

Step-by-Step Guide

To

Open-E DSS V7 Active-Active NAS (NFS) Failover

Software Version: DSS ver. 7.00 up50

Presentation updated: August 2015

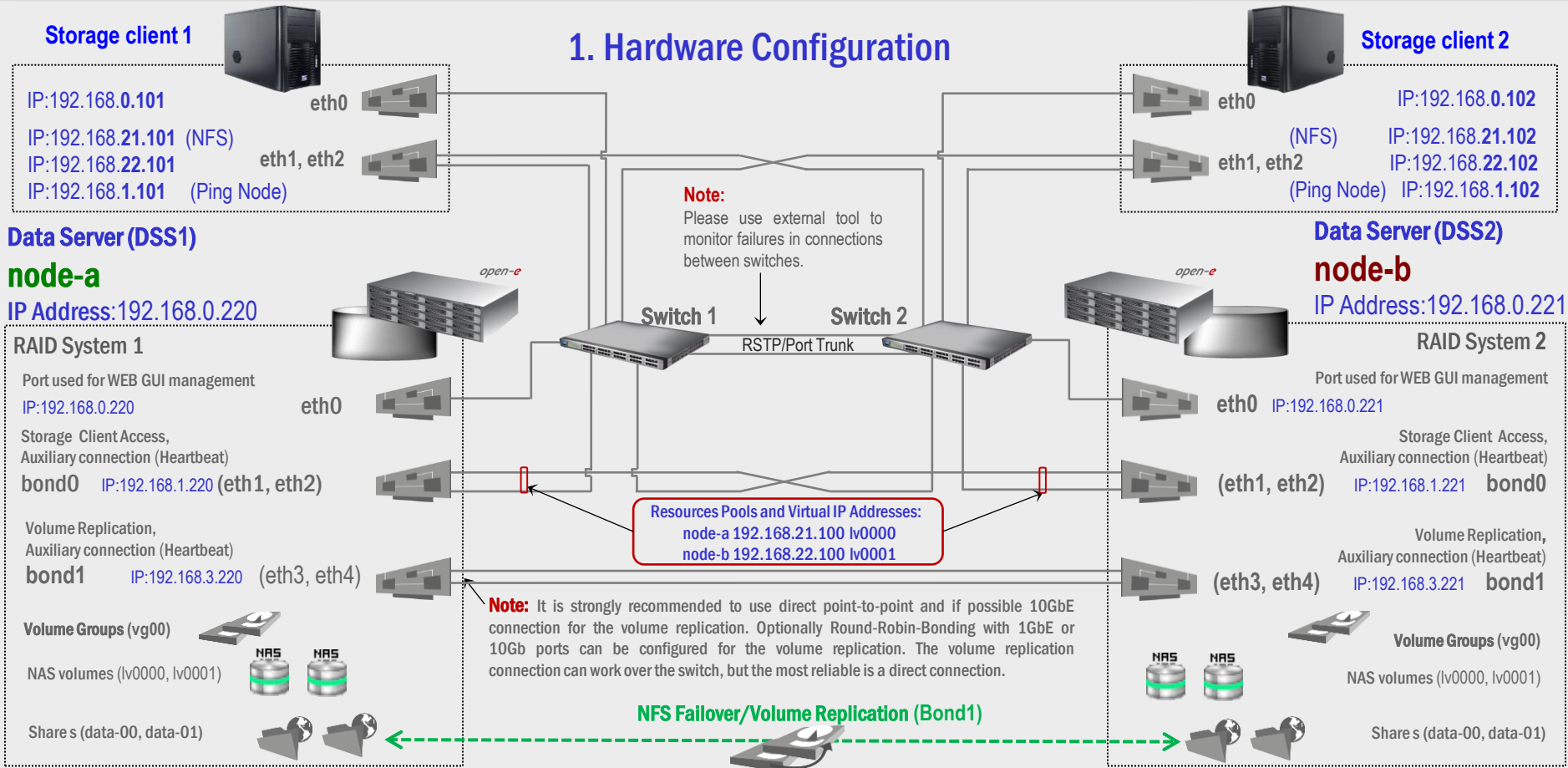
To set up Active-Active NFS Failover, perform the following steps:

1. Hardware configuration
2. Network Configuration:
 - Set server hostnames and ethernet ports on both nodes (node-a, node-b)
3. Configure the node-b:
 - Create a Volume Group, NAS Volumes, Set NFS on, Create Shares
 - Configure Volume Replication mode (destination and source mode), Hosts binding, create Volume Replication task and start the replication task
4. Configure the node-a:
 - Create a Volume Group, NAS Volumes, Set NFS on, Create Shares
 - Configure Volume Replication mode (source and destination mode), create Volume Replication task and start the replication task.
5. Configure Failover (node-a and node-b)
6. Start Failover Service
7. Test Failover Function

Open-E DSS V7 Active-Active NAS (NFS) Failover



1. Hardware Configuration



Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)
node-b
IP Address:192.168.0.221

2. Network Configuration

After logging on to the Open-E DSS V7 (node-b), please go to SETUP and choose the "Network interfaces".
In the Hostname box, replace the "dss" letters in front of the numbers with "node-b", in this example „node-b-0044603" and click the **apply** button (this will require a reboot).

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Setup > Network interfaces'. On the left, there is a list of network interfaces: eth0, eth1, eth2, eth3, and eth4. On the right, there are three configuration panels: 'Server Name' (with 'Server name:' set to 'dss2' and 'Comment:' set to 'Data Storage Software'), 'Hostname' (with 'Hostname:' set to 'node-b-0044603'), and 'DNS settings' (with 'DNS:' set to '194.204.152.34;194.204.159.1'). Each panel has an 'apply' button. A blue arrow points from the 'Server Name' panel to the 'Hostname' panel, and another blue arrow points from the 'Hostname' panel to the 'apply' button. At the bottom, there is an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)

node-b

IP Address:192.168.0.221

2. Network Configuration

Next, select eth0 interface and in the IP address field, change the IP address from 192.168.0.220 to 192.168.0.221
Then click **apply** (this will restart network configuration).

