Setting up data redundancy on DSS™ with Asynchronous Data Replication and local Backup

DSS ver. 5.00 up49 November 19, 2008

February 2009

Local Data Redundancy with DSS

SAMPLE CONFIGURATION

Local Data Redundancy as described in this document does not fulfill professional backup requirements, but is strongly recommended if you are using no backup at all. Experience shows that most data loss incidents can be protected with this simple and inexpensive solution. Local Data Redundancy as explained within this document requires a single NAS device with two RAID Arrays within the system.

Local Data Redundancy uses two of the features built into the Open-E DSS:

- Local Backup with Restore
- Data Replication

An example configuration:

- First Array RAID is for live data on **volume group DATA** (vg00)
- Second Array RAID is for backup and replications as **volume group BACKUP** (vg01)

Setup Backup and Data Replication:

- ✓ Backup schedule is set every day with a 6 week retention time for “DATA” share
- ✓ Schedule Data Replication is set for an hourly interval for “DATA” share

Local Data Redundancy with DSS

Local Data Redundancy

- **Recommended Resources**
  - Hardware
    - ✓ x86 compatible
    - ✓ RAID Controller 1
    - ✓ RAID Controller 2
    - ✓ HDD‘s
    - ✓ Network Interface Cards
  - Software
    - ✓ Single Open-E DSS (recommended) or Open-E NAS-R3
- **Benefits**
  - Low cost solution
  - Ensures local data availability
- **Disadvantages**
  - In case of total disaster, such as fire or flood, data and the backup could be lost

Local Data Redundancy with DSS

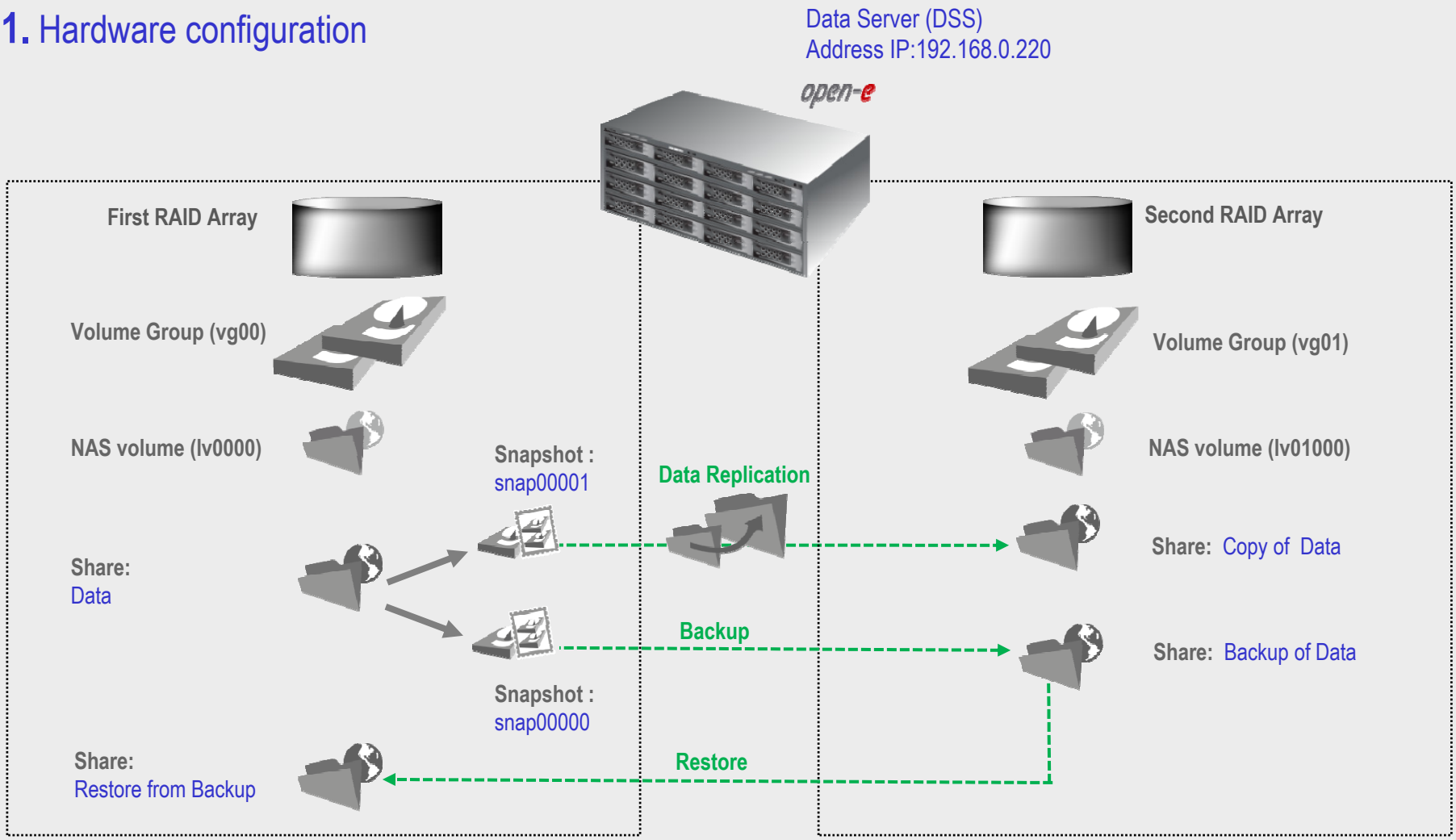
open-e

To Set up Local Data Redundancy, Perform the Following Steps:

1. Configure Hardware
2. Configure the Local Backup
3. Create the Restore from Backup
4. Configure the Data Replication

Local Data Redundancy with DSS

1. Hardware configuration



Local Data Redundancy with DSS

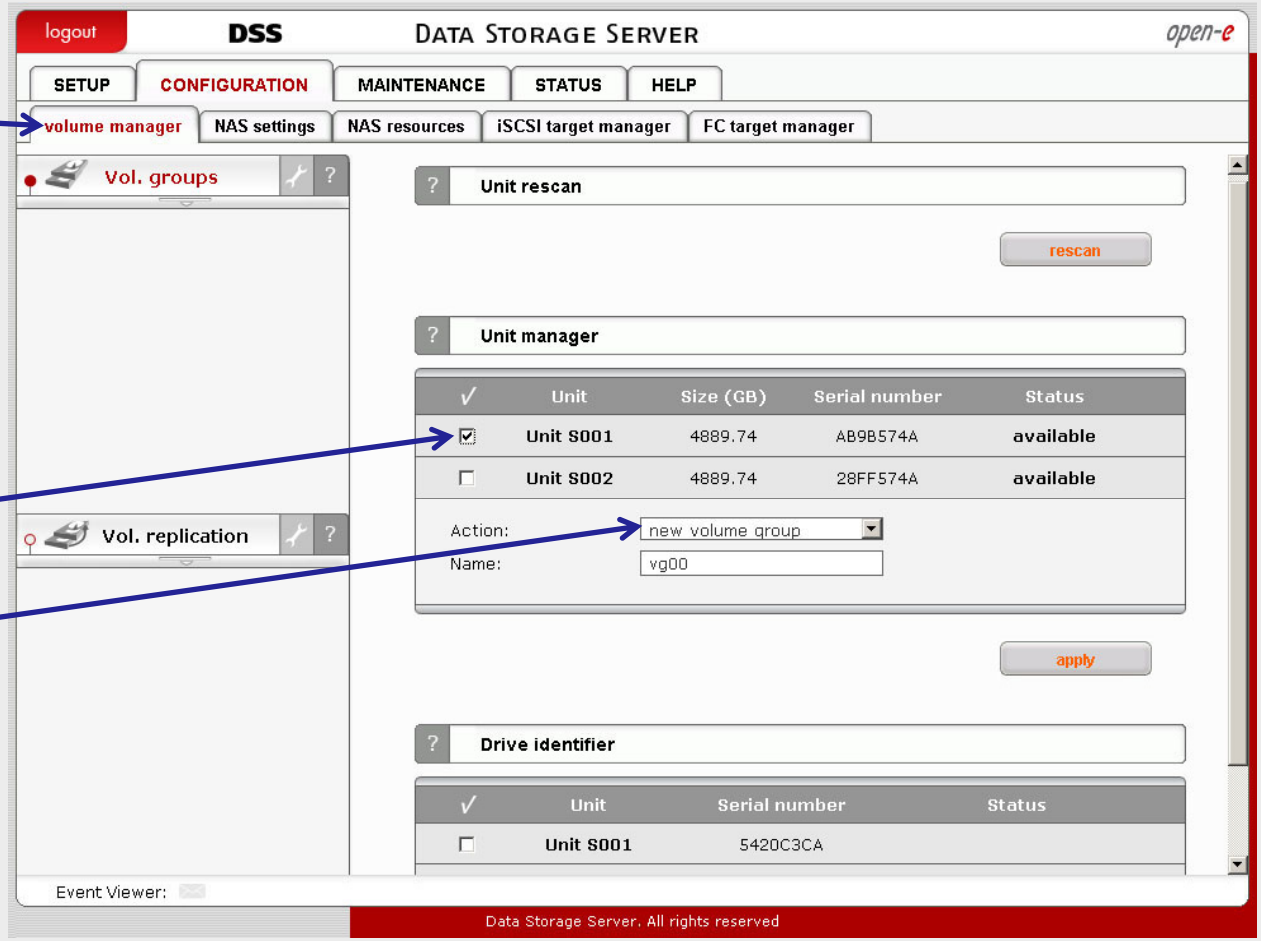
First RAID Array

2. Configure the Local Backup

Under the "**CONFIGURATION**" tab select "**volume manager**"

Volume Groups (vg00)

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



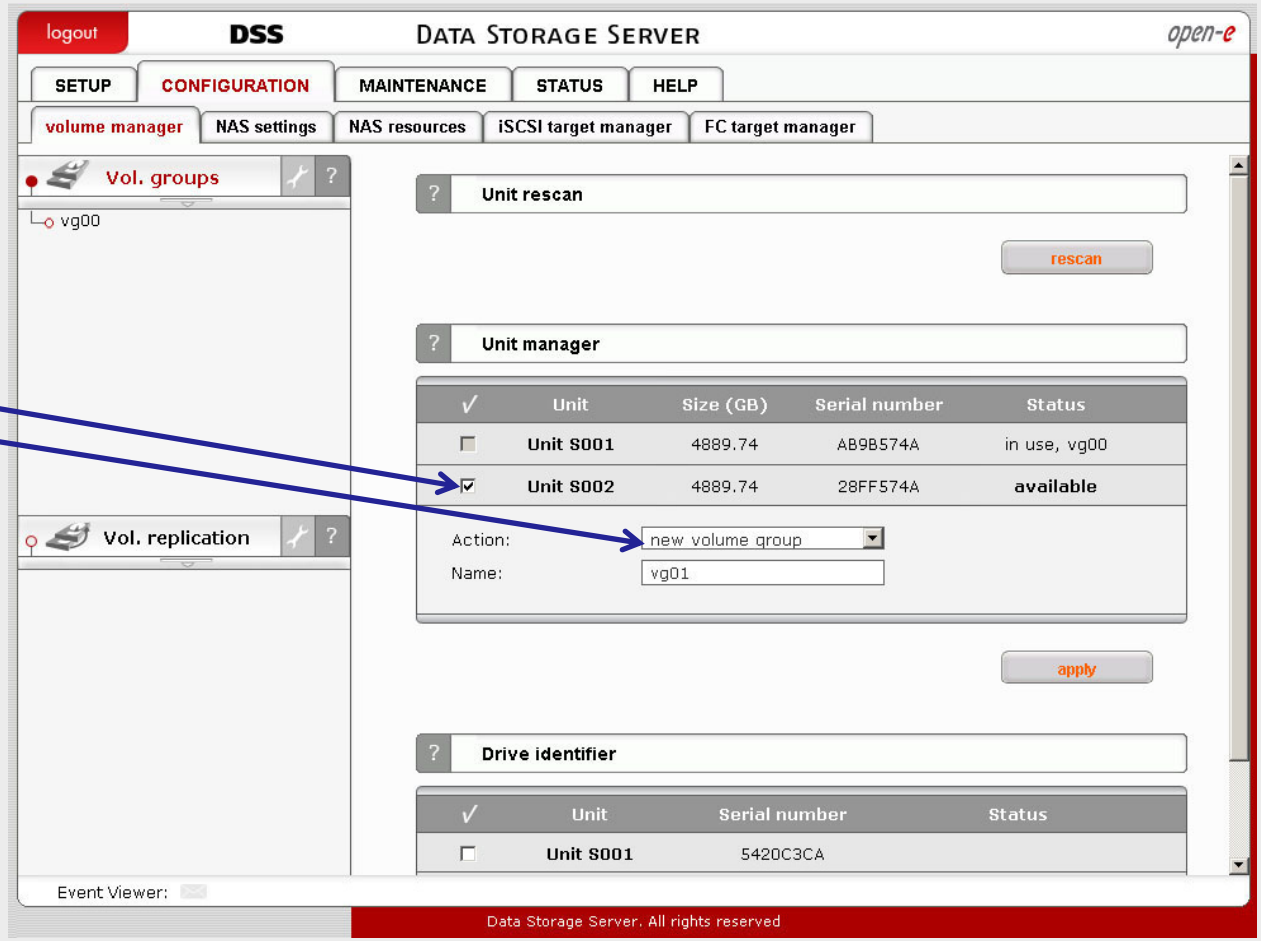
Local Data Redundancy with DSS

Second RAID Array

2. … Continue

Add the selected physical units (**Unit S001**) to create a **new volume group** (in this case, **vg01**) and click the **apply** button

Volume Groups (vg01)



Local Data Redundancy with DSS

First RAID Array

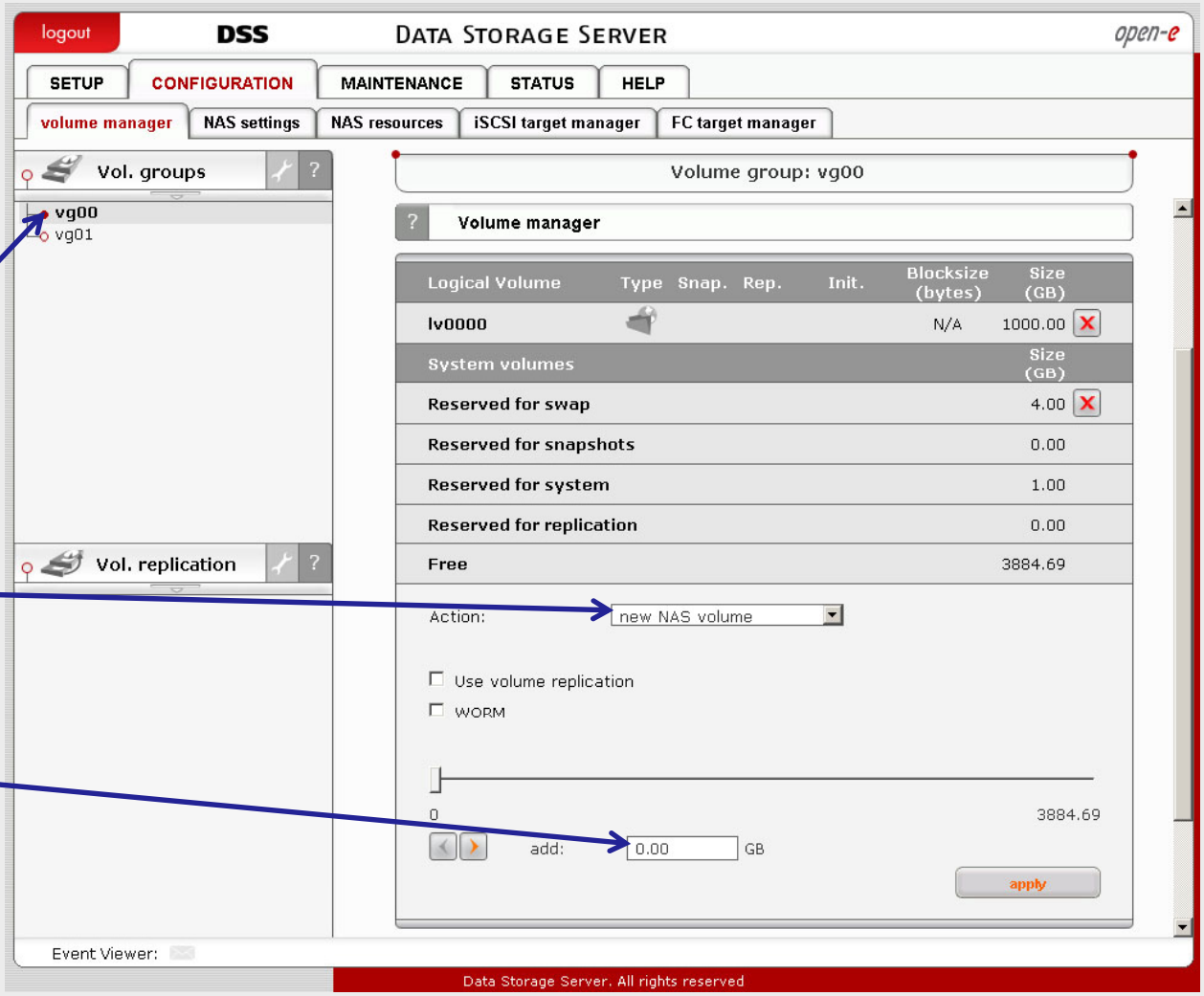
2. … Continue

Volume Groups (vg00)

NAS volume (lv0000)

Select the appropriate **volume group (vg00)** from the list on the left and create a **new NAS volume** of the required size. This logical volume **lv0000** will be the source of the local backup and replication processes

After assigning an appropriate amount of space for the NAS volume, click the **apply** button



