

JovianDSS Evaluation and Product Training

JovianDSS High Availability Cluster
running in a virtual environment on VMware ESXi
Step-by-Step

Presentation updated: October 2015

The aim of this document is to demonstrate how to emulate physical setup shown in:

Open-E-JovianDSS-High-Availability-Cluster-Step-by-Step

http://www.open-e.com/site_media/download/documents/Open-E-JovianDSS-High-Availability-Cluster-Step-by-Step.pdf

This is for a virtual environment. It shows in step-by-step, how to install two virtual machines on VMware ESXi with shared storage. In order to keep it as short as possible we show how to create only one single shared disk. It is recommended to create at least 5 shared disk for training or demo purposes. When adding shared disks, select SCSI (1:1), (1:2), (1:3), (1:4)... as Virtual Device Node and NOT (0:1), (0:2), (0:3), (0:4)... the reason is that the shared disks must be attached to the second SCSI virtual controller which is configured as a shared type.

The first two disks can be added to the pool as mirror data group, second two as mirrored write log and the fifth one as read cache.

JovianDSS HA Cluster running as VM on VMware ESXi



Create New Virtual Machine.

Click "New Virtual Machine" Icon.

Click **Next**.

On next screen enter the new virtual machine name:
JovianDSS-node-1 and click **Next**.

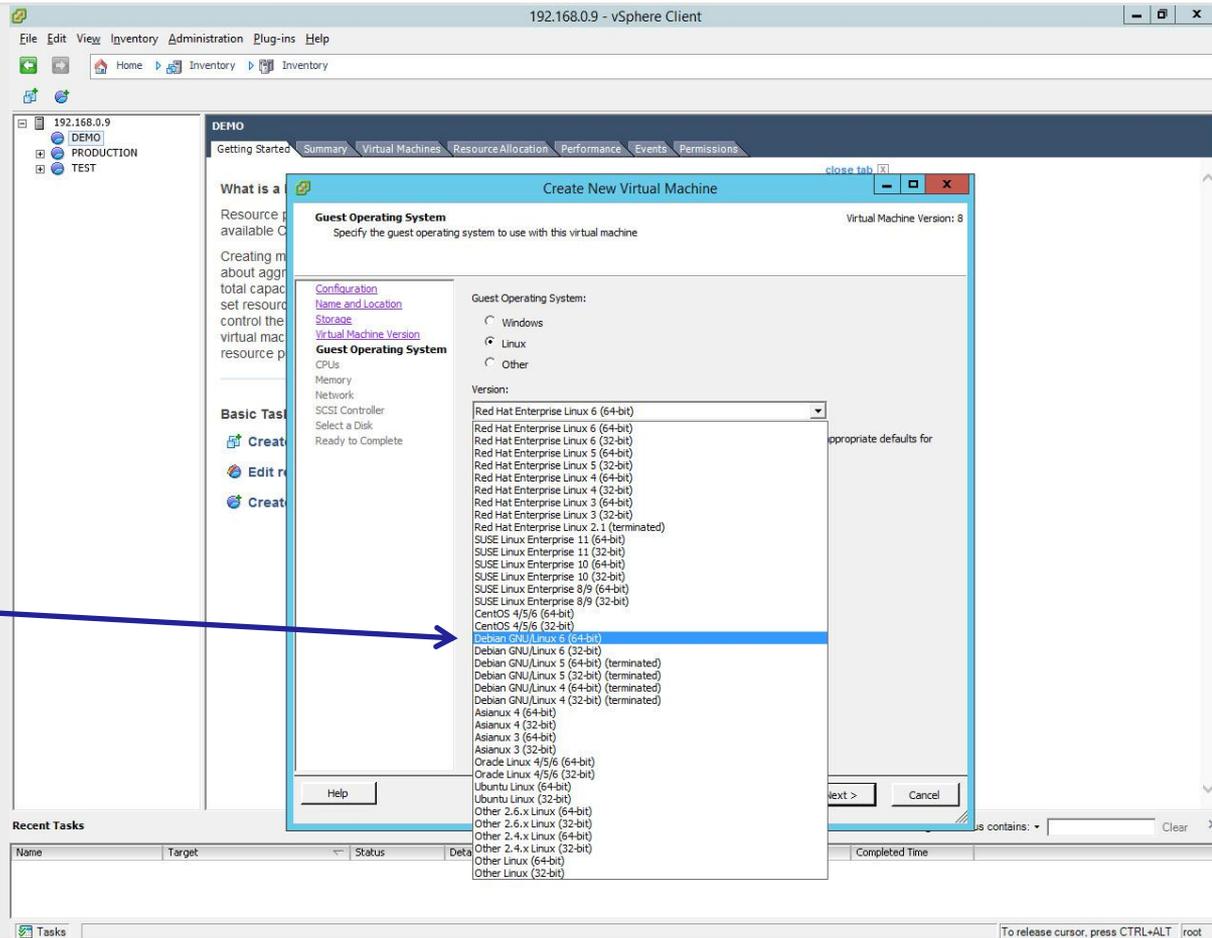
In next step select the datastore.

And finally, select virtual machine version and click **Next** again.

The screenshot shows the VMware vSphere Client interface. The main window displays the 'Create New Virtual Machine' wizard. The wizard is currently at the 'Configuration' step, where the user is prompted to select a configuration for the virtual machine. There are two options: 'Typical' (radio button) and 'Custom' (radio button, which is selected). The 'Custom' option is described as 'Create a virtual machine with additional devices or specific configuration options.' The 'Next >' button is highlighted with a blue arrow. The 'Recent Tasks' table at the bottom shows a list of completed tasks.

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Move into resource pool	TEST	Completed		root	22.10.2015 18:41:53	22.10.2015 18:41:53	22.10.2015 18:41:53
Move into resource pool	TEST	Completed		root	22.10.2015 18:41:58	22.10.2015 18:41:58	22.10.2015 18:41:58
Move into resource pool	TEST	Completed		root	22.10.2015 18:42:02	22.10.2015 18:42:02	22.10.2015 18:42:02

JovianDSS HA Cluster running as VM on VMware ESXi



Select Guest OS:
Debian GNU/Linux 6 (64-bit)

JovianDSS HA Cluster running as VM on VMware ESXi



192.168.0.9 - vSphere Client

File Edit View Inventory Administration Plug-ins Help

Home Inventory Inventory

192.168.0.9
DEMO
PRODUCTION
TEST

DEMO

Getting Started Summary Virtual Machines Resource Allocation Performance Events Permissions

close tab [X]

What is a
Resource p
available C
Creating m
about aggr
total capac
set resour
control the
virtual mac
resource p

Basic Tas
Create
Part 1
Create

Virtual Machine Version: 8

CPUs
Select the number of virtual CPUs for the virtual machine.

Configuration
[Name and Location](#)
[Storage](#)
[Virtual Machine Version](#)
[Guest Operating System](#)

CPUs
Memory
Network
SCSI Controller
Select a Disk
Ready to Complete

Number of virtual sockets: 1

Number of cores per virtual socket: 1

Total number of cores: 4

The number of virtual CPUs that you specify depends on the number of processors of the number of CPUs supported by the guest OS.

The virtual CPU configuration specified on this page might violate the license of the guest OS.

Click Help for information on the number of processors supported for various guest operating systems.

