

QUICK START: HYPER-V CLUSTER WITH DSS V7 ISCSI FAILOVER CLUSTER SETUP:

In the Quick start we use 5 servers (2 of DSS V7 iSCSI Failover Cluster Nodes, 2 Hyper-V Cluster Nodes and single MS ADS server with Windows 2012)

DSS V7

host: **node-a-xxxxxxx**

eth0: 192.168.0.220; 255.255.255.0 : Web GUI access
 eth1: 192.168.1.220; 255.255.255.0 : iSCSI Target
 eth2: 192.168.2.220; 255.255.255.0 : iSCSI Target
 eth3: 192.168.3.220; 255.255.255.0 : Volume Replication

Volumes exported via iSCSI Target:

target0: 1 GB (quorum volume)
 target1: 100 GB (virtual machines store)
 target2: 101 GB (virtual machines store)

Ping Nodes: 192.168.1.230; 192.168.2.231

Auxiliary paths :

eth1: 192.168.1.220; 192.168.1.221
 eth2: 192.168.2.220; 192.168.2.221
 eth3: 192.168.3.220; 192.168.3.221

Windows 2012 Hyper-V cluster node-a

host: node-a

eth0: 192.168.0.230; 255.255.255.0 : Console access; DNS: 192.168.0.232; Gateway: 192.168.0.1
 eth1: 192.168.21.230; 255.255.255.0 : iSCSI Initiator ALIAS IP 192.168.1.230 as a ping node
 eth2: 192.168.22.230; 255.255.255.0 : iSCSI Initiator ALIAS IP 192.168.2.230 as a ping node
 eth3: 192.168.30.230; 255.255.255.0 : Virtual Machines

Windows 2012 AD DS Server

eth0: 192.168.0.232; 255.255.255.0 : Console access;
 cluster administration IP 192.168.0.233 (created during cluster setup)

DSS V7

host: **node-b-xxxxxxx**

eth0: 192.168.0.221; 255.255.255.0 : Web GUI access
 eth1: 192.168.1.221; 255.255.255.0 : iSCSI Target
 eth2: 192.168.2.221; 255.255.255.0 : iSCSI Target
 eth3: 192.168.3.221; 255.255.255.0 : Volume Replication

DSS Active-Active cluster config:

Resource Pool node-a-xxxxxxx Virtual IP : 192.168.21.100 (eth1: 192.168.1.220; 192.168.1.221)
 Resource Pool node-a-xxxxxxx iSCSI Target : target0 and target1
 Resource Pool node-b-xxxxxxx Virtual IP : 192.168.22.100 (eth2: 192.168.2.220; 192.168.2.221)
 Resource Pool node-b-xxxxxxx iSCSI Target : target2

Windows 2012 Hyper-V cluster node-b

host: node-b

eth0: 192.168.0.231; 255.255.255.0 : Console access; DNS: 192.168.0.232; Gateway: 192.168.0.1
 eth1: 192.168.21.231; 255.255.255.0 : iSCSI Initiator ALIAS IP 192.168.1.231 as a ping node
 eth2: 192.168.22.231; 255.255.255.0 : iSCSI Initiator ALIAS IP 192.168.2.231 as a ping node
 eth3: 192.168.30.231; 255.255.255.0 : Virtual Machines

On both cluster nodes enable ping answer as both Hyper-V nodes will be used as ping nodes.

Right mouse-click on the network icon and select Open Network and Sharing center. Click on Windows Firewall and select Advanced settings. Next select Inbound Rules and locate:

File and Printer Sharing (Echo Request - ICMPv6-In)

And with Right-mouse-click enable it. Now the server must answer the ping.

On the **AD DS Server** select:

Server Manager -> Manage -> Add Roles and Features:

Add roles: **Active Directory Domain Services and Hyper-V**

Add Features: **Failover Clustering**

Reboot

Server Manager -> **AD DS** -> "**Configuration required for Active Directory- ...**" -> More ... -> Action -> Promote this server to a domain controller

Select : **Add a new forest**

In **Root domain name** enter: **demo.local**

Next enter the password.

The wizard will Reboot on completion automatically.

After rebooting then login and enter the domain name and user name with the following format:

demo\administrator

Now you can add both cluster nodes into new domain.

Go to the first cluster node (192.168.0.230) and make sure the **DNS IP address** (192.168.0.232) is present in the network card configuration.

Right mouse click on **Computer menu** and select **Properties** - > **Advanced System Settings** - > **Computer Name** -> **Change**

In computer name enter new short name. In our demo: **node-a** in the **Domain Name** your domain. For this demo purpose use: **demo.local**

There must be prompt Welcome to demo.local domain once connected.

Next reboot the server.

(repeat the same procedure for the **node-b**)

In both cluster nodes (node-a and node-b) add new Role and Feature: **Hyper-V** and **Failover Clustering**
(if you need file services, please add File Services role as well)
For this demo at both cluster nodes we do select Local Area Connection 4 as interface for virtual machines.
(this will require the servers to be rebooted afterwards)

Next: On both cluster nodes connect to the iSCSI targets. Then format disks with NTFS on the first node only.