Local Data Redundancy with DSS

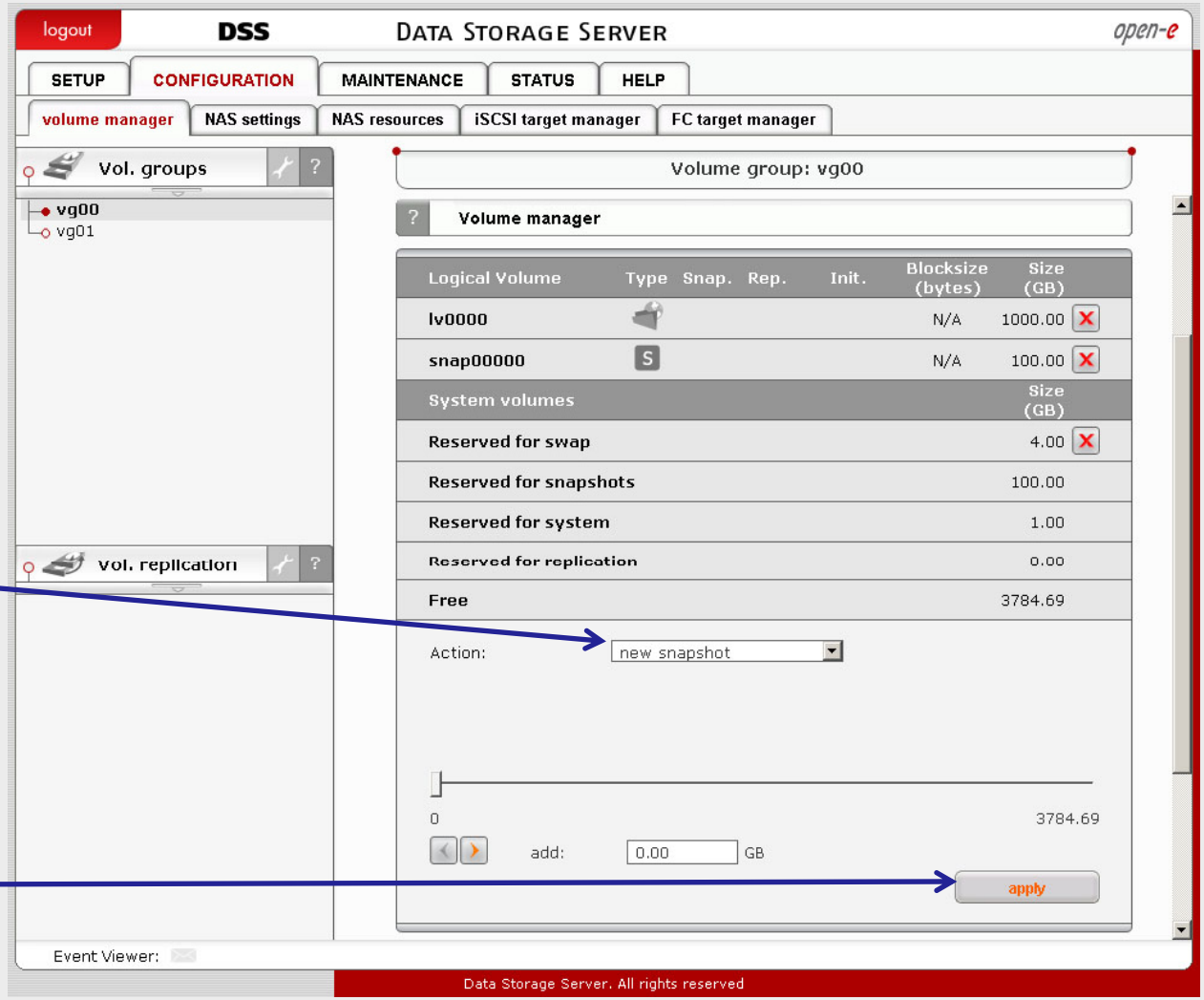
First RAID Array

Snapshot 

2. … Continue

To run the local backup process, you must first define a **new snapshot** in the **Volume manager** function of the volume to be backed up

After assigning an appropriate amount of space for the **snapshot,** click the **apply** button



Local Data Redundancy with DSS

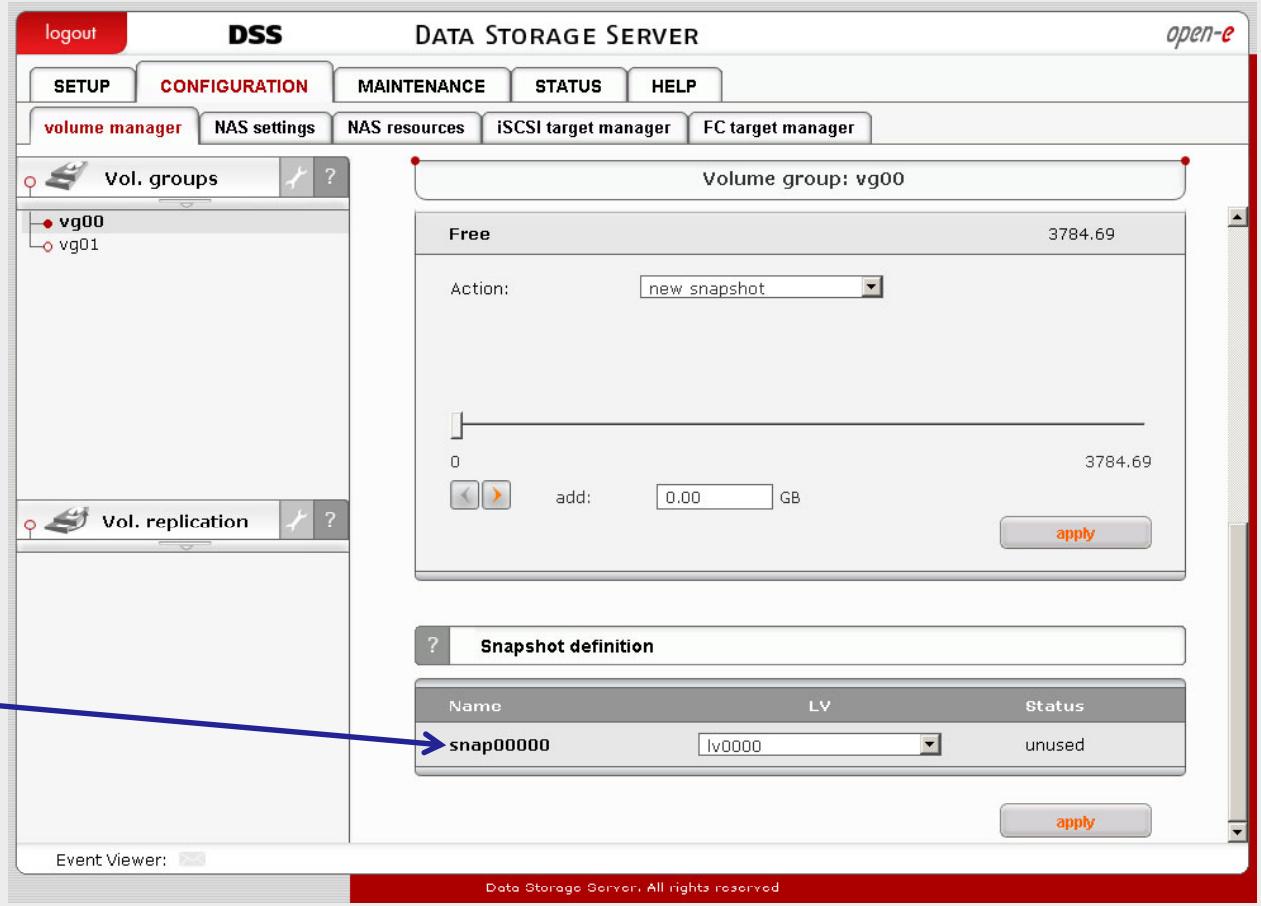
First RAID Array

2. … Continue

NAS volume
(lv0000)

Snapshot

Assign **snap00000** to the logical volume to be replicated (in this example, **lv0000**) and click the **apply** button



Local Data Redundancy with DSS

Second RAID Array

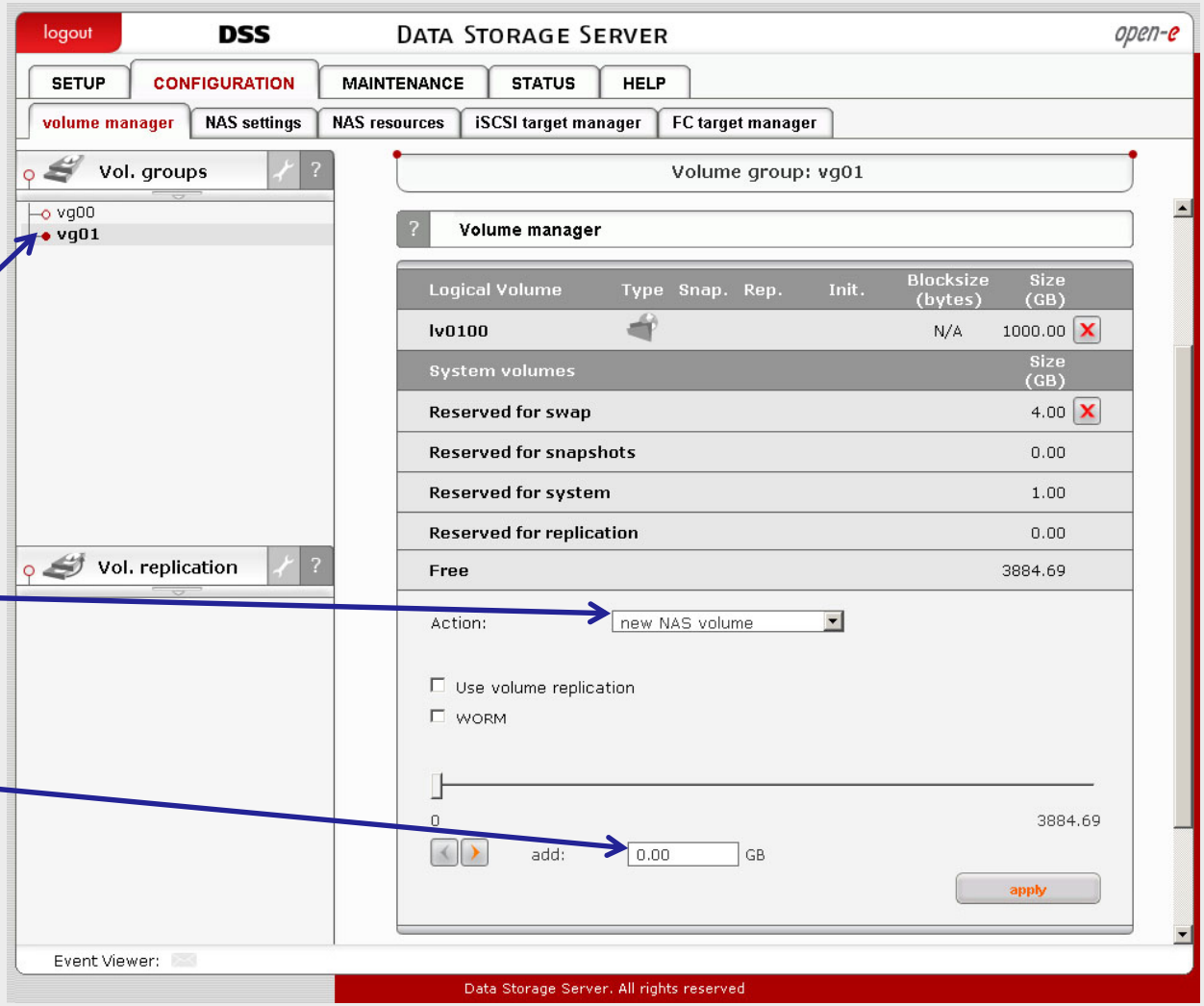
2. … Continue

Volume Groups (vg01)

NAS volume (lv0100)

Select the appropriate **volume group (vg01** from the list on the left and create a **new NAS volume** of the required size. This logical volume **lv0100** will be the destination of the local backup and replication processes

After assigning an appropriate amount of space for the NAS volume, click the **apply** button



Local Data Redundancy with DSS

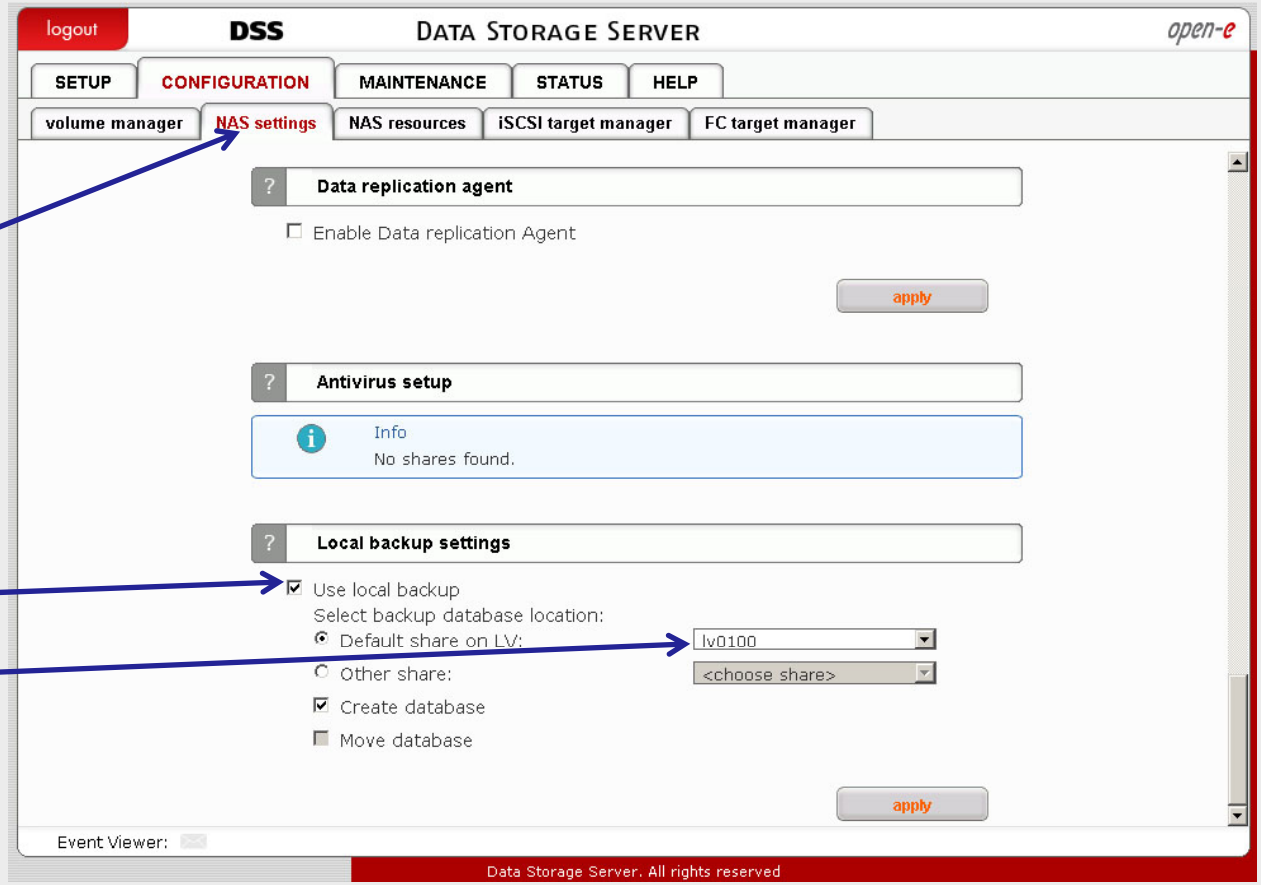
First RAID Array

2. … Continue

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

Local Backup

Check the **Use local backup** box. Also select, **Default share on LV** as **lv0100,** and click the **apply** button



Local Data Redundancy with DSS

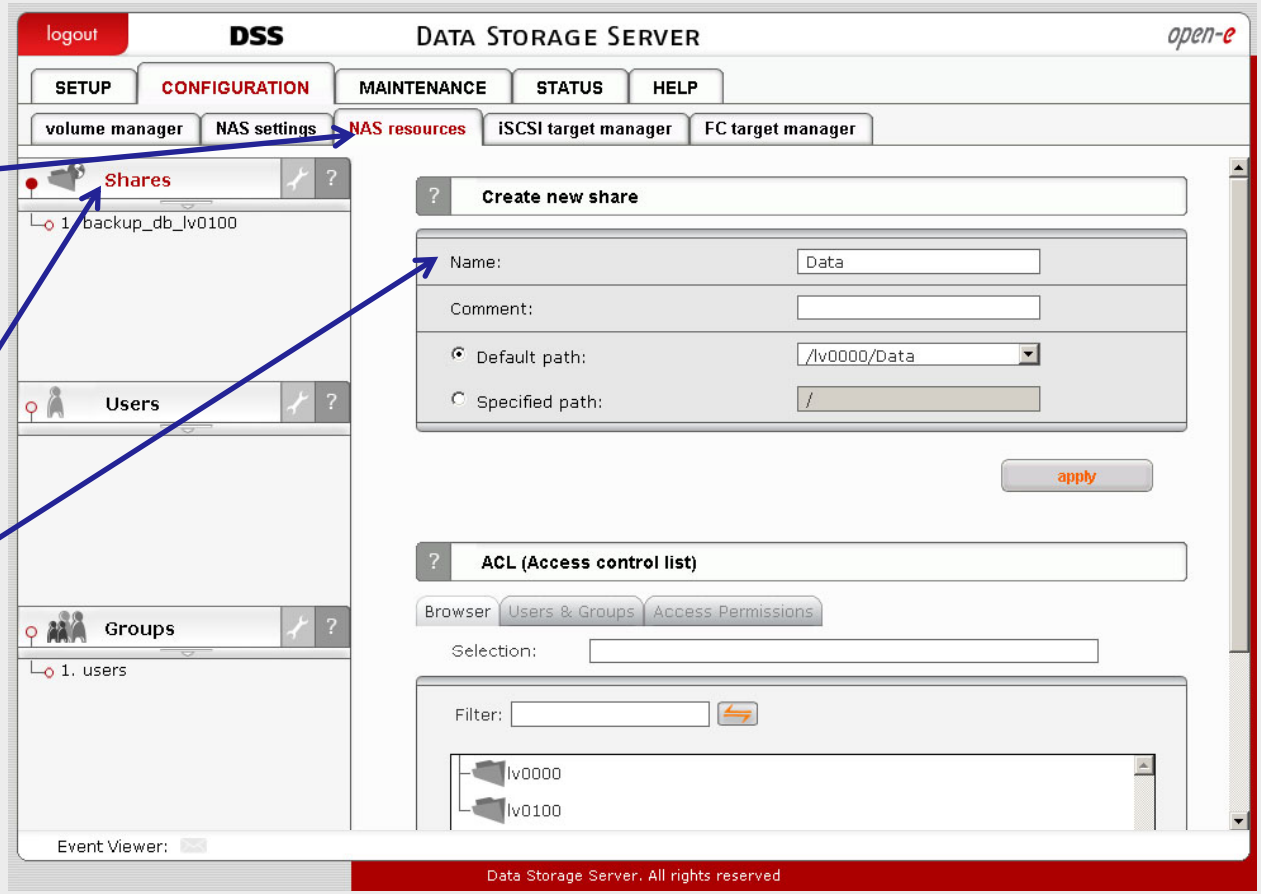
First RAID Array

2. … Continue

Under the "**CONFIGURATION**" tab, select the "**NAS resources**" menu

Shares: Data

A tree listing of NAS shared volumes (**Shares**) will appear on the left side of the DSS console. In the example, a shared volume named **Data** has been created on **lv0000**.



