Step-by-Step Guide

to

Open-E DSS V7 Synchronous Volume Replication over a LAN

Software Version: DSS ver. 7.00 up11

Presentation updated: July 2013

Setting up Volume Replication **over a LAN**

open-e

TO SET UP VOLUME REPLICATION, PERFORM THE FOLLOWING STEPS:

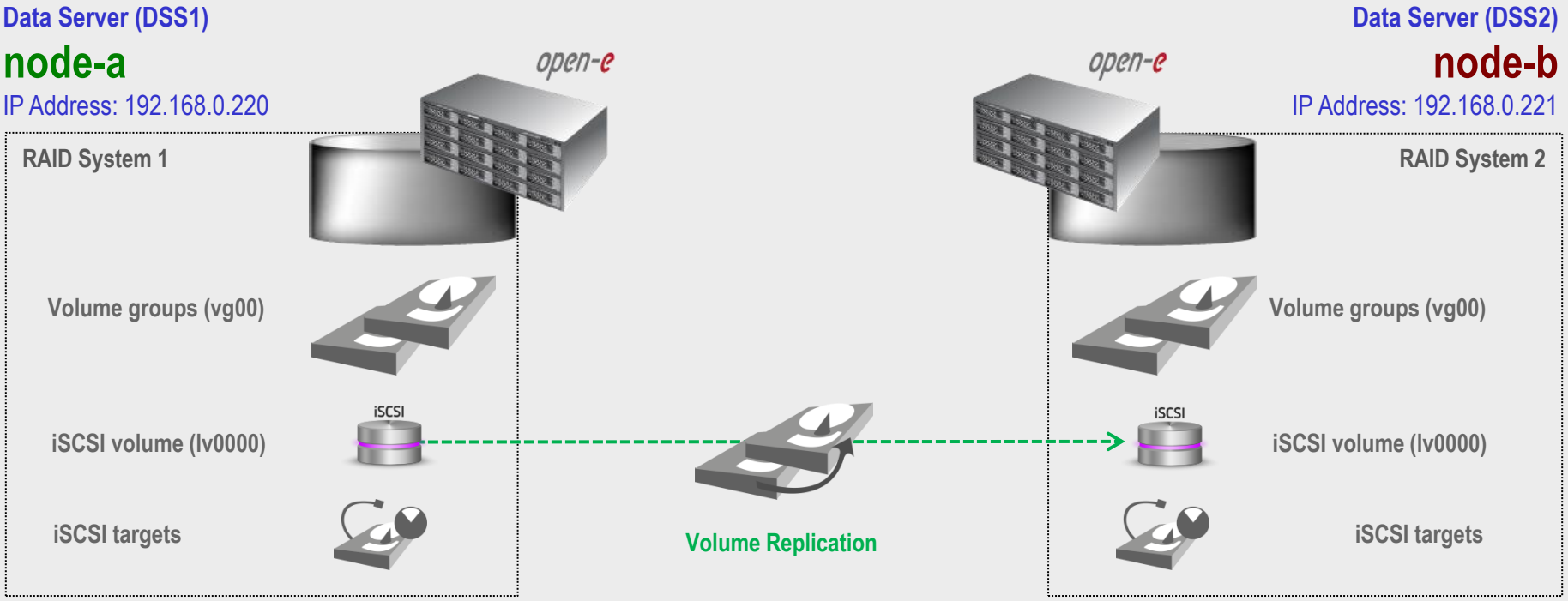
1. Configure hardware
2. Network configuration
3. Configure the destination node
4. Configure the source node
5. Configure the replication task
6. Check the status of volume replication

Setting up Volume Replication **over a LAN**

1. Configure hardware

Hardware Requirements

To run the Volume Replication of Open-E DSS V7, a minimum of two systems are required. Both servers are working in the Local Area Network. An example configuration is shown below:



Setting up Volume Replication **over a LAN**

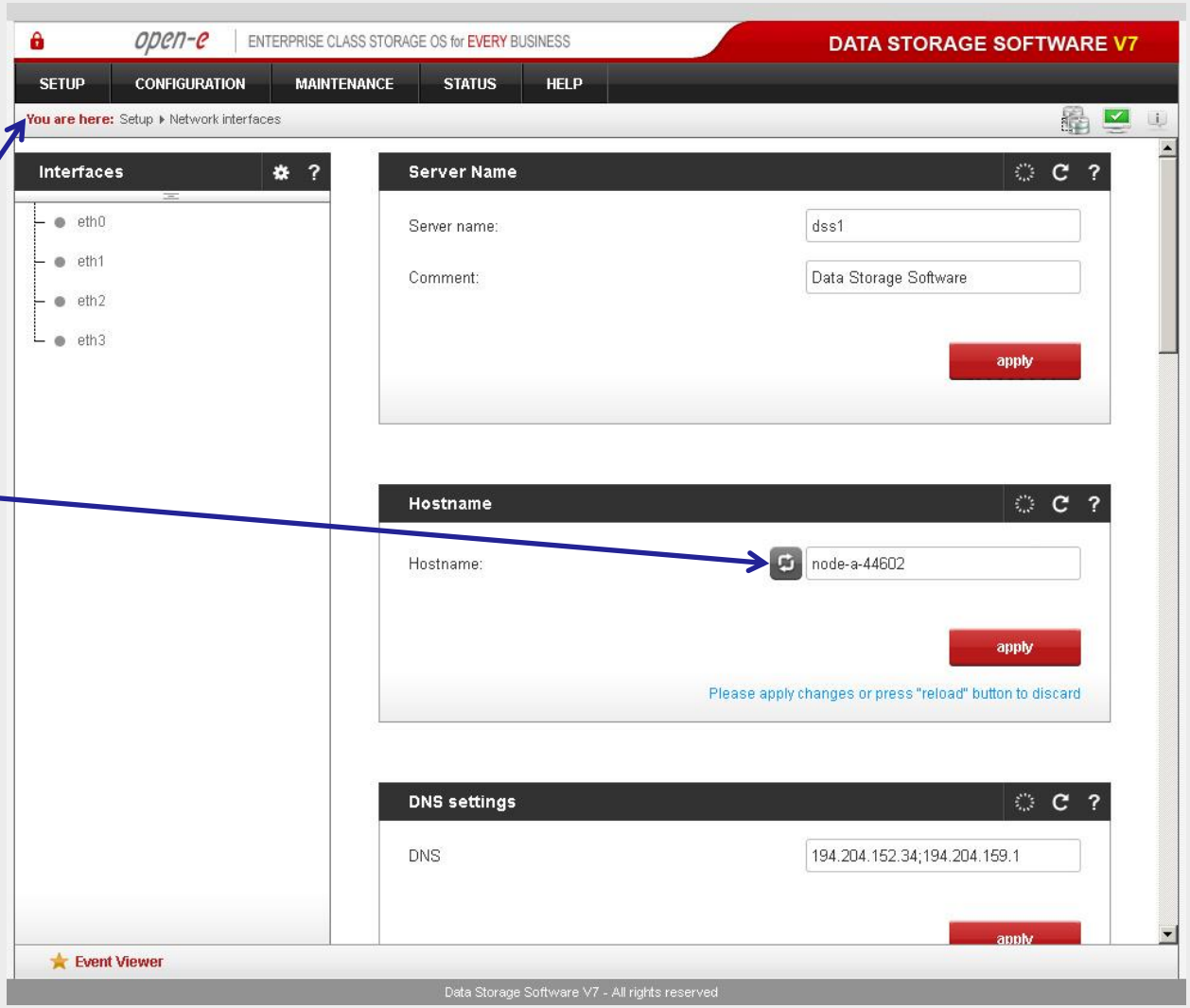
Data Server (DSS1)

node-a

IP Address:192.168.0.220

2. Network configuration

After logging in to node-a, please go to "**SETUP**" and choose the "**Network interfaces**" option.
In the **Hostname** box, replace "dss" prefix with "node-a" and click apply (this will require a reboot).



NOTE:
This step is optional but recommended in multi-node configuration.

Setting up Volume Replication **over a LAN**

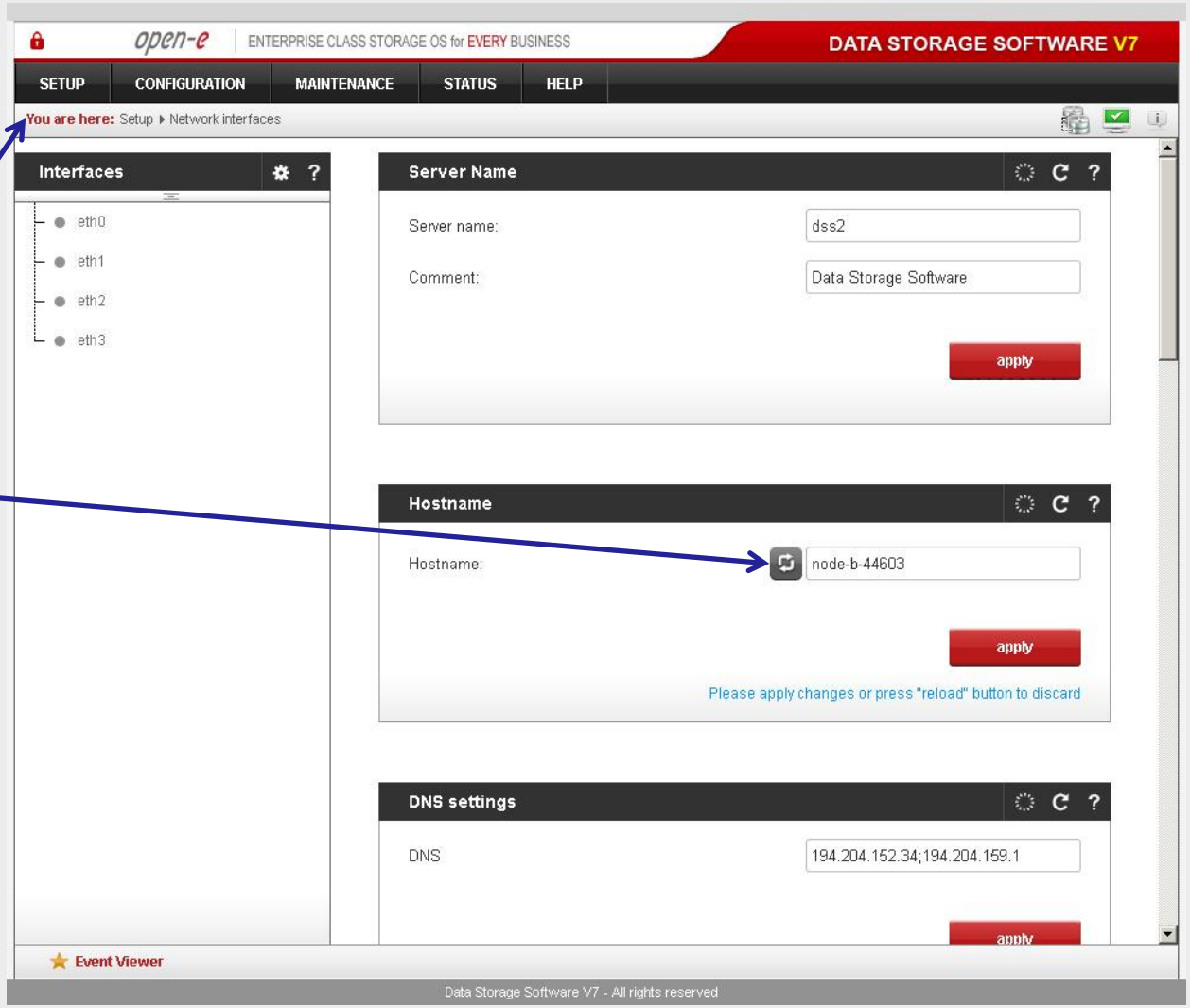
Data Server (DSS2)

node-b

IP Address:192.168.0.221

2. Network configuration

Like in node-a, after logging to node-b please go to "**SETUP**" and choose the "**Network interfaces**" option.
In the **Hostname** box, replace "dss" prefix with "node-b" and click apply (this will require a reboot).



