STORAGE SOFTWARE V7".
- Navigation:** SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP.
- Breadcrumbs:** You are here: Maintenance > Backup > Backup tasks.
- Backup pools:** Pool02week.
- Backup devices:** Tape Drive.
- Backup tasks:** BackupTask001.
- Data (file) rep.:** (Empty)
- Backup tasks table:**

Name	Start time	Action
BackupTask001	n/a	  
- last log:** No logs found.
- short description:**
  - shares: Data
  - pool: Pool02week
  - level: incremental
- Create new backup task form:**
  - Name:
  - Logical volume: lv0000
  - Shares for backup: (empty)
  - Available shares: Data, backup\_db\_lv0000
  - Assigned shares: (empty)
- Footer:** Event Viewer, Data Storage Software V7 - All rights reserved.



# Backup to attached Tape Drive



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## 3. ... Continue

The Backup tasks function shows the backup task running at 8 pm.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Maintenance > Backup > Backup tasks

### Backup pools

- Pool02week

### Backup devices

- Tape Drive

### Backup tasks

- BackupTask001

### Data (file) rep.

Name	Start time	Action
BackupTask001	2016-02-18 20:00:04	start

last log  
2016-02-18 20:00:26

short description

shares: Data

pool: Pool02week

level: incremental

### Create new backup task

Name:

Logical volume:

Shares for backup:

Available shares:  Assigned shares:

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# Backup to attached Tape Drive



Data Server (DSS)  
IP Address:192.168.0.220

## 3. ... Continue

Under the "STATUS" tab, select "Tasks" and Backup.

Runnings tasks tab displays information for currently running tasks, in this case shows BackupTask001.

The screenshot shows the open-e web interface. At the top, there is a navigation bar with tabs: SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. Below this, a breadcrumb trail reads "You are here: Status > Tasks".

The main content area is divided into two sections:

- Tasks:** A list of tasks with a tree view. The "Backup" task is selected and highlighted in red. Other tasks listed include "Restore from backup", "Data (File) Replication", "Antivirus", "Volume Replication", and "Snapshots".
- Running tasks:** A table showing the details of the currently running task.

Name	Type	Start time
BackupTask001	Backup	2016-02-18 20:00:04

Below the running tasks table is the "Tasks log" section, which shows a table of task execution history:

Time	Name	Type	Status	Action
2016-02-18 20:00:26	BackupTask001	Backup	OK	Started

At the bottom of the interface, there is an "Event Viewer" section with a star icon and the text "Data Storage Software V7 - All rights reserved".

# Backup to attached Tape Drive



Data Server (DSS)  
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## 3. ... Continue

After the end of the Backup all data from Data share are located in Tape001. Showing us that 2.68 GB of 60GB has been backed up.

The configuration of Backup is now complete.

The screenshot shows the open-e web interface for configuring a backup to a tape drive. The breadcrumb trail is: Maintenance > Backup > Backup devices > Tape Drive. The interface is divided into several sections:

- Backup pools:** Shows a single pool named 'Pool02week'.
- Backup devices:** Shows a single device named 'Tape Drive'.
- Backup tasks:** Shows a single task named 'BackupTask001'.
- Data (file) rep.:** This section is currently empty.
- Pool configuration (right side):** Shows 'Pool name' set to 'Pool02week' and an unchecked 'Limit tape size' option. An 'apply' button is visible.
- Backup device tapes (table):** A table showing the status of the tape drive.

Name	Pool	Status	Used/size	Action
Tape001	Pool02week	Append	2.68GB/(n/a)	[Refresh] [Delete]
first written:				2016-02-18 20:00:29
last written:				2016-02-18 20:05:21
tape retention:				2 weeks

At the bottom of the interface, there is an 'Event Viewer' section and a footer with the text 'Data Storage Software V7 - All rights reserved'.

# Backup to attached Tape Drive



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Data Server (DSS)  
IP Address:192.168.0.220

## 4. Create a Restore from the Backup

Under the "CONFIGURATION" tab, select the "NAS resources" menu and "Shares".

In order to execute the Restore, you must create new share. In the example, a shared volume named **Restore from Backup** is to be created on **lv0000**.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > NAS resources > Shares

Shares

- 1. backup\_db\_lv0000
- 2. Data

Users

- 1. john

Groups

- 1. users

Create new share

Name: Restore from Backup

Comment:

Default path: lv0000/Restore from Backup

Specified path: /

apply

Please apply changes or press "reload" button to discard

ACL (Access control list)

Browser | Users & Groups | Access Permissions

Selection:

Filter:

- lv0000

★ Event Viewer

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# Backup to attached Tape Drive



Data Server (DSS)  
IP Address:192.168.0.220

## 4. ... Continue

Under the "MAINTENANCE" tab, select the "Restore" menu.

In the Restore backup task function, check the box **BackupTask001**. Enter a name for the Restore tasks name (e.g. **RestoreTask001**), and select the destination share in the Restore to field. In this example, choose **Restore from Backup** share. Next, click on the **apply** button, and confirm this action by clicking the **yes** button again.

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SETUP CONFIGURATION MAINTENANCE STATUS HELP

You are here: Maintenance > Restore

### Restore backup task

Backup tasks search

Task

Device

File name contain

From date  Day  Month  Year

To date  Day  Month  Year

Name	Date	Device
<input checked="" type="checkbox"/> BackupTask001	2016-02-18 20:00:29	Tape

Restore task name:

Restore to:

Overwrite files

always  
 if newer  
 if older  
 never

run immediately after creation

★ Event Viewer

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# Backup to attached Tape Drive



Data Server (DSS)  
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## 4. ... Continue

After the end of the Restore Backup in Backup Restore tasks, you will start the task again.