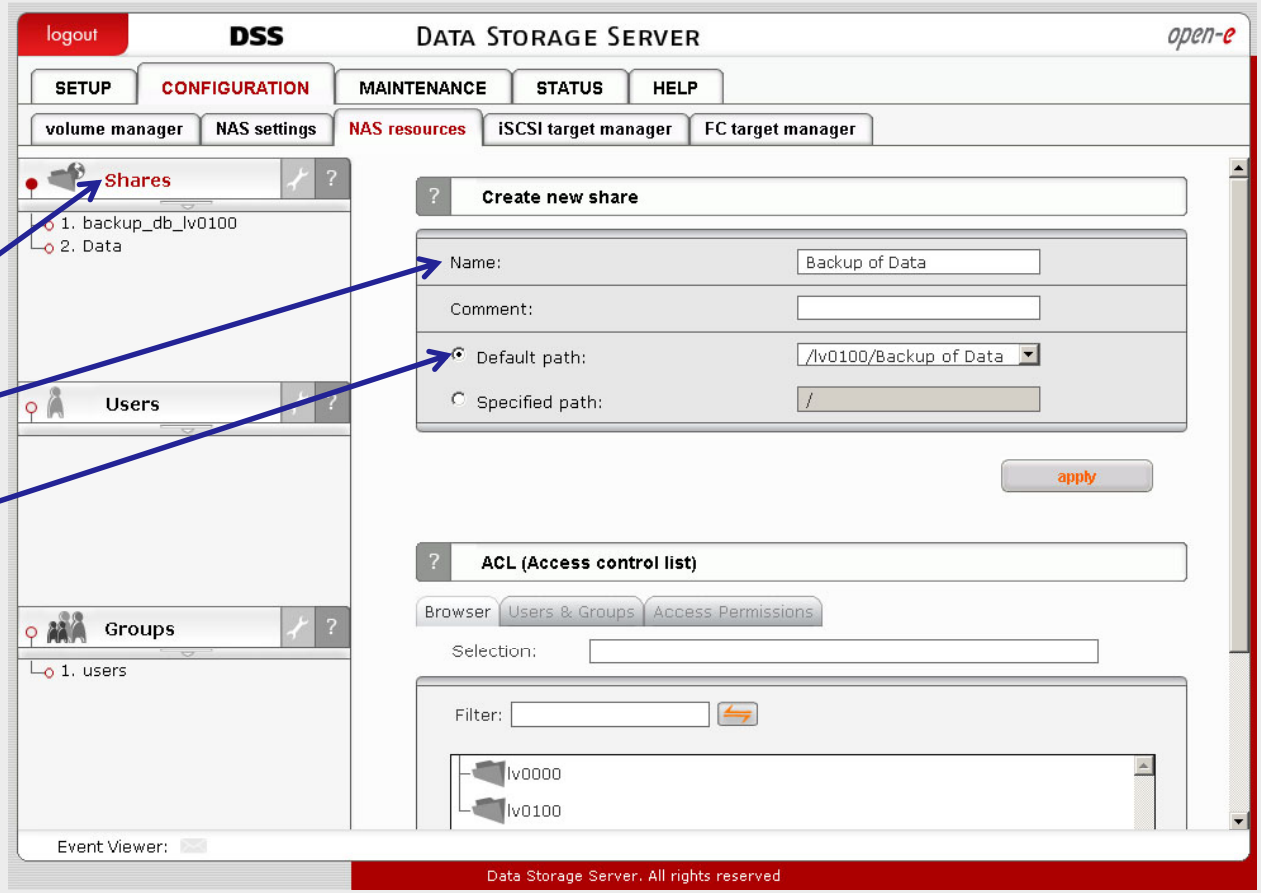
Local Data Redundancy with DSS

Second RAID Array

2. … Continue

Shares: Backup of Data

After creation of **Data** share, you must create a share for the local backup. In the example, a shared volume named **Backup of Data**, has been created on **lv0100.**



Local Data Redundancy with DSS

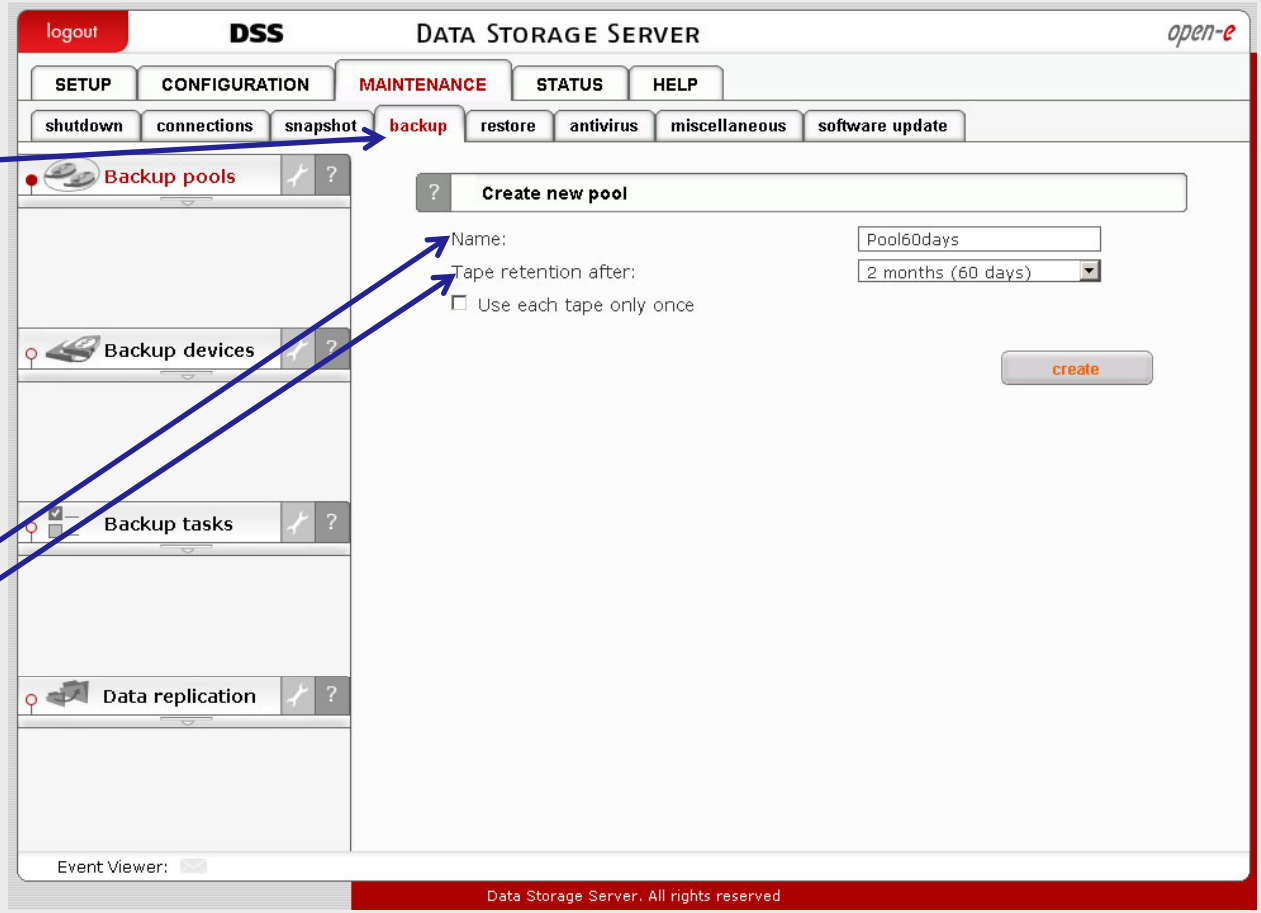
Second RAID Array

2. … Continue

Under the "**MAINTENANCE**" tab, select "**backup**" menu

Backup pools: Pool60days 

In the "**Create new pool**" function, enter a name for the pool and select **Tape retention after.** In this example, enter 2 months (60 days) and click on the **create** button



Local Data Redundancy with DSS

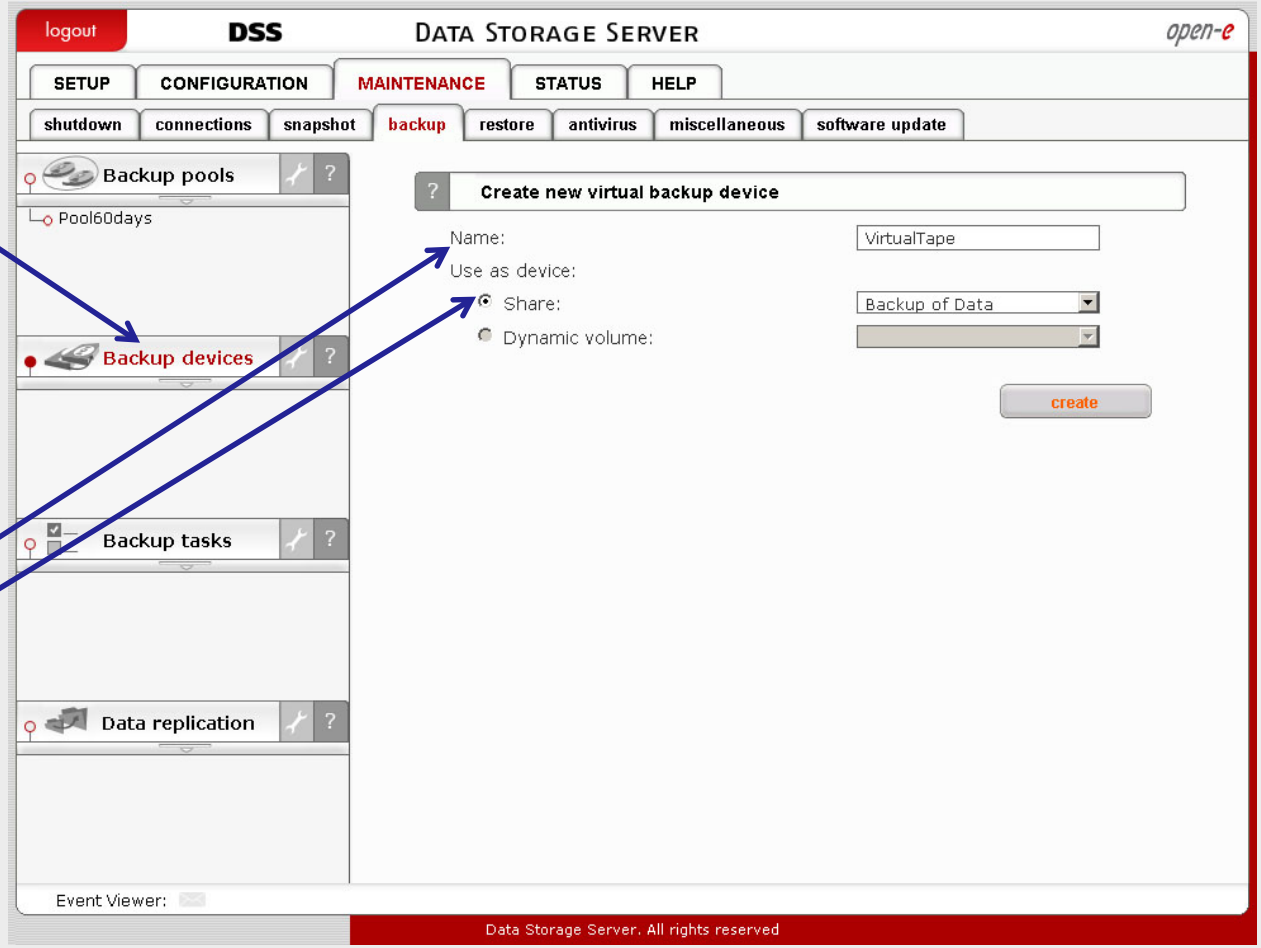
Second RAID Array

2. … Continue

Next, choose **Backup devices**

Backup devices: Virtual Tape

In "**Create new virtual backup device**" function, enter a name for the virtual backup device, and select **Share.** In this example choose **Backup of Data** and click the **create** button



Local Data Redundancy with DSS

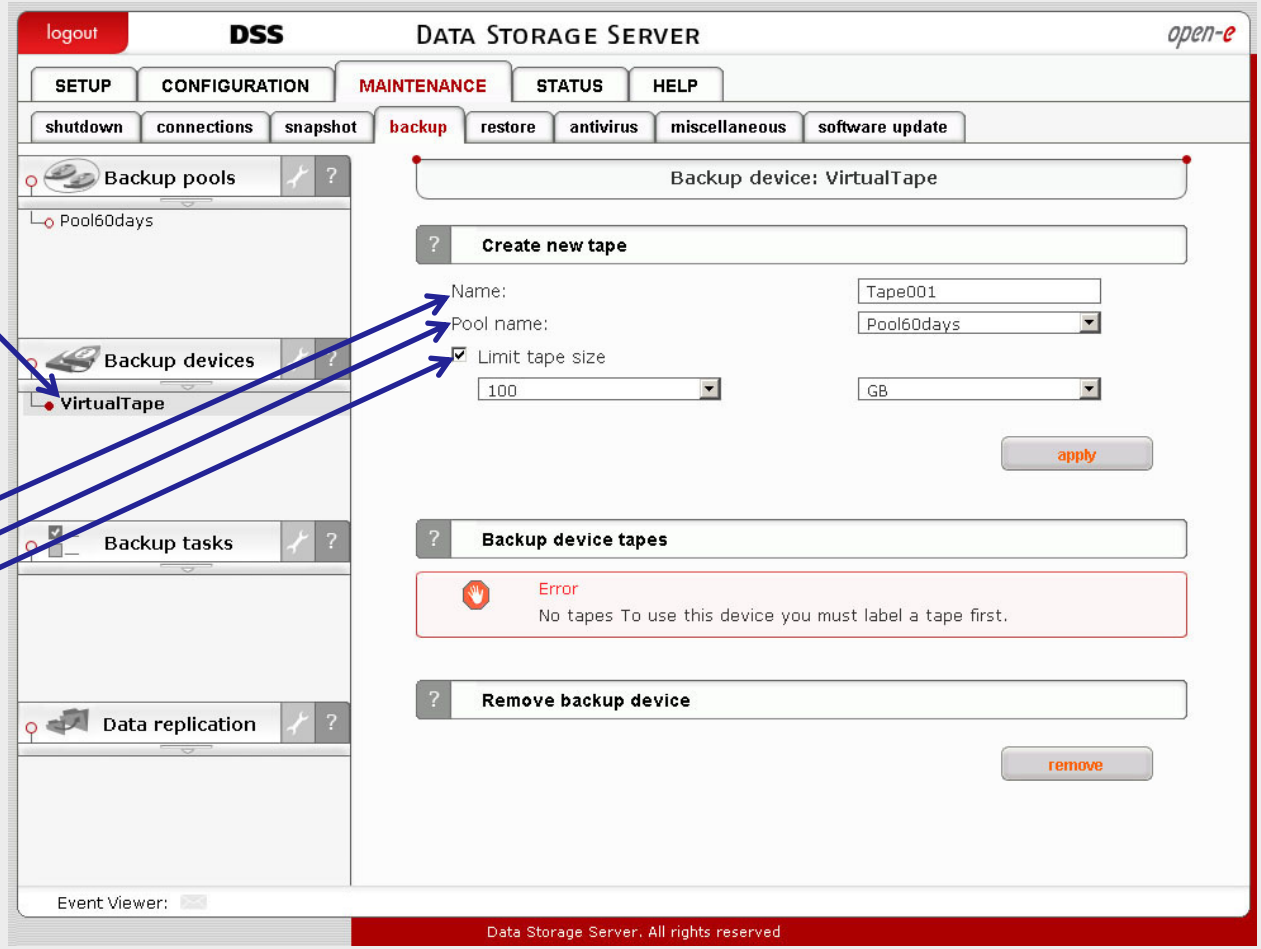
Second RAID Array

2. … Continue

After the DSS WEB page has been reloaded, the new Backup device should appear. Next, click **VirtualTape**, in the **Backup devices** tree

Backup devices: Tape001

In "**Create new tape**" function enter a name for the new tape (**Tape001**) and select the **Pool name.** In this example, choose **Pool60days.** Next, check the box, **Limit tape size** and choose the appropriate capacity for the new tape. Click the **apply** button. In this example, 4 tapes will be created



