



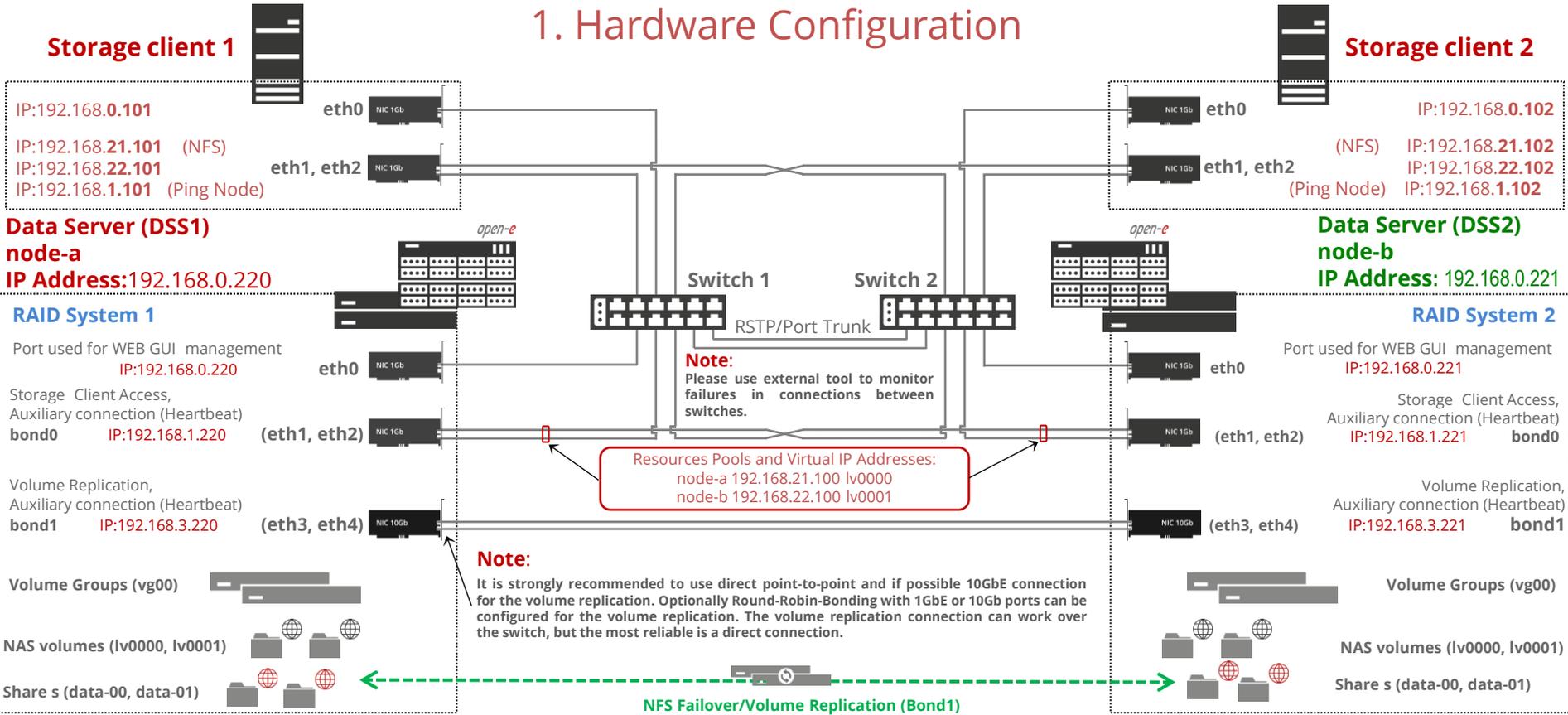
Step-by-Step Guide

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

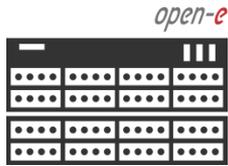
To set up Active-Active NFS Failover, perform the following steps:

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

1. Hardware Configuration



2. Network Configuration



Data Server (DSS2)

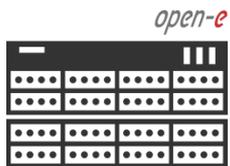
node-b

IP Address: 192.168.0.221

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 "Network interfaces". On the left, there is a list of 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 red arrow points from the "Server Name" panel to the "Hostname" panel, and another red arrow points from the "Hostname" panel to the "apply" button. A blue text at the bottom of the Hostname panel reads "Please apply changes or press 'reload' button to discard". The footer of the interface includes "Event Viewer" and "Data Storage Software V7 - All rights reserved".