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'open-e', 'ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS', and 'DATA STORAGE SOFTWARE V7'. Below the navigation bar are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Setup > Network interfaces > eth0'. The main content area is divided into two panels. The left panel, titled 'Interfaces', lists network interfaces: eth0 (selected with a red dot), eth1, eth2, eth3, and eth4. The right panel, titled 'Interface info', shows details for the selected interface: 'Broadcom Corporation NetLink BCM5789 Gigabit Ethernet PCI Express (rev 11)'. Below this is the 'IP address' configuration section, which includes a warning message: 'Warning! You are currently connected through this interface.' The configuration options are: 'Active' (checked), 'MAC' (00:0F:EA:3B:23:A0), 'DHCP' (unchecked), and 'Static' (checked). The 'Static' configuration fields are: 'IP address:' (192.168.0.221), 'Netmask:' (255.255.255.0), 'Broadcast:' (auto), and 'Gateway:' (192.168.0.1). An 'apply' button is located at the bottom right of the configuration section. At the bottom of the interface, there is an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)
node-b
IP Address:192.168.0.221

2. Network Configuration

Once again, select **Interfaces** and in the "Create new bond interface" function check two boxes with **eth1** and **eth2**. Next, in the field **Create**, select **balance-alb** bonding mode.

Next, in the field **Address IP** enter **192.168.1.221** and in the **Netmask** field enter **255.255.255.0** Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Setup > Network interfaces'. On the left, the 'Interfaces' section lists eth0 through eth4. On the right, the 'Create new bond interface' dialog is open, showing a table of interface options and configuration fields. Blue arrows point from the text boxes to the 'eth1' and 'eth2' checkboxes, the 'Create' dropdown menu, the 'Address IP' field, the 'Netmask' field, and the 'create' button.

Select	Primary	Interface	Active	Cable	Available	
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes	▼
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	yes	▼
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	yes	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes	▼

Create:

MAC:

DHCP

Static

Address IP:

Netmask:

Broadcast:

Gateway:

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)

node-b

IP Address:192.168.0.221

2. Network Configuration

Again, in the "Create new bond interface" function check two boxes with eth3 and eth4. Next, in the field Create, select balance-rr bonding mode.

Next, in the field Address IP enter 192.168.3.221 and in the Netmask field enter 255.255.255.0 Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

NOTE:

The bond1 will be used for volume replication path. It is strongly recommended to connect both servers with point-to-point (without switch) . Only balance-rr works properly in such case.

The screenshot shows the Open-E DSS V7 web interface for network configuration. The 'Create new bond interface' dialog is open, displaying a table of available interfaces and their properties. The 'Create' dropdown is set to 'New balance-rr'. The MAC address is 02:3B:10:ED:91:F6. The Address IP is 192.168.3.221 and the Netmask is 255.255.255.0. A 'create' button is visible at the bottom right.

Select	Primary	Interface	Active	Cable	Available	
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth1 (bond0)	yes	cable	no (bond0)	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth2 (bond0)	yes	cable	no (bond0)	▼
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes	▼
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes	▼

Create:

MAC:

DHCP

Static

Address IP:

Netmask:

Broadcast:

Gateway:

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

2. Network Configuration

After logging on to the Open-E DSS V7 (node-a), please go to SETUP and choose the "Network interfaces". In the Hostname box, replace the "dss" letters in front of the numbers with "node-a" server, in this example „node-0044602" and click the **apply** button (this will require a reboot).

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' tab is active, and the 'Network interfaces' page is displayed. The 'Interfaces' section on the left lists network interfaces from eth0 to eth4. The 'Server Name' section has 'Server name:' set to 'dss1' and 'Comment:' set to 'Data Storage Software'. The 'Hostname' section has 'Hostname:' set to 'node-a-0044602'. The 'DNS settings' section has 'DNS' set to '194.204.152.34;194.204.159.1'. Red 'apply' buttons are visible in each configuration section. A blue arrow points from the text box to the 'Interfaces' section, and another blue arrow points from the text box to the 'node-a-0044602' hostname field.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

2. Network Configuration

Next, select **Interfaces** and in the "Create new bond interface" function check two boxes with **eth1** and **eth2**. Next, in the field **Create**, select **balance-alb** bonding mode.

Next, in the field **Address IP** enter **192.168.1.220** and in the **Netmask** field enter **255.255.255.0** Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

Select	Primary	Interface	Active	Cable	Available
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes

Create: **New balance-alb**

MAC: 02:DB:A3:69:A3:17

DHCP

Static

Address IP: 192.168.1.220

Netmask: 255.255.255.0

Broadcast:

Gateway:

create

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

2. Network Configuration

Again in the "Create new bond interface" function check two boxes with eth3 and eth4. Next, in the field Create, select balance-rr bonding mode.

Next, in the field Address IP enter 192.168.3.220 and in the Netmask field enter 255.255.255.0 Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

NOTE:

The bond1 will be used for volume replication path. It is strongly recommended to connect both servers with point-to-point (without switch) . Only balance-rr works properly in such case.

Select	Primary	Interface	Active	Cable	Available	
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	no (bond0)	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	no (bond0)	▼
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes	▼
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes	▼

Create:

MAC:

DHCP

Static

Address IP:

Netmask:

Broadcast:

Gateway:

Open-E DSS V7 Active-Active NAS (NFS) Failover



open-e
Data Server (DSS2)
node-b
IP Address:192.168.0.221

3. Configure node-b

Under the „CONFIGURATION” tab, select „Volume manager” and next Volume groups.