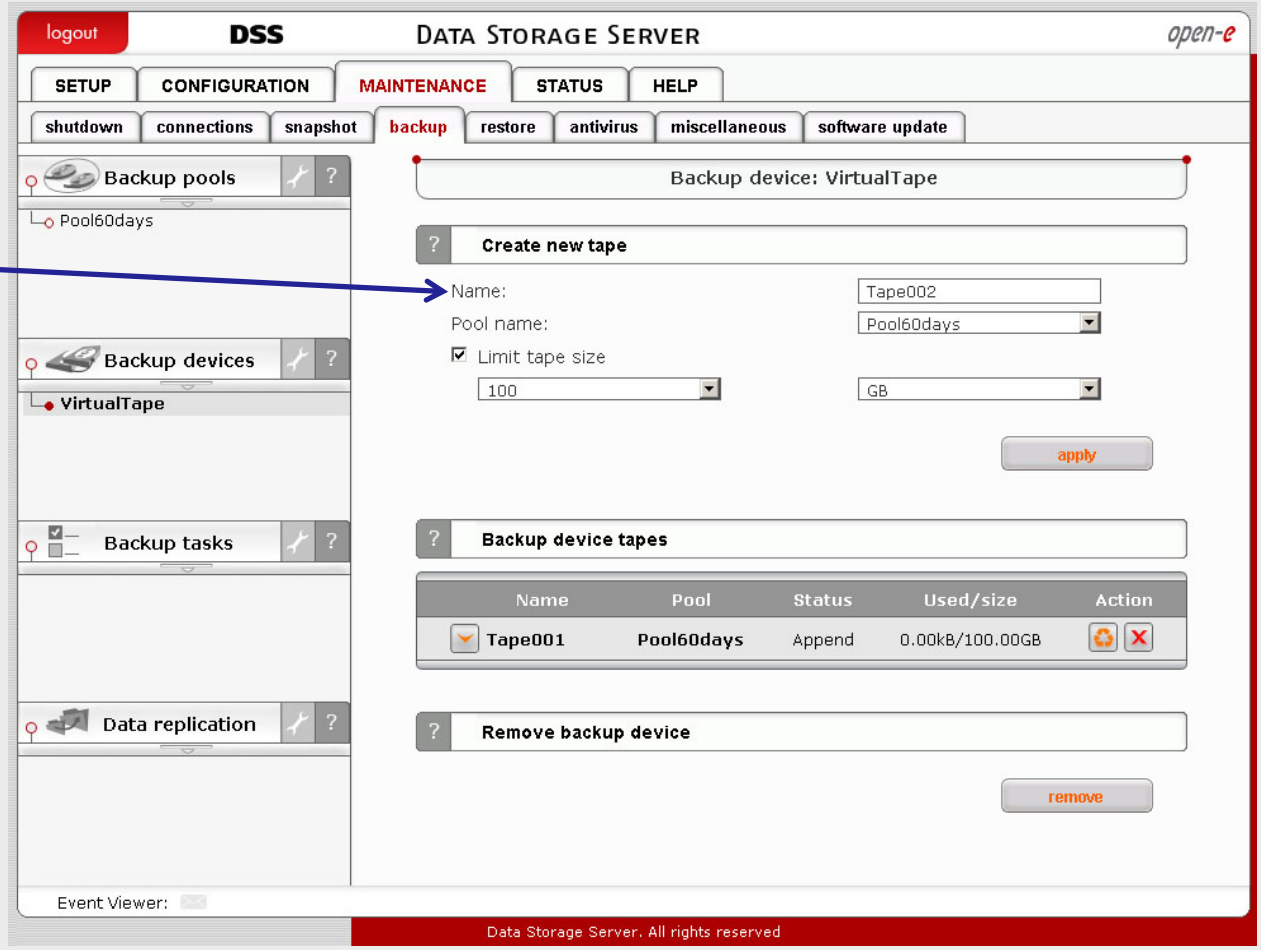
Local Data Redundancy with DSS

Second RAID Array

2. … Continue

Now create the next 3 tapes accordingly

Backup devices: Tape002



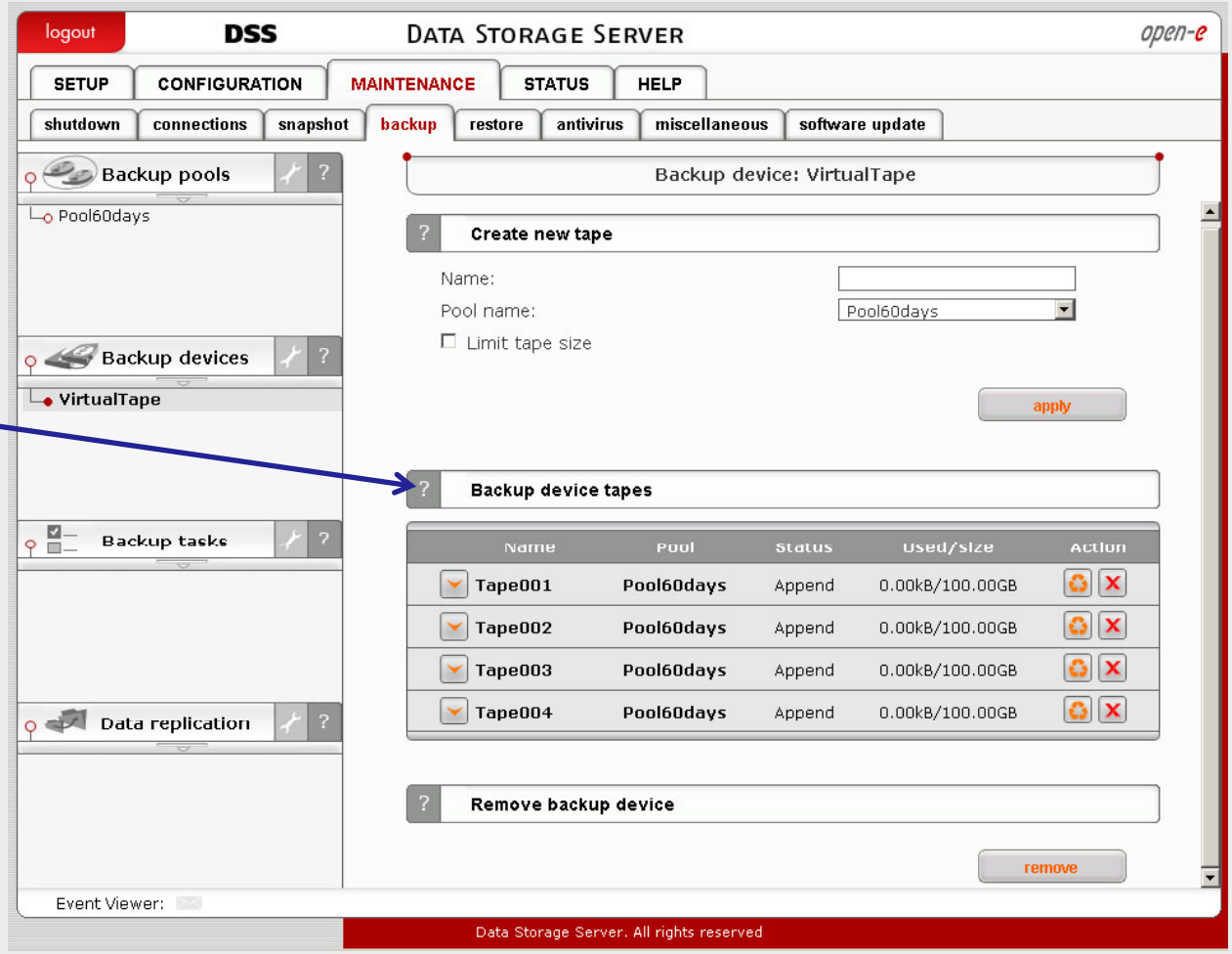
Local Data Redundancy with DSS

Second RAID Array

2. … Continue

After creating tapes in "**Backup device tapes**" functions, four tapes are present

Backup devices: VirtualTape 



Local Data Redundancy with DSS

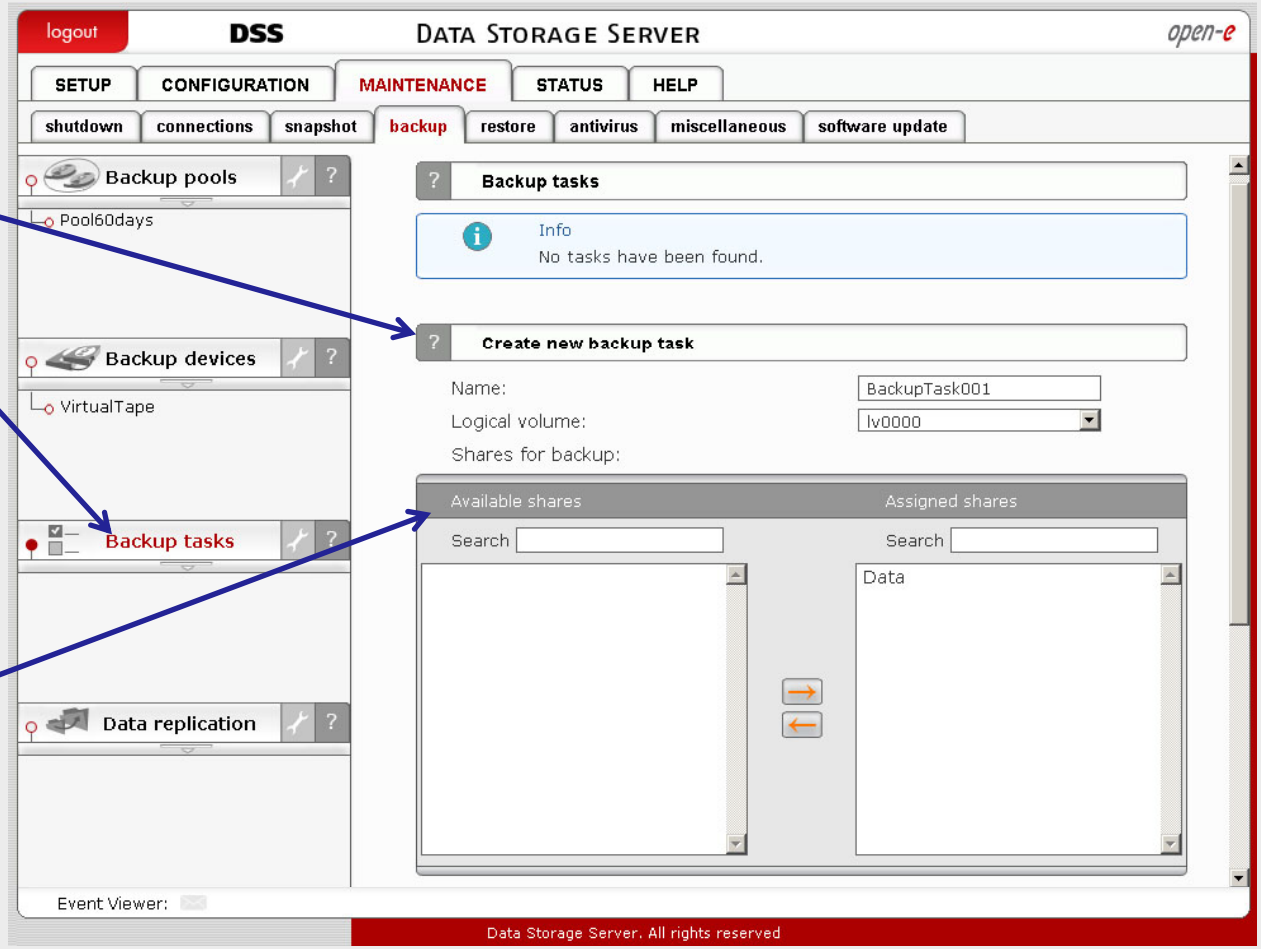
Second RAID Array

2. … 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**

Backup tasks: BackupTask001

Next, you must select shares for the local backup (**Data**). Move the **Available shares** to be used for the local backup to the **Assigned shares** area by clicking → button



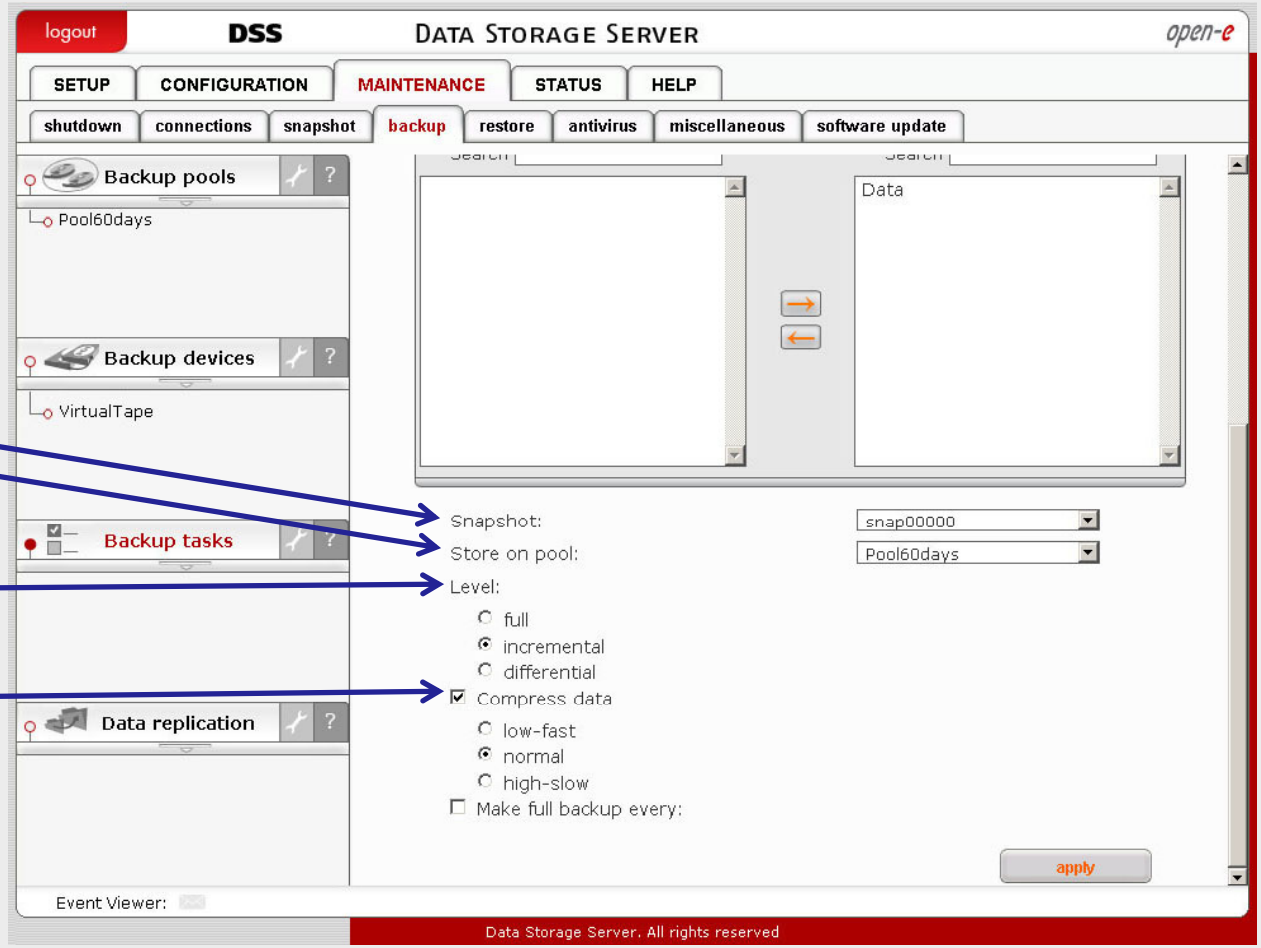
Local Data Redundancy with DSS

Second RAID Array

2. … Continue

Backup tasks: BackupTask001

In the "**Create new backup task**" function, choose **Snapshot** and select **Store on pool.** In this example, **snap0000** and **Pool60days.** Next, select the backup **Level** (e.g. incremental) check box, **Compress data,** and click the **apply** button



Local Data Redundancy with DSS

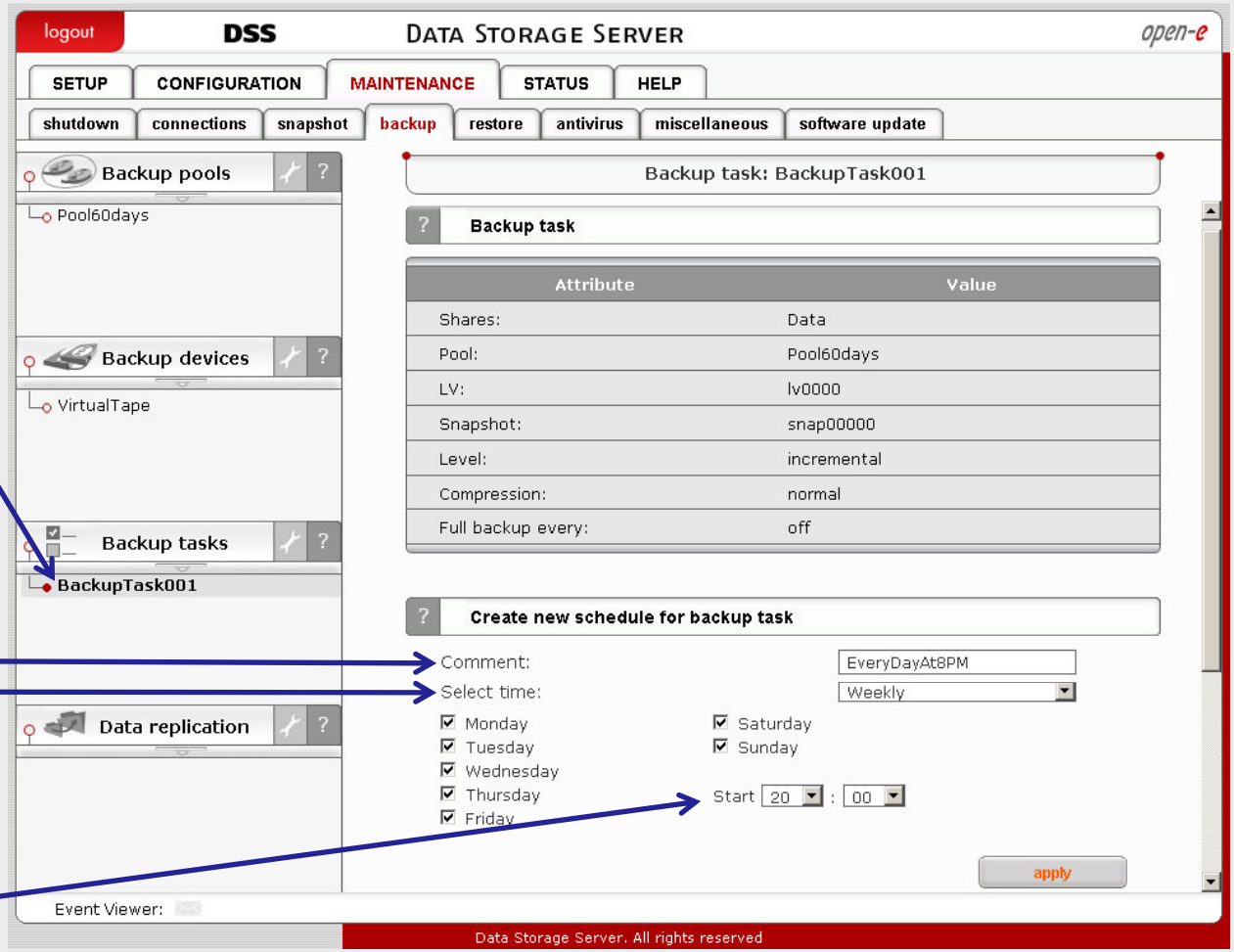
Second RAID Array

2. … Continue

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

Backup tasks: BackupTask001

In the "**Create new schedule for backup**" 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.