Setting up Volume Replication **over a LAN**

Data Server (DSS2)

node-b

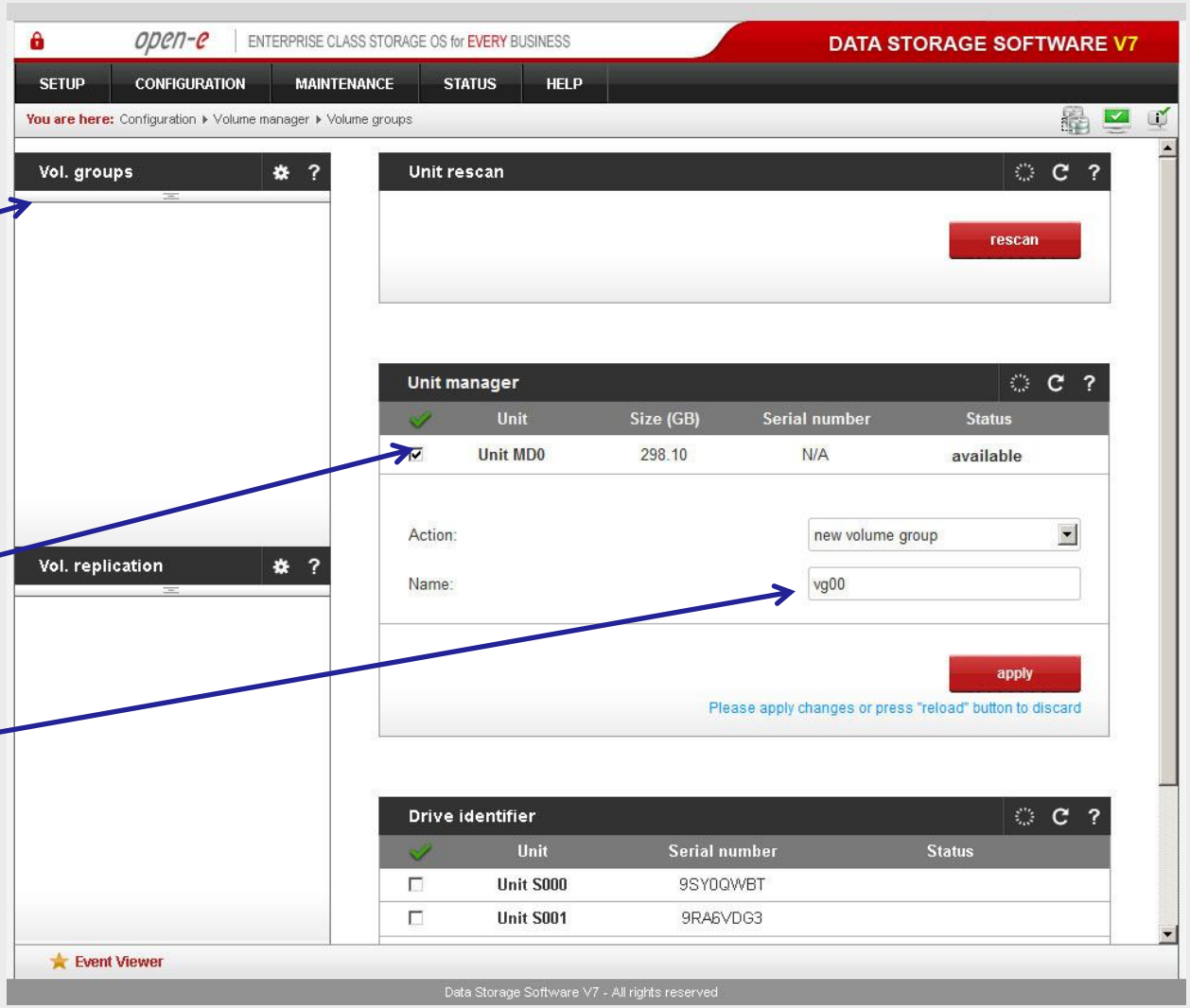
IP Address:192.168.0.221

3. Configure the destination node

In the "**CONFIGURATION**" menu, select "**Volume manager**" and "**Volume groups**".

Volume groups (vg00)

Add the selected physical units (**Unit MD0**) to create a **new volume group** (in this case, **vg00**) and click **apply** button.



Setting up Volume Replication **over a LAN**

Data Server (DSS2)

node-b

IP Address:192.168.0.221

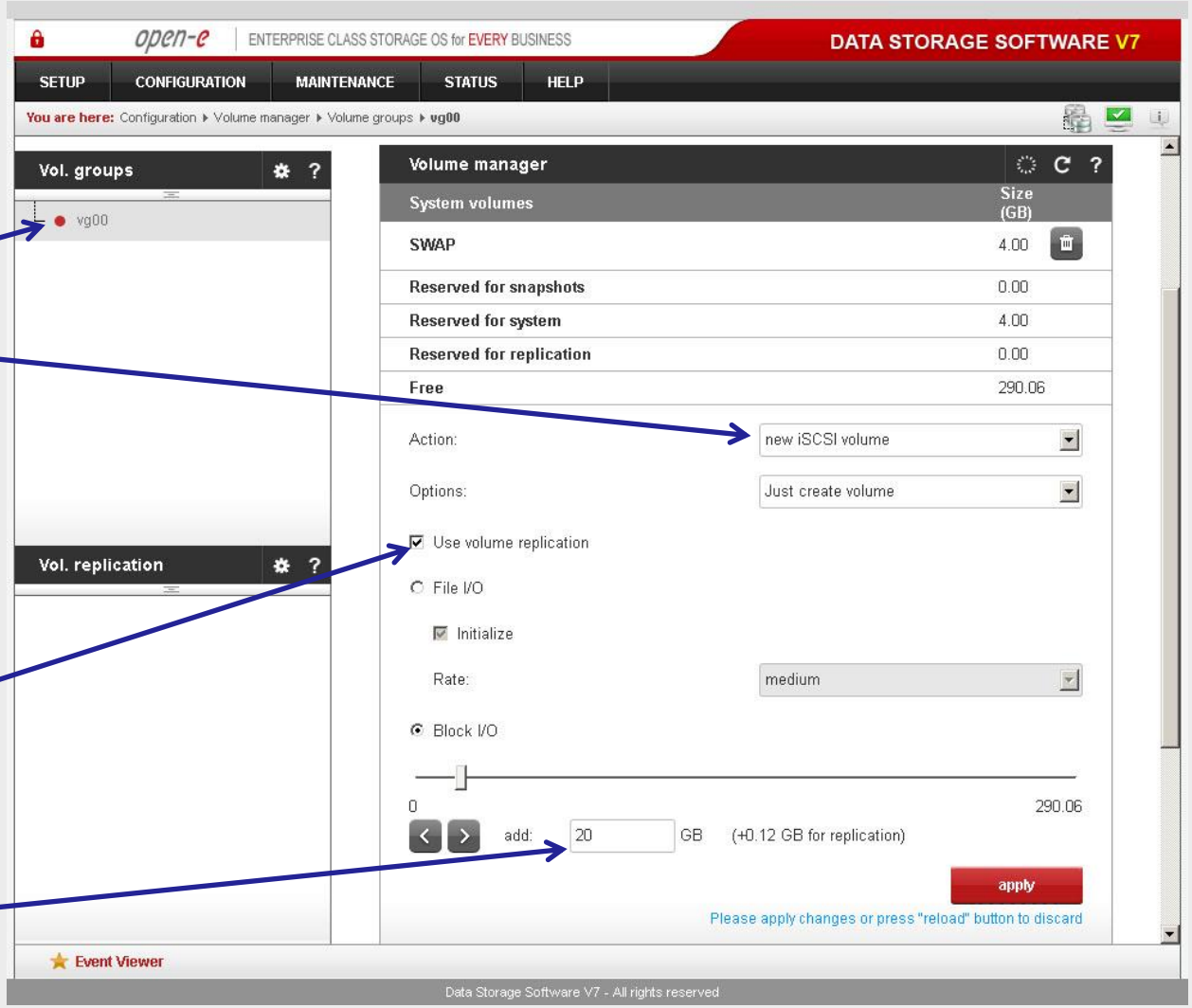
3. Configure the destination node

Select the appropriate volume group (**vg00**) from the list on the left and create a **new iSCSI volume** of the required size. This logical volume will be the destination of the replication process.

iSCSI volume (lv0000)

Check the box to **Use volume replication**.

After assigning an appropriate amount of space for the iSCSI volume, click the apply button.



Setting up Volume Replication **over a LAN**

Data Server (DSS2)