2. Network Configuration

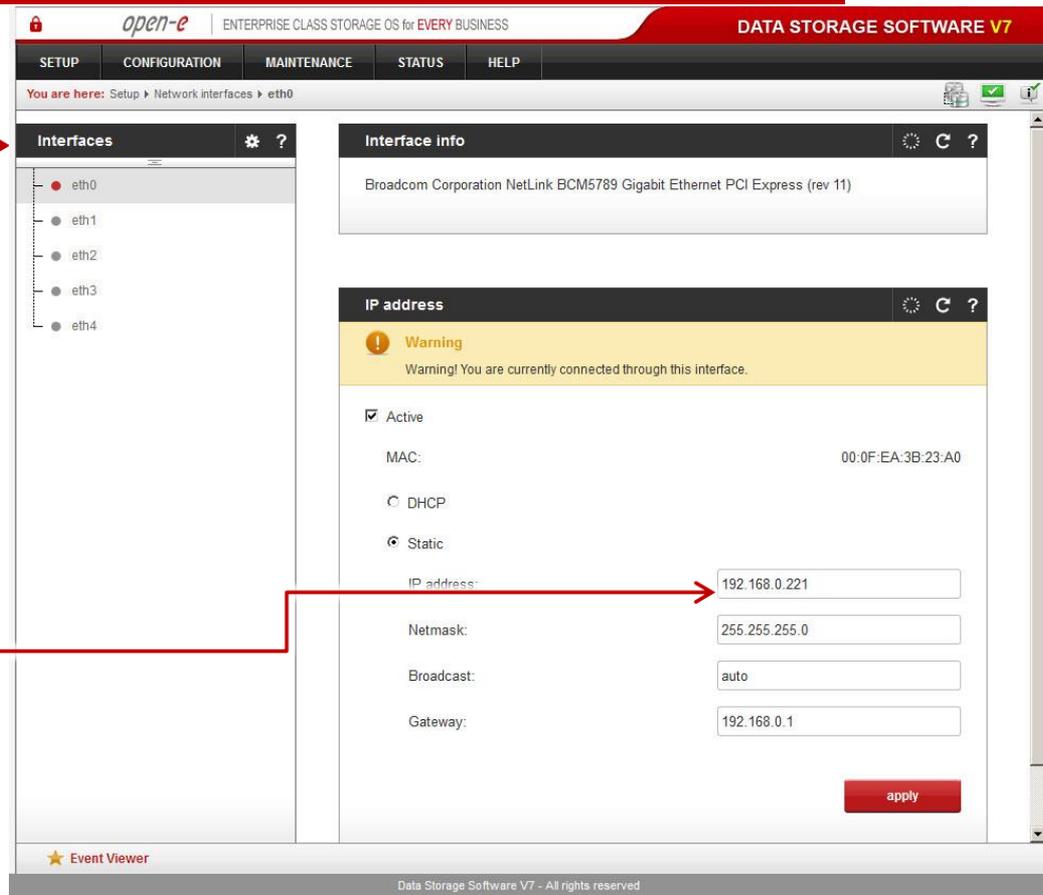


Data Server (DSS2)

node-b

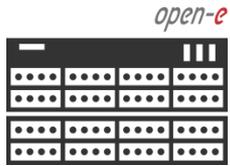
IP Address: 192.168.0.221

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 web interface for configuring network interfaces. The breadcrumb trail is "You are here: Setup > Network interfaces > eth0". The "Interfaces" panel on the left lists eth0, eth1, eth2, eth3, and eth4, with eth0 selected. The "Interface info" panel shows "Broadcom Corporation NetLink BCM5789 Gigabit Ethernet PCI Express (rev 11)". The "IP address" panel has a yellow warning box: "Warning! You are currently connected through this interface." Below this, the "Active" checkbox is checked. The "Static" radio button is selected. The IP address field is set to "192.168.0.221", the netmask is "255.255.255.0", broadcast is "auto", and the gateway is "192.168.0.1". A red "apply" button is at the bottom right. A red arrow points from the text box to the eth0 interface in the list, and another red arrow points from the text box to the IP address input field.

2. Network Configuration



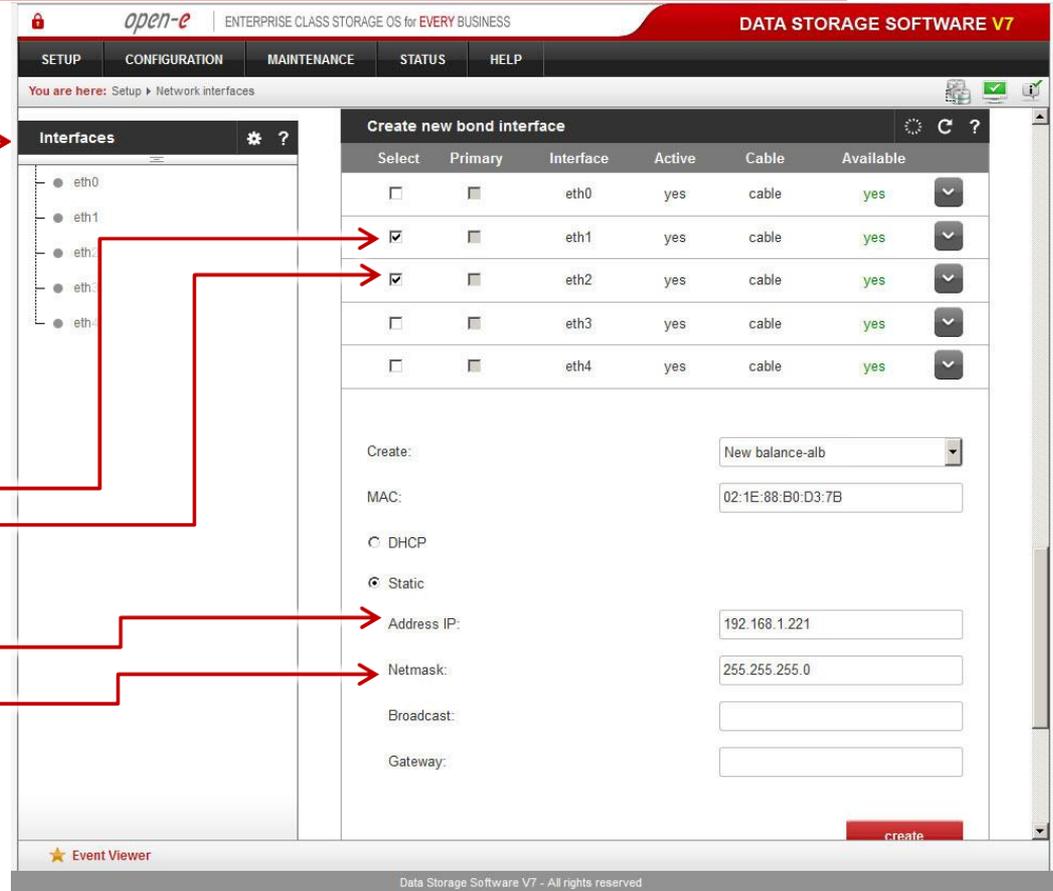
Data Server (DSS2)

node-b

IP Address: 192.168.0.221

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.

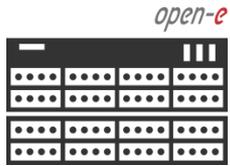
Next, in the field Address IP enter 192.168.1.221 and in the Netmask field enter 255.255.255.0 Afterwards, click the **create** button and confirm this action by clicking the **yes** button.