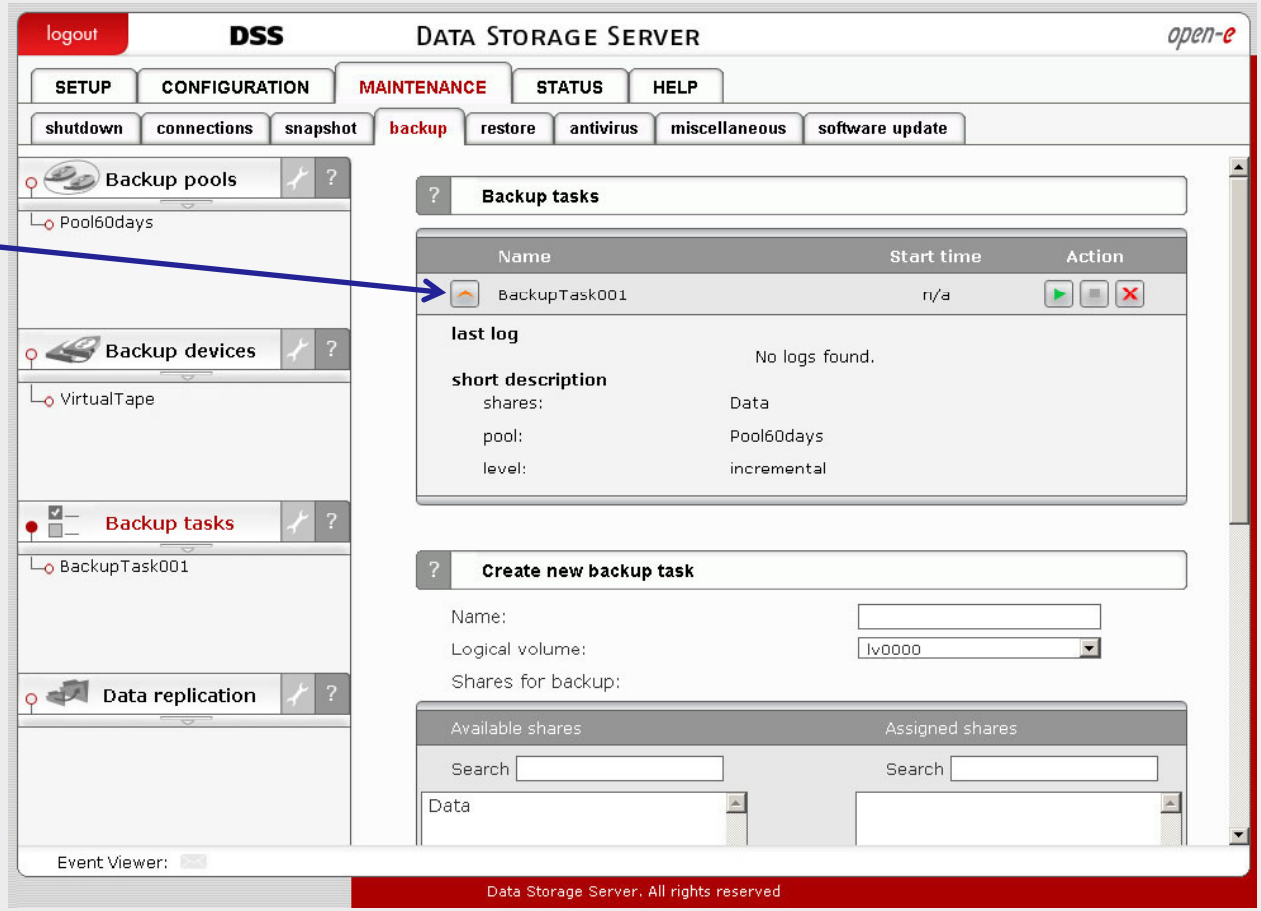
Local Data Redundancy with DSS

Second RAID Array

2. … Continue

The **Backup tasks** function shows the status of the backup tasks

Backup tasks: BackupTask001



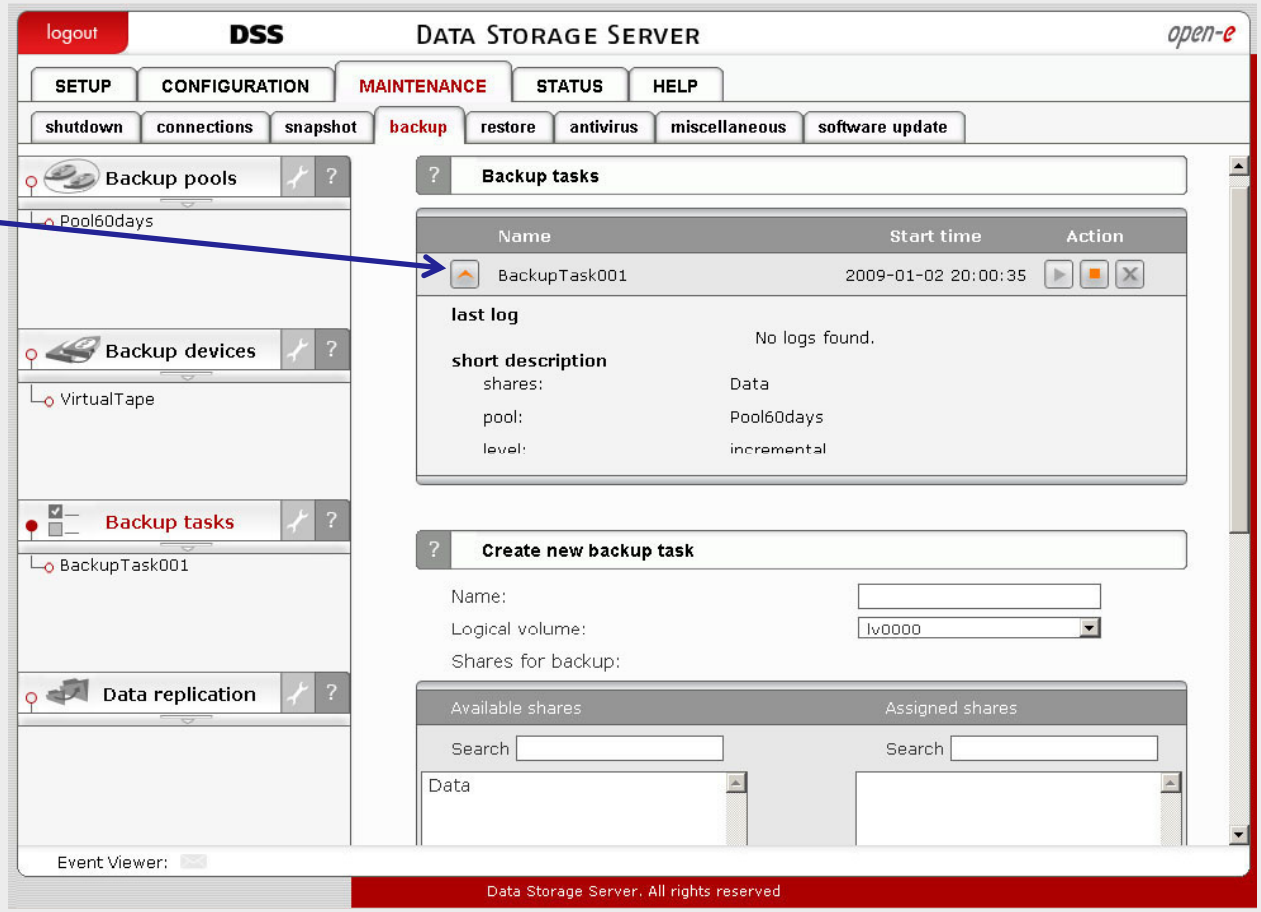
Local Data Redundancy with DSS

Second RAID Array

2. … Continue

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

Backup tasks: BackupTask001



Local Data Redundancy with DSS

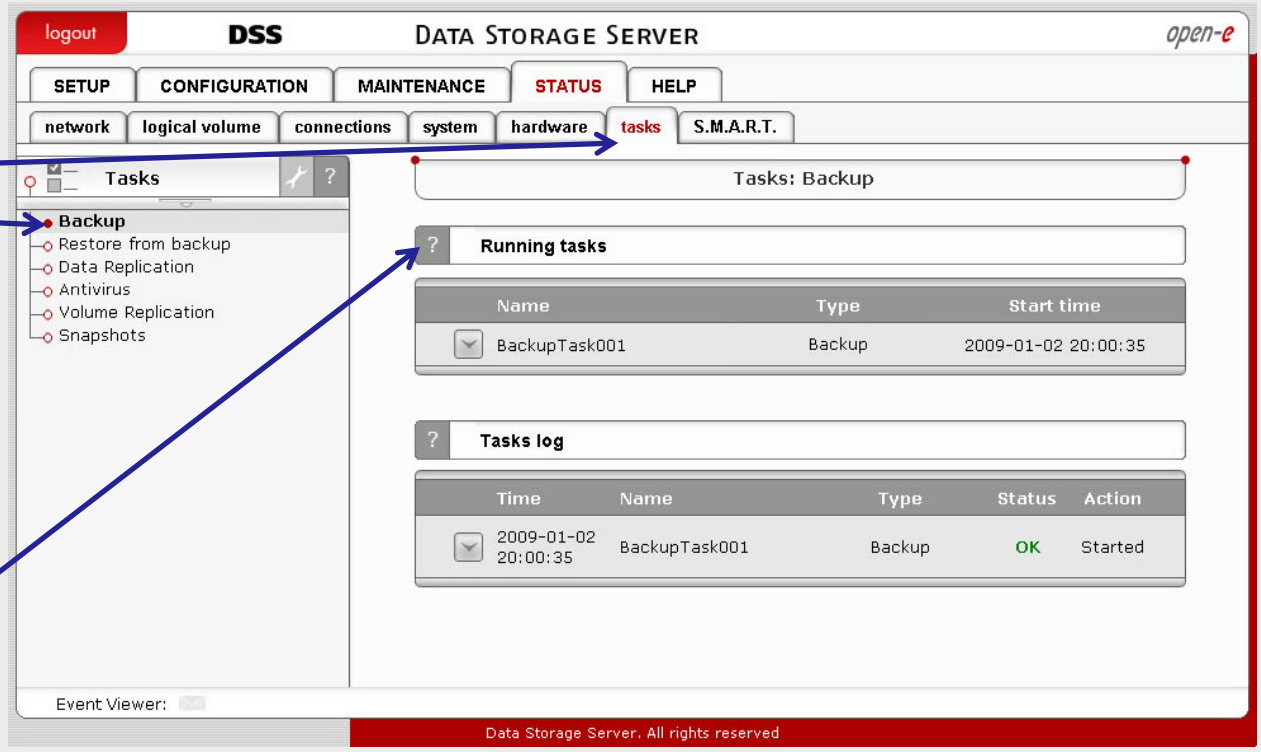
Second RAID Array

2. … Continue

Under the **"STATUS"** tab, select **"tasks"** and **Backup**

Backup tasks: BackupTask001

Click on the "**Runnings tasks**" function to display detailed information on the current Backup task



The configuration of Backup is now complete.

Local Data Redundancy With DSS

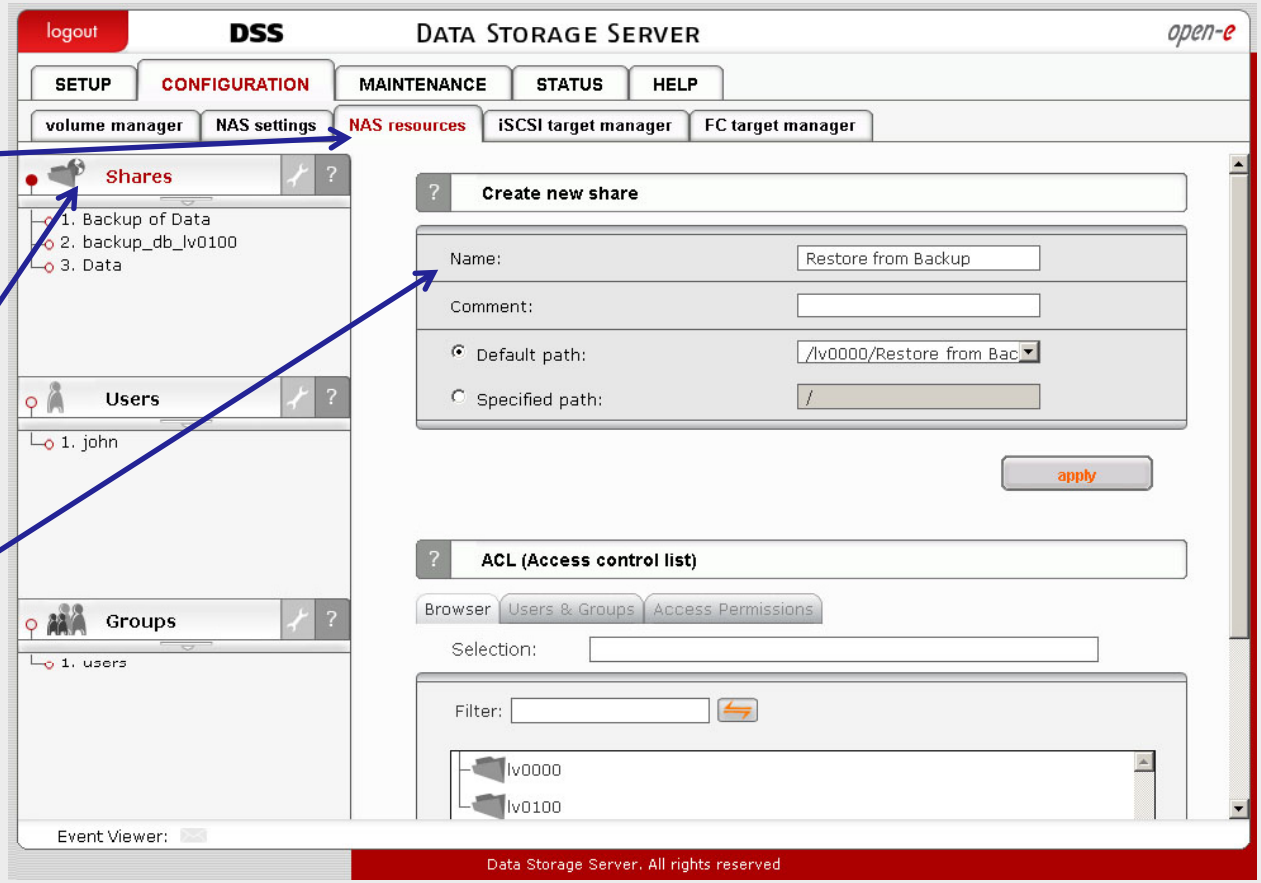
First RAID Array

3. Create Restore from Backup

Under the "**CONFIGURATION**" tab, select the "**NAS resources**" menu

Shares: Restore from Backup

In order to execute Restore, you must create a new share. Click **Shares** on the left side of the DSS console. In the example, a shared volume named **Restore from Backup** has been created on **lv0000**