Help < Back Next > Cancel

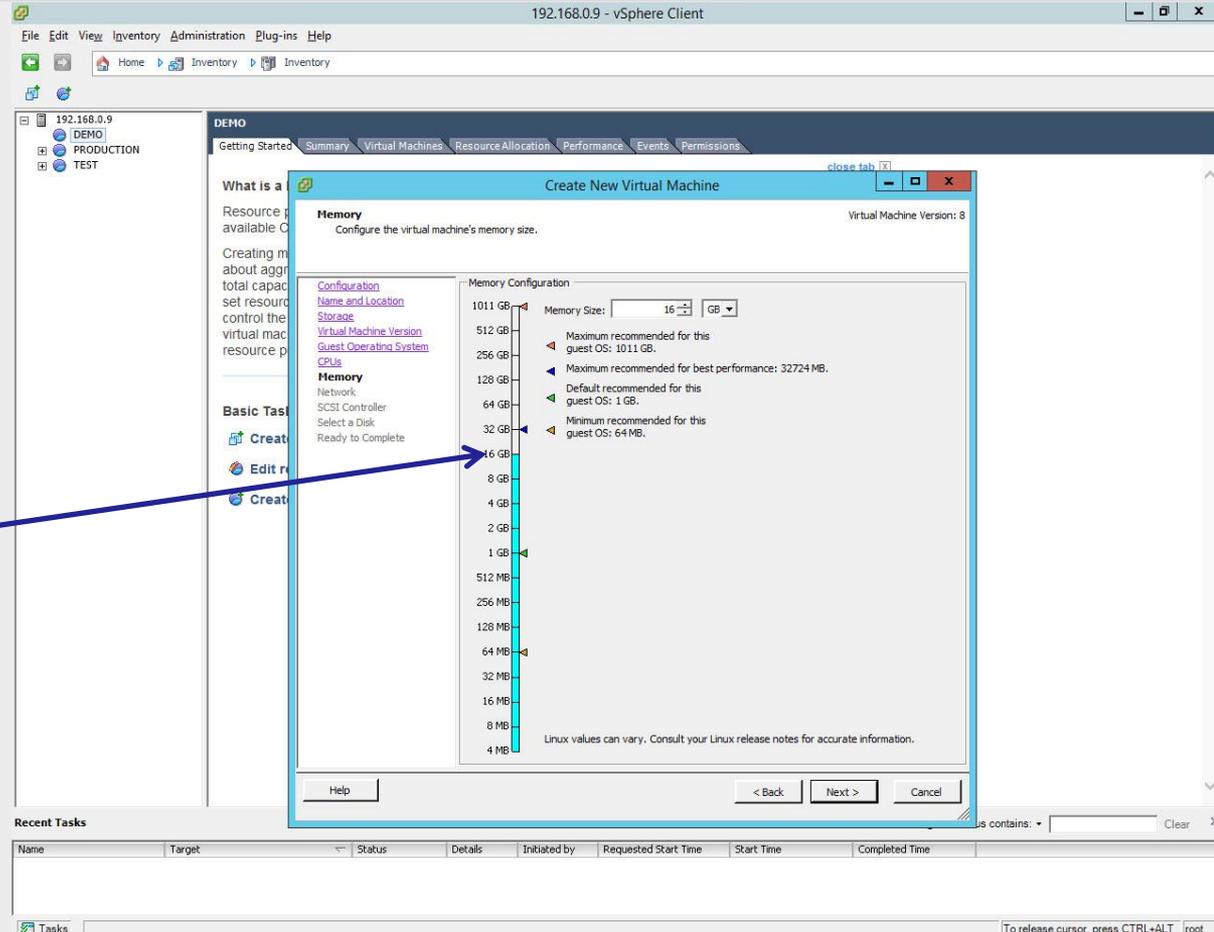
Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
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Tasks To release cursor, press CTRL+ALT root

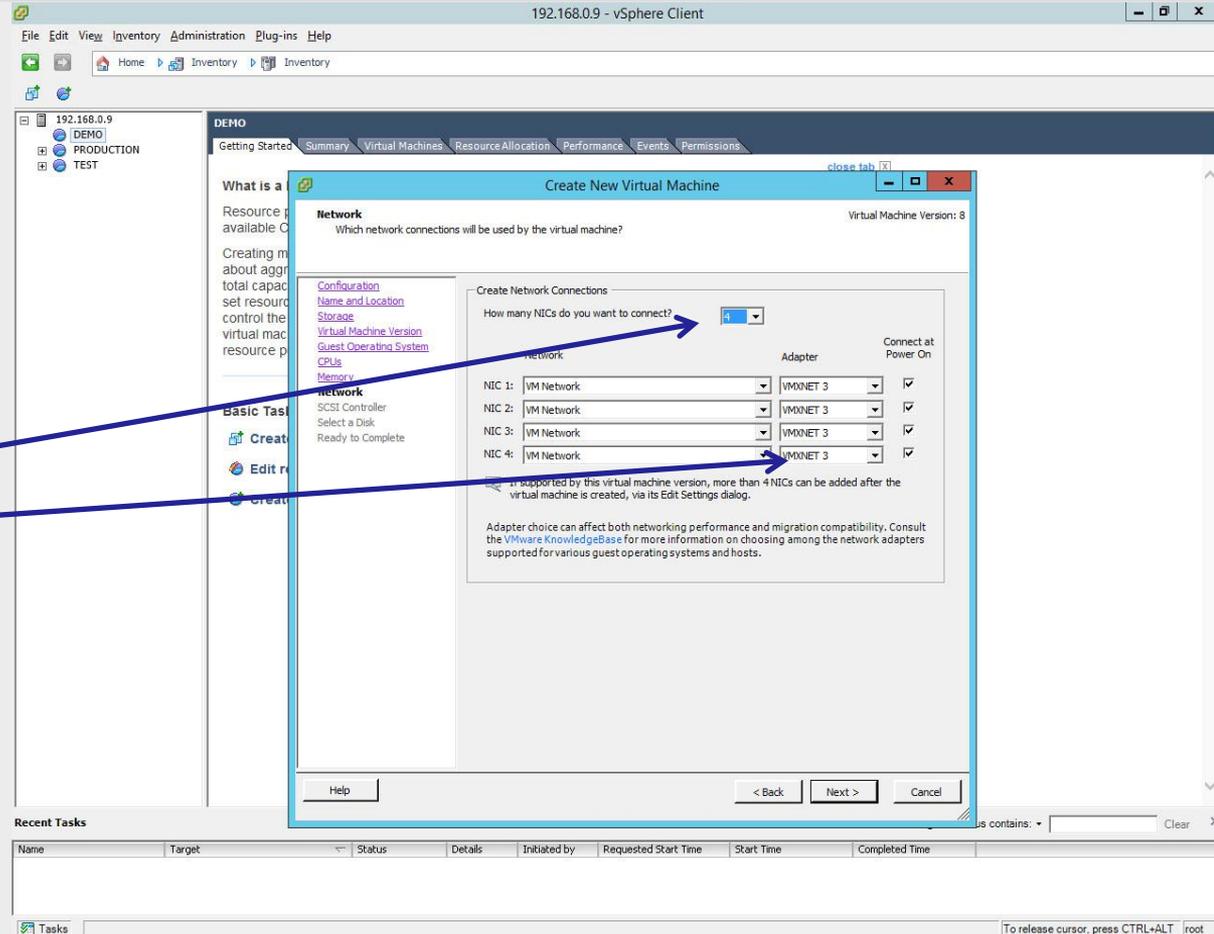
Select at least 4 cores and click Next.

JovianDSS HA Cluster running as VM on VMware ESXi



Select at least 16GB RAM
and click **Next**.

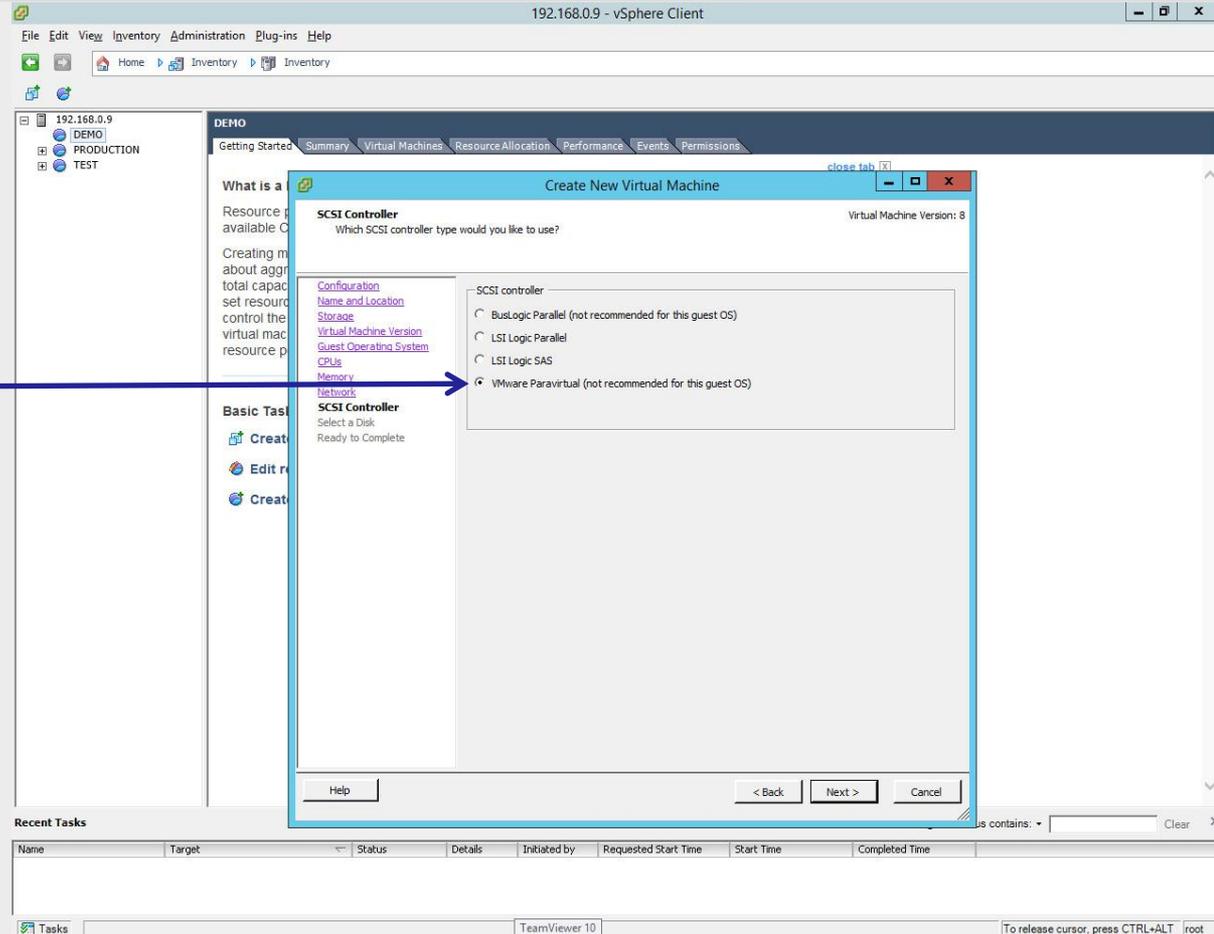
JovianDSS HA Cluster running as VM on VMware ESXi



Select 4 NICs
with adapter type VMXNET 3
and click **Next** button.

JovianDSS HA Cluster running as VM on VMware ESXi

Select VMware Paravirtual controller type.



JovianDSS HA Cluster running as VM on VMware ESXi

Select 20GB disk size and click Next.
Use default „Thick Provision Lazy Zeroed“

The screenshot shows the VMware vSphere Client interface. The main window is titled '192.168.0.9 - vSphere Client'. The left sidebar shows a tree view with 'DEMO' selected. The main content area displays the 'Create New Virtual Machine' wizard, currently on the 'Create a Disk' step. The wizard is titled 'Create a Disk' and 'Specify the virtual disk size and provisioning policy'. The 'Capacity' section shows 'Disk Size: 20 GB'. The 'Disk Provisioning' section has three radio buttons: 'Thick Provision Lazy Zeroed' (selected), 'Thick Provision Eager Zeroed', and 'Thin Provision'. The 'Location' section has two radio buttons: 'Store with the virtual machine' (selected) and 'Specify a datastore or datastore cluster:'. Below the wizard is a 'Recent Tasks' table.

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Remove entity	JovianDSS-node-1	Completed		root	23.10.2015 18:01:56	23.10.2015 18:01:56	23.10.2015 18:01:56
Create virtual machine	192.168.0.9	Completed		root	23.10.2015 17:55:29	23.10.2015 17:55:29	23.10.2015 17:55:29

Click Next to confirm default "Create a new virtual disk".

The screenshot shows the VMware vSphere Client interface. The main window is titled "192.168.0.9 - vSphere Client". The left sidebar shows a tree view with "192.168.0.9" expanded, containing "DEMO", "PRODUCTION", and "TEST". The main content area shows the "DEMO" virtual machine details, with tabs for "Summary", "Virtual Machines", "Resource Allocation", "Performance", "Events", and "Permissions". The "Virtual Machines" tab is active, showing a "What is a..." section and a "Basic Task" section with "Create" and "Edit" buttons. A "Create New Virtual Machine" wizard is open, showing the "Select a Disk" step. The wizard has a "Virtual Machine Version: 8" label. The "Select a Disk" section has a "Configuration" list with links for "Name and Location", "Storage", "Virtual Machine Version", "Guest Operating System", and "CPU". The "Select a Disk" section has a "Create a Disk" section with "Create a Disk", "Advanced Options", and "Ready to Complete" buttons. The "Select a Disk" section has a "Select the type of disk to use." section with three radio buttons: "Create a new virtual disk" (selected), "Use an existing virtual disk", and "Raw Device Mappings". The "Create a new virtual disk" section has a "Do not create disk" radio button. The "Create a new virtual disk" section has a "Give your virtual machine direct access to SAN. This option allows you to use existing SAN commands to manage the storage and continue to access it using a datastore." section. The "Create a new virtual disk" section has a "Help" button. The "Create a new virtual disk" section has "< Back", "Next >", and "Cancel" buttons. The "Recent Tasks" table is visible at the bottom of the wizard.

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
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JovianDSS HA Cluster running as VM on VMware ESXi



The screenshot shows the VMware vSphere Client interface. The main window is titled '192.168.0.9 - vSphere Client'. The left sidebar shows a tree view with 'DEMO' selected. The main content area shows the 'Create New Virtual Machine' wizard. The 'Advanced Options' tab is active, displaying the following options:

- Virtual Device Node:** SCSI (0:0) (selected), IDE (0:0)
- Mode:** Independent (Independent disks are not affected by snapshots), Persistent (Changes are immediately and permanently written to the disk.), Nonpersistent (Changes to this disk are discarded when you power off or revert to the snapshot.)

At the bottom of the wizard, there are three buttons: '< Back', 'Next >', and 'Cancel'. A blue callout box on the left contains the text 'Click Next to confirm default SCSI (0:0) Virtual Device Node' with an arrow pointing to the 'Next >' button.

Click Next to confirm default SCSI (0:0) Virtual Device Node

JovianDSS HA Cluster running as VM on VMware ESXi

Select the newly created VM and right-mouse-click.
In drop-down menu select **Edit Settings...**

192.168.0.9 - vSphere Client

File Edit View Inventory Administration Plug-ins Help

Home Inventory Inventory

192.168.0.9 DEMO

JovianDSS-... PRODUCTION TEST

JovianDSS-node-1

- Power
- Guest
- Snapshot
- Open Console
- Edit Settings...
- Upgrade Virtual Hardware
- Add Permission... Ctrl+P
- Report Performance...
- Rename
- Open in New Window... Ctrl+Alt+N
- Remove from Inventory
- Delete from Disk

Basic Tasks

- Power on the virtual machine
- Edit virtual machine settings

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Create virtual machine	192.168.0.9	Completed		root	22.10.2015 19:23:45	22.10.2015 19:23:45	22.10.2015 19:23:46

JovianDSS HA Cluster running as VM on VMware ESXi

In the VM properties select **CD/DVD drive** and next Datastore ISO File. Click on **Browse** and select previously uploaded JovianDSS ISO file.

The screenshot shows the VMware vSphere Client interface. The main window displays the 'Virtual Machine Properties' for 'JovianDSS-node-1'. The 'Hardware' tab is active, and the 'CD/DVD drive 1 (edited)' is selected. The 'Image File' section is expanded, and 'Datastore ISO File' is selected. A 'Browse Datastores' dialog box is open, showing the file 'jdss1.0up11_b17837.oe_iso' selected in the 'JovianDSS ISO' datastore. The 'File type' is set to 'ISO Image (*.iso)'. The 'Recent Tasks' table at the bottom shows the following data:

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Create virtual machine	192.168.0.9	Completed		root	22.10.2015 19:23:45	22.10.2015 19:23:45	22.10.2015 19:23:46
Make Directory		Completed		root	22.10.2015 19:29:09	22.10.2015 19:29:09	22.10.2015 19:29:09
Copy file		Completed		root	22.10.2015 19:29:33	22.10.2015 19:29:33	22.10.2015 19:29:37

JovianDSS HA Cluster running as VM on VMware ESXi

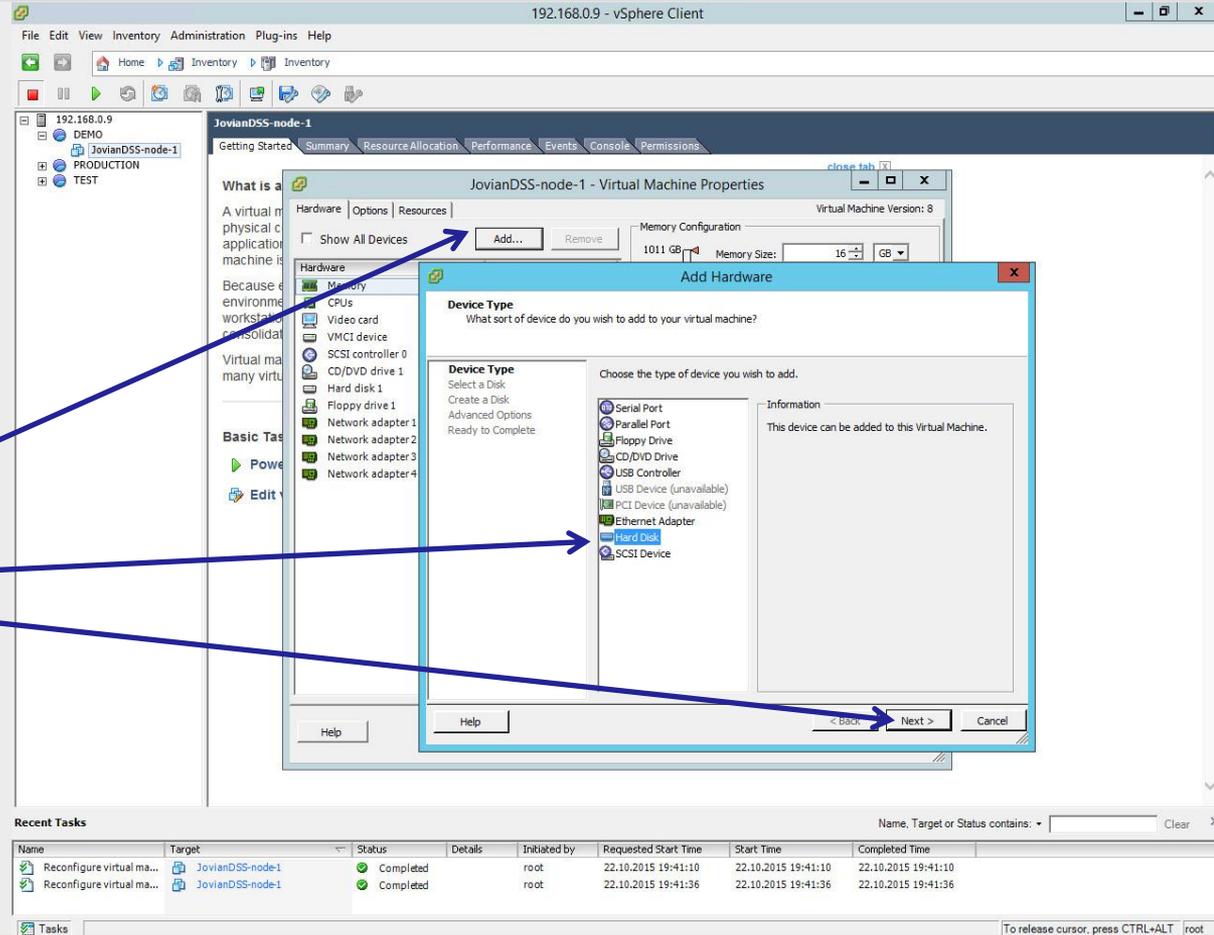
Select **Options**, **General** and **Configuration Parameters** button. Next in **Configuration Parameters** click on **Add Row** and enter **disk.EnableUUID: true** in the name column and **true** in the Value. Finally click **OK**. Click **OK** one more time on the next screen.

The screenshot shows the VMware vSphere Client interface. The main window displays the configuration for a virtual machine named 'JovianDSS-node-1'. The 'Configuration Parameters' dialog is open, showing a table of configuration parameters. The 'disk.EnableUUID' parameter is highlighted, with its value set to 'true'. The 'Add Row' button is visible at the bottom right of the dialog. The 'Recent Tasks' pane at the bottom shows a list of completed tasks.

Name	Value
pciBridge5.functions	8
pciBridge6.present	TRUE
pciBridge6.virtualDev	pcieRootPort
pciBridge6.functions	8
pciBridge7.present	TRUE
pciBridge7.virtualDev	pcieRootPort
pciBridge7.functions	8
hpet.present	true
virtualHW.procsPerCpu	hosted
cpuid.coresPerSocket	
vmware.tools.internal...	0
vmware.tools.require...	9349
migrate.hostLogState	none
migrate.migrationId	0
disk.EnableUUID	true

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Make Directory		Completed		root	22.10.2015 19:29:09	22.10.2015 19:29:09	22.10.2015 19:29:09
Copy file		Completed		root	22.10.2015 19:29:33	22.10.2015 19:29:33	22.10.2015 19:29:37

JovianDSS HA Cluster running as VM on VMware ESXi



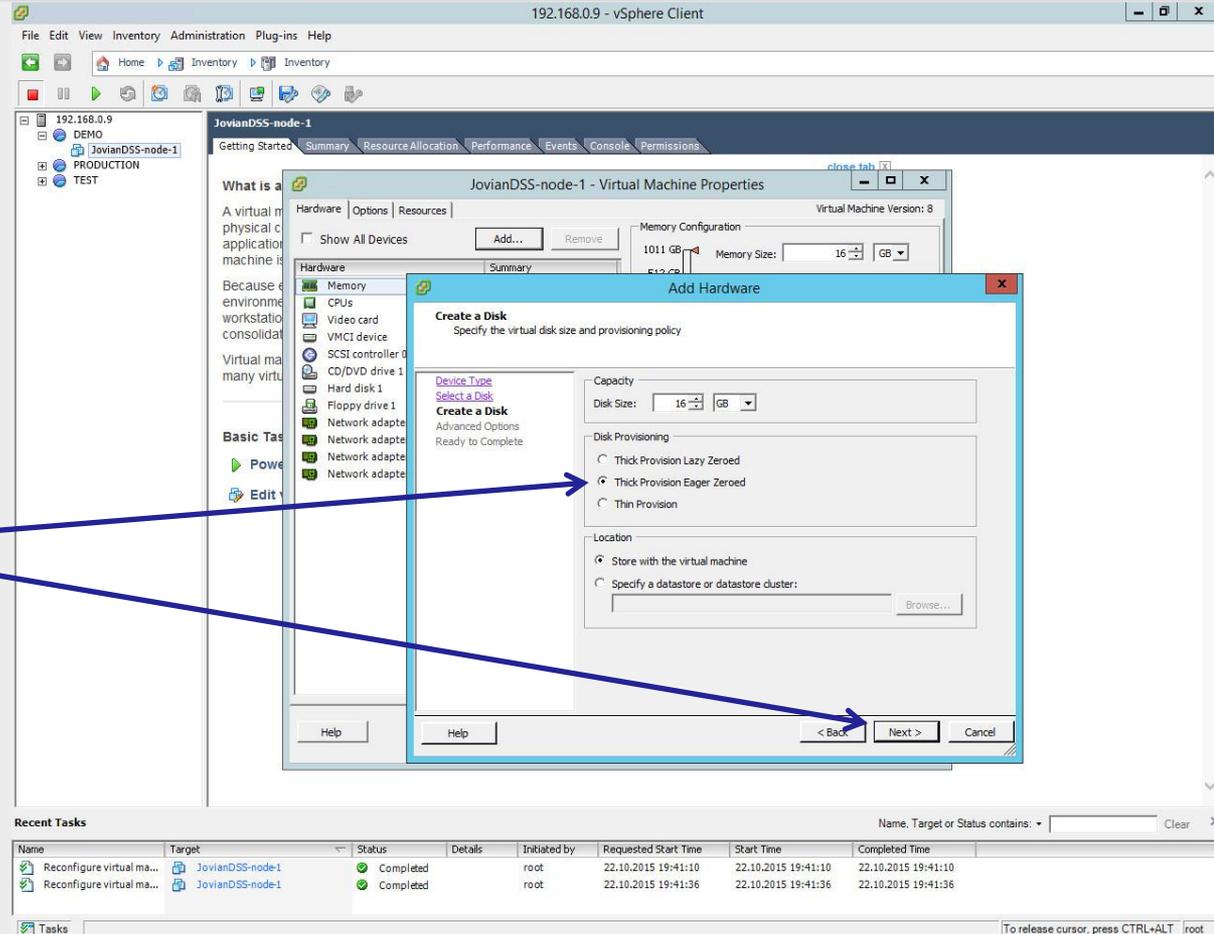
JovianDSS HA Cluster running as VM on VMware ESXi

The screenshot shows the VMware vSphere Client interface. The main window displays the 'JovianDSS-node-1 - Virtual Machine Properties' dialog, with the 'Hardware' tab selected. Within this dialog, the 'Add Hardware' sub-dialog is open, showing the 'Select a Disk' step. The 'Create a new virtual disk' option is selected under the 'Disk' section. A blue callout box on the left contains the text: 'Confirm default "Create a new virtual disk" and click Next.' Two blue arrows point from this box to the 'Create a new virtual disk' radio button and the 'Next >' button in the 'Add Hardware' dialog. The 'Recent Tasks' table at the bottom shows two completed tasks for reconfiguring the virtual machine.

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	22.10.2015 19:41:10	22.10.2015 19:41:10	22.10.2015 19:41:10
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	22.10.2015 19:41:36	22.10.2015 19:41:36	22.10.2015 19:41:36

Confirm default "Create a new virtual disk" and click Next.

JovianDSS HA Cluster running as VM on VMware ESXi



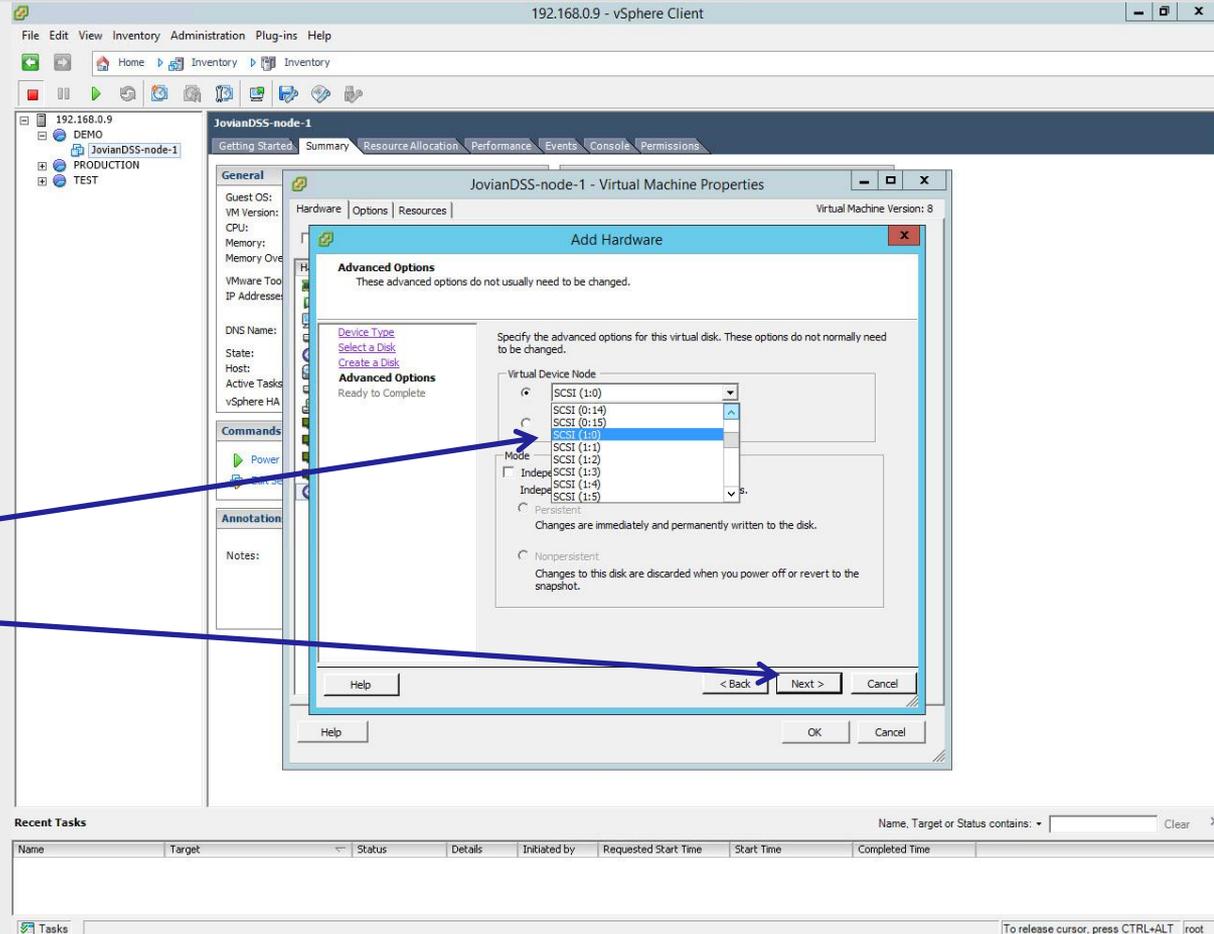
Select Thick Provision Eager Zeroed and click Next.

IMPORTANT NOTE: If by mistake, the default „Thin Provision Lazy Zeroed“ will be selected or the „Thin Provision“, it will NOT be possible to create shared disk required for the High Availability Cluster.

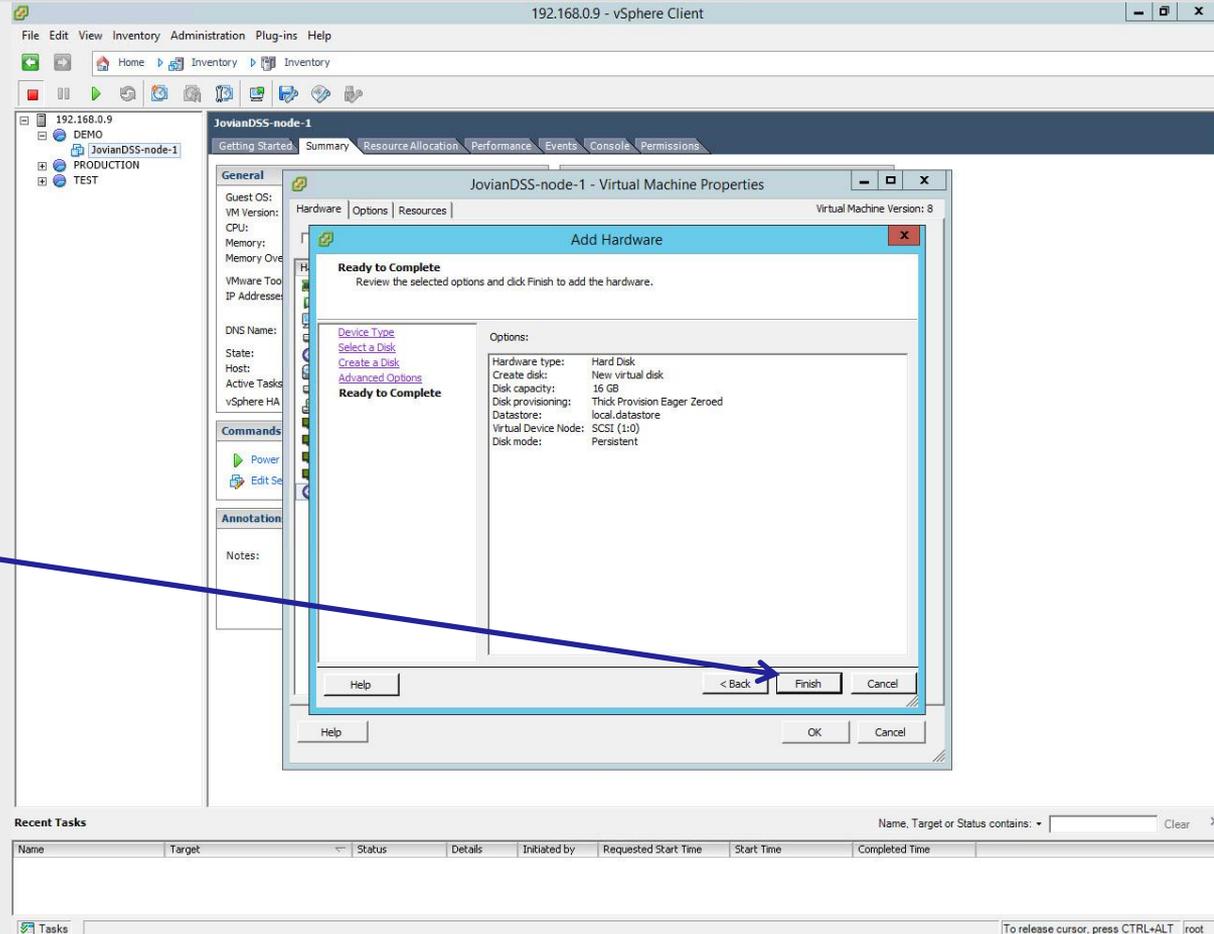
JovianDSS HA Cluster running as VM on VMware ESXi

Select SCSI (1:0) from drop-down menu of Virtual Device Node and click **Next**.

NOTE:
Selecting SCSI (1:0) will automatically create new virtual SCSI Controller



JovianDSS HA Cluster running as VM on VMware ESXi



Finally, click the **Finish** button

JovianDSS HA Cluster running as VM on VMware ESXi



The screenshot shows the VMware vSphere Client interface. The main window displays the 'JovianDSS-node-1 - Virtual Machine Properties' dialog box. The 'Hardware' tab is active, and the 'New Hard Disk (adding)' option is selected in the hardware list. The 'Disk Provisioning' section shows 'Type: Thick Provision Eager Zeroed', 'Provisioned Size: 16 GB', and 'Maximum Size (GB): N/A'. The 'Virtual Device Node' is set to 'SCSI (1:0)'. The 'Mode' section has 'Independent' selected, with 'Nonpersistent' chosen as the disk mode. A blue callout box on the left contains the text: 'In order to finalize adding new disk click on OK'. An arrow points from this box to the 'OK' button in the dialog.

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
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In order to finalize adding new disk
click on **OK**

JovianDSS HA Cluster running as VM on VMware ESXi

192.168.0.9 - vSphere Client

File Edit View Inventory Administration Plug-ins Help

Home Inventory Inventory

192.168.0.9
DEMO
JovianDSS-node-1
PRODUCTION
TEST

JovianDSS-node-1

Getting Started Summary Resource Allocation Performance Events Console Permissions

General

Guest OS: Other 2.6.x Linux (64-bit)
VM Version: 8
CPU: 4 vCPU
Memory: 16384 MB
Memory Overhead: 424,80 MB
VMware Tools: Not running (Not installed)
IP Addresses:
DNS Name:
State: Powered Off
Host: esxi.oe.local
Active Tasks: Reconfigure virtual machine
vSphere HA Protection: N/A

Resources

Consumed Host CPU:
Consumed Host Memory:
Active Guest Memory:
Provisioned Storage: 32,32 GB
Not-shared Storage: 16,00 GB
Used Storage: 16,00 GB

Storage Drive Type Capacity
local datastore Non-SSD 4,69 TB

Network Type
VM Network Standard port group

Commands

Power On
Edit Settings

Annotations

Notes: Edit

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 17:40:40	23.10.2015 17:40:40	23.10.2015 17:41:11
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 17:42:35	23.10.2015 17:42:35	23.10.2015 17:42:36
Reconfigure virtual ma...	JovianDSS-node-1	28%		root	23.10.2015 17:43:32	23.10.2015 17:43:32	

Tasks

Name, Target or Status contains: Clear

To release cursor, press CTRL+ALT root

Now wait until the newly created drive is fully initialized (Eager Zeroed)

JovianDSS HA Cluster running as VM on VMware ESXi

In Virtual Machine Properties select **SCSI controller 1** and in SCSI Bus Sharing select **Physical**. Click **OK** to confirm.

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 17:40:40	23.10.2015 17:40:40	23.10.2015 17:41:11
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 17:42:35	23.10.2015 17:42:35	23.10.2015 17:42:36
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 17:43:32	23.10.2015 17:43:32	23.10.2015 17:44:03

JovianDSS HA Cluster running as VM on VMware ESXi

In order to create second cluster node, repeat all steps from page 3 to 15.

NOTE:

On pages 16 to 23 we have created the virtual shared disk on the first cluster node. In the second cluster node we will not create this disk but adding the virtual disk we will point to the already created from the first node.

Once the **JovianDSS-node-2** VM is created go to **Edit Settings**. In Virtual Machine Properties click on **Add...** Select **Hard Disk** and click on **Next**.

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual machine...	JovianDSS-node-1	Completed		root	23.10.2015 17:50:26	23.10.2015 17:50:26	23.10.2015 17:50:27
Create virtual machine	192.168.0.9	Completed		root	23.10.2015 17:55:29	23.10.2015 17:55:29	23.10.2015 17:55:29

JovianDSS HA Cluster running as VM on VMware ESXi

192.168.0.9 - vSphere Client

File Edit View Inventory Administration Plug-ins Help

Home Inventory Inventory

192.168.0.9
DEMO
JovianDSS-node-1
JovianDSS-node-2
PRODUCTION
TEST

JovianDSS-node-2

Getting Started Summary Resource Allocation Performance Events Console Permissions

close tab [X]

What is a virtual machine?
A virtual machine is a software application that emulates a physical computer. It runs on a hypervisor, which allows multiple virtual machines to share the same physical hardware. Because of this, virtual machines can be used to create a development environment, a test environment, or a workstation consolidation. Virtual machines can be many things.

Basic Tasks
Power On Edit

JovianDSS-node-2 - Virtual Machine Properties

Hardware Options Resources

Show All Devices Add... Remove

Hardware Summary

- Memory 16880 MB
- CPUs 4
- Video 16 MB
- VMCI 0 MB
- SCSI Controller 1
- Hard Disk 1
- Floppy 0 MB
- Network 1
- Network 1
- Network 1

Memory Configuration

1011 GB
512 GB
256 GB

Memory Size: 16880 MB

Maximum recommended for this guest OS: 1011 GB.
Maximum recommended for best performance: 1011 GB.

Add Hardware

Select a Disk

Device Type
Select Existing Disk
Advanced Options
Ready to Complete

A virtual disk is composed of one or more files on the host file system. Together these files appear as a single hard disk to the guest operating system.

Select the type of disk to use.

- Create a new virtual disk
- Use an existing virtual disk
Reuse a previously configured virtual disk.
- Raw Device Mappings
Give your virtual machine direct access to SAN. This option allows you to use existing SAN commands to manage the storage and continue to access it using a datastore.

< Back Next > Cancel

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 17:50:26	23.10.2015 17:50:26	23.10.2015 17:50:27
Create virtual machine	192.168.0.9	Completed		root	23.10.2015 17:55:29	23.10.2015 17:55:29	23.10.2015 17:55:29

Tasks

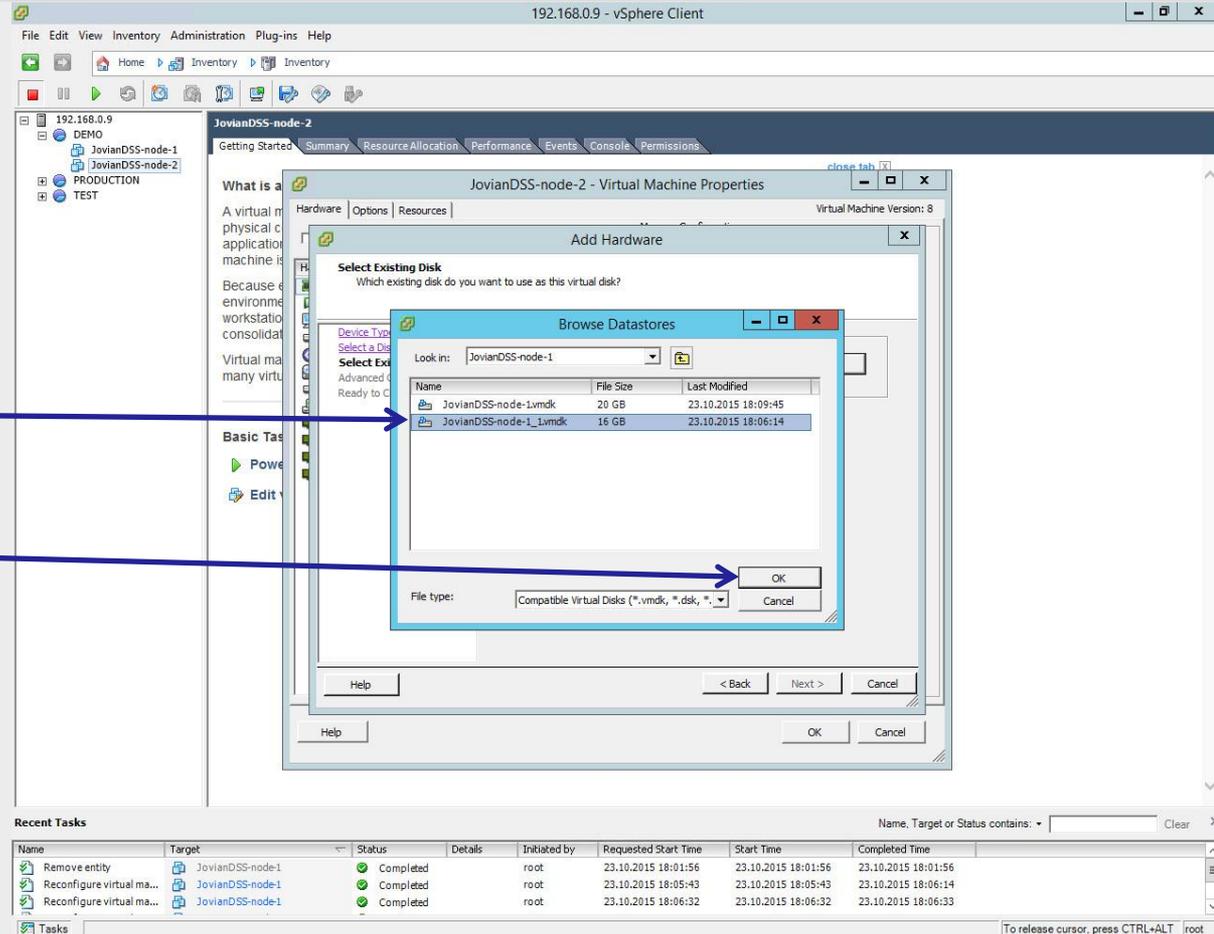
To release cursor, press CTRL+ALT root

Now instead of default Create a new virtual disk, select second option: Use an existing virtual disk. Click on Next.

JovianDSS HA Cluster running as VM on VMware ESXi

Browse to the first VM **JovianDSS-node-1** and select the first shared disk (16GB)
And click **OK**.

NOTE:
The 20GB disk was created as boot disk and it is NOT shared.



JovianDSS HA Cluster running as VM on VMware ESXi

The screenshot shows the VMware vSphere Client interface. The main window displays the 'Virtual Machine Properties' for 'JovianDSS-node-2'. A dialog box titled 'Add Hardware' is open, showing the 'Advanced Options' tab. The 'Virtual Device Node' dropdown menu is expanded, and 'SCSI (1:0)' is selected. The 'Mode' is set to 'SCSI (1:0)'. The 'Advanced Options' section contains the following text: 'These advanced options do not usually need to be changed.' and 'Specify the advanced options for this virtual disk. These options do not normally need to be changed.' Below this, there are radio buttons for 'Persistent' (selected) and 'Nonpersistent'. The 'Next >' button is highlighted with a blue arrow from a callout box.

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:05:43	23.10.2015 18:05:43	23.10.2015 18:06:14
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:06:32	23.10.2015 18:06:32	23.10.2015 18:06:33
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:09:45	23.10.2015 18:09:45	23.10.2015 18:09:45

Select **SCSI (1:0)** and click **Next**.

JovianDSS HA Cluster running as VM on VMware ESXi

Finally click on Finish.

The screenshot shows the VMware vSphere Client interface. The main window displays the 'JovianDSS-node-2' virtual machine properties. A dialog box titled 'Add Hardware' is open, showing the 'Ready to Complete' step. The dialog contains the following information:

- Ready to Complete**: Review the selected options and click Finish to add the hardware.
- Device Type**: [Select a Disk](#)
- Select Existing Disk**: [Advanced Options](#)
- Ready to Complete**
- Options**:
 - Hardware type: Hard Disk
 - Create disk: Use existing disk
 - Virtual Device Node: SCSI (1:0)
 - Disk file path: [local_datastore] JovianDSS-node-1/JovianDSS-node-1_1.vmdk
 - Disk mode: Persistent

At the bottom of the dialog, there are buttons for '< Back', 'Finish', and 'Cancel'. A blue arrow points from the text box on the left to the 'Finish' button.

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:05:43	23.10.2015 18:05:43	23.10.2015 18:06:14
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:06:32	23.10.2015 18:06:32	23.10.2015 18:06:33
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:09:45	23.10.2015 18:09:45	23.10.2015 18:09:45

JovianDSS HA Cluster running as VM on VMware ESXi



192.168.0.9 - vSphere Client

File Edit View Inventory Administration Plug-ins Help

Home Inventory Inventory

192.168.0.9
DEMO
JovianDSS-node-1
JovianDSS-node-2
PRODUCTION
TEST

JovianDSS-node-2

Getting Started Summary Resource Allocation Performance Events Console Permissions

close tab [X]

JovianDSS-node-2 - Virtual Machine Properties

Virtual Machine Version: 8

Hardware Options Resources

Show All Devices Add... Remove

Disk File
[local.datastore] JovianDSS-node-1/JovianDSS-node-1_1.vmx

Disk Provisioning
Type: Thick Provision Lazy Zeroed
Provisioned Size: 16 GB
Maximum Size (GB): N/A

Virtual Device Node
SCSI (1:0)

Mode
 Independent
Independent disks are not affected by snapshots.
 Persistent
Changes are immediately and permanently written to the disk.
 Nonpersistent
Changes to this disk are discarded when you power off or revert to the snapshot.

Hardware Summary

- Memory 16880 MB
- CPUs 4
- Video card Video card
- VMCI device Restricted
- SCSI controller 0 Paravirtual
- CD/DVD drive 1 Client Device
- Hard disk 1 Client Device
- Floppy drive 1 Client Device
- Network adapter 1 VM Network
- Network adapter 2 VM Network
- Network adapter 3 VM Network
- Network adapter 4 VM Network
- New SCSI Controller (add... Paravirtual
- New Hard Disk (adding) Virtual Disk

Help OK Cancel

Recent Tasks

Name, Target or Status contains: Clear

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:09:45	23.10.2015 18:09:45	23.10.2015 18:09:45

Tasks

To release cursor, press CTRL+ALT root

Click **OK** in order to finalize adding new disk.

JovianDSS HA Cluster running as VM on VMware ESXi

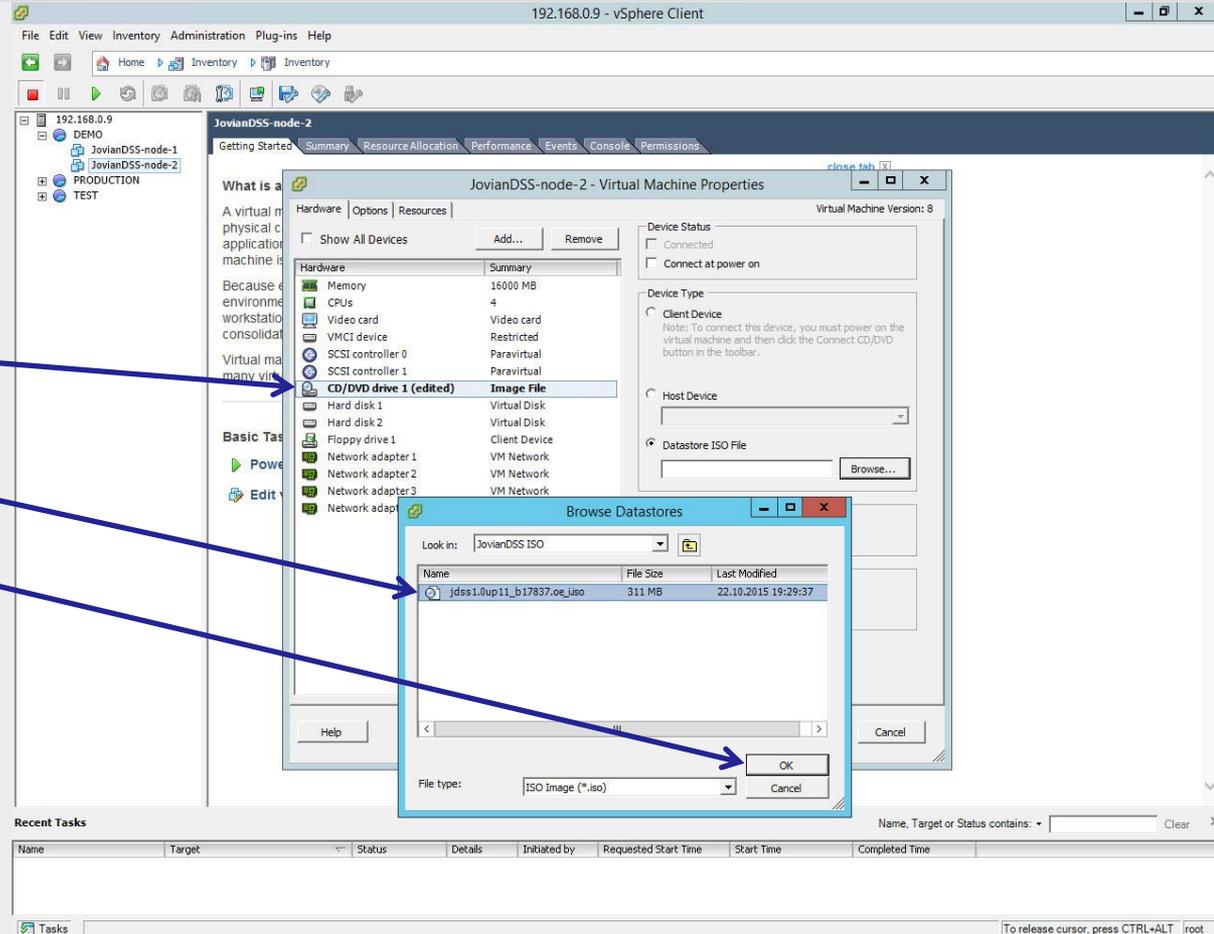
Go to Edit Settings of the VM JovianDSS-node-2 and select SCSI controller 1 and in SCSI Bus Sharing select Physical.

The screenshot shows the VMware vSphere Client interface. The main window displays the 'Virtual Machine Properties' dialog for 'JovianDSS-node-2'. The 'Hardware' tab is active, and 'SCSI controller 1 (edited)' is selected. The 'SCSI Controller Type' is set to 'Paravirtual', and the 'SCSI Bus Sharing' is set to 'Physical'. The 'Recent Tasks' table at the bottom shows two completed tasks: 'Reconfigure virtual ma...' for 'JovianDSS-node-2' and 'JovianDSS-node-1'.

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-2	Completed		root	23.10.2015 18:19:40	23.10.2015 18:19:40	23.10.2015 18:19:40
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:09:45	23.10.2015 18:09:45	23.10.2015 18:09:45

JovianDSS HA Cluster running as VM on VMware ESXi

Go to Edit Settings of the VM **JovianDSS-node-2** and select **CD/DVD drive**, next select Datastore ISO File and click **Browse**. Select previously uploaded JovianDSS ISO file and click **OK**.



JovianDSS HA Cluster running as VM on VMware ESXi

Check the **Connect at power on** in Device Status and click **OK**.

The screenshot shows the VMware vSphere Client interface. The main window displays the 'Virtual Machine Properties' dialog for 'JovianDSS-node-2'. The 'Hardware' tab is active, and the 'CD/DVD drive 1 (edited)' is selected. The 'Device Status' section is checked for 'Connect at power on'. The 'Device Type' is set to 'Client Device'. The 'Datastore ISO File' is '[local.datastore] JovianDSS ISO/jdss'. The 'Virtual Device Node' is set to 'IDE (1:0) CD/DVD drive 1'. A blue callout box on the left contains the text: 'Check the **Connect at power on** in Device Status and click **OK**.' Two blue arrows point from this box to the 'Connect at power on' checkbox and the 'OK' button.

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:45:11	23.10.2015 18:45:11	23.10.2015 18:45:12
Power On virtual mach...	JovianDSS-node-1	Completed		root	23.10.2015 18:46:35	23.10.2015 18:46:35	23.10.2015 18:46:37
Power Off virtual mach...	JovianDSS-node-1	Completed		root	23.10.2015 18:48:30	23.10.2015 18:48:30	23.10.2015 18:48:31

JovianDSS HA Cluster running as VM on VMware ESXi

Select the first VM JovianDSS-node-1 and from drop-down menu select Power -> Power On.

The screenshot shows the vSphere Client interface. The main window displays the inventory tree on the left, where 'JovianDSS-node-1' is selected. A context menu is open over this VM, showing options like Power, Guest, Snapshot, Open Console, Edit Settings..., Upgrade Virtual Hardware, Add Permission..., Report Performance..., Rename, Open in New Window..., Remove from Inventory, and Delete from Disk. The 'Power' option is expanded, showing sub-options: Power On (Ctrl+B), Power Off (Ctrl+E), Suspend (Ctrl+Z), Reset (Ctrl+T), Shut Down Guest (Ctrl+D), and Restart Guest (Ctrl+R). The 'Power On' option is highlighted. Below the context menu, the 'Basic Tasks' pane shows 'Power on the virtual machine' and 'Edit virtual machine settings'. The 'Recent Tasks' pane at the bottom shows a table of tasks.

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:45:11	23.10.2015 18:45:11	23.10.2015 18:45:12

JovianDSS HA Cluster running as VM on VMware ESXi

Click on the icon: Launch Virtual Machine console.

The screenshot shows the vSphere Client interface with the 'Launch Virtual Machine Console' window open for a VM named 'JovianDSS-node-1'. The window title is 'JovianDSS Launch Virtual Machine Console' and it has tabs for 'Getting Started', 'Summary', 'Resource Allocation', 'Performance', 'Events', 'Console', and 'Permissions'. The 'Getting Started' tab is active, displaying the following content:

What is a Virtual Machine?

A virtual machine is a software computer that, like a physical computer, runs an operating system and applications. An operating system installed on a virtual machine is called a guest operating system.

Because every virtual machine is an isolated computing environment, you can use virtual machines as desktop or workstation environments, as testing environments, or to consolidate server applications.

Virtual machines run on hosts. The same host can run many virtual machines.

Basic Tasks

- Power Off the virtual machine
- Suspend the virtual machine
- Edit virtual machine settings

Below the text is a diagram showing 'Virtual Machines' (represented by three blue server icons) running on a 'Host' (represented by a grey server tower). A 'vSphere Client' (represented by a laptop icon) is connected to the host.

At the bottom of the vSphere Client interface, there is a 'Recent Tasks' table:

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:45:11	23.10.2015 18:45:11	23.10.2015 18:45:12
Power On virtual mach...	JovianDSS-node-1	Completed		root	23.10.2015 18:46:35	23.10.2015 18:46:35	23.10.2015 18:46:37

JovianDSS HA Cluster running as VM on VMware ESXi

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192.168.0.9 - vSphere Client

File Edit View Inventory Administration Plug-ins Help

Home Inventory Inventory

192.168.0.9
DEMO
JovianDSS-node-1
JovianDSS-node-2
PRODUCTION
TEST

JovianDSS-node-1 on esxi.oe.local

File View VM

Welcome to the software installer

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Navigate: UP / DOWN / LEFT / RIGHT Confirm choice: ENTER

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:45:11	23.10.2015 18:45:11	23.10.2015 18:45:12
Power On virtual mach...	JovianDSS-node-1	Completed		root	23.10.2015 18:46:35	23.10.2015 18:46:35	23.10.2015 18:46:37
Power Off virtual mach...	JovianDSS-node-1	Completed		root	23.10.2015 18:48:30	23.10.2015 18:48:30	23.10.2015 18:48:31

Tasks

To release cursor, press CTRL+ALT root

192.168.0.9 - vSphere Client

File Edit View Inventory Administration Plug-ins Help

Home Inventory Inventory

192.168.0.9
DEMO
JovianDSS-node-1
JovianDSS-node-2
PRODUCTION
TEST

JovianDSS-node-1 on esxi.oe.local

File View VM

Welcome to the software installer

Installation drive |

Please select drive to install the system

Device	Size [GiB]	Serial number	Additional information
Drive 0	16.00	c2993...82c68	Ready:
Drive 1	20.00	N/A	Ready:

< Rescan > < Back > < Select drive >

Navigate: UP / DOWN / LEFT / RIGHT Confirm choice: ENTER

Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Reconfigure virtual ma...	JovianDSS-node-1	Completed		root	23.10.2015 18:50:32	23.10.2015 18:50:32	23.10.2015 18:50:33
Power On virtual mach...	JovianDSS-node-1	Completed		root	23.10.2015 18:50:57	23.10.2015 18:50:57	23.10.2015 18:50:58