In the Unit manager function menu, select unit S001, to create a new volume group (in this case, vg00). Click the **apply** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Configuration > Volume manager > Volume groups'. The 'Unit manager' section is active, displaying a table with columns: Unit, Size (GB), Serial number, and Status. The table contains one entry: Unit S001, 298.10 GB, N/A, and Status 'available'. Below the table, there is an 'Action:' dropdown menu set to 'new volume group' and a 'Name:' input field containing 'vg00'. A red 'apply' button is visible at the bottom right of this section. The 'Drive identifier' section below shows a table with columns: Unit, Serial number, and Status. It lists two units: Unit S000 (Serial number 9SY0QWBT) and Unit S001 (Serial number 9RA6VDG3). A red 'apply' button is also present at the bottom right of this section. Blue arrows from the text boxes point to the 'Unit manager' table and the 'apply' button.

Unit	Size (GB)	Serial number	Status
<input checked="" type="checkbox"/> Unit S001	298.10	N/A	available

Action: new volume group
Name: vg00

apply

Unit	Serial number	Status
<input type="checkbox"/> Unit S000	9SY0QWBT	
<input type="checkbox"/> Unit S001	9RA6VDG3	

apply

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)
node-b
IP Address:192.168.0.221

3. Configure node-b

Select volume group vg00 from the list on the left and create a new NAS volume of the required size.

Next check the box with **Use volume replication**

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

NOTE:

In our example the first volume has 100GB and the second 101GB. This is a good practice to assign different size to every volume.

The screenshot shows the Open-E DSS V7 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: Configuration > Volume manager > Volume groups > vg00'. The left sidebar shows 'Vol. groups' with 'vg00' selected. Below it is 'Vol. replication'. The main content area is divided into two panels. The top panel, 'Units assigned', contains a table:

Unit	Serial number	Size (GB)
Unit S001	N/A	298.10

The bottom panel, 'Volume manager', shows system volumes:

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	290.06

Below the table, the 'Action:' dropdown is set to 'new NAS volume'. The 'Use volume replication' checkbox is checked. The 'WORM' checkbox is unchecked. A slider shows the volume size, with 'add: 100 GB (+0.12 GB for replication)' and a total of '290.06'. The 'apply' button is highlighted in red. A footer note says 'Please apply changes or press "reload" button to discard'. At the bottom left, there is an 'Event Viewer' icon. The footer text reads 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)
node-b
IP Address:192.168.0.221

3. Configure node-b

Next, create the 2nd logical volume on the node-b.

Next check the box with **Use volume replication**

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

The screenshot shows the Open-E DSS V7 web 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 two panels: 'Vol. groups' and 'Volume manager'.

The 'Vol. groups' panel shows a single volume group 'vg00'. The 'Volume manager' panel displays the configuration for a logical volume 'lv0000'. The 'Info' section states: '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	NFS		✓		N/A	100.00

Below the table, the 'System volumes' section shows the following details:

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.13
Free	189.94

The 'Action:' dropdown menu is set to 'new NAS volume'. The 'Use volume replication' checkbox is checked, and the 'WORM' checkbox is unchecked. A slider below these options shows the available free space (189.94 GB) and the current volume size (101 GB). The 'add:' field is set to '101' GB, with a note indicating '+0.12 GB for replication'. The 'apply' button is highlighted in red.

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

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)
node-b
IP Address:192.168.0.221

3. Configure node-b

Both NAS Volume s are created.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume groups > vg00

Vol. groups

- vg00

Volume manager

Info
Logical volume lv0001 has been created successfully.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	NFS		✓		N/A	100.00
lv0001	NFS		✓		N/A	101.00

System volumes

	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.25
Free	88.81

Action: new NAS volume

Use volume replication

WORM

0 88.81

< > add: 0.00 GB

apply

★ Event Viewer

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Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure node-b

Choose "CONFIGURATION", and "NAS settings" from the menu on node-b.

In the NAS settings function, check the box Use NFS, click **apply** to confirm.

The screenshot shows the Open-E DSS V7 web interface. At the top, there is a navigation menu with 'CONFIGURATION' selected. Below the menu, the breadcrumb path is 'You are here: Configuration > NAS settings'. The main content area displays three configuration sections: 'NFS settings', 'FTP settings', and 'AppleTalk (AFP) settings'. In the 'NFS settings' section, the 'Use NFS' checkbox is checked, and there is an 'apply' button. Below this section, there is a message: 'Please apply changes or press "reload" button to discard'. The 'FTP settings' section has the 'Use FTP' checkbox unchecked. The 'AppleTalk (AFP) settings' section has the 'Use AppleTalk (AFP)' checkbox unchecked. At the bottom of the interface, there is an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

4. Configure node-a

Under the „CONFIGURATION” tab, select „Volume manager” and next Volume groups.

In the Unit manager function menu, select unit S001, to create a new volume group (in this case, vg00). Click the **apply** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > Volume manager > Volume groups'. The main content area is divided into two sections: 'Vol. groups' and 'Unit manager'. The 'Unit manager' section contains a table with the following data:

Unit	Size (GB)	Serial number	Status
<input checked="" type="checkbox"/> Unit S001	1862.95		available

Below the table, there is an 'Action:' dropdown menu set to 'new volume group' and a 'Name:' input field containing 'vg00'. A red 'apply' button is located at the bottom right of this section. A blue arrow points from the 'Unit manager' table to the 'apply' button. Below the 'Unit manager' section is the 'Drive identifier' section, which has a table with the following data:

Unit	Serial number	Status
<input type="checkbox"/> Unit S001		

A red 'apply' button is also present at the bottom right of the 'Drive identifier' section. A blue arrow points from the 'Unit manager' section to the 'apply' button in the 'Drive identifier' section. 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'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

4. Configure node-a

Select volume group **vg00** from the list on the left and create a new NAS volume of the required size.