Local Data Redundancy with DSS

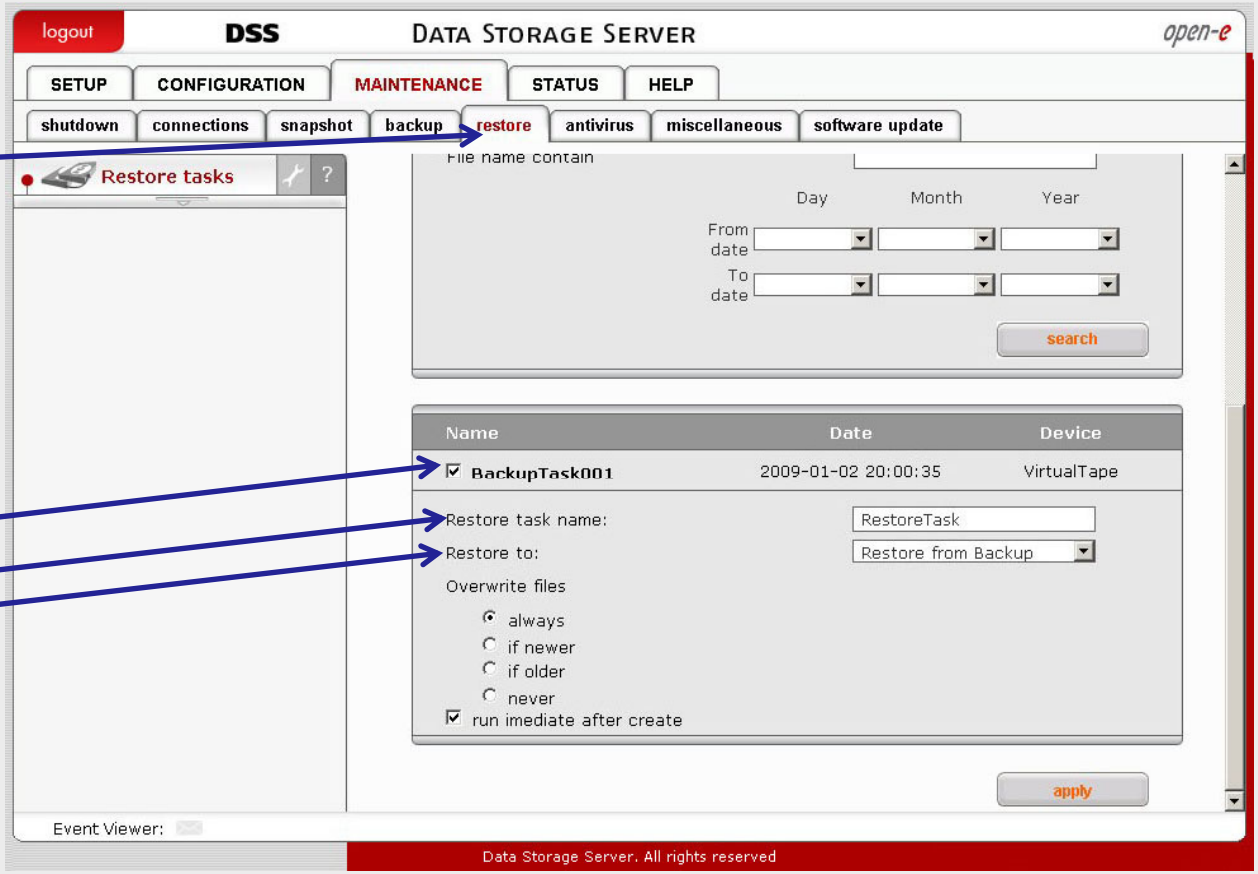
First RAID Array

3. … Continue

Under the "**MAINTENANCE**" tab, select the "**restore**" menu

Restore task: RestoreTask

In the "**Create new restore task**" function, check the box **BackupTask001**. Enter a name for the **Restore tasks name** (e.g. **RestoreTask**), and select the destination share in the **Restore to** field. In this example, choose **Restore from Backup** share. Next, click on the **apply** button



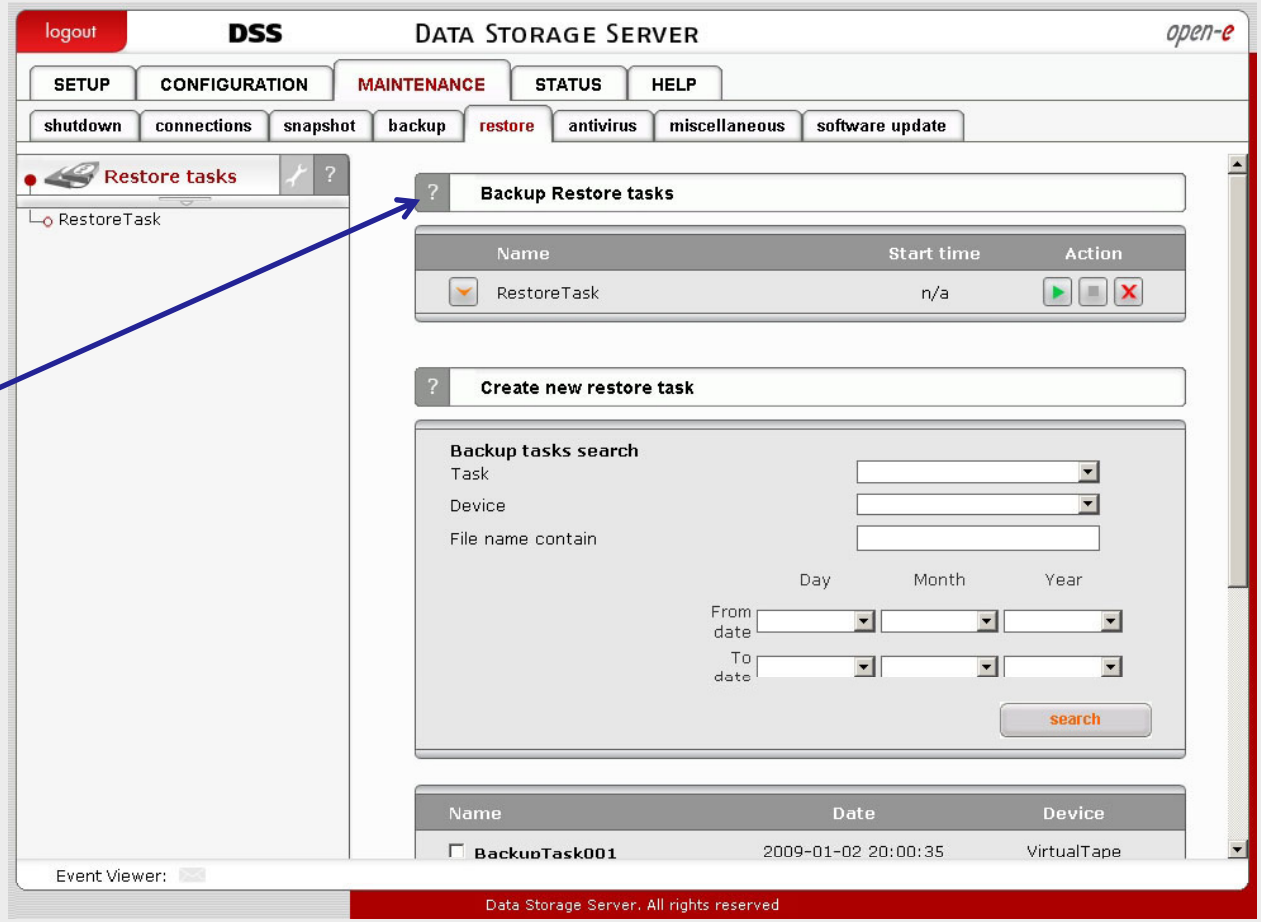
Local Data Redundancy with DSS

First RAID Array

3. … Continue

At the end of the Restore Backup in "**Backup Restore tasks**" function, you will start the task again

Restore task: RestoreTask



Local Data Redundancy with DSS

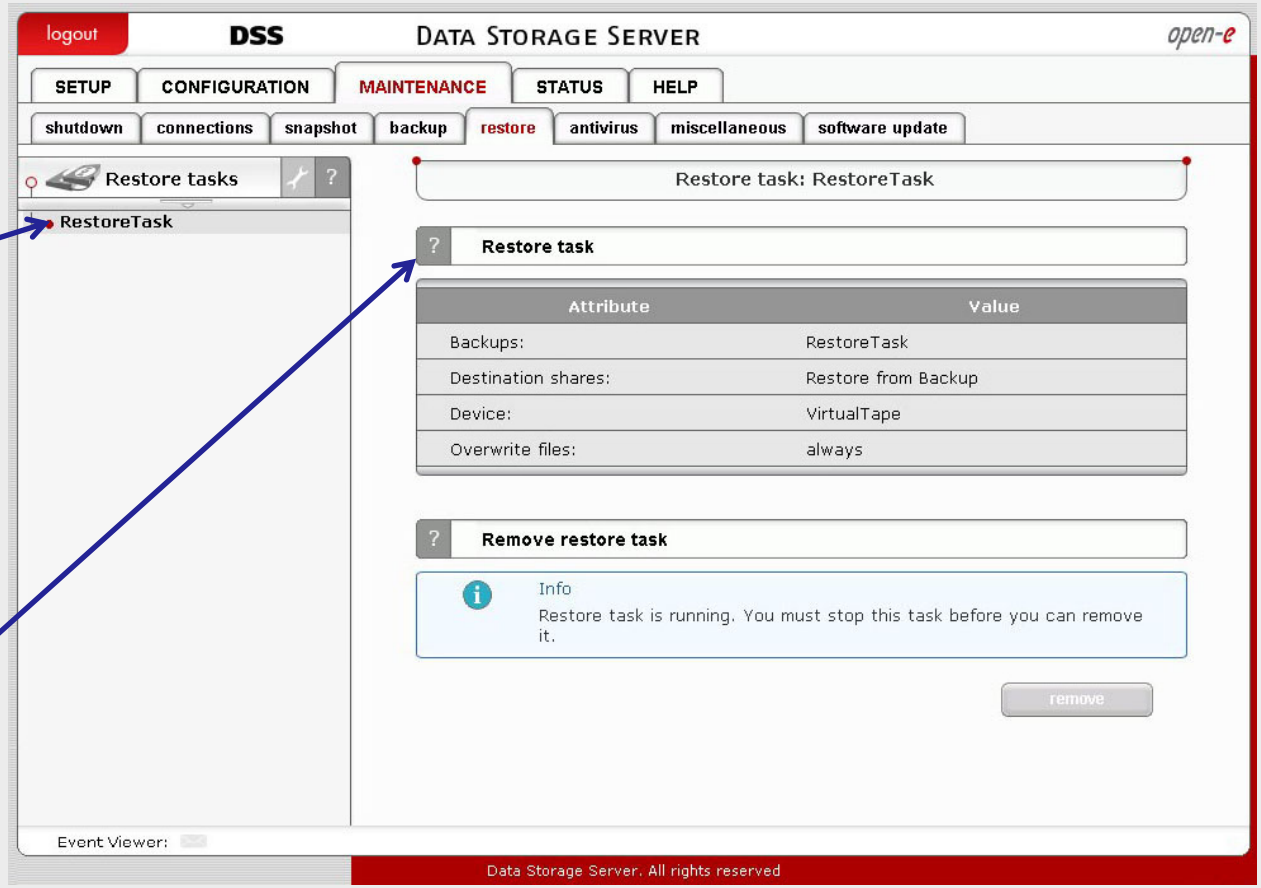
First RAID Array

3. … Continue

Click on the "**Restore Task**" name

Restore task: RestoreTask

Click the "**Restore task**" function, to display detailed information on the current restore task



Local Data Redundancy with DSS

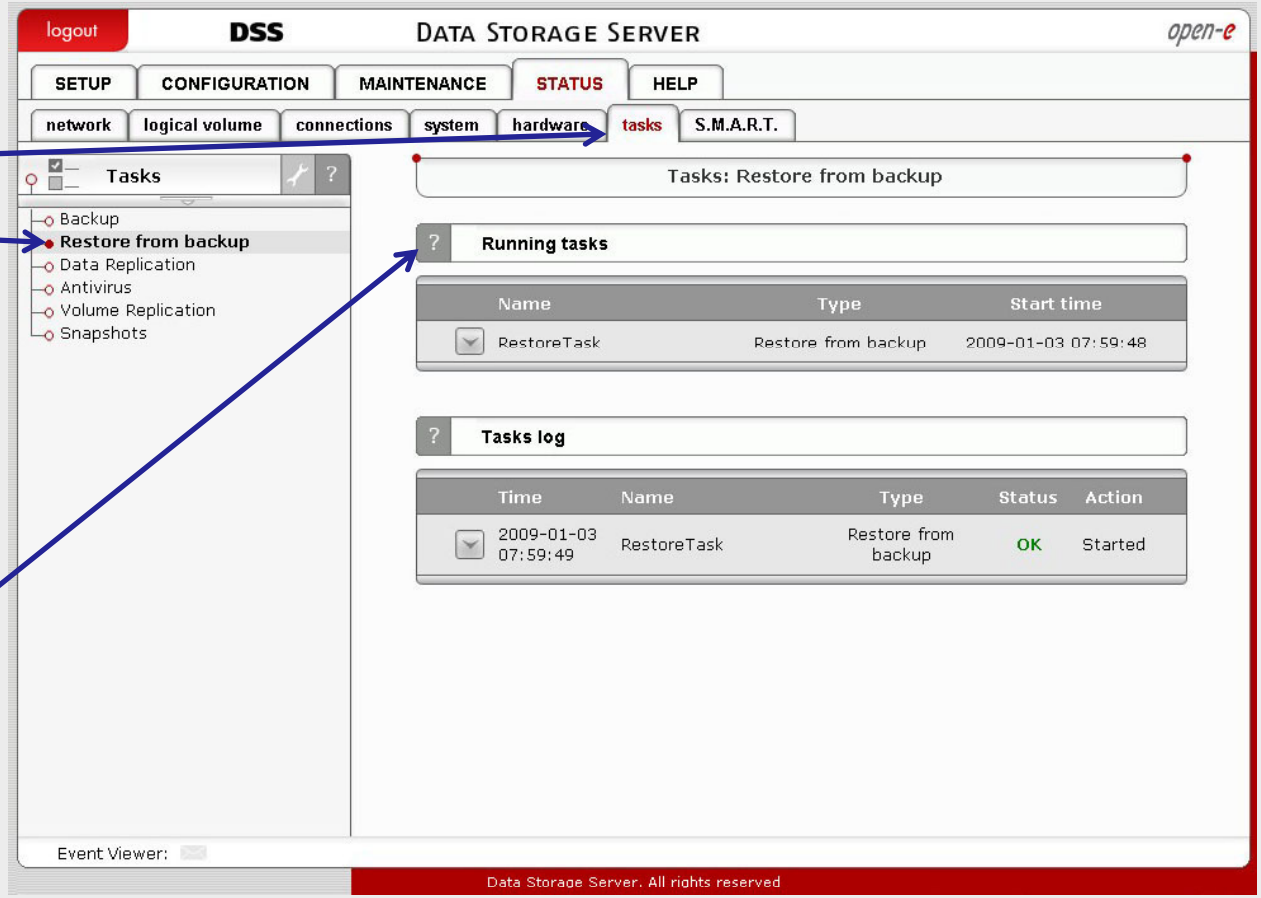
First RAID Array

3. … Continue

Under the **"STATUS"** tab, select "**tasks**" and **Restore from backup**

Restore tasks: RestoreTask

Click in the "**Runnings tasks**" function to display detailed information on the current Restore from backup task



The configuration of the Restore from Backup is now complete.

Local Data Redundancy with DSS

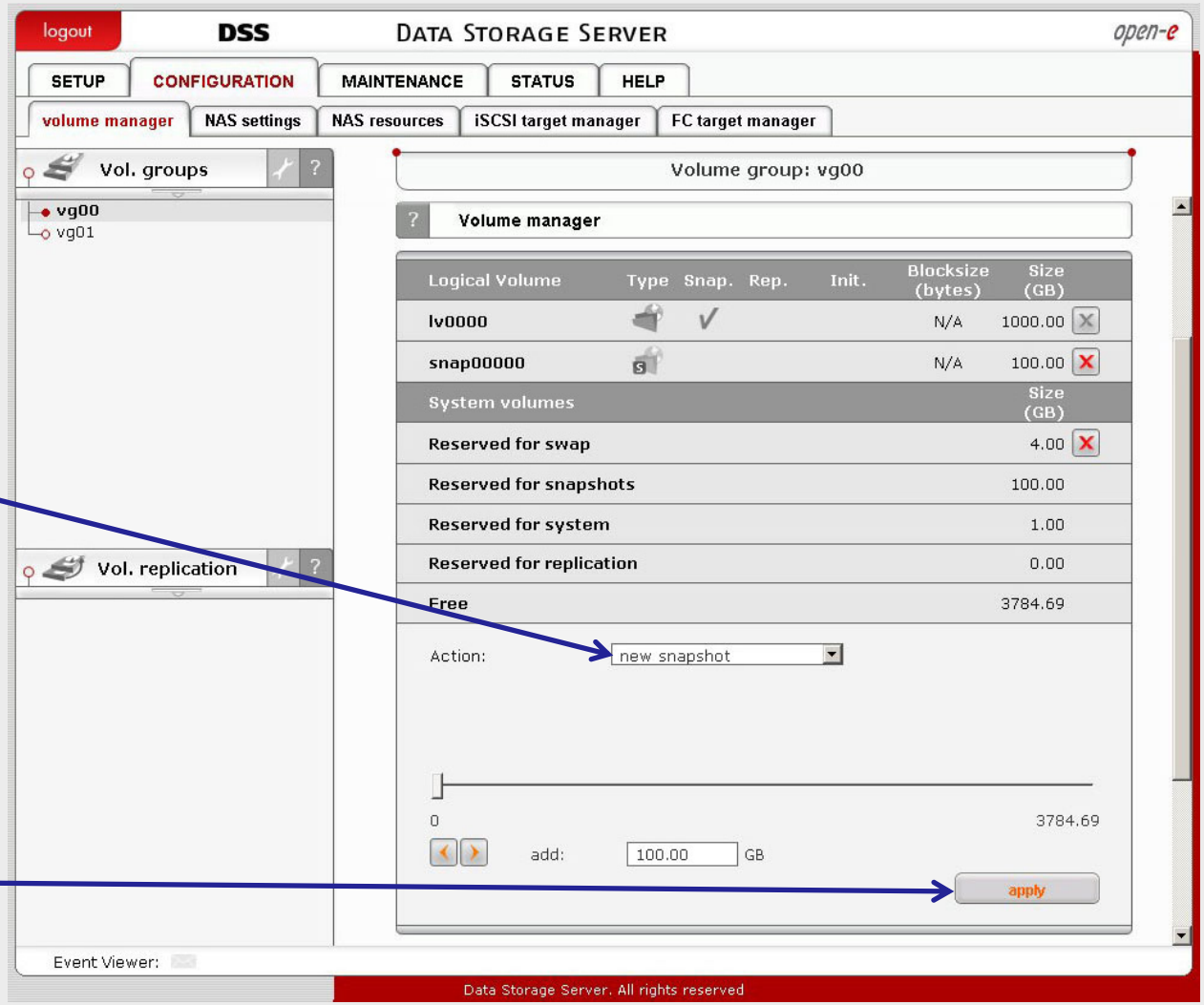
First RAID Array

4. Configure of the Data Replication

To run the replication process, you must first define a **new snapshot** to be taken of the volume to be replicated