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, there is a list of interfaces: eth0, eth1, eth2, eth3, and eth4. On the right, the 'Create new bond interface' form is displayed. The form has a table with columns: Select, Primary, Interface, Active, Cable, and Available. The rows are for eth0, eth1, eth2, eth3, and eth4. The 'Select' checkboxes for eth1 and eth2 are checked. Below the table, there are fields for 'Create:' (set to 'New balance-alb'), 'MAC:' (02:1E:88:B0:D3:7B), 'Address IP:' (192.168.1.221), 'Netmask:' (255.255.255.0), 'Broadcast:', and 'Gateway:'. A 'create' button is at the bottom right. Red arrows point from the text boxes to the corresponding elements in the interface.

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

2. Network Configuration



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

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.

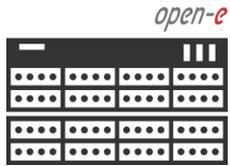
NOTE:

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. 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 current page is 'Setup > Network interfaces'. On the left, there is a list of interfaces: eth0, eth1 (bond0), eth2 (bond0), eth3, eth4, and bond0. On the right, the 'Create new bond interface' form is displayed. It has a table with columns: Select, Primary, Interface, Active, Cable, and Available. The rows are for eth0, eth1, eth2, eth3, and eth4. The 'Select' checkboxes for eth3 and eth4 are checked. Below the table, there are fields for 'Create:' (set to 'New balance-rr'), 'MAC:' (02:3B:10:ED:91:F6), 'Address IP:' (192.168.3.221), 'Netmask:' (255.255.255.0), 'Broadcast:', and 'Gateway:'. A red 'create' button is at the bottom right. Red arrows point from the text boxes to the corresponding elements in the interface.

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

2. Network Configuration



Data Server (DSS1)

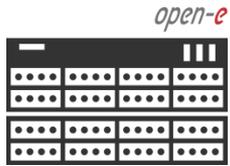
node-a

IP Address: 192.168.0.220

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 current page is "Network interfaces". On the left, a list of interfaces (eth0 to eth4) is shown. On the right, there are three configuration panels: "Server Name" (with "Server name:" set to "dss1" and "Comment:" set to "Data Storage Software"), "Hostname" (with "Hostname:" set to "node-a-0044602"), and "DNS settings" (with "DNS" set to "194.204.152.34;194.204.159.1"). Each panel has an "apply" button. A red arrow points from the "Server Name" panel to the "Hostname" panel, and another red arrow points from the "Hostname" panel to the "apply" button. A third red arrow points from the "apply" button to the "Server Name" panel. At the bottom, there is an "Event Viewer" icon and the text "Data Storage Software V7 - All rights reserved".

2. Network Configuration



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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.

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SETUP CONFIGURATION MAINTENANCE STATUS HELP

You are here: Setup > Network interfaces

Interfaces

- eth0
- eth1
- eth2
- eth3
- eth4

Create new bond interface

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:

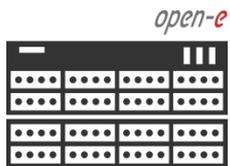
Gateway:

create

★ Event Viewer

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2. Network Configuration



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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

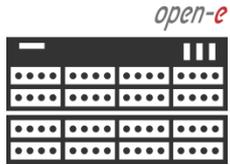
Address IP:

Netmask:

Broadcast:

Gateway:

3. Configure node-b



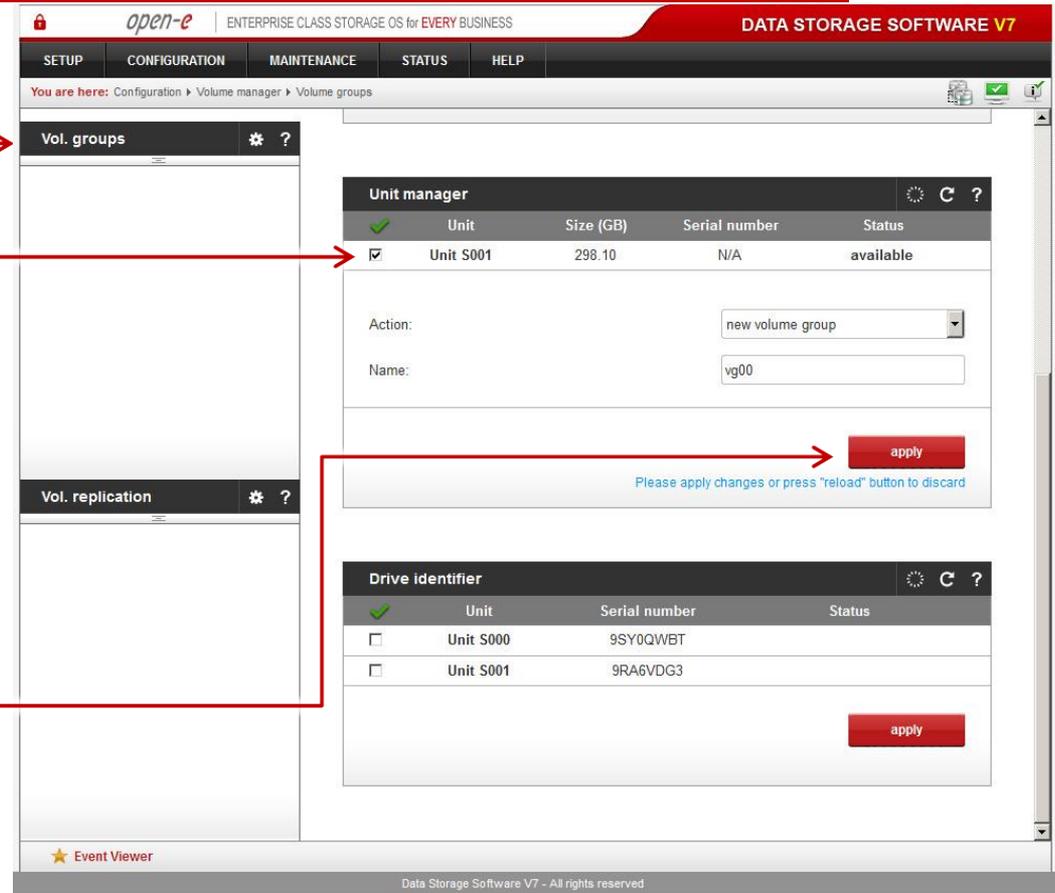
Data Server (DSS2)

node-b

IP Address: 192.168.0.221

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 "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".