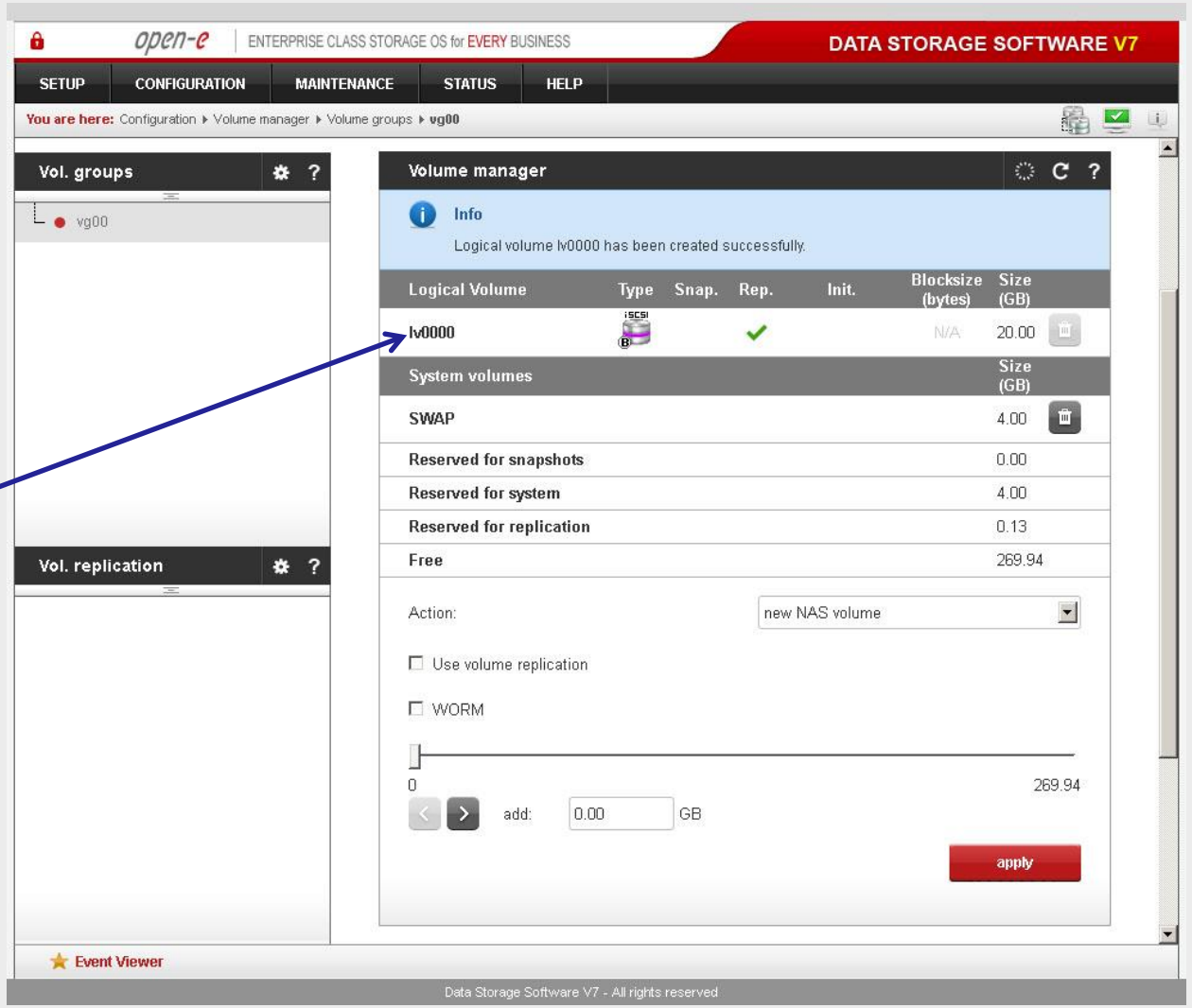
node-b

IP Address:192.168.0.221

3. Configure the destination node

The destination iSCSI Volume Block I/O is now configured.

iSCSI volume (lv0000)



Setting up Volume Replication **over a LAN**

Data Server (DSS2)

node-b

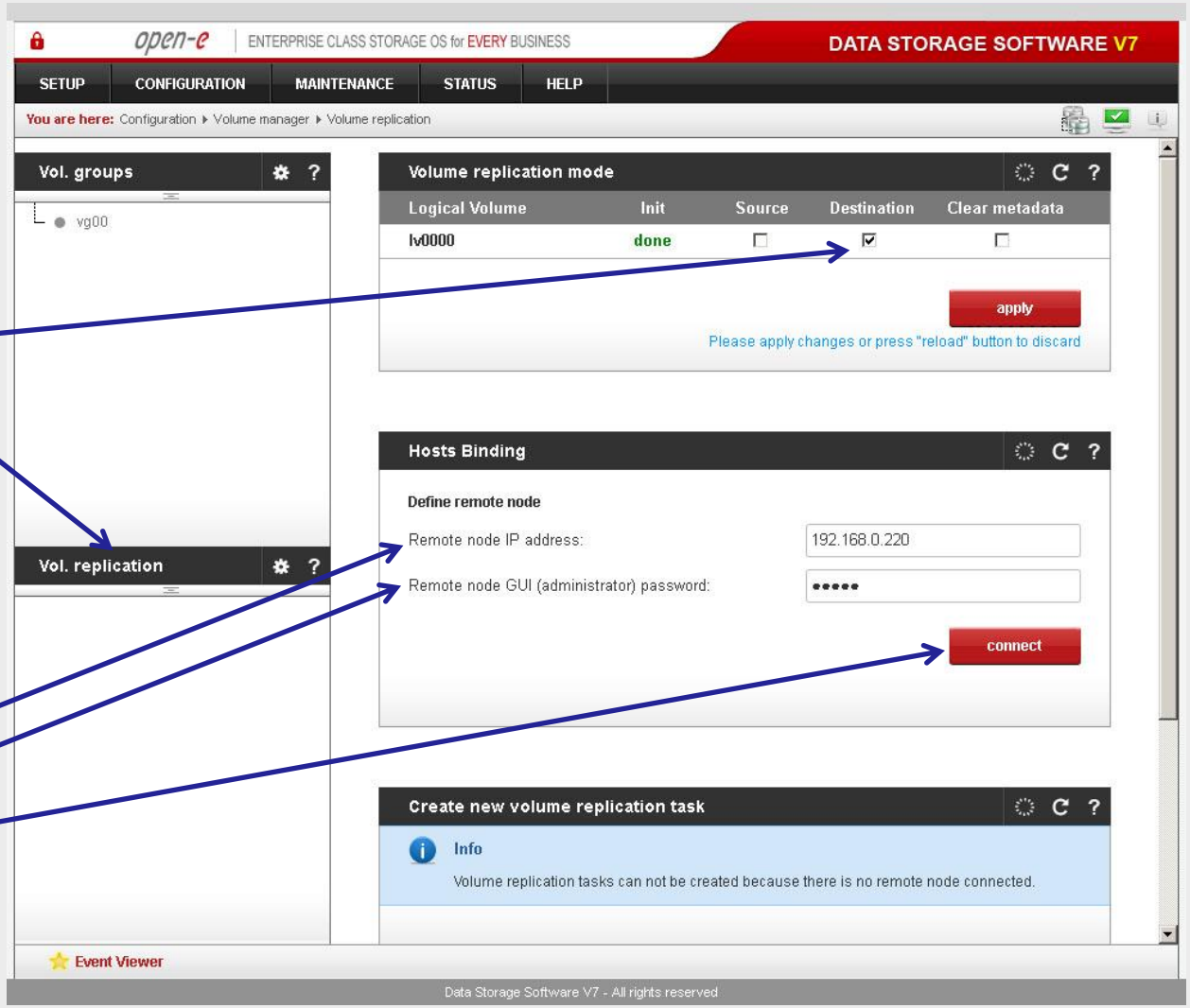
IP Address:192.168.0.221

3. Configure the destination node

Now, select the "**Volume replication mode**", check the box under **Destination** and click the apply button.

Volume Replication

Then, under "**Hosts Binding**" function, enter the IP address of the Remote node (in our example, this would be 192.168.1.220), enter administrator password and click the connect button.



Setting up Volume Replication **over a LAN**

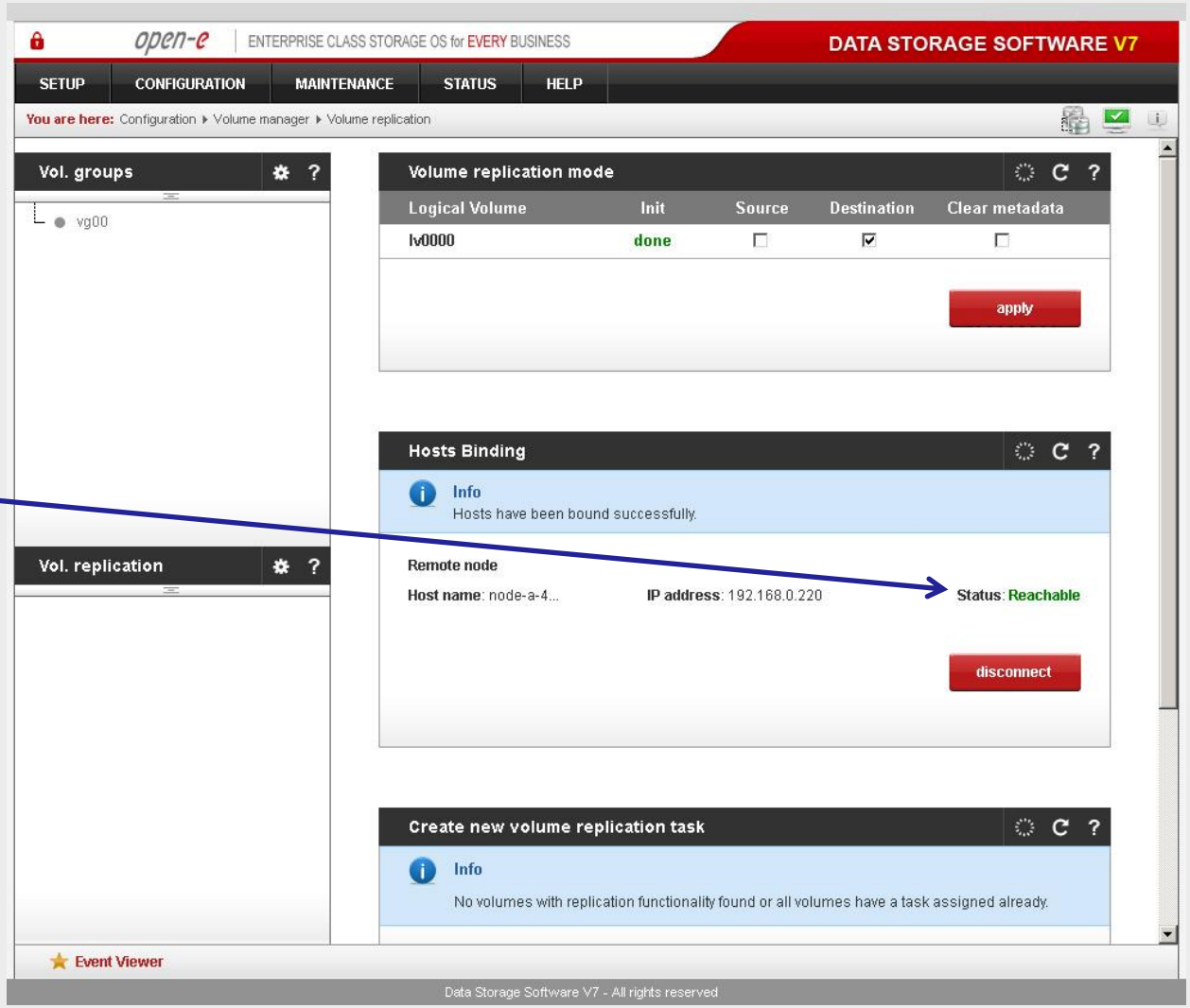
Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the destination node

After reloading a page, "**Hosts Binding**" status should be "**Reachable**".