Next check the box with **Use volume replication**

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

The screenshot shows the Open-E DSS V7 web 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 several sections:

- Vol. groups:** A list containing 'vg00' with a red dot icon.
- Units assigned:** A table with columns 'Unit', 'Serial number', and 'Size (GB)'. It shows 'Unit S001' with a size of 1862.95 GB.
- Volume manager:** A section for configuring system volumes. It includes a table for 'System volumes' with columns 'System volumes' and 'Size (GB)'. The table lists 'SWAP' (4.00 GB), 'Reserved for snapshots' (0.00 GB), 'Reserved for system' (4.00 GB), and 'Reserved for replication' (0.00 GB). The 'Free' space is 1854.91 GB.
- Action:** A dropdown menu set to 'new NAS volume'.
- Use volume replication:** A checked checkbox.
- WORM:** An unchecked checkbox.
- Slider:** A slider for volume size, currently set at 0 GB, with a maximum of 1854.91 GB.
- add:** A field set to '100' GB, with a note '(+0.12 GB for replication)'. Navigation arrows are present.
- apply:** A red button to confirm the configuration.

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

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

3. Configure node-a

Next, create the 2nd logical volume on the node-a.

Next check the box with Use volume replication

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

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SETUP CONFIGURATION MAINTENANCE STATUS HELP

You are here: Configuration > Volume manager > Volume groups > vg00

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	NAS		✓		N/A	100.00

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.13
Free	1754.78

Action: new NAS volume

Use volume replication

WORM

add: 101 GB (+0.12 GB for replication)

apply

Please apply changes or press "reload" button to discard

Snapshot definition

★ Event Viewer

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Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

4. Configure node-a

Both NAS Volume s are created.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume groups > vg00

Vol. groups

- vg00

Vol. replication

Volume manager

Info
Logical volume lv0001 has been created successfully.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	NFS		✓		N/A	100.00
lv0001	NFS		✓		N/A	101.00

System volumes

	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.25
Free	1653.66

Action: new NAS volume

Use volume replication

WORM

0 1653.66

< > add: 0.00 GB

apply

★ Event Viewer

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Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

4. Configure node-a

Choose "CONFIGURATION", and "NAS settings" from the menu on node-b.

In the NAS settings function, check the box Use NFS, click **apply** to confirm.

The screenshot shows the open-e web interface for configuring NAS settings. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Configuration > NAS settings'. The 'NFS settings' section has the 'Use NFS' checkbox checked and an 'apply' button. Below it are 'FTP settings' and 'AppleTalk (AFP) settings' sections, both with 'Use' checkboxes unchecked and 'apply' buttons. The footer contains 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

4. Configure node-a

Next, choose „CONFIGURATION”, „NAS resources” and „Shares” from the menu.

Enter share name in field „Name” on lv0000 and click **apply** to confirm.

The screenshot shows the Open-E DSS V7 web interface. The breadcrumb trail is "Configuration > NAS resources > Shares". The "Create new share" form is active, with the "Name" field containing "data-00" and the "Default path" dropdown set to "/lv0000/data-00". A red "apply" button is visible. Below the form is the "ACL (Access control list)" section with a tree view showing "lv0000" and "lv0001".



Data Server (DSS1)
node-a
IP Address:192.168.0.220

4. Configure node-a

Next, create 2nd share. Enter share name „data-01” in the field „Name”, click on the arrow-down icon and from pull-down menu select lv0001 and click **apply** to confirm.

The screenshot displays the Open-E DSS V7 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 shows 'You are here: Configuration > NAS resources > Shares'. The left sidebar contains panels for 'Shares', 'Users', and 'Groups'. The main content area is titled 'Create new share' and shows a success message: 'Share has been created successfully.'. The 'Name' field is filled with 'data-01'. The 'Default path' dropdown menu is open, showing '/lv0001/data-01' selected. The 'Specified path' field is empty. The 'apply' button is visible at the bottom right of the form. Below the form is the 'ACL (Access control list)' panel with tabs for 'Browser', 'Users & Groups', and 'Access Permissions'. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

4. Configure node-a

Next, choose „data-00” share and uncheck box with **Use SMB** in ”SMB” settings function. Repeat the same step for ”data-01”

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'Configuration > NAS resources > Shares > data-00'. The main content area is divided into several sections:

- Shares:** A list of shares with '1. data-00' selected. A blue arrow points from the 'data-00' share to the 'SMB settings' panel.
- SMB settings:** A panel with a checkbox labeled 'Use SMB' which is currently unchecked. A blue arrow points from the 'Use SMB' checkbox to the text in the blue box. Below the checkbox is a red 'apply' button and a note: 'Please apply changes or press "reload" button to discard'.
- AppleTalk (AFP) settings:** A panel with an 'Info' section stating 'Appletalk is off!'.
- FTP settings:** A panel with an 'Info' section stating 'FTP is off!'.
- Users share access (SMB/FTP/AFP):** A panel showing 'Available users:' and 'Granted access users:'.

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

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

4. Configure node-a

Next, go to "NFS share access" check box with "Use NFS" and "Synchronous" and click **apply** button to confirm. Repeat the same steps for the 2nd share "data-01".

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'Configuration > NAS resources > Shares > data-00'. The main content area is divided into several sections: 'Shares', 'Users', 'Groups', 'NFS share access', and 'HTTP share access'. The 'Shares' section lists two shares: '1. data-00' and '2. data-01'. The 'NFS share access' section is expanded, showing configuration options for the selected share. The 'Use NFS' checkbox is checked. Below it, there are input fields for 'Allow access IP:' and 'Allow write IP:'. The 'Insecure' checkbox is unchecked. The 'Synchronous' checkbox is checked. Below it, 'Insecure locks' and 'All squash' are unchecked. 'No root squash' is checked. A 'Show advanced >>' link is visible. At the bottom right of this section is a red 'apply' button. Below the 'NFS share access' section is the 'HTTP share access' section, which currently shows an 'Info' icon. 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'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)
node-b
IP Address:192.168.0.221

3. Configure node-b

Next, choose „CONFIGURATION”, „NAS resources” and „Shares” from the menu on node-b.

Enter share name „data-00” in the field „Name” on lv0000 and click **apply** to confirm.