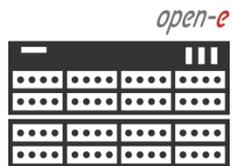
The "Vol. groups" section is active, showing a table with one entry: Unit S001, Size (GB) 298.10, Serial number N/A, and Status available. Below the table, the "Action" dropdown is set to "new volume group" and the "Name" field contains "vg00". A red "apply" button is visible at the bottom right of this section.

The "Vol. replication" section is also visible but empty.

The "Drive identifier" section shows a table with two entries: Unit S000 (Serial number 9SY0QWBT) and Unit S001 (Serial number 9RA6VDG3). A red "apply" button is at the bottom right of this section.

Red arrows point from the text boxes to the "Volume groups" and "Unit manager" sections of the interface.

3. Configure node-b



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

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

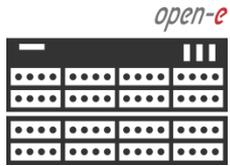
Next check the box with **Use volume replication**. After assigning required amount of space for the **NAS volume**, click the **apply** button.

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 breadcrumb navigation is: Configuration > Volume manager > Volume groups > vg00. The left sidebar shows the 'Vol. groups' section with 'vg00' selected. The main content area is divided into two panels. The top panel, 'Units assigned', shows a table with one unit: Unit S001, Serial number N/A, and Size 298.10 GB. The bottom panel, 'Volume manager', shows system volumes: SWAP (4.00 GB), Reserved for snapshots (0.00 GB), Reserved for system (4.00 GB), Reserved for replication (0.00 GB), and Free (290.06 GB). Below this, the 'Action' dropdown is set to 'new NAS volume'. The 'Use volume replication' checkbox is checked, and the 'WORM' checkbox is unchecked. A slider shows the volume size, currently set to 100 GB, with a note '(+0.12 GB for replication)'. The 'apply' button is highlighted in red.

3. Configure node-b



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

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 '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 'Vol. groups' section shows 'vg00'. The 'Vol. replication' section is empty. The 'Volume manager' section shows a message: 'Logical volume lv0000 has been created successfully.' Below this is a table of logical volumes:

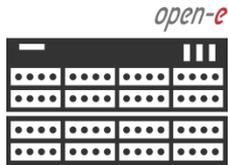
Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000			✓		N/A	100.00

Below the table is a section for 'System volumes' with a table:

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 'Add' section shows a dropdown menu with 'new NAS volume' selected. Below it is a checkbox for 'Use volume replication' which is checked. There is also a 'WORM' checkbox which is unchecked. A slider shows the available space (0 to 189.94 GB) with a value of 101 GB selected. Below the slider is a text input field with '101' and 'GB' and a note '(+0.12 GB for replication)'. An 'apply' button is at the bottom right. A footer note says 'Please apply changes or press "reload" button to discard'. At the bottom left is an 'Event Viewer' icon and at the bottom right is 'Data Storage Software V7 - All rights reserved'.

3. Configure node-b



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

Both **NAS Volumes** are created.

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SETUP CONFIGURATION MAINTENANCE STATUS HELP

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

Vol. groups [gear] [?]

- vg00

Volume manager [refresh] [?]

Info

Logical volume lv0001 has been created successfully.

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

System volumes

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

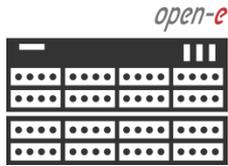
< > add: 0.00 GB

apply

★ Event Viewer

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3. Configure node-b



Data Server (DSS2)

node-b

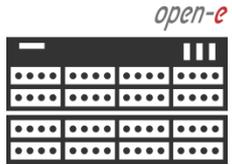
IP Address: 192.168.0.221

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. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'CONFIGURATION' menu is selected. The main content area displays the 'NAS settings' configuration page. The 'Use NFS' checkbox is checked, and the 'apply' button is visible. Below this are the 'FTP settings' and 'AppleTalk (AFP) settings' panels, both with their respective 'Use' checkboxes unchecked. A red arrow points from the 'CONFIGURATION' menu to the 'NAS settings' panel, and another red arrow points from the 'Use NFS' checkbox to the 'apply' button.

4. Configure node-a



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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 "CONFIGURATION" tab is active, and the breadcrumb trail shows "You are here: Configuration > Volume manager > Volume groups".

The "Unit manager" section is expanded, showing a table with the following data:

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

Below the table, the "Action:" dropdown is set to "new volume group" and the "Name:" field contains "vg00". A red "apply" button is visible at the bottom right of this section, with a blue message below it: "Please apply changes or press 'reload' button to discard".

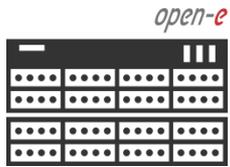
The "Drive identifier" section is also visible, showing a table with the following data:

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

A red "apply" button is also present at the bottom right of this section.

Red arrows from the text boxes point to the "Volume manager" tab, the "Unit S001" row in the "Unit manager" table, and the "apply" button in the "Unit manager" section.

4. Configure node-a



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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**.

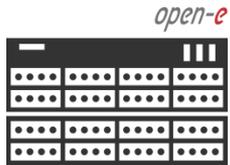
After assigning required amount of space for the **NAS volume**, click the **apply** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail is 'You are here: Configuration > Volume manager > Volume groups > vg00'. The main content area is divided into several panels:

- Vol. groups:** A list containing 'vg00'.
- 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 creating a new volume. 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), 'Reserved for replication' (0.00 GB), and 'Free' (1854.91 GB). Below the table, there is an 'Action:' dropdown menu set to 'new NAS volume'. There are checkboxes for 'Use volume replication' (checked) and 'WORM' (unchecked). A slider for volume size is set to 100 GB, with a note '(+0.12 GB for replication)'. The total available space is 1854.91 GB. An 'apply' button is at the bottom right of this section.