Setting up Volume Replication **over a LAN**

Data Server (DSS2)

node-b

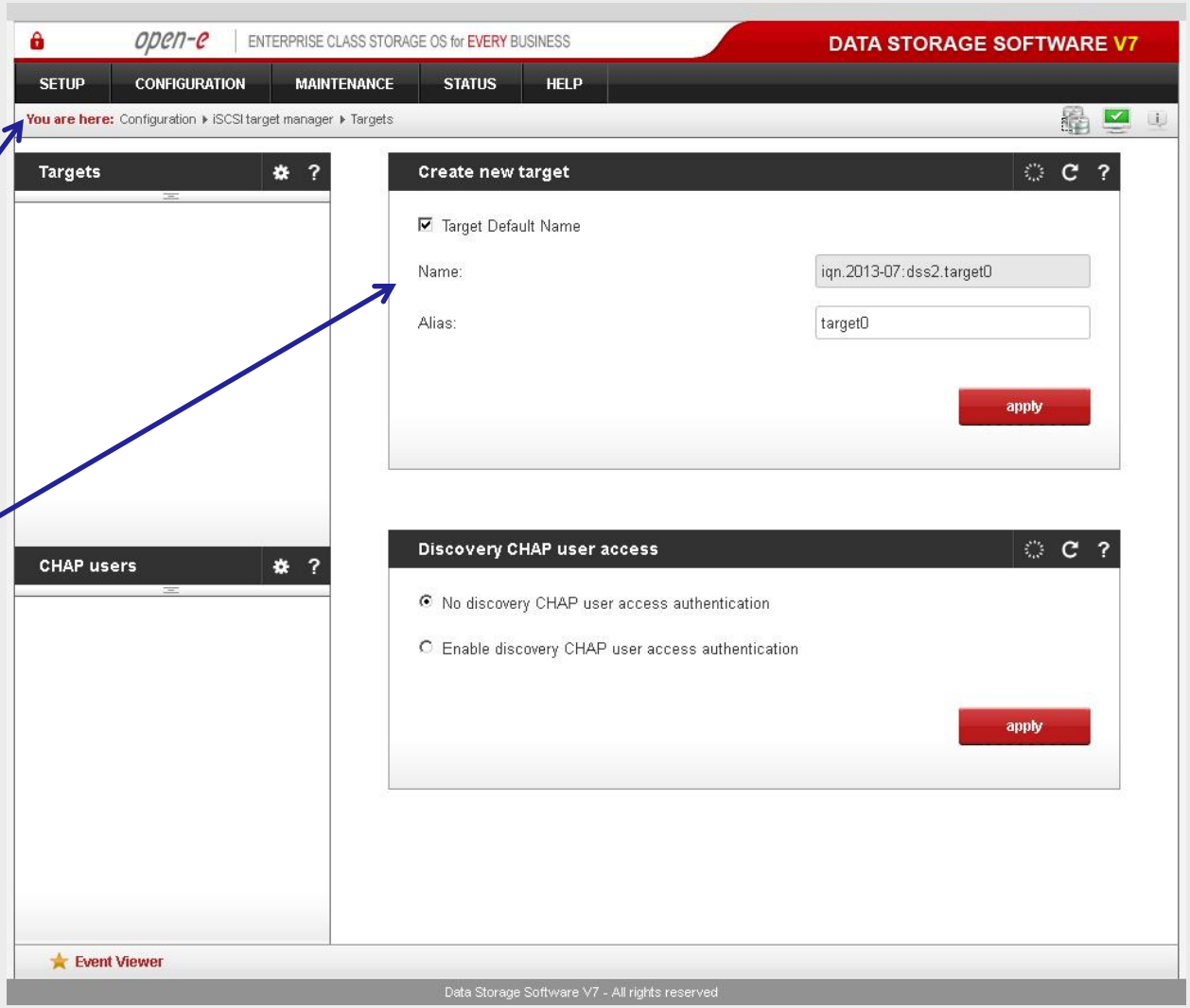
IP Address:192.168.0.221

3. Configure the destination node

Choose "**CONFIGURATION**", "**iSCSI target manager**" and "**Targets**" from the menu.

iSCSI targets

In the **Create new target** function enter a name for the new target (as desired) in the **Name** field and click apply to confirm.



Setting up Volume Replication **over a LAN**

Data Server (DSS2)

node-b

IP Address:192.168.0.221

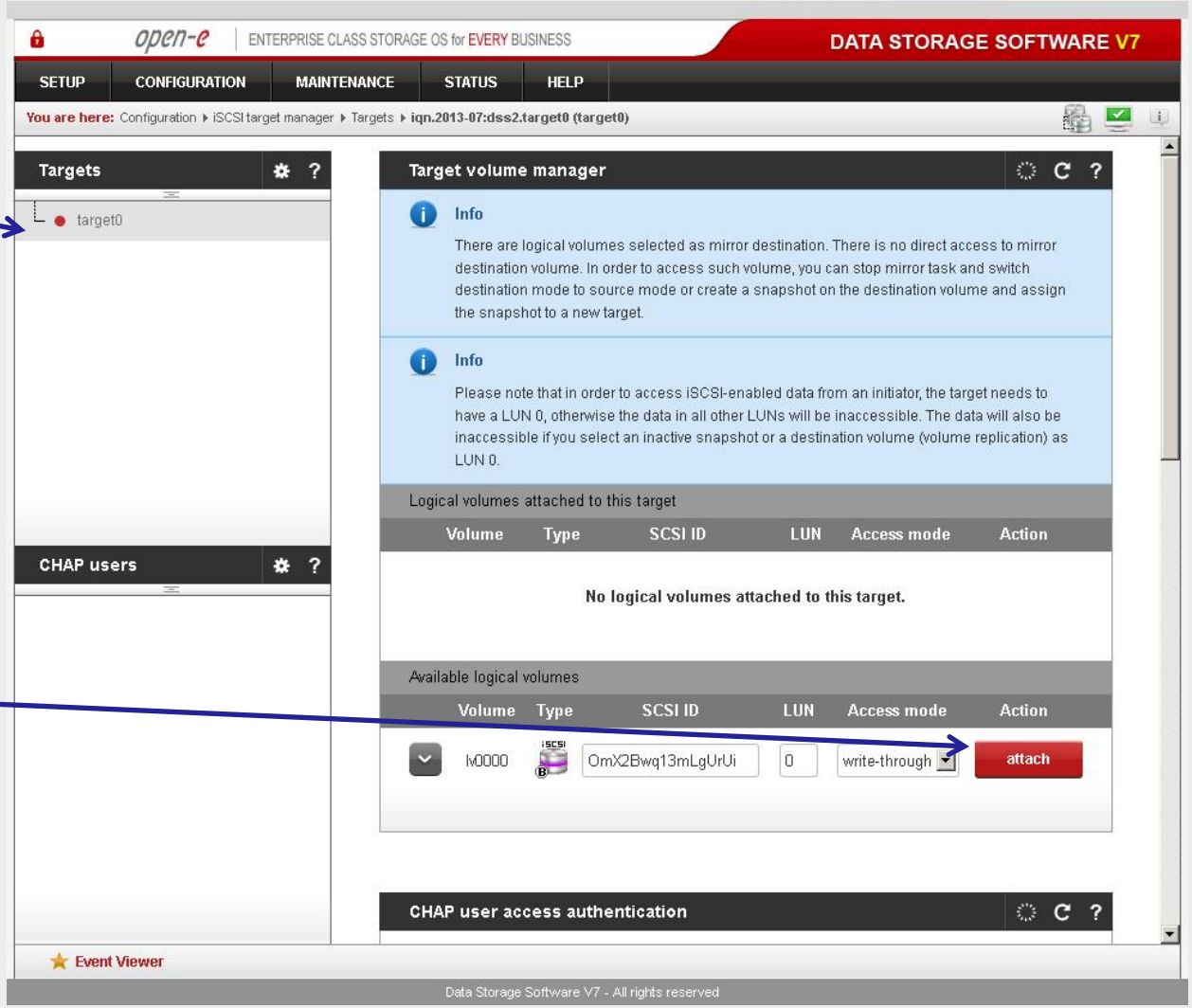
3. Configure the destination node

Select **target0** within the **Targets** field.

iSCSI targets

To assign a volume to the target, click the attach located under **Action**.

The configuration of the destination node (storage server) is now complete.



Setting up Volume Replication **over a LAN**

Data Server (DSS1)

node-a

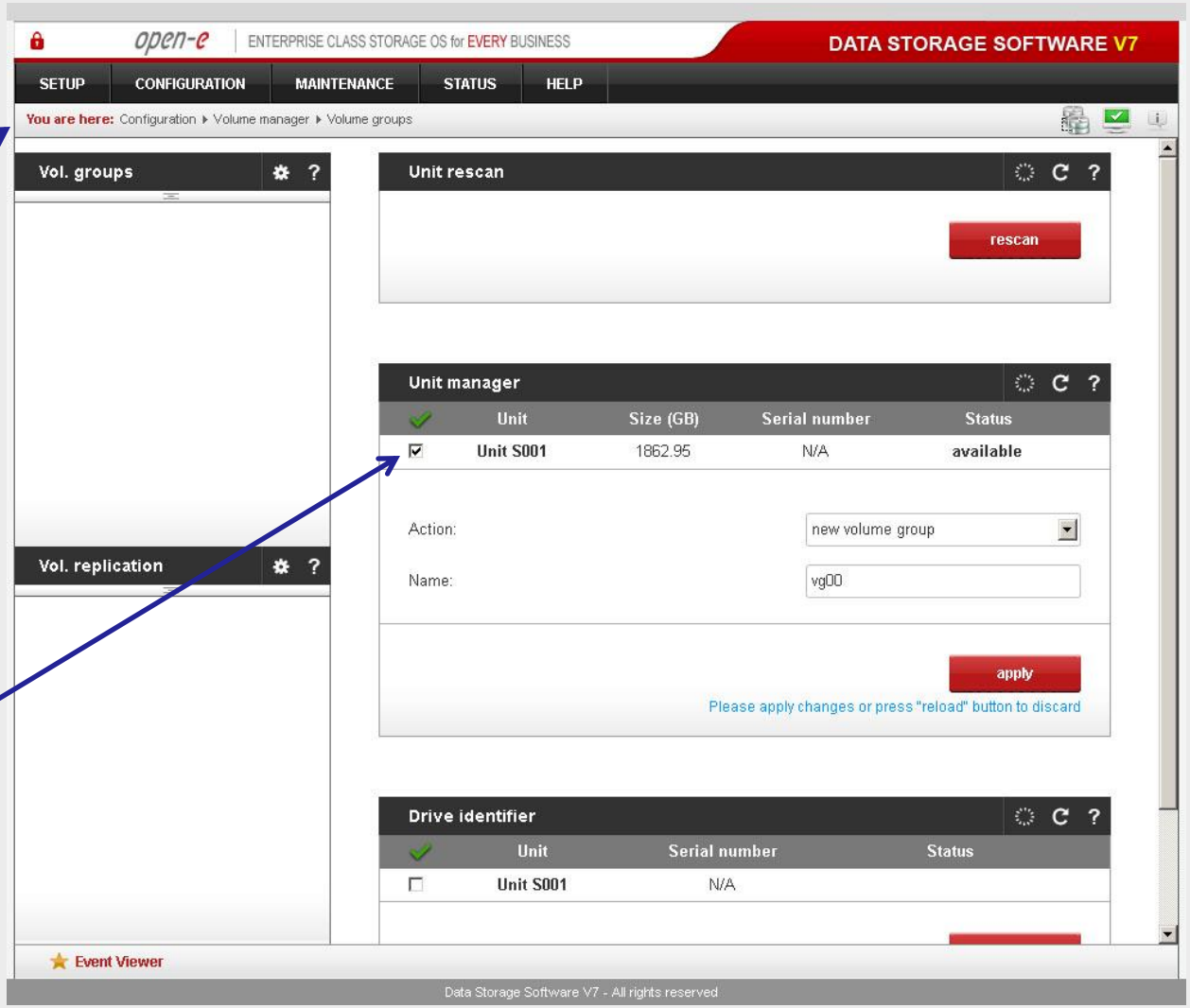
IP Address:192.168.0.220

4. Configure the source node

In the "**CONFIGURATION**" menu, select "**Volume manager**" and "**Volume groups**".