The screenshot shows the Open-E DSS V7 web interface. At the top, there is a navigation menu with 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Configuration > NAS resources > Shares'. The main content area is divided into two panels. The left panel shows a list of 'Shares' and 'Users'. The right panel is titled 'Create new share' and contains a form with the following fields: 'Name' (text input with 'data-00'), 'Comment' (text area), 'Default path' (dropdown menu with '/lv0000/data-00'), and 'Specified path' (text input with '/'). A red 'apply' button is located at the bottom right of the form. Below the form, there is a blue link that says 'Please apply changes or press "reload" button to discard'. At the bottom of the page, there is an 'ACL (Access control list)' section with three tabs: 'Browser', 'Users & Groups', and 'Access Permissions'. The 'Users & Groups' tab is selected, showing a tree view with 'lv0000' and 'lv0001'. At the very bottom of the page, there is a footer with 'www.open-e.com' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure node-b

Next, create 2nd share. Enter share name „data-01” in the field „Name”, click on the arrow-down icon and from pull-down menu select lv0001 and click **apply** to confirm.

The screenshot displays the Open-E DSS V7 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 shows 'You are here: Configuration > NAS resources > Shares'. The left sidebar contains 'Shares', 'Users', and 'Groups' sections. The main content area is titled 'Create new share' and shows a success message: 'Share has been created successfully.'. The 'Name' field contains 'data-01' and the 'Default path' dropdown is set to '/lv0001/data-01'. A red 'apply' button is visible at the bottom right of the form. Below the form is the 'ACL (Access control list)' section with tabs for 'Browser', 'Users & Groups', and 'Access Permissions'. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS2)
node-b
IP Address:192.168.0.221

3. Configure node-b

Next, choose „data-00” share and uncheck box with Use SMB in ”SMB” settings function. Repeat the same step for ”data-01”

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'Configuration > NAS resources > Shares > data-00'. The main content area is divided into several panels:

- Shares:** A list of shares with '1. data-00' selected. A blue arrow points from the text box to this entry.
- SMB settings:** A panel where the 'Use SMB' checkbox is unchecked. A blue arrow points from the text box to this checkbox.
- AppleTalk (AFP) settings:** Shows 'Appletalk is off!'
- FTP settings:** Shows 'FTP is off!'
- Users share access (SMB/FTP/AFP):** Shows 'Available users:' and 'Granted access users:'.

The footer of the interface includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure node-b

Next, go to "NFS share access" check box with "Use NFS" and with "Synchronous" and click **apply** button to confirm. Repeat the same steps for the 2nd share "data-01".

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > NAS resources > Shares > data-00'. The main content area is divided into several sections: 'Shares', 'Users', 'Groups', 'NFS share access', and 'HTTP share access'. The 'Shares' section lists two shares: '1. data-00' (selected) and '2. data-01'. The 'NFS share access' section for 'data-00' has the following settings: 'Use NFS' (checked), 'Allow access IP:' (empty field), 'Allow write IP:' (empty field), 'Insecure' (unchecked), 'Synchronous' (checked), 'Insecure locks' (unchecked), 'All squash' (unchecked), and 'No root squash' (checked). A red 'apply' button is visible at the bottom right of this section. The 'HTTP share access' section is currently collapsed. The footer of the interface includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure node-b

Now, select the **Volume replication**, and in **Volume replication mode** check the box under **Destination** for lv0000 and **Source** for lv0001, next click the **apply** button to confirm.

Then, under "Hosts Binding" function, enter the IP address of the node-a (in our example, this would be 192.168.3.220), enter administrator password (factory default password is admin) and click the **connect** button.

NOTE:

The host binding path is automatically used for volume replication.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'Configuration > Volume manager > Volume replication'. The 'Volume replication mode' section contains a table with the following data:

Logical Volume	Init	Source	Destination	Clear metadata
lv0000	done	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
lv0001	done	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Below the table is an 'apply' button and a message: 'Please apply changes or press "reload" button to discard'. The 'Hosts Binding' section has a 'Define remote node' sub-section with the following fields:

- Remote node IP address: 192.168.3.220
- Remote node GUI (administrator) password:

A 'connect' button is located below these fields. At the bottom, the 'Create new volume replication task' section displays an information message: 'Volume replication tasks can not be created because there is no remote node connected.'

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)
node-b
IP Address:192.168.0.221

3. Configure node-b

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

The screenshot shows the Open-E DSS V7 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: Configuration > Volume manager > Volume replication".

The "Volume replication mode" section contains a table with the following data:

Logical Volume	Init	Source	Destination	Clear metadata
lv0000	done	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
lv0001	done	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The "Hosts Binding" section shows an "Info" message: "Hosts have been bound successfully." Below this, the "Remote node" information is displayed:

Remote node
Host name: node-a-0... IP address: 192.168.3.220 Status: **Reachable**

The "Create new volume replication task" section is partially visible at the bottom.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

4. Configure node-a

Now, on the node-a select the "Volume replication".
In the "Volume replication mode" function, set lv0000 volume as source and lv0001 volume as Destination, and click **apply**.

open-e | ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS | DATA STORAGE SOFTWARE V7

SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume replication

Vol. groups

Logical Volume	Init	Source	Destination	Clear metadata
lv0000	done	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lv0001	done	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

apply

Please apply changes or press "reload" button to discard

Hosts Binding

Remote node

Host name: node-b-0... IP address: 192.168.3.221 Status: Reachable

disconnect

Create new volume replication task

Task name:

Source volume: lv0000

Destination volume: lv0001

★ Event Viewer

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Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)
node-a
IP Address:192.168.0.220

3. Configure node-a

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

The screenshot displays the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > Volume manager > Volume replication'. The main content area is divided into several panels:

- Vol. groups:** Shows a single group named 'vg00'.
- Hosts Binding:** Displays a 'Remote node' configuration with 'Host name: node-b-0...' and 'IP address: 192.168.3.221'. The status is 'Reachable'. A 'disconnect' button is present.
- Create new volume replication task:** This panel is the focus of the instructions. It contains three input fields: 'Task name' (filled with 'mirror_0000'), 'Source volume' (filled with 'lv0000'), and 'Destination volume' (filled with 'lv0000'). A 'create' button is at the bottom right. A note below the button reads: 'Please apply changes or press "reload" button to discard'. Blue arrows from the text box point to the 'Task name' field, the 'Destination volume' dropdown, and the 'create' button.
- Vol. replication:** An empty table with a header 'Vol. replication'.
- Replication tasks manager:** Shows an 'Info' message: 'No tasks have been found.'