Red arrows from the text boxes point to the 'vg00' entry in the 'Vol. groups' list, the 'Use volume replication' checkbox, the volume size input field, and the 'apply' button.

4. Configure node-a



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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.

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 user is in 'Configuration > Volume manager > Volume groups > vg00'. The 'Volume manager' section displays a table of logical volumes:

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
iv0000	NFS		✓		N/A	100.00

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

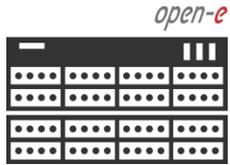
System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.13
Free	1754.78

The configuration options for the volume are:

- Use volume replication
- WORM
- Volume size: 101 GB (+0.12 GB for replication)

The 'apply' button is located at the bottom right of the configuration area. A red arrow points from the 'apply' button in the text box to the 'apply' button in the screenshot.

4. Configure node-a



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

Both **NAS Volumes** are created.

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SETUP CONFIGURATION MAINTENANCE STATUS HELP

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

Vol. groups [gear] [?] vg00

Volume manager [refresh] [?] [info]

Logical volume lv00001 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

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

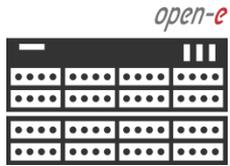
add: 0.00 GB

apply

★ Event Viewer

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4. Configure node-a



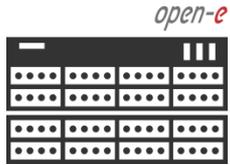
Data Server (DSS1)
node-a
IP Address: 192.168.0.220

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

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

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 'Configuration > NAS settings'. The 'NFS settings' section has the 'Use NFS' checkbox checked. Below it is an 'apply' button and 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, there is an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.

4. Configure node-a



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

Next, choose "**CONFIGURATION**",
and "**NAS resources**" from the menu.

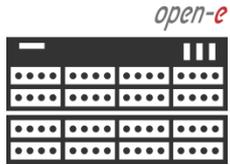
Enter share name in the field **Name**
on lv0000 and click **apply** to confirm.

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 > NAS resources > Shares'. The main content area is titled 'Create new share' and contains the following fields:

- Name:** data-00
- Comment:** (empty text area)
- Default path:** /lv0000/data-00 (selected)
- Specified path:** /

An **apply** button is located at the bottom right of the form. Below the form, there is an **ACL (Access control list)** section with tabs for 'Browser', 'Users & Groups', and 'Access Permissions'. The 'Selection' field is empty, and the 'Filter' field is also empty. A list of storage volumes is visible below, including 'lv0000' and 'lv0001'. The footer of the page shows 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

4. Configure node-a



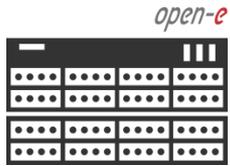
Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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.

4. Configure node-a



Data Server (DSS1)

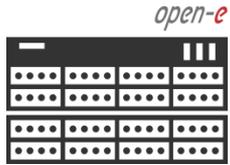
node-a

IP Address: 192.168.0.220

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

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: 'Configuration > NAS resources > Shares > data-00'. The main content area is divided into several sections: 'Shares' (listing '1. data-00' and '2. data-01'), 'Users', 'Groups', 'SMB settings' (with 'Use SMB' unchecked), 'Apple Talk (AFP) settings' (showing 'Appletalk is off'), 'FTP settings' (showing 'FTP is off'), and 'Users share access (SMB/FTP/AFP)'. A red box highlights the 'data-00' share in the 'Shares' list and the 'Use SMB' checkbox in the 'SMB settings' panel. Red arrows point from the text in the red box to these elements. The footer of the interface includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

4. Configure node-a



Data Server (DSS1)

node-a

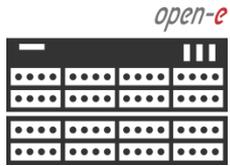
IP Address: 192.168.0.220

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 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: 'Configuration > NAS resources > Shares > data-00'. The main content area is divided into several sections: 'Shares' (listing '1. data-00' and '2. data-01'), 'Users', 'Groups' (listing '1. users'), 'NFS share access', and 'HTTP share access'. The 'NFS share access' section is expanded, showing the following configuration options: 'Use NFS' (checked), 'Allow access IP:' (empty input field), 'Allow write IP:' (empty input 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. A red dashed box highlights the 'NFS share access' section, with red arrows pointing from the text instructions to the 'Use NFS' and 'Synchronous' checkboxes and the 'apply' button.

3. Configure node-b



Data Server (DSS2)

node-b

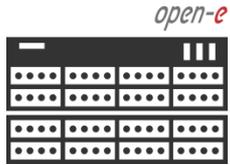
IP Address: 192.168.0.221

Next, choose "CONFIGURATION", and "NAS resources" from the menu on node-b.

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

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 > NAS resources > Shares'. The main content area is divided into two panels. The left panel shows a list of 'Shares', 'Users', and 'Groups'. The right panel is titled 'Create new share' and contains the following fields: 'Name' (set to 'data-00'), 'Comment' (empty), 'Default path' (set to '/lv0000/data-00'), and 'Specified path' (set to '/'). A red 'apply' button is located at the bottom right of this panel. Below the 'Create new share' panel is the 'ACL (Access control list)' section, which has tabs for 'Browser', 'Users & Groups', and 'Access Permissions'. The 'Users & Groups' tab is active, showing a 'Selection' field, a 'Filter' field, and a list of storage volumes: 'lv0000' and 'lv0001'. At the bottom of the interface, there is an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.

3. Configure node-b



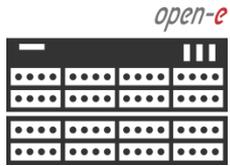
Data Server (DSS2)

node-b

IP Address: 192.168.0.221

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.