Volume groups (vg00)

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



Setting up Volume Replication **over a LAN**

Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the source node

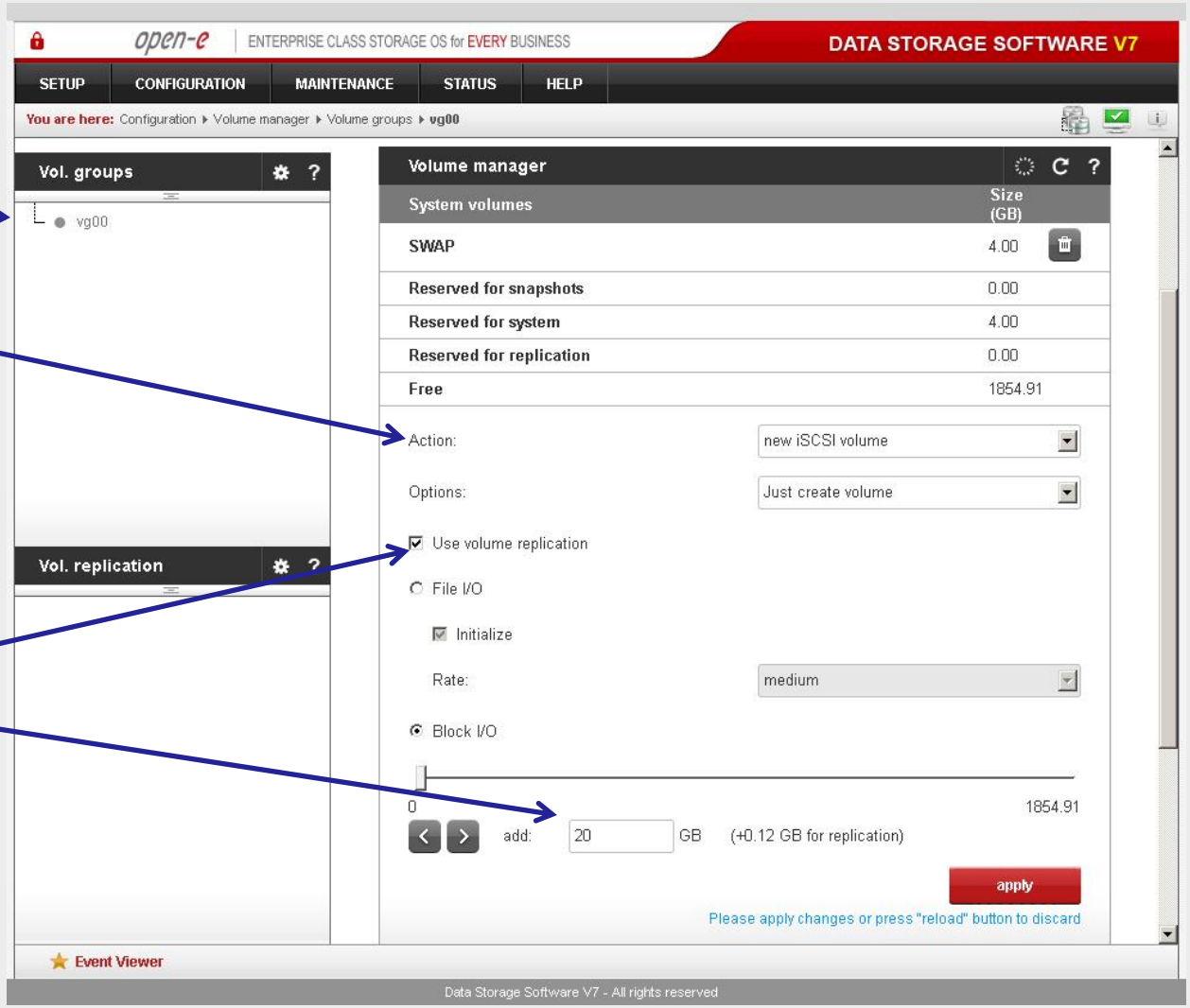
Select the appropriate volume group (**vg00**) from the list on the left and create a **new iSCSI volume** of the required size. This logical volume will be the source of the replication process.

iSCSI volume (lv0000)

Check the box to **Use volume replication.** After assigning an appropriate amount of space for the iSCSI volume, click the apply button.

NOTE:

The source and destination volumes must be of identical size. Remember to enable Volume Replication.



Setting up Volume Replication **over a LAN**

Data Server (DSS1)

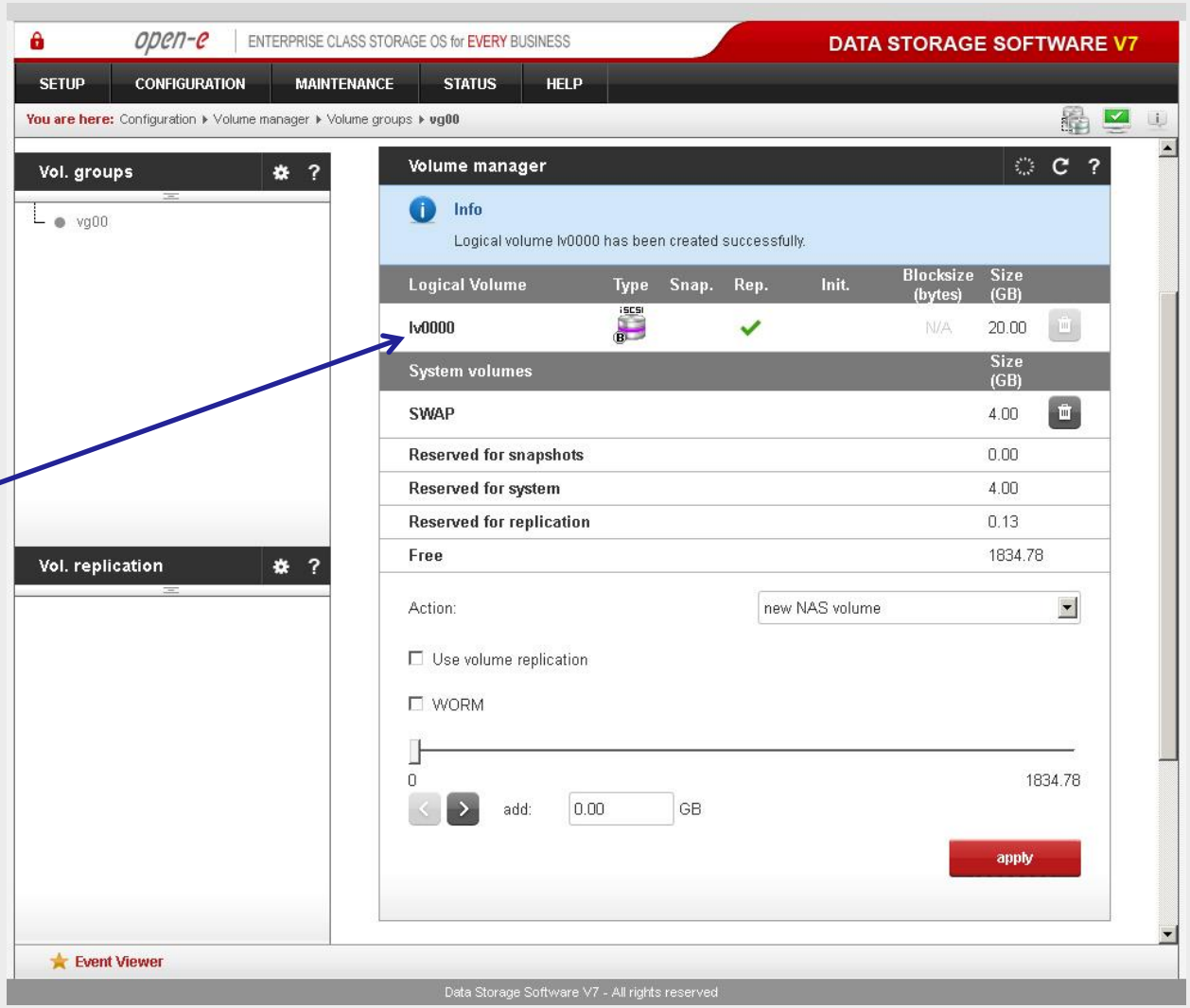
node-a

IP Address:192.168.0.220

4. Configure the source node

iSCSI volume (lv0000)

The source iSCSI Volume Block I/O is now configured.



Setting up Volume Replication **over a LAN**

Data Server (DSS1)

node-a

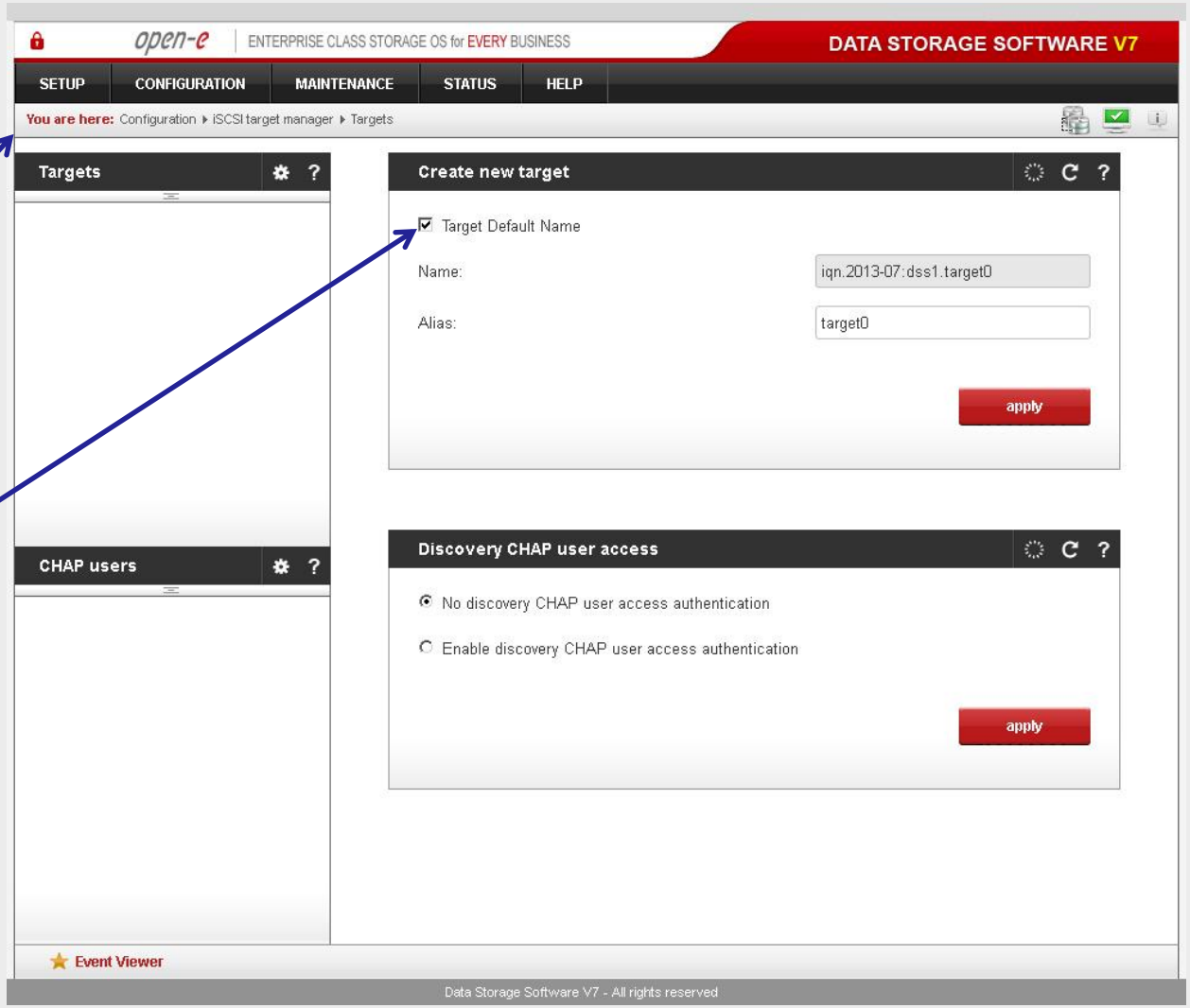
IP Address:192.168.0.220

4. Configure the source node

In the "**CONFIGURATION**" menu, select "**iSCSI target manager**" and "**Targets**".

iSCSI targets

In the **Create new target** function enter a name for the new target (as desired) in the Name field and click apply to confirm.