The footer of the interface includes '★ Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS2)
node-b
IP Address:192.168.0.221

3. Configure node-b

On node-b, in the **Create new volume replication task**, enter the task name in the Task name field, then click on the refresh button. In the Destination volume field, select the mirror volume (in this example, lv0001). and click **create** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > Volume manager > Volume replication'. The main content area is divided into several sections:

- Host information:** Host name: node-a-0..., IP address: 192.168.3.220, Status: Reachable. A 'disconnect' button is visible.
- Vol. groups:** A list containing 'vg00'.
- Vol. replication:** A list containing 'mirror_0000_reverse'.
- Create new volume replication task:** A form with the following fields:
 - Task name: mirror_0001
 - Source volume: lv0001
 - Destination volume: lv0001A 'create' button is at the bottom right. A note below the form says: 'Please apply changes or press "reload" button to discard'.
- Replication tasks manager:** A table with the following data:

Name	Start time	Action
mirror_0000_reverse	n/a	[Play] [Stop] [Delete]

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



Data Server (DSS1)
node-a
IP Address:192.168.0.220

3. Configure node-a

Now, in the Replication task manager function, click the corresponding "play" button to start the Replication tasks on the node-a.

The screenshot shows the Open-E DSS V7 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: Configuration > Volume manager > Volume replication'. The interface is divided into several panels:

- Vol. groups:** Shows a tree view with 'vg00'.
- Vol. replication:** Shows a tree view with 'mirror_0000' and 'mirror_0001_reverse'.
- Hosts Binding:** Shows a 'Remote node' section with 'Host name: node-b-0...', 'IP address: 192.168.3.221', and 'Status: Reachable'. A 'disconnect' button is present.
- Create new volume replication task:** Shows an 'Info' message: 'No volumes with replication functionality found or all volumes have a task assigned already.'
- Replication tasks manager:** A table with columns 'Name', 'Start time', and 'Action'. It lists two tasks: 'mirror_0000' and 'mirror_0001_reverse', both with 'Start time' as 'n/a'. The 'Action' column contains 'play', 'stop', and 'delete' icons. A blue arrow points to the 'play' icon for the 'mirror_0000' task.

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



Data Server (DSS2)
node-b
IP Address:192.168.0.221

3. Configure node-b

Now, in the Replication task manager function, click the corresponding "play" button to start the Replication tasks on the node-b.

The screenshot displays the Open-E DSS V7 web interface for configuring volume replication. The breadcrumb trail indicates the current location: Configuration > Volume manager > Volume replication. The interface is organized into several panels:

- Vol. groups:** Shows a single volume group named 'vg00'.
- Vol. replication:** Lists two replication tasks: 'mirror_0000_reverse' and 'mirror_0001'.
- Hosts Binding:** Displays an information box stating 'Hosts have been bound successfully.' Below this, it shows a 'Remote node' configuration with 'Host name: node-a-0...' and 'IP address: 192.168.3.220', with a status of 'Reachable'. A 'disconnect' button is present.
- Create new volume replication task:** Shows an information box stating 'No volumes with replication functionality found or all volumes have a task assigned already.'
- Replication tasks manager:** A table listing the replication tasks with their start times and action buttons (play, stop, delete).

Name	Start time	Action
mirror_0000_reverse	n/a	[play] [stop] [delete]
mirror_0001	2015-08-18 18:07:35	[play] [stop] [delete]

Open-E DSS V7 Active-Active NAS (NFS) Failover



open-e
Data Server (DSS1)
node-a
IP Address:192.168.0.220

5. Configure Failover

On the node-a, go to **SETUP** and select "Failover".

In the **Auxiliary paths** function, select the 2st New auxiliary path on the local and remote node and click the **add new auxiliary path** button.

NOTE:

The first **Auxiliary path** has been automatically inserted. This path will be used also for Volume Replication.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Setup > Failover

Auxiliary paths

Status	node-a-0... interface (local node)	node-b-0... interface (remote node)	
Inactive	bond1 (192.168.3.220)	bond1 (192.168.3.221)	

New auxiliary path

Interface on local node:

Interface on remote node:

Please apply changes or press "reload" button to discard

Ping nodes

Ping node IP address	node-a-0... status (local node)	node-b-0... status (remote node)
No ping nodes defined.		

★ Event Viewer

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Configure Failover

In the Ping nodes function, enter two ping nodes. In the IP address field enter IP address and click the **add new ping node** button (according to the configuration in the third slide). In this example, IP address of the first ping node is: 192.168.1.101 and the second ping node: 192.168.1.102

NOTE:

Ping nodes MUST be configured in the storage access path. In this example the storage access path is the bond0, so ping nodes must be configured in 192.168.1.xxx subnet.



open-e
Data Server (DSS1)
node-a
IP Address:192.168.0.220

5. Configure Failover

Next, go to the Resources Pool Manager function (on node-a resources) and click the **add virtual IP** button. After that, enter Virtual IP, (in this example 192.168.21.100 according to the configuration in the third slide) and select two appropriate interfaces on local and remote nodes. Then, click the **add** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The main content area is titled 'Resources pool manager' and displays configuration for 'node-a-0044602 resources (local node)'. The status is 'unknown' and synchronization is 'not configured'. There are 'move' and 'sync between nodes' buttons. Below this, there are tabs for 'Virtual IP addresses', 'iSCSI resources', and 'NFS resources'. The 'Virtual IP addresses' tab is active, showing an 'add virtual IP' form. The form fields are: Virtual IP (192.168.21.100), Interface on local node (bond0 (192.168.1.220)), Interface on remote node (bond0 (192.168.1.221)), Netmask (255.255.255.0), and Broadcast (optional) (empty). There are 'cancel' and 'add' buttons at the bottom of the form. Below the form, there is a section for 'node-b-0044603 resources (remote node)' with a status of 'unknown' and a 'move' button. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)
node-a
IP Address:192.168.0.220