After clicking  button on the Backup Restore task, detailed information regarding current restore task will be presented.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Maintenance > Restore

### Restore tasks

- RestoreTask001

### Backup Restore tasks

Name	Start time	Action
RestoreTask001	2016-02-18 20:23:27	  

**last log**  
2016-02-18 20:23:30 start

**short description**  
device: Tape  
destination share: Restore from Backup  
backup tasks: BackupTask001 (2016-02-18 20:00:29)

### Restore backup task

**Info**  
Backup restore in progress. Please wait for backup restore process to finish.

★ Event Viewer

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# Backup to attached Tape Drive



Data Server (DSS)  
IP Address:192.168.0.220

## 4. ... Continue

Next, click on the RestoreTask001 name.

In the Restore task, to display detailed information on the current restore task.

The screenshot shows the open-e web interface. At the top, there is a navigation bar with tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. Below this is a breadcrumb trail: "You are here: Maintenance > Restore > RestoreTask001". The main content area is divided into two panels. The left panel, titled "Restore tasks", contains a list with one item: "RestoreTask001". The right panel, titled "Restore task", displays a table of attributes and values for the selected task. Below the table is a "Remove restore task" section with a red "remove" button. At the bottom of the interface, there is an "Event Viewer" section and a footer with the text "Data Storage Software V7 - All rights reserved".

Attribute	Value
Backups:	RestoreTask001
Destination shares:	Restore from Backup
Device:	Tape
Overwrite files:	always

# Backup to attached Tape Drive



Data Server (DSS)  
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## 4. ... Continue

Under the "STATUS" tab, select the "Tasks" menu. Next, in the "Tasks" tree on the left select Restore from backup.

Running tasks tab displays information for currently running tasks, in this case about RestoreTask001.

The screenshot shows the open-e web interface. At the top, there is a navigation bar with tabs: SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. Below this is a breadcrumb trail: "You are here: Status > Tasks > Restore from backup".

The main content area is divided into two panels. The left panel, titled "Tasks", contains a tree view with the following items: Backup, Restore from backup (highlighted), Data (File) Replication, Antivirus, Volume Replication, and Snapshots. The right panel, titled "Running tasks", contains a table with the following data:

Name	Type	Start time
RestoreTask001	Restore from backup	2016-02-18 20:23:27

Below the "Running tasks" table is a "Tasks log" table with the following data:

Time	Name	Type	Status	Action
2016-02-18 20:23:30	RestoreTask001	Restore from backup	OK	Started

At the bottom of the interface, there is an "Event Viewer" section and a footer with the text "Data Storage Software V7 - All rights reserved".



# Backup to attached Tape Drive



Data Server (DSS)  
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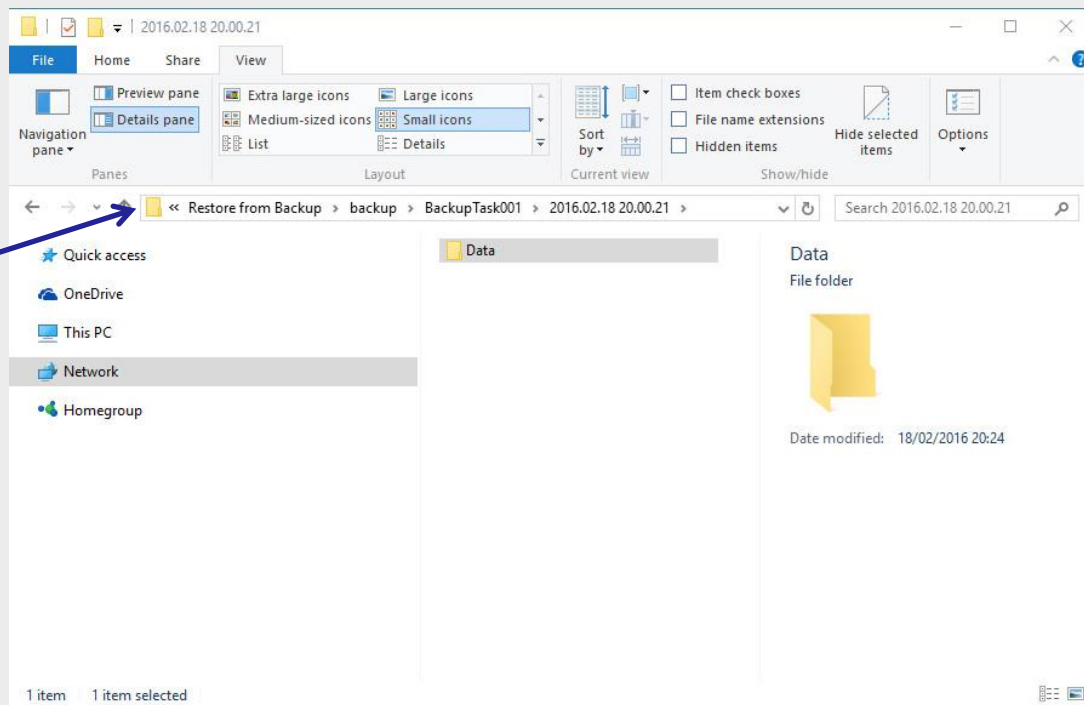
## 4. ... Continue

After the end of the Restore from Backup all data from the Data share are available on the Restore from Backup share.

### NOTE:

In case you restore data from more than one backup you need to merge data from all backup folders (starting from the oldest one) to a single data set.

The configuration of the Restore from Backup is now complete.



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