Setting up Volume Replication **over a LAN**

Data Server (DSS1)

node-a

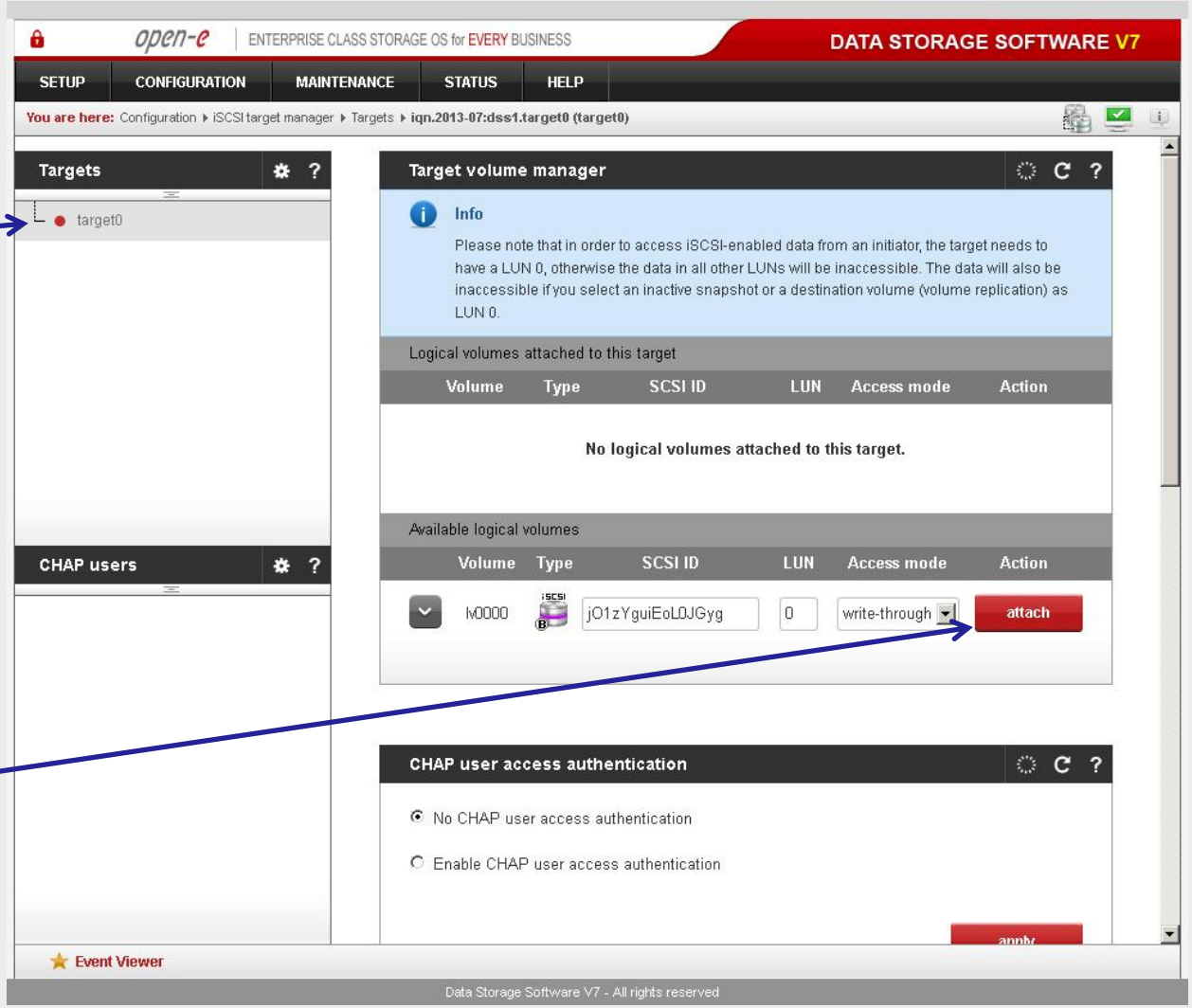
IP Address:192.168.0.220

4. Configure the source node

Select **target0** within the **Targets** field.

iSCSI targets

To assign a volume to the target, click the attach button located under **Action**.



Setting up Volume Replication **over a LAN**

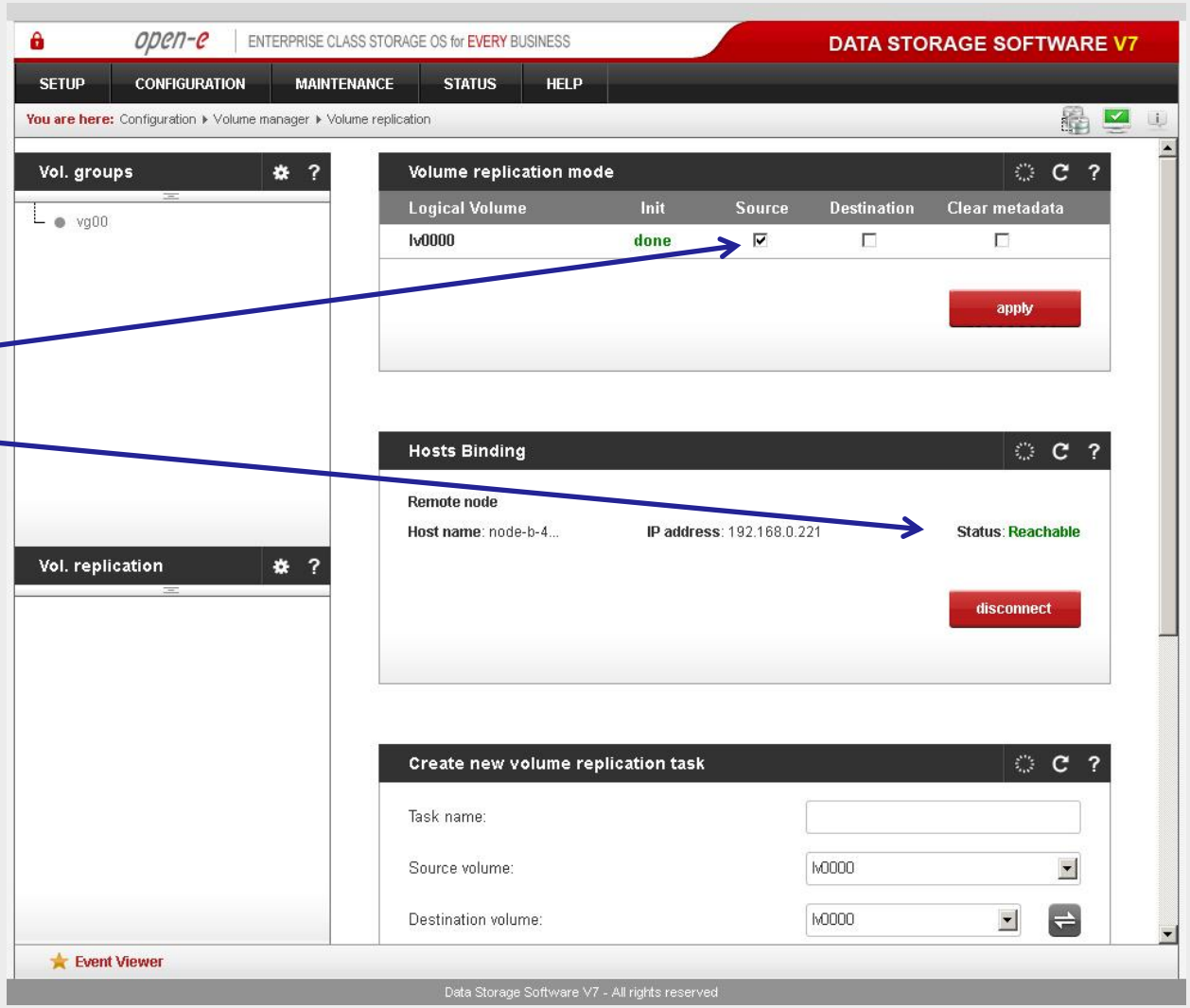
Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the source node

Now, select the "**Volume replication**".
In the "**Volume replication mode**" function, set logical volume as source and click apply. "**Hosts Binding**" status should be "Reachable".



Volume Replication

Setting up Volume Replication **over a LAN**

Data Server (DSS1)

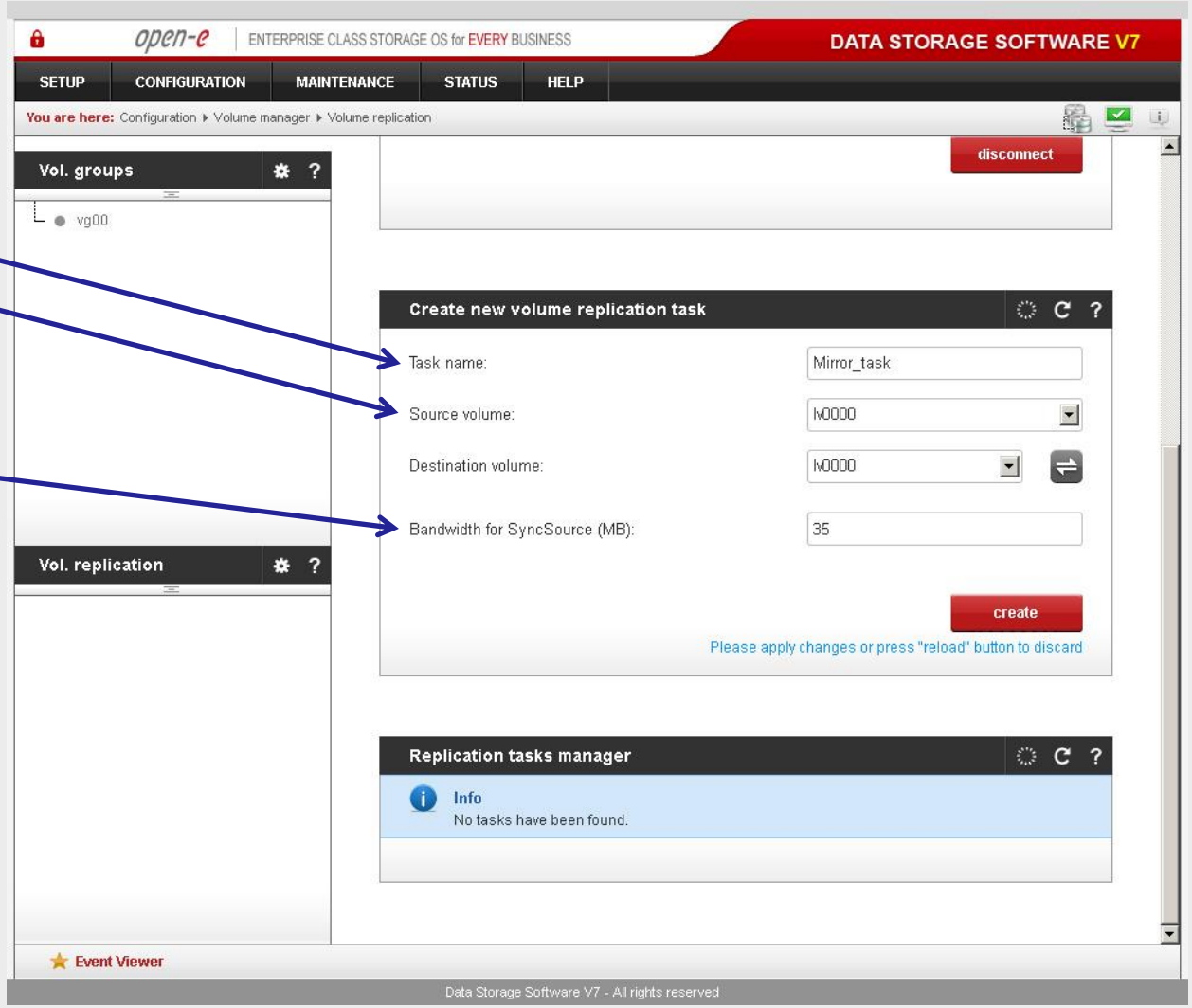
node-a

IP Address:192.168.0.220

5. Configure replication task

In the **Create new volume replication task**, enter the task name in the **Task name** field, then click on the ⇌ button.
In the **Destination volume** field, select the appropriate volume (in this example, **lv0000**).