Snapshot 

After assigning an appropriate amount of space for the **new snapshot**, click the **apply** button



Local Data Redundancy with DSS

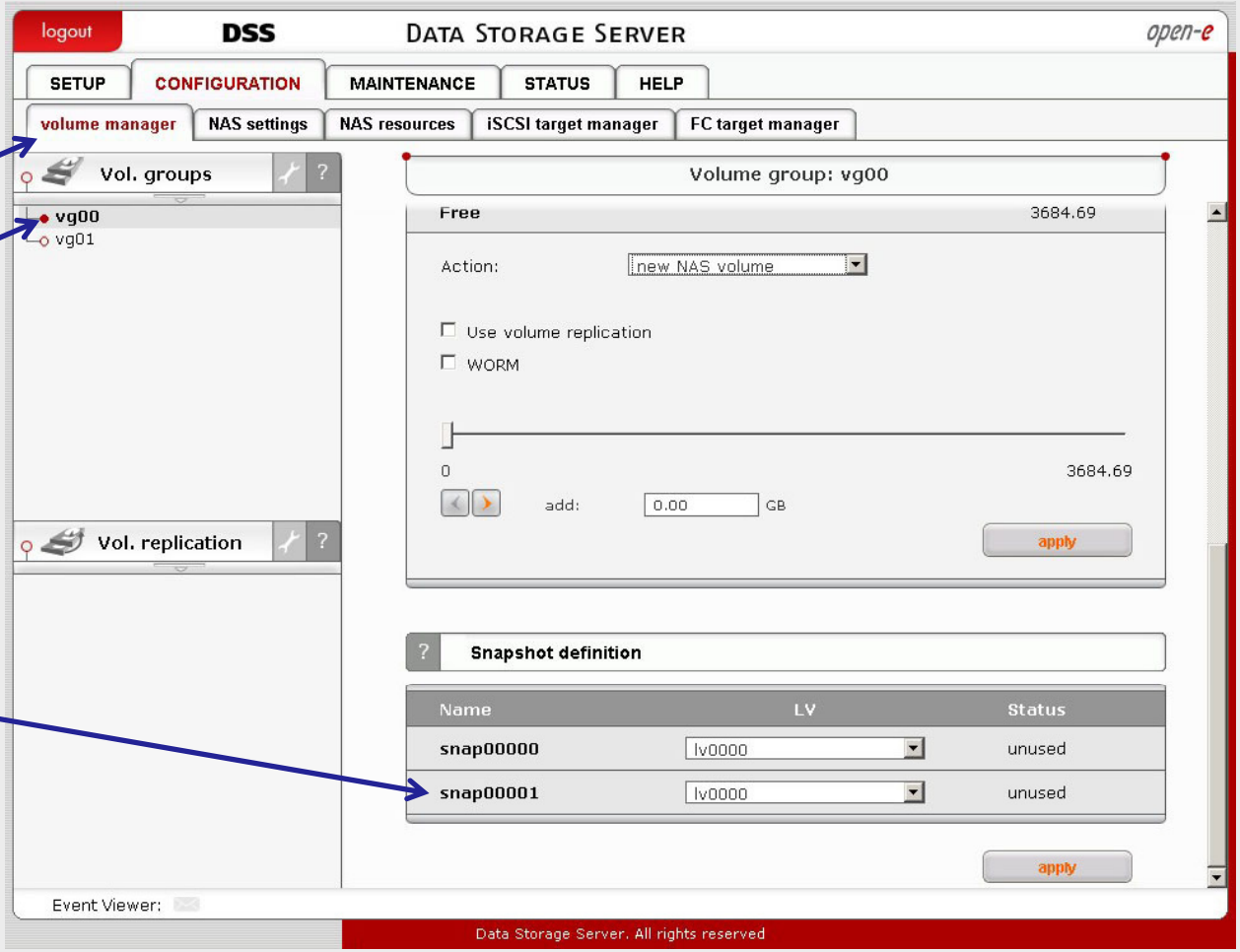
First RAID Array

4. … Continue

Under the "**CONFIGURATION**" tab, select the "**volume manager**" menu. Next, click **vg00**

Snapshot 

Assign the **snap00001** to the logical volume to be replicated, in this example, **lv0000**, and click the **apply** button



Local Data Redundancy with DSS

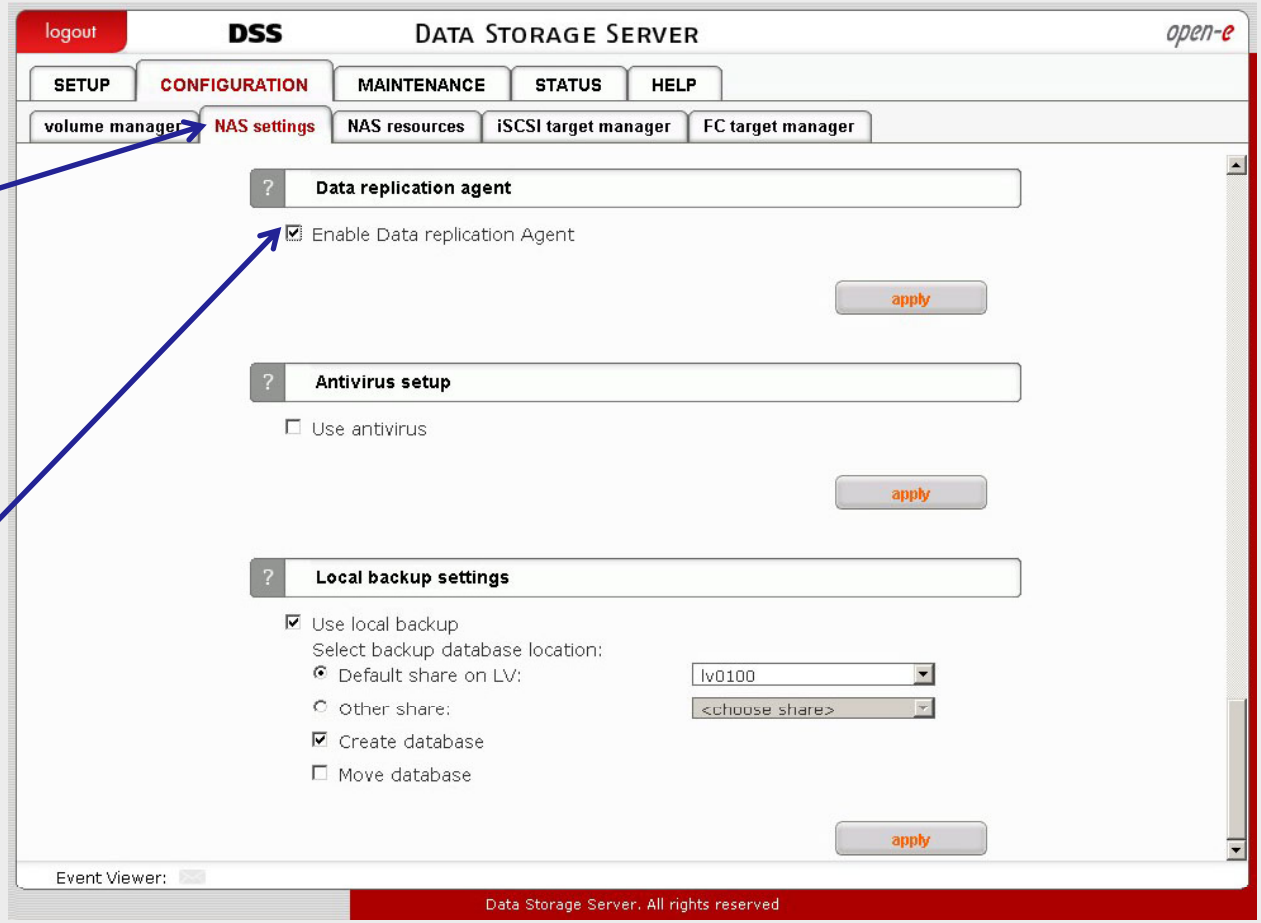
First RAID Array

4. … Continue

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

Data Replication

Check the **Enable Data replication Agent** box and click the **apply** button



Local Data Redundancy with DSS

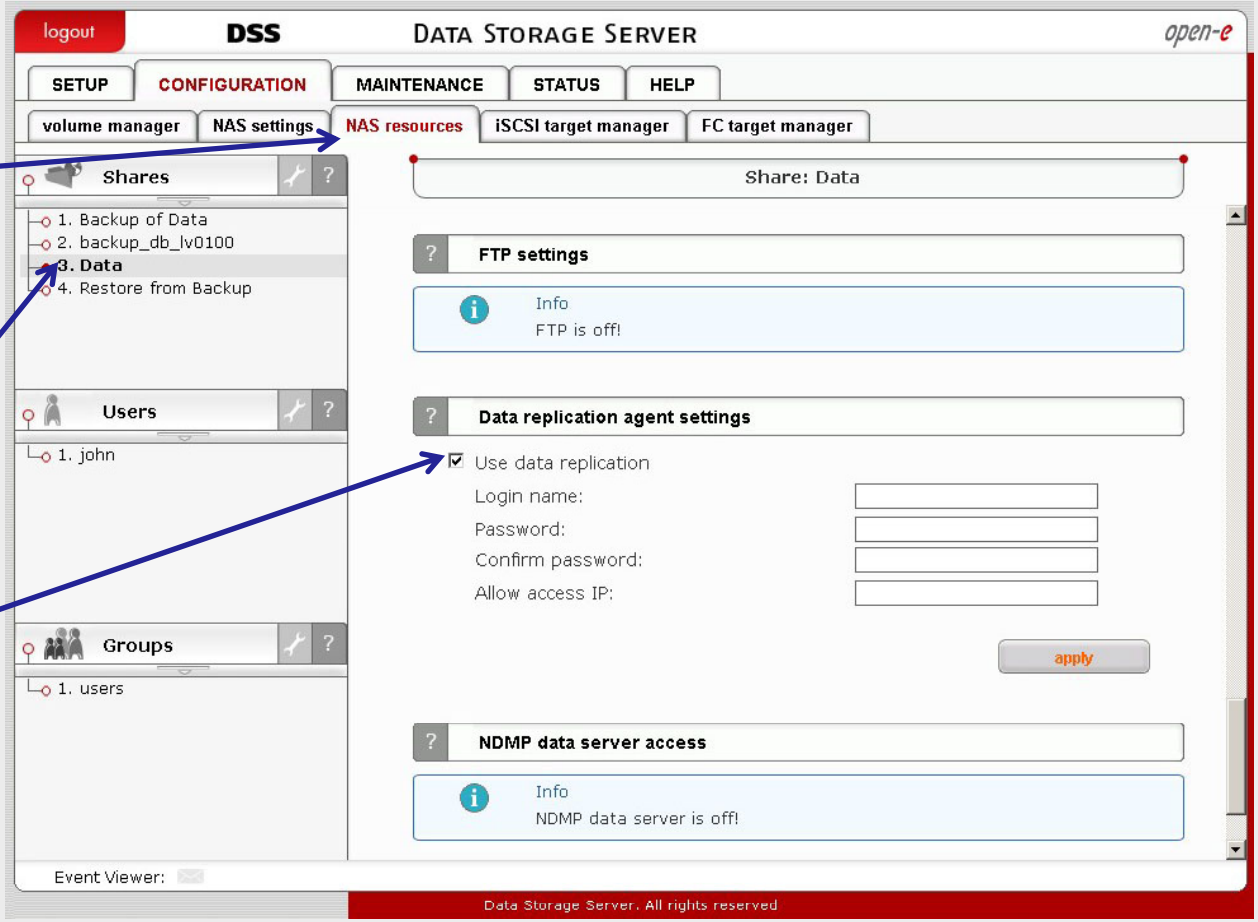
First RAID Array

4. … Continue

Under the "**CONFIGURATION**" tab, select the "**NAS resources**" menu

Shares: Data

Next , click on the name **Data**, and check the box, **Use data replication** within the Data Replication Agent Settings table, and click the **apply** button



NOTE:

It is strongly recommended to protect the replication protocol with a user name and password, along with a list of allowed IP address. This will prevent local network users from accessing this share. **The user name and password must be the same as the destination node.**

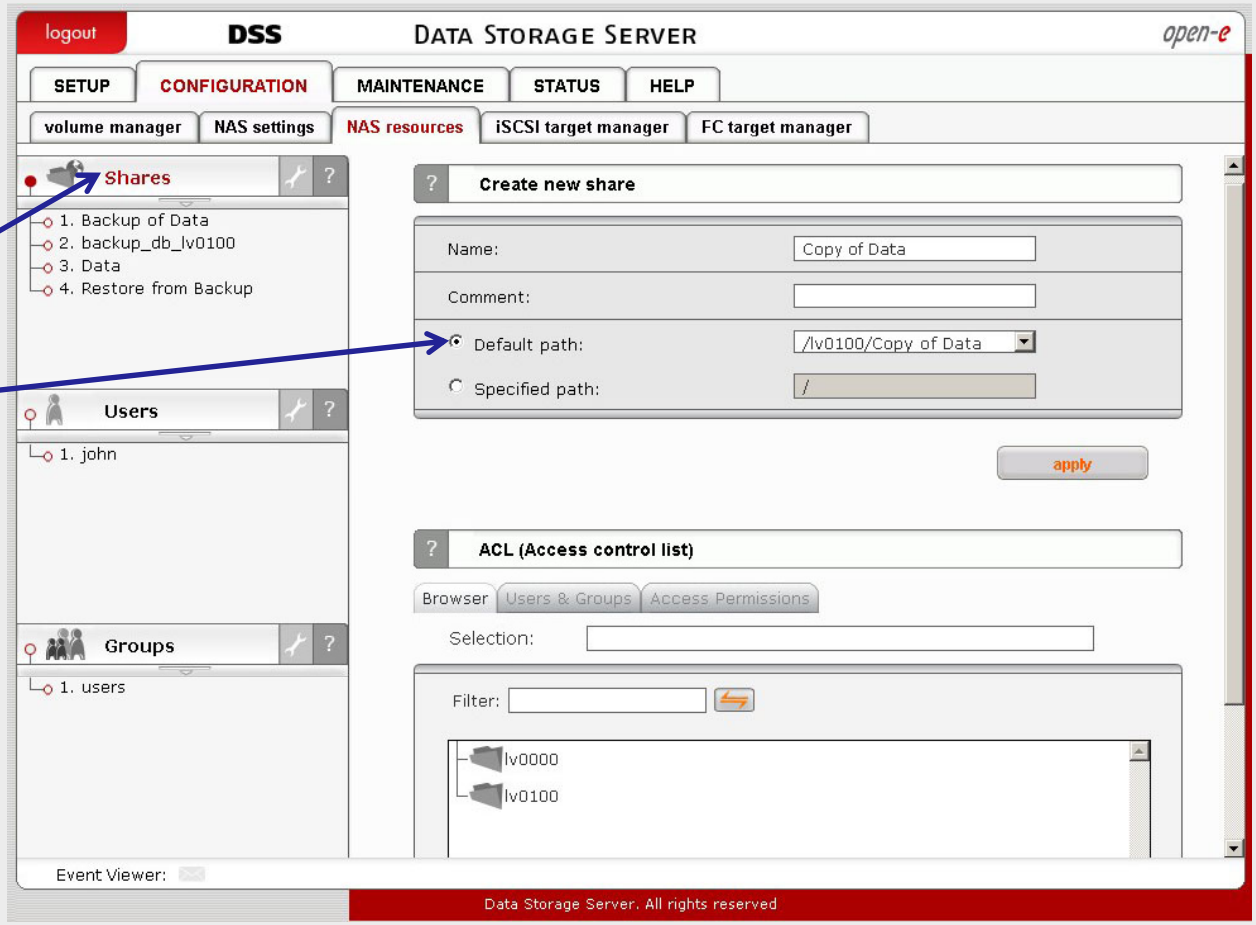
Local Data Redundancy with DSS

Second RAID Array

4. … Continue

In order to run the Data Replication process, you must create a new share. In the example, a shared volume named **Copy of Data** has been created on **lv0100**