5. Configure Failover

Then, go second resource pool and click the **add virtual IP** button again and enter the Virtual IP (In this example 192.168.22.100 according to the configuration in the third slide) and select two appropriate interfaces on the local and remote nodes. Then, click the **add** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The main content area displays a list of resources for 'node-b-0044603 (remote node)'. The 'Virtual IP addresses' tab is selected, showing a table with columns for IP address, local interface, and remote interface. Below the table, there is a form to 'add virtual IP'. The form fields are: Virtual IP (192.168.22.100), Interface on local node (bond0 (192.168.1.220)), Interface on remote node (bond0 (192.168.1.221)), Netmask (255.255.255.0), and Broadcast (optional) (empty). There are 'cancel' and 'add' buttons at the bottom of the form. Blue arrows point from the text box to the 'add virtual IP' button and the form fields.



Data Server (DSS1)
node-a
IP Address:192.168.0.220

5. Configure Failover

Now you have 2 Virtual IP addresses.
Both will use the same bond0.

NOTE:

if the system has more network adapters, it is recommended to assign dedicated bond for every resource pool. But, both resource pools can use the same bond as in this example.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Setup > Failover'. The interface is divided into sections for '(local node)' and 'node-b-0044603 resources (remote node)'. Each section has a 'Virtual IP addresses' tab selected, showing a table of Virtual IP addresses and their corresponding interfaces on local and remote nodes. The 'add virtual IP' button is visible in each section. The status of the Virtual IP addresses is shown as 'inactive' for the local node and 'not configured' for the remote node. The synchronization status is 'not configured' for both. The interface also includes 'move' and 'sync between nodes' buttons. A blue box with arrows points to the 'add virtual IP' buttons and the table entries in the screenshot.

Virtual IP	Interface on local node:	Interface on remote node:
192.168.21.100	bond0 (192.168.1.220)	bond0 (192.168.1.221)
192.168.22.100	bond0 (192.168.1.220)	bond0 (192.168.1.221)

Open-E DSS V7 Active-Active NAS (NFS) Failover



Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Configure Failover

Next, go to the **NFS resources** tab on the node-a resources pool and click the **add or remove NFS tasks** button. After moving the task mirror-0000 from Available NFS tasks to Tasks already in cluster, click the **apply** button.

The screenshot displays the Open-E DSS V7 web interface. At the top, there is a navigation bar with tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. Below this, a breadcrumb trail shows 'You are here: Setup > Failover'. The main content area is titled 'Resources pool manager' and shows details for 'node-a-0044602 resources (local node)'. The status is 'inactive' and synchronization is 'not configured'. There are buttons for 'move' and 'sync between nodes'. Below this, there are tabs for 'Virtual IP addresses', 'iSCSI resources', and 'NFS resources', with the 'NFS resources' tab selected. An arrow points to this tab. Under the 'NFS resources' section, there are two lists: 'Available NFS tasks' containing 'mirror_0001_reverse' and 'Tasks already in cluster' containing 'mirror_0000'. An arrow points from the 'mirror_0001_reverse' task to the 'mirror_0000' task, indicating the move operation. Below these lists are 'cancel' and 'apply' buttons. At the bottom of the interface, there is an 'Event Viewer' section showing a message: 'Info: Virtual IP has been created successfully.' The footer of the interface contains the text 'Data Storage Software V7 - All rights reserved.'



Data Server (DSS1)
node-a
IP Address:192.168.0.220

5. Configure Failover

Next, go to the **NFS resources** tab on the node-b resource pool and **add or remove NFS tasks** button. After moving the task mirror-0001_reverse from Available NFS tasks to Tasks already in cluster, click the **apply** button.

NOTE:

The second resource pool show the „reverse” task as the second volume is in destination mode on the node-a. This is proper behaviour.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'open-e' and 'ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS'. The main menu has 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail is 'You are here: Setup > Failover'. The current view is 'NFS resources' for 'node-b-0044603 resources (remote node)'. A red button 'add or remove NFS tasks' is prominent. Below it, a table shows a replication task 'mirror_0000' with a state of 'OK'. The 'node-b-0044603 resources (remote node)' section shows 'Status: inactive' and 'Synchronization status: not configured'. At the bottom, there are two lists: 'Available NFS tasks' and 'Tasks already in cluster'. The task 'mirror_0001_reverse' is shown in the 'Tasks already in cluster' list. Red buttons for 'cancel' and 'apply' are at the bottom right.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Start Failover Service

Finally, scroll to the top of the Failover manager function.

At this point, both nodes are ready to **start** the Failover.

In order to run the Failover service, click the start button and confirm this action by clicking the **start** button again.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Setup > Failover

Failover Manager

Cluster status: Ready for Start

All required settings have been set up, cluster is ready to be started.

Important! Please refer to [Failover: Important notes](#) help for important information related to configuration and maintenance of failover services.

start

Resources pool

node-a-0044602 (local node) resources pool:

Status: inactive
Replication state: **synced**
Persistent reservation synchronization: inactive

node-b-0044603 (remote node) resources pool:

Status: inactive
Replication state: **synced**
Persistent reservation synchronization: inactive

[See details >](#)

Network statuses	Remote node status
Ping nodes: 2 of 2 reachable	Remote node availability: Reachable
See details >	Remote node hostname: node-b-0044603
Auxiliary paths: 2 defined	Remote node IP: 192.168.3.221
See details >	See details >

★ Event Viewer

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Data Server (DSS1)
node-a
IP Address:192.168.0.220

6. Start Failover Service

After clicking the **start** button, configuration of both nodes is complete.