In the **Bandwidth for SyncSource (MB)** field you must change the value. In the example, 35MB is used. Next, click the create button.



NOTE:

The "Bandwidth for SyncSource (MB)" needs to be calculated based on available Ethernet Network throughput and number of replication tasks and the limitation factor (about 0.7).

For example: **1** Gbit Ethernet and 2 replication tasks (assuming **1** Gbit provides about 100 MB/sec sustained network throughput)

- Bandwidth for SyncSource (MB): = 0.7 * 100/ 2 = 35

For example: **10** Gbit Ethernet and 10 replication tasks (assuming **10** Gbit provides about 700 MB/sec sustained network throughput)

- Bandwidth for SyncSource (MB): = 0.7 * 700/10 = 49

Setting up Volume Replication **over a LAN**

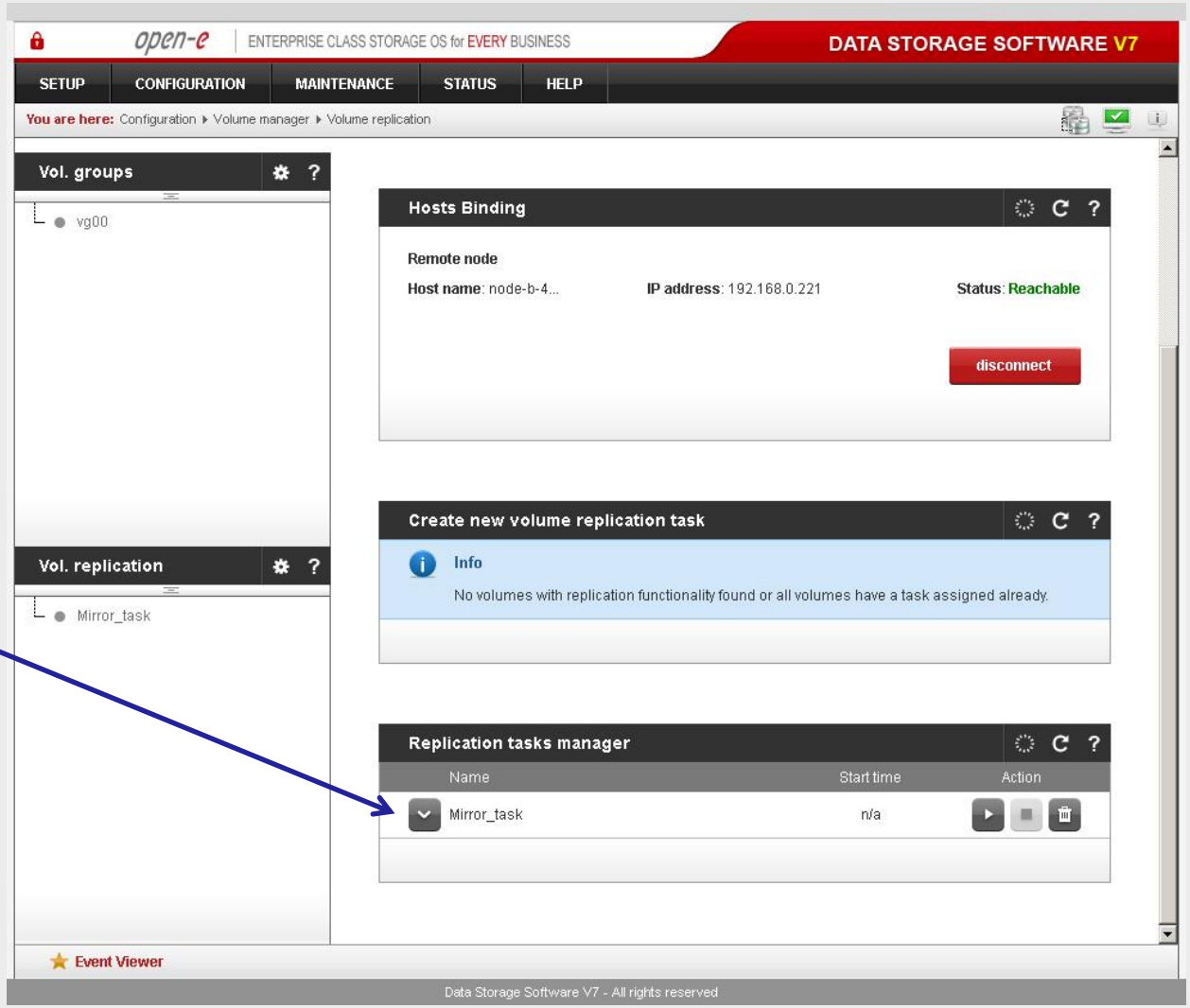
Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Configure replication task

After the DSS V7 Web console has been reloaded, you can start, stop or delete the task within the **Replication task manager** function.



Setting up Volume Replication **over a LAN**

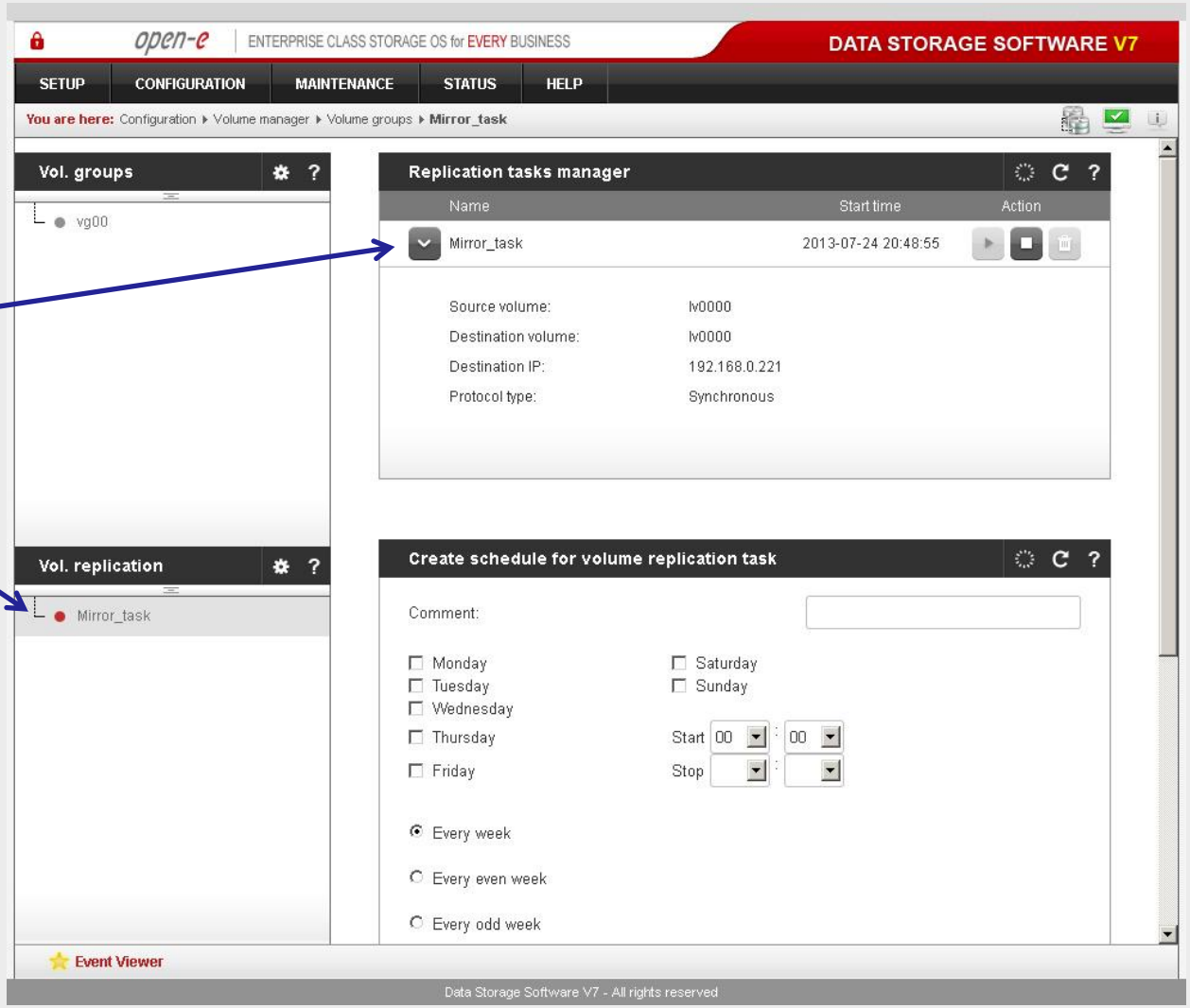
Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Configure replication task

Also, you can start, stop or delete the task within the **Replication Task Manager** function by clickling on the name. (in this case, **Mirror_task**)



NOTE:
Once the replication process has started, the replication direction can not be changed.