3. Configure node-b



Data Server (DSS2)

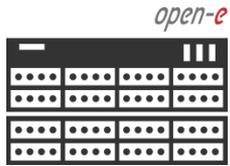
node-b

IP Address: 192.168.0.221

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' (listing '1. data-00' and '2. data-01'), 'Users', 'Groups', 'SMB settings', 'Apple Talk (AFP) settings', 'FTP settings', and 'Users share access (SMB/FTP/AFP)'. The 'SMB settings' panel for 'data-00' is selected, and the 'Use SMB' checkbox is unchecked. A red 'apply' button is visible at the bottom of this panel. The 'Apple Talk (AFP) settings' and 'FTP settings' panels show 'Info' and 'AppleTalk is off' / 'FTP is off' respectively. The 'Users share access' panel shows 'Available users:' and 'Granted access users:' fields. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

3. Configure node-b



Data Server (DSS2)

node-b

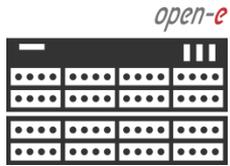
IP Address: 192.168.0.221

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' (listing '1. data-00' and '2. data-01'), 'Users', 'Groups', 'NFS share access', and 'HTTP share access'. The 'NFS share access' section is expanded, showing the following configuration options: '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 located at the bottom right of this section. A blue message at the bottom of the panel reads 'Please apply changes or press "reload" button to discard'. The 'HTTP share access' section is currently collapsed, showing an 'Info' icon.

3. Configure node-b



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

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 breadcrumb trail is: Configuration > Volume manager > Volume replication. The 'Volume replication mode' table is as follows:

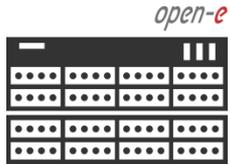
Logical Volume	Init	Source	Destination	Clear metadata
lv0000	done	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
lv0001	done	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

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

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

3. Configure node-b



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

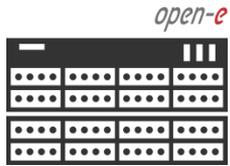
After reloading a page, **Hosts Binding** status should be "Reachable".

The screenshot displays the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Volume replication' under 'Configuration > Volume manager > Volume replication'. The 'Volume replication mode' section shows a table with two rows:

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"/>

An 'apply' button is located below the table. The 'Hosts Binding' section shows an 'Info' message: 'Hosts have been bound successfully.' Below this, the 'Remote node' information is displayed: 'Host name: node-a-0...' and 'IP address: 192.168.3.220'. The status is 'Reachable', indicated by a green checkmark. A 'disconnect' button is present. A red arrow points from the 'Reachable' status to the text box on the left. At the bottom, there is a 'Create new volume replication task' section with a 'Task name:' input field. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

4. Configure node-a



Data Server (DSS1)

node-a

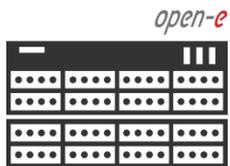
IP Address: 192.168.0.220

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**.

The screenshot displays the Open-E DSS V7 web interface for configuring volume replication. The breadcrumb trail indicates the user is in the 'Configuration' > 'Volume manager' > 'Volume replication' section. The 'Volume replication mode' table is the central focus, showing the configuration for two logical volumes: lv0000 and lv0001. Red arrows from the text on the left point to the 'Source' and 'Destination' checkboxes in this table. Below the table, the 'Hosts Binding' section shows a remote node 'node-b-0...' with IP address 192.168.3.221 and a status of 'Reachable'. The 'Create new volume replication task' section at the bottom shows the 'Source volume' set to 'lv0000' and the 'Destination volume' set to 'lv0000'. The 'apply' button is highlighted in red.

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

4. Configure node-a



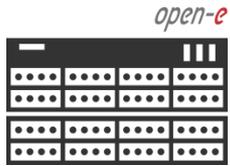
Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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.

3. Configure node-b



Data Server (DSS2)
node-b

IP Address: 192.168.0.221

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.

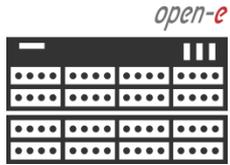
The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > Volume manager > Volume replication'. The main content area is divided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

- Vol. groups:** A list containing 'vg00'.
- Vol. replication:** A list containing 'mirror_0000_reverse'.
- Host information:** Host name: node-a-0..., IP address: 192.168.3.220, Status: Reachable. A 'disconnect' button is present.
- 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 it 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 of the interface, there is an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.

4. Configure node-a



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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

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

- vg00

Hosts Binding

Remote node

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

disconnect

Create new volume replication task

Info

No volumes with replication functionality found or all volumes have a task assigned already.

Vol. replication

- mirror_0000
- mirror_0001_reverse

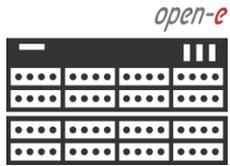
Replication tasks manager

Name	Start time	Action
mirror_0000	n/a	[play] [stop] [delete]
mirror_0001_reverse	n/a	[play] [stop] [delete]

Event Viewer

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3. Configure node-b



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

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

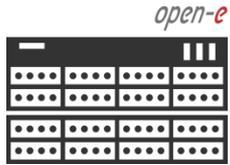
The screenshot shows the Open-E DSS V7 web interface with the following sections:

- Vol. groups:** Contains a single group named 'vg00'.
- Vol. replication:** Contains two replication tasks: 'mirror_000_reverse' and 'mirror_0001'.
- Hosts Binding:** Shows a successful binding for 'node-a-0...' with IP address '192.168.3.220' and status 'Reachable'. A 'disconnect' button is present.
- Create new volume replication task:** Shows a 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'.

Name	Start time	Action
mirror_000_reverse	n/a	[Play] [Stop] [Delete]
mirror_0001	2015-08-18 18:07:35	[Play] [Stop] [Delete]

A red arrow points from the text box to the 'play' button in the 'mirror_0001' row of the Replication tasks manager table.

5. Configure Failover



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

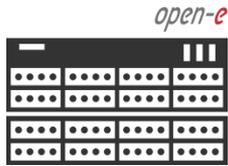
On the node-a, go to "**SETUP**" and select "**Failover**".

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.

5. Configure Failover



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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 ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS DATA STORAGE SOFTWARE V7

SETUP CONFIGURATION MAINTENANCE STATUS HELP

You are here: Setup > Failover

Ping nodes

Info
Ping node has been added successfully.

Ping node IP address	node-a-0... status (local node)	node-b-0... status (remote node)
192.168.1.101	Reachable	Reachable

New ping node

IP address: 192.168.1.102

cancel add new ping node

Please apply changes or press "reload" button to discard

Failover trigger policy

Ignore I/O errors
 Trigger failover on I/O errors (any volume)
 Trigger failover on I/O errors (only volumes configured in failover)

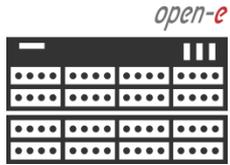
[Show advanced options](#)

apply

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5. Configure Failover



Data Server (DSS1)

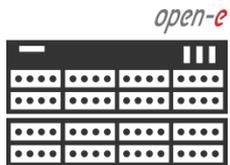
node-a

IP Address: 192.168.0.220

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 current page is 'Setup > Failover'. The main content area is titled 'Resources pool manager' and shows configuration for 'node-a-0044602 resources (local node)'. The status is 'unknown'. There are buttons for 'move' and 'sync between nodes'. Below this, there are tabs for 'Virtual IP addresses', 'iSCSI resources', and 'NFS resources'. The 'add virtual IP' form is active, with the following fields: '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):'. At the bottom of the form are 'cancel' and 'add' buttons. Below the form, there is a section for 'node-b-0044603 resources (remote node)' with a 'move' button. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

5. Configure Failover



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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 current page is "Setup > Failover".

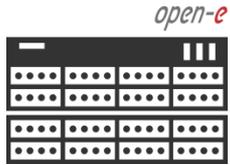
The main content area displays a resource pool for "node-b-0044603 resources (remote node)". The status is "not configured" and the synchronization status is "not configured". There are buttons for "move" and "sync between nodes".

The "Virtual IP addresses" tab is selected, showing 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
- Broadcast (optional):

At the bottom of the form are "cancel" and "add" buttons. Red arrows point from the text in the slide to the "add virtual IP" button, the input fields, and the "add" button.

5. Configure Failover



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

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.

open-e ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS DATA STORAGE SOFTWARE V7
 SETUP CONFIGURATION MAINTENANCE STATUS HELP
 You are here: Setup > Failover
 (local node)
 Status: inactive move
 Synchronization status: not configured sync between nodes
 Virtual IP addresses iSCSI resources NFS resources
 add virtual IP

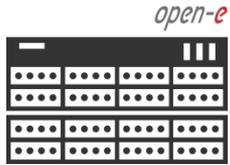
Virtual IP	Interface on local node:	Interface on remote node:
192.168.21.100	bond0 (192.168.1.220)	bond0 (192.168.1.221)

 node-b-0044603 resources (remote node)
 Info Virtual IP has been created successfully.
 Status: not configured move
 Synchronization status: not configured sync between nodes
 Virtual IP addresses iSCSI resources NFS resources
 add virtual IP

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

 Event Viewer
 Data Storage Software V7 - All rights reserved

5. Configure Failover



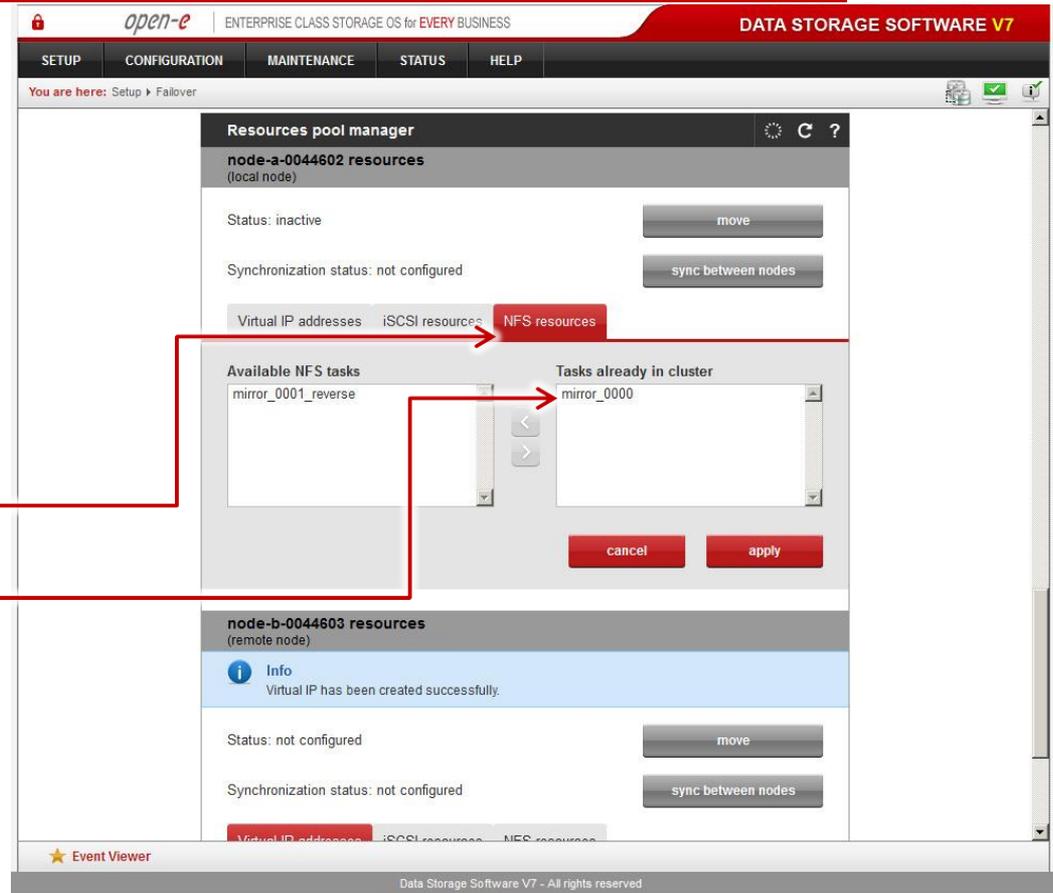
Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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 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 shows details for 'node-a-0044602 resources (local node)'. The 'NFS resources' tab is selected, and the 'add or remove NFS tasks' button is highlighted. The task 'mirror_0000' is being moved from 'Available NFS tasks' to 'Tasks already in cluster'. The 'apply' button is also highlighted. Below the main content, there is a section for 'node-b-0044603 resources (remote node)' with an 'Info' message: 'Virtual IP has been created successfully.' The bottom of the interface shows an 'Event Viewer' and the footer text 'Data Storage Software V7 - All rights reserved.'

5. Configure Failover



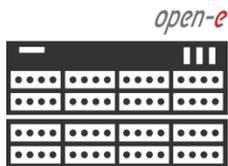
Data Server (DSS1)
node-a
 IP Address: 192.168.0.220

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 behavior.

6. Start Failover Service



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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.

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

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: **syncd**
Persistent reservation synchronization: inactive

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

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

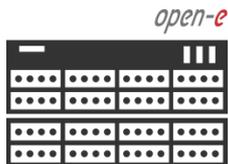
[See details >](#)

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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6. Start Failover Service

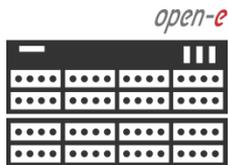


Data Server (DSS1)
node-a
 IP Address: 192.168.0.220

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 '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 indicates 'You are here: Setup > Failover'. The Failover Manager page shows a 'Cluster status: Running - OK' and an 'Important!' message. A red arrow points from the 'stop' button to the 'start' button. The 'Resources pool' section shows details for 'node-a-0044602 (local node)' and 'node-b-0044603 (remote node)'. The 'Network statuses' section shows 'Ping nodes: 2 of 2 reachable' and 'Auxiliary paths: 2 of 2 reachable'. The 'Remote node status' section shows 'Remote node availability: Reachable', 'Remote node hostname: node-b-0044603', and 'Remote node IP: 192.168.3.221'. An 'Event Viewer' section is visible at the bottom left, and the footer contains 'Data Storage Software V7 - All rights reserved'.

7. Test Failover Function



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

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.

The screenshot shows the Open-E DSS V7 web interface. At the top, there's a navigation bar with 'open-e' logo, 'ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS', and 'DATA STORAGE SOFTWARE V7'. Below that are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Setup > Failover'.

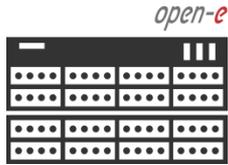
The main content area is titled 'Resources pool manager'. It has an 'Info' section with a warning: 'While a cluster is running you are not able to change Virtual IPs settings. Please stop cluster in order to make changes.' Below this, it shows resources for 'node-a-0044602 (local node)'. The status is 'active on node-a-0... (local node)'. There are buttons for 'move to remote node' and 'sync between nodes'. The 'NFS resources' tab is selected, showing 'add or remove NFS tasks' and a table of replication tasks:

Replication task	Replication task state
<input checked="" type="checkbox"/> mirror_0000	OK

Below this, it shows resources for 'node-b-0044603 (remote node)'. The status is 'active on node-b-0... (remote node)'. There are buttons for 'move to local node' and 'sync between nodes'. The 'NFS resources' tab is also selected, showing 'add or remove NFS tasks'.

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

7. Test Failover Function

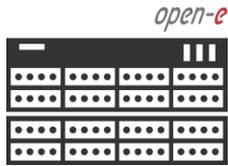


Data Server (DSS1)
node-a
 IP Address: 192.168.0.220

After performing this step, the status for local node resources should state "active on node-b (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, 'ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS', and 'DATA STORAGE SOFTWARE V7'. Below that are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Setup > Failover'. The main content area is titled 'Resources pool manager' and contains an 'Info' box with a warning: 'While a cluster is running you are not able to change Virtual IPs settings. Please stop cluster in order to make changes.' Below this, it shows 'node-a-0044602 resources (local node)' with an 'Info' box stating 'Resources were moved successfully.' Underneath, the status for 'node-a' is 'Status: active on node-b-0... (remote node)' with a 'move to local node' button. The 'Synchronization status' is 'synced' with a 'sync between nodes' button. There are tabs for 'Virtual IP addresses', 'iSCSI resources', and 'NFS resources'. Below these is an 'add or remove NFS tasks' button and a table of replication tasks. The table has columns 'Replication task' and 'Replication task state', with one entry 'mirror_0000' in 'OK' state. At the bottom, it shows 'node-b-0044603 resources (remote node)' with the same status and synchronization information as node-a. At the very bottom, there's an 'Event Viewer' icon and the footer 'Data Storage Software V7 - All rights reserved'.

7. Test Failover Function



Data Server (DSS1)

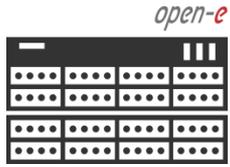
node-a

IP Address: 192.168.0.220

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 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'. Below the navigation bar are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The main content area is titled 'Resources pool manager' and shows the configuration for two nodes: 'node-a-0044602 resources (local node)' and 'node-b-0044603 resources (remote node)'. For each node, the status is 'active on node-b-0... (remote node)' and the synchronization status is 'synced'. A red arrow points from the 'move to local node' button in the node-a section to the 'move to local node' button in the node-b section. The interface also shows a table of replication tasks, with one task 'mirror_0000' in 'OK' state. At the bottom, there is an 'Event Viewer' section and a footer with 'Data Storage Software V7 - All rights reserved'.

7. Test Failover Function



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

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.

The screenshot shows the Open-E DSS V7 web interface. At the top, there's a navigation bar with 'open-e' logo, 'ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS', and 'DATA STORAGE SOFTWARE V7'. Below that are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The main content area is titled 'Resources pool manager' and shows details 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-a-0... (local 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 remote node', 'sync between nodes', and 'move to local node'. A table below shows a replication task 'mirror_0000' with a state of 'OK'. At the bottom, there's an 'Event Viewer' icon and a footer with 'Data Storage Software V7 - All rights reserved'.

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

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.

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

open-e

Thank You!