Shares: Copy of Data



Local Data Redundancy with DSS

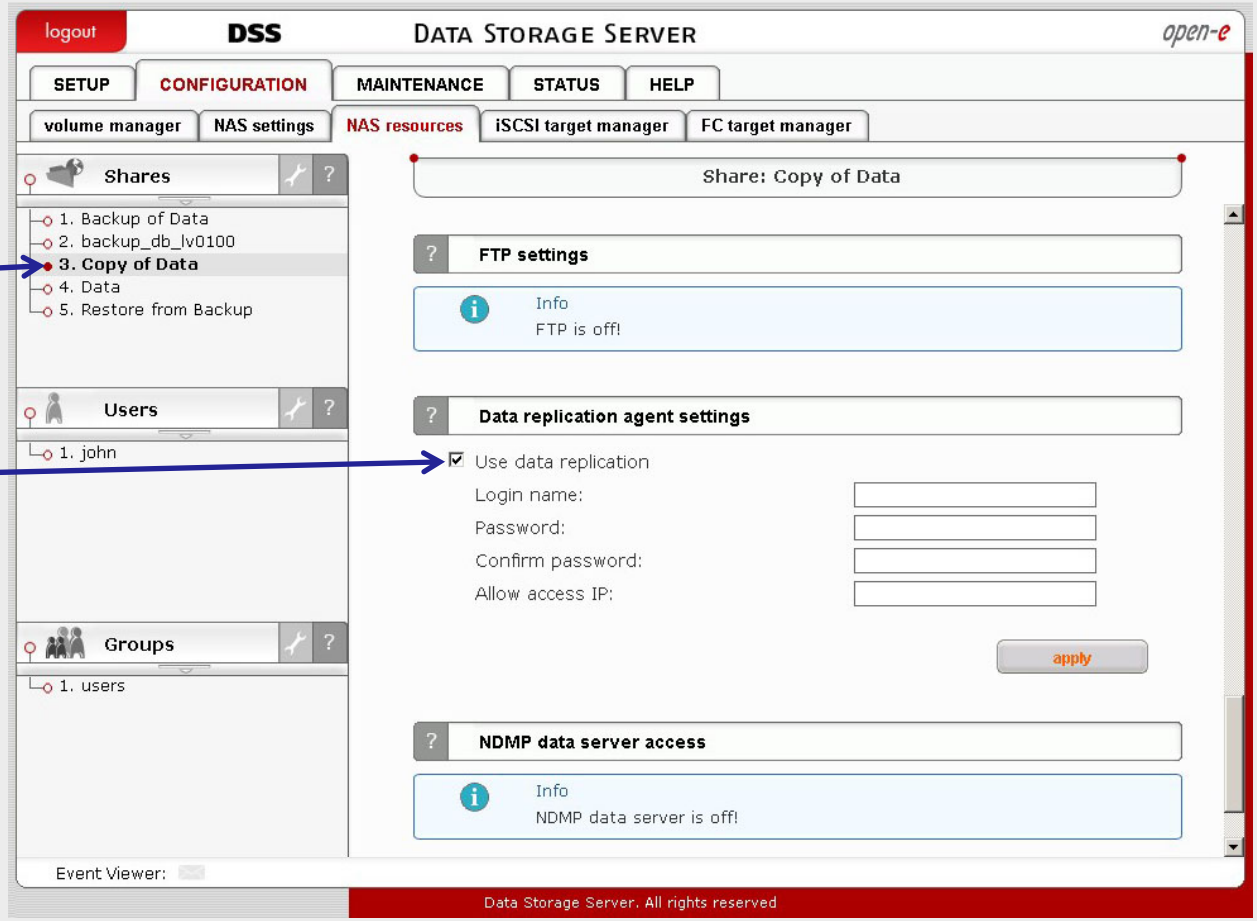
Second RAID Array

4. … Continue

After creating the new shared volume, configure it:

- Click on the share name
- Check the box, **Use data replication** within the **Data replication agent settings** function
- Click the **apply** button

Data Replication



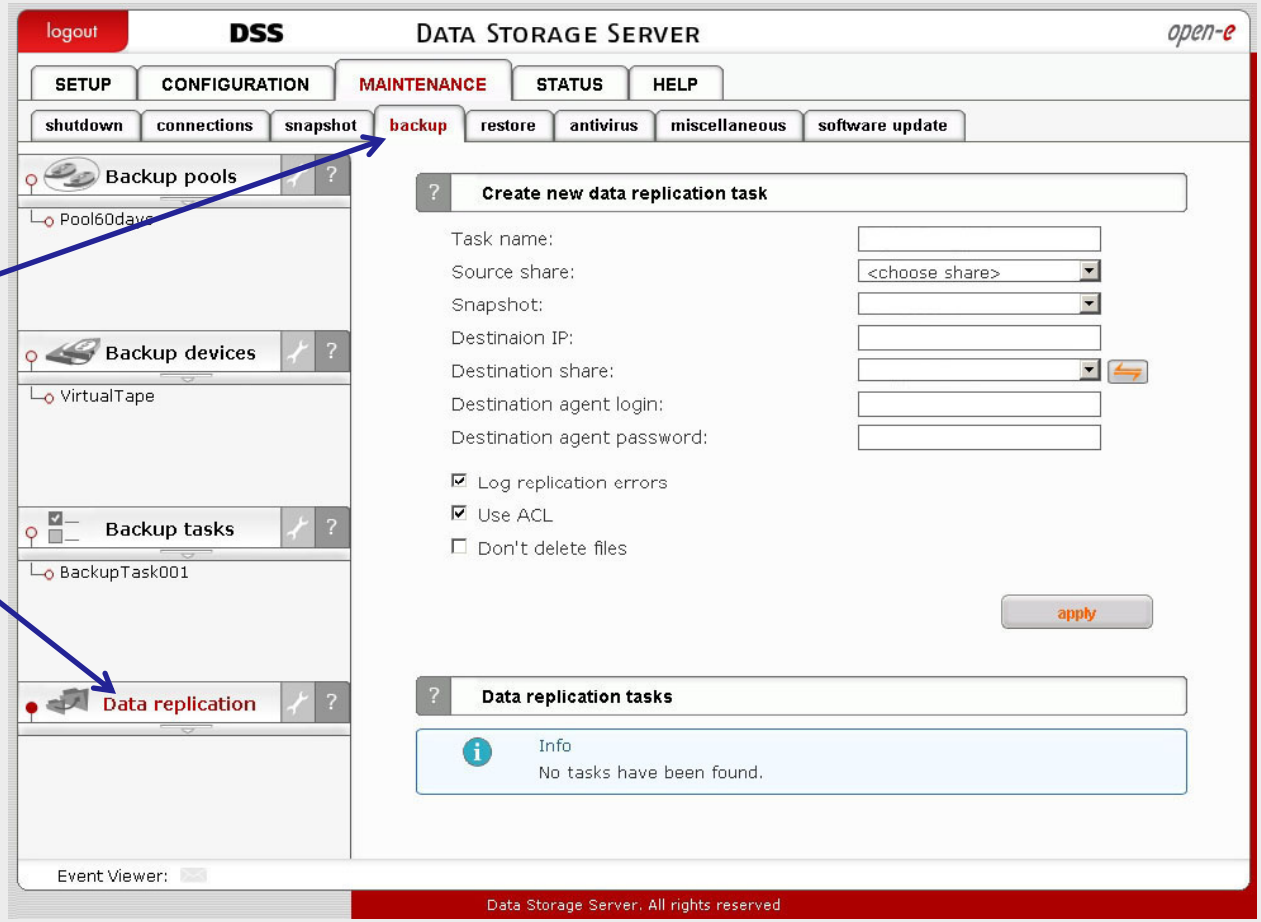
Local Data Redundancy with DSS

Second RAID Array

4. … Continue

Data Replication

After the share to be replicated has been configured, go to the "**MAINTENANCE**" tab and select "**backup**" to choose the **Data replication**



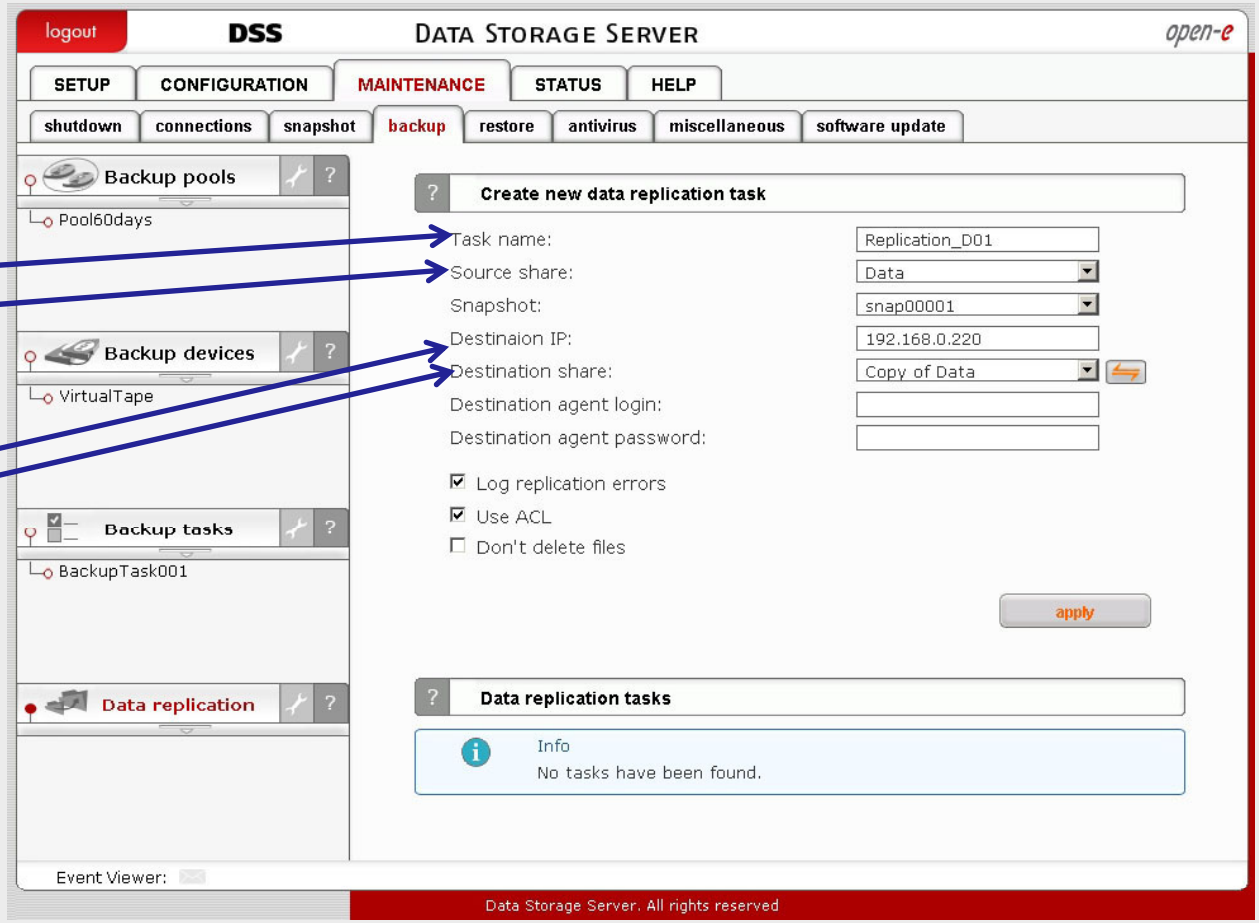
Local Data Redundancy with DSS

First RAID Array

4. … Continue

Select the source share to be replicated. Under **Create new data replication task** function, enter a name for the task and select the source share to be replicated. In this example, a snapshot of the source share select **snap00001**

In the **Destination IP** field, enter the IP address of the destination server (in this example, 192.168.0.220) and the user name/password (if applicable) for the destination. Next, configure the **Destination Share** field by clicking on the button. In this example, select the **Copy of Data** share. Click on the **apply** button



Local Data Redundancy with DSS

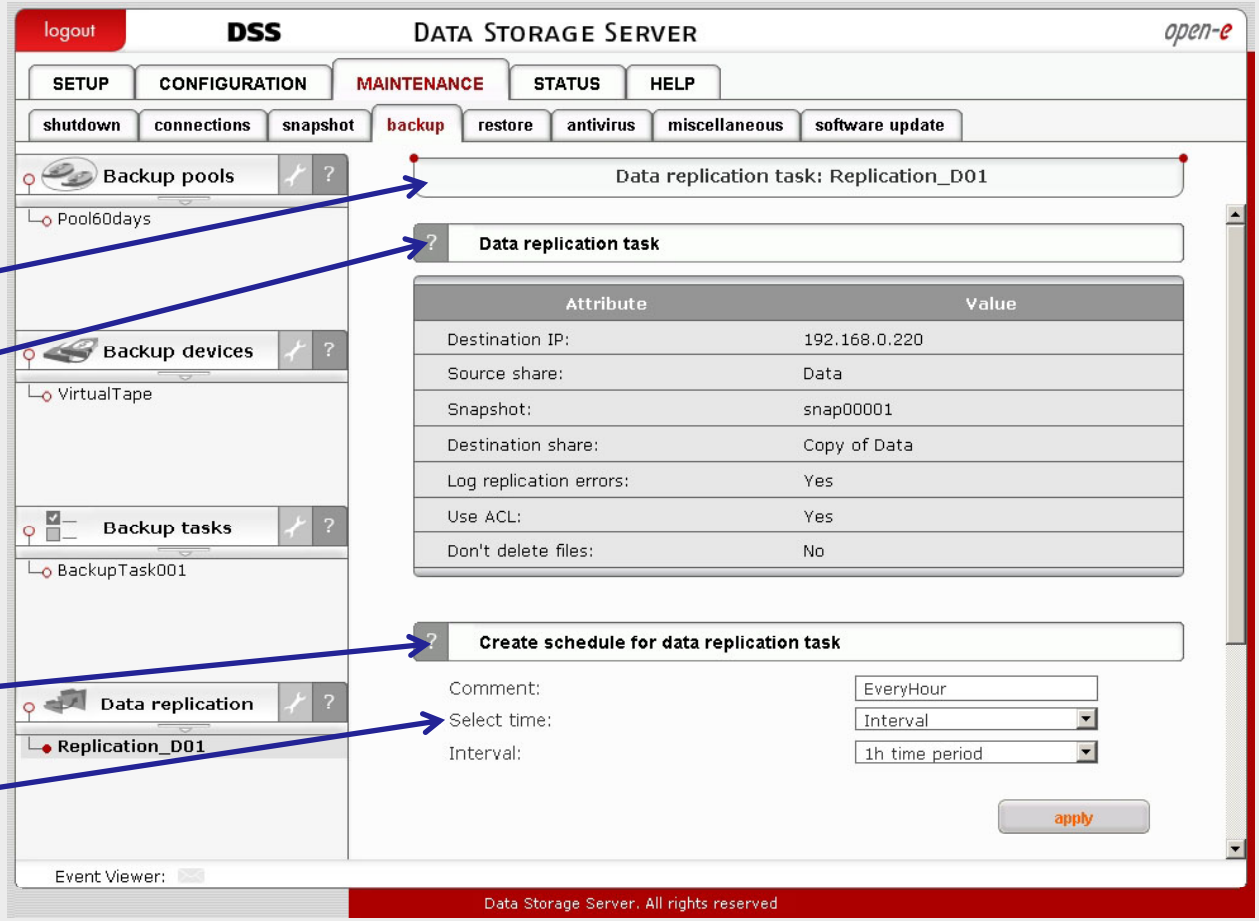
Second RAID Array

4. … Continue

After the DSS WEB console has been reloaded, the new task should appear

Obtain additional information about a selected replication task by accessing the **Data replication task** function

Using the **Create schedule for data replication task** function, set the desired replication schedules or explicitly start, stop and delete data replication tasks as desired

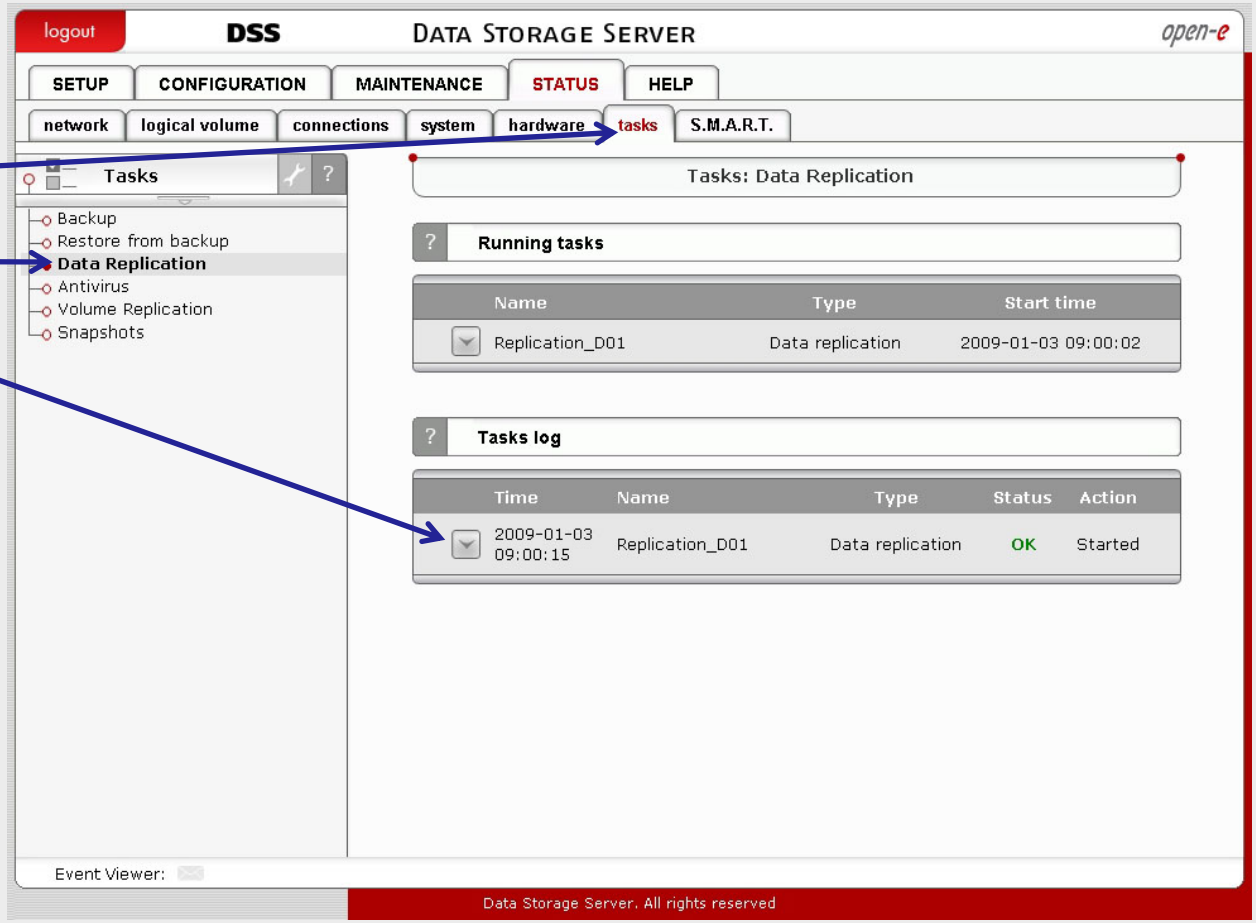


Local Data Redundancy with DSS

Second RAID Array

4. … Continue

To obtain detailed information about the progress of data replication tasks, click under the "**STATUS**" tab and select "**tasks**" menu.
Next, click **Data Replication** tasks and select the tasks



The configuration of data replication is now complete.

Thank You!