Setting up Volume Replication **over a LAN**

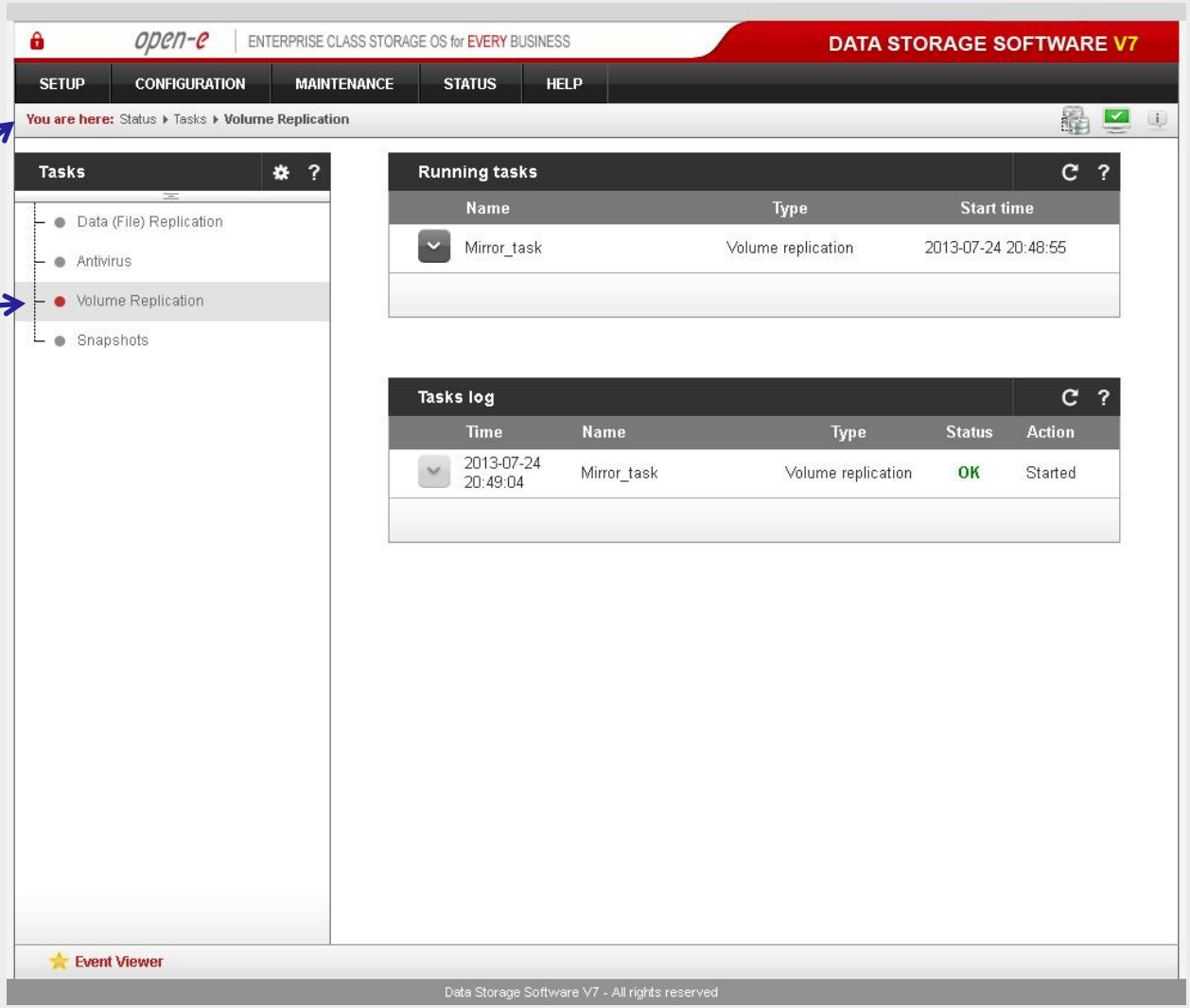
Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Check the status of volume replication

In the "**STATUS**" menu, select "**Tasks**", then select **Volume Replication**.



Setting up Volume Replication **over a LAN**

Data Server (DSS1)

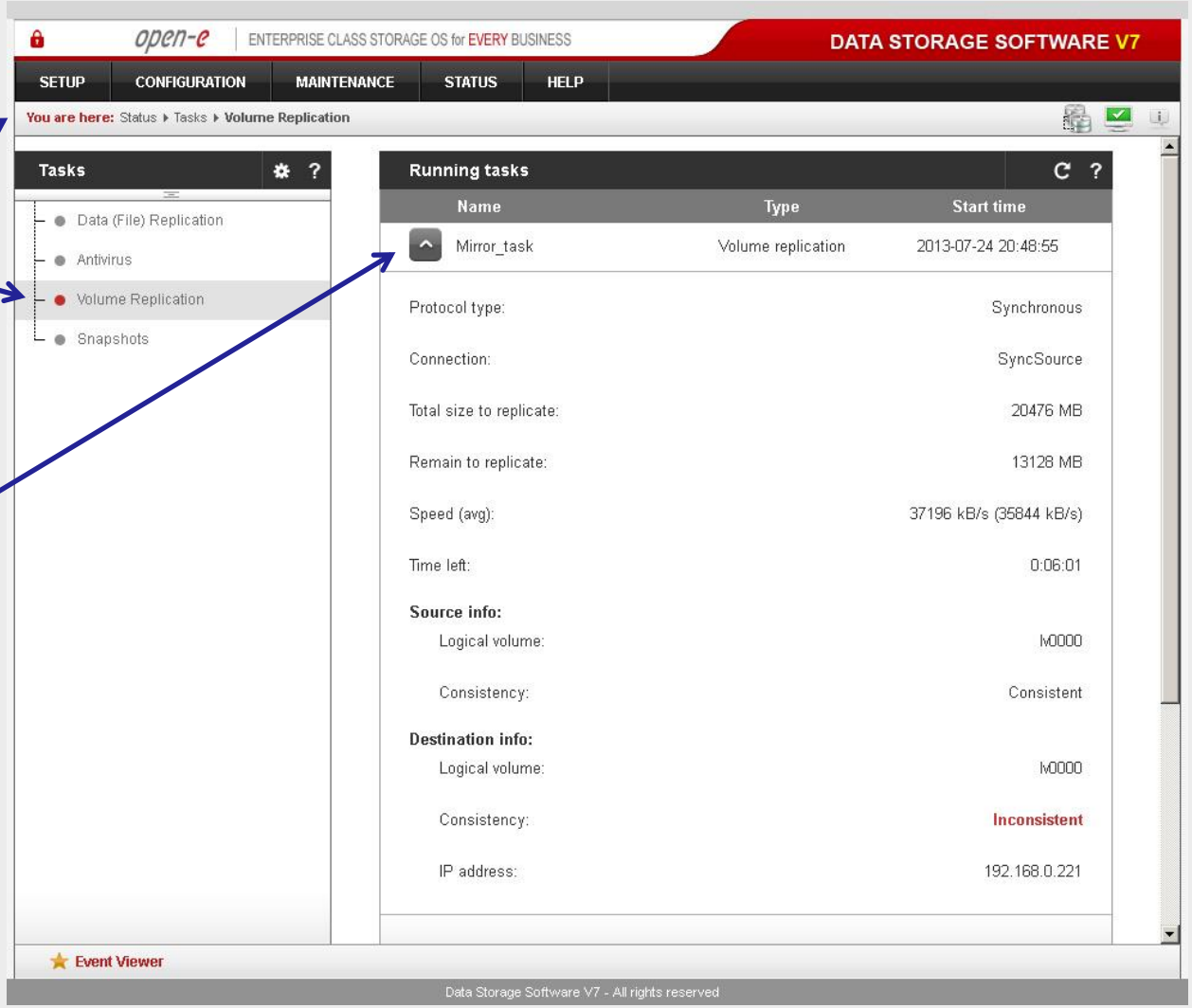
node-a

IP Address:192.168.0.220

6. Check the status of volume replication

You can check the status of Volume Replication anytime in **STATUS** → "**Tasks**" → "**Volume Replication**" menu.

Click on the button, located next to a task name (in this case **Mirror_task**) to display detailed information on the current replication task.



Setting up Volume Replication **over a LAN**

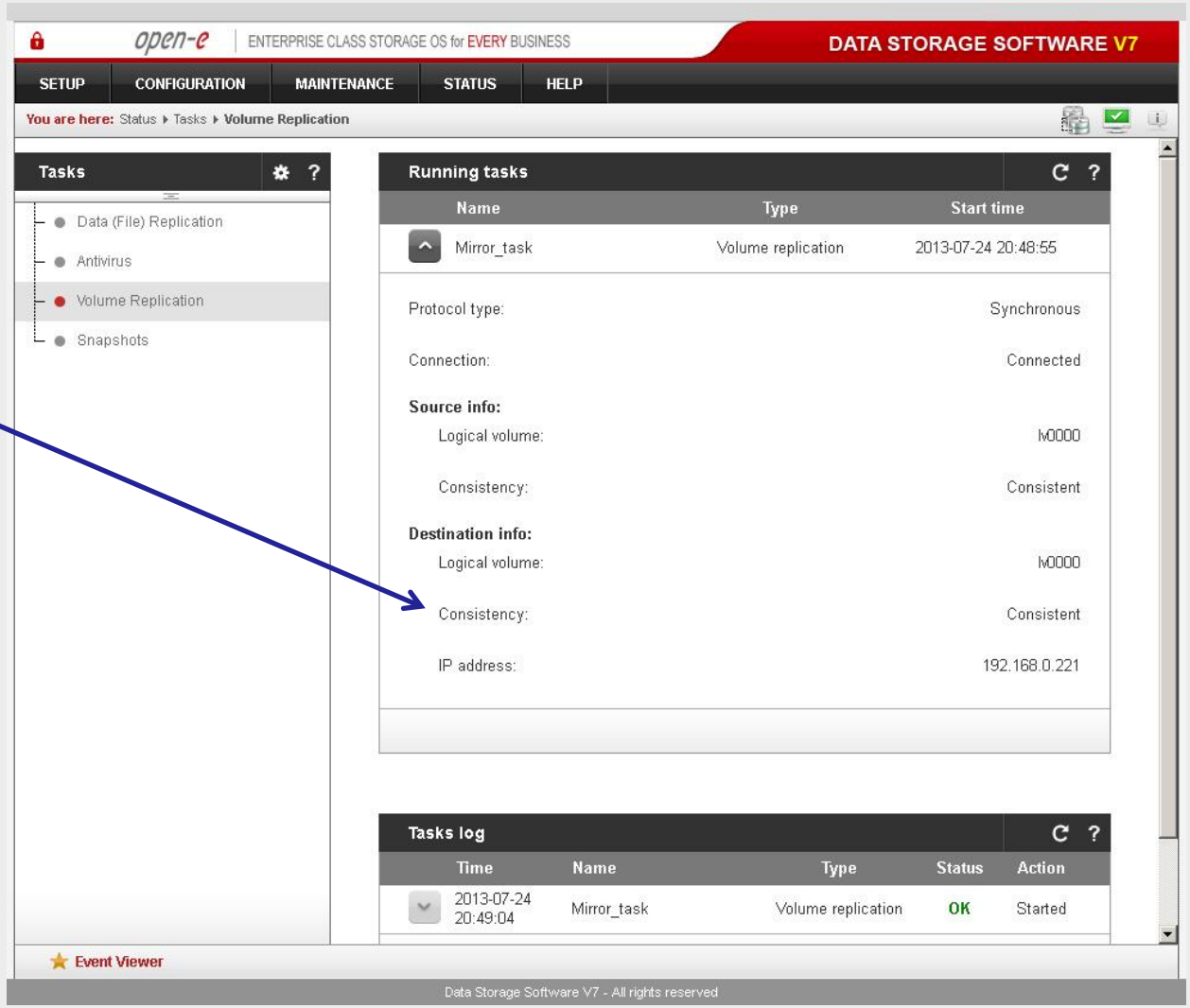
Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Check the status of volume replication

The replication task drop-down list provides information about the **consistency** of the data on destination node. In this case the replication proces for the destination mode is ended.



Volume Replication between source and destination nodes, is now complete.

Thank you!

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