The screenshot shows the Open-E web interface for the Failover Manager. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The main content area displays the following information:

- Cluster status:** Running - OK
- Important!** Please refer to [Failover: Important notes](#) help for important information related to configuration and maintenance of failover services.
- Resources pool**
- node-a-0044602 (local node) resources pool:**
 - Status: active on node-a-0... (local node)
 - Replication state: synced
 - Persistent reservation synchronization: inactive
- node-b-0044603 (remote node) resources pool:**
 - Status: active on node-b-0... (remote node)
 - Replication state: synced
 - Persistent reservation synchronization: inactive
- [See details >](#)
- Network statuses**
- Remote node status**
- Ping nodes: 2 of 2 reachable
- Auxiliary paths: 2 of 2 reachable
- Remote node availability: Reachable
- Remote node hostname: node-b-0044603
- Remote node IP: 192.168.3.221

The interface also includes an 'Event Viewer' section at the bottom and a footer with the text 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

7. Test Failover Function

In order to test Failover, go to the Resources pool manager function. Then, in the local node resources, click on the **move to remote node** button and confirm this action by clicking the **move** button.

Resources pool manager

Info
While a cluster is running you are not able to change Virtual IPs settings. Please stop cluster in order to make changes.

node-a-0044602 resources
(local node)

Status: **active on node-a-0... (local node)** **move to remote node**

Synchronization status: **synced** **sync between nodes**

Virtual IP addresses | iSCSI resources | **NFS resources**

add or remove NFS tasks

Replication task	Replication task state
mirror_0000	OK

node-b-0044603 resources
(remote node)

Status: **active on node-b-0... (remote node)** **move to local node**

Synchronization status: **synced** **sync between nodes**

Virtual IP addresses | iSCSI resources | **NFS resources**

add or remove NFS tasks

★ Event Viewer

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

7. Test Failover Function

After performing this step, the status for local node resources should state "active on node-b-0... (remote node)" and the Synchronization status should state "synced".

The screenshot shows the Open-E DSS V7 web interface. At the top, there's a navigation bar with 'open-e' logo and 'ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS'. Below that, a menu bar contains 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The main content area is titled 'Resources pool manager' and shows a list of resources for two nodes: 'node-a-0044602 resources (local node)' and 'node-b-0044603 resources (remote node)'. For node-a, the status is 'active on node-b-0... (remote node)' and the synchronization status is 'synced'. For node-b, the status is 'active on node-b-0... (remote node)' and the synchronization status is 'synced'. There are buttons for 'move to local node' and 'sync between nodes' for both nodes. The interface also shows tabs for 'Virtual IP addresses', 'iSCSI resources', and 'NFS resources'. Below the tabs, there's a section for 'add or remove NFS tasks' with a table showing a replication task 'mirror_0000' in 'OK' state. At the bottom, there's an 'Event Viewer' section and a footer with 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active NAS (NFS) Failover



open-e
Data Server (DSS1)
node-a
IP Address:192.168.0.220

7. Test Failover Function

In order to test failback, click the **move to local node** button in the Resources pool manager box for local node resources and confirm this action by clicking the **move** button.

The screenshot shows the Open-E DSS V7 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: Setup > Failover'. The main content area is titled 'Resources pool manager' and contains an 'Info' message: 'While a cluster is running you are not able to change Virtual IPs settings. Please stop cluster in order to make changes.' Below this, the 'node-a-0044602 resources (local node)' section shows a status of 'active on node-b-0... (remote node)' and a 'move to local node' button. The synchronization status is 'synced'. There are tabs for 'Virtual IP addresses', 'iSCSI resources', and 'NFS resources'. Below this is a section for 'add or remove NFS tasks' and a table for 'Replication task' with one entry 'mirror_0000' in 'OK' state. The 'node-b-0044603 resources (remote node)' section also shows a status of 'active on node-b-0... (remote node)' and a 'move to local node' button. The synchronization status is 'synced'. There are also tabs for 'Virtual IP addresses', 'iSCSI resources', and 'NFS resources', and a section for 'add or remove NFS tasks'. At the bottom, there is an 'Event Viewer' section and a footer with 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

7. Test Failover Function

After completing this step, the status for node-a resources should state "active on node-a (local node)" and the Synchronization status should state "synced". Then, you can apply the same actions for node-b resources.

NOTE:

The Active-Active option allows configuring resource pools on both nodes and makes it possible to run some active volumes on node-a and other active volumes on node-b. The Active-Active option is enabled with the TRIAL mode for 60 days or when purchasing the Active-Active NFS Feature Pack. The Active-Passive option allows configuring only ONE resource pool. In such a case, all volumes are active on a single node only.

The configuration and testing of Active-Active NAS (NFS) Failover is now complete.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The main content area is titled 'Resources pool manager' and displays the following information:

- Info:** While a cluster is running you are not able to change Virtual IPs settings. Please stop cluster in order to make changes.
- node-a-0044602 resources (local node):**
 - Info:** Resources were moved successfully.
 - Status: **active on node-a-0... (local node)** (with a 'move to remote node' button)
 - Synchronization status: **synced** (with a 'sync between nodes' button)
 - Virtual IP addresses | iSCSI resources | **NFS resources**
- add or remove NFS tasks:**
 - Replication task: **mirror_0000** (with a dropdown arrow)
 - Replication task state: **OK**
- node-b-0044603 resources (remote node):**
 - Status: **active on node-b-0... (remote node)** (with a 'move to local node' button)
 - Synchronization status: **synced** (with a 'sync between nodes' button)
 - Virtual IP addresses | iSCSI resources | **NFS resources**

At the bottom, there is an 'Event Viewer' section and a footer that reads 'Data Storage Software V7 - All rights reserved'.

NOTE:

In case new share need to be created while the cluster is in production, please perform following steps:

1. Stop the replication task of the volume where the share need to be created
2. On the destination node change the volume replication mode from destination to source (this is required temporary only to create the share, as in destination mode the volume is not available for changes.
3. Create the new share on both nodes
4. On the destination mode change the source mode back to original destination mode.
5. On the source mode start the replication task

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