On the **AD DS Server**, in **Server Manager** -> **Tools** -> **Failover Cluster Manager** select **Validate a Configuration**

Please add both nodes: first node-a and next node-b

The option „Create the cluster now using the validetes nodes...“ is checked by default, so after clicking on Finish the system will start Create Cluster Wizard.

For cluster name enter i.e. ha and enter new unused IP for the cluster administration, here: 192.168.0.233

On the **AD DS Server**, in **Server Manager** -> **Tools** -> **Failover Cluster Manager** -> **ha.demo.local** -> **Storage** -> **Disks**
Right-mouse-click on **Avialiable Storage** volumes and select **Add to Cluster Shared Volumes**.

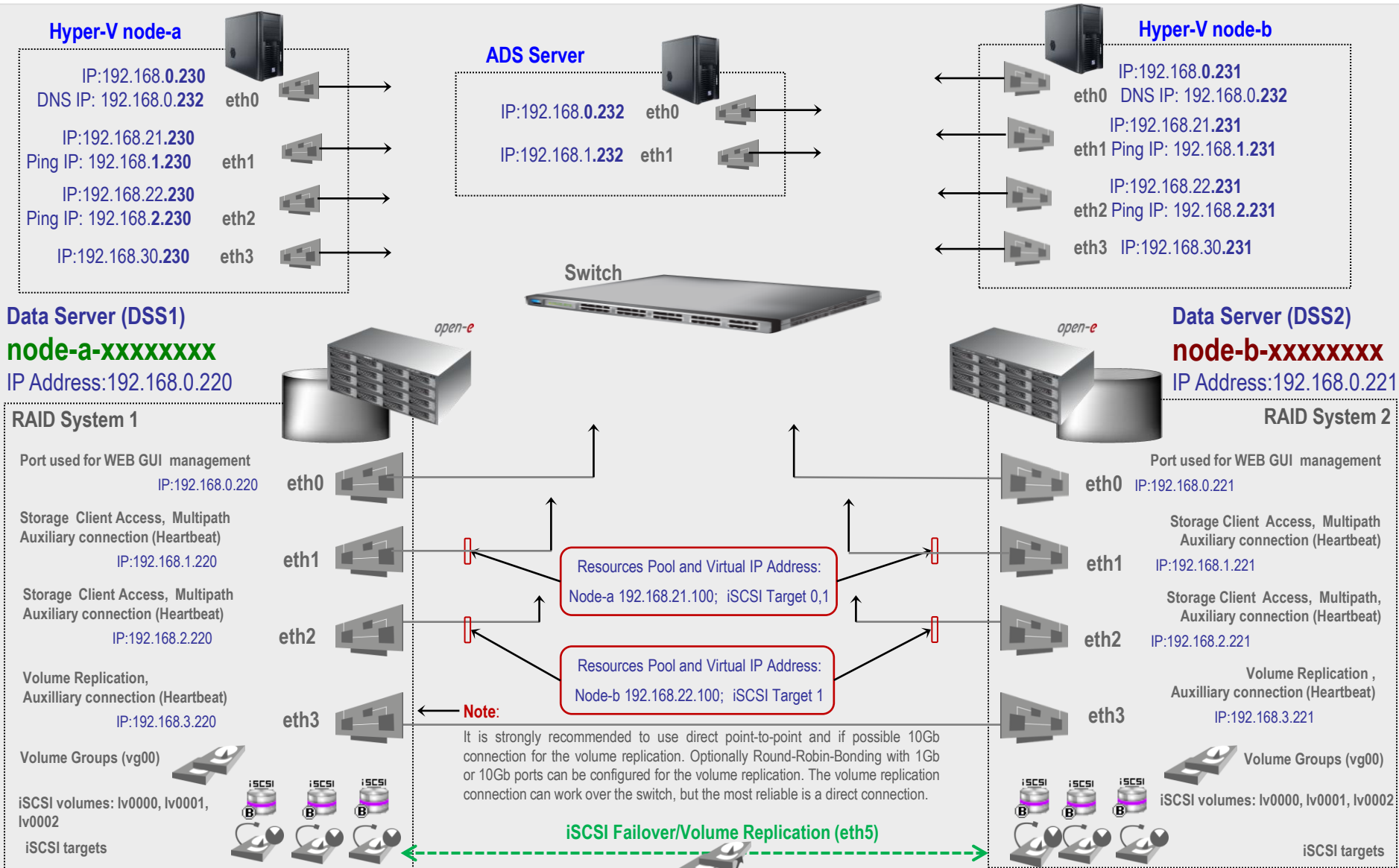
On the **AD DS Server** , in **Server Manager** -> **Tools** -> **Failover Cluster Manager** -> **ha.demo.local** -> **Roles** -> **Virtual Machines** -> **New Virtual Machine** -> **1 – node-a**

In Specify Name and Location select Store a virtual machine in a different location and browse to

C:\ClusterStorage\Volume1

In **Configure Networking** -> **Connection** select the network adapter, here: **Local Area Connection 4 - Virtual Network**

Open-E DSS V7 Active-Active iSCSI Failover with Hyper-V HA cluster



NOTE:

To prevent switching loops, it's recommended to use RSTP (802.1w) or Port Trunking on network switches used to build A-A Failover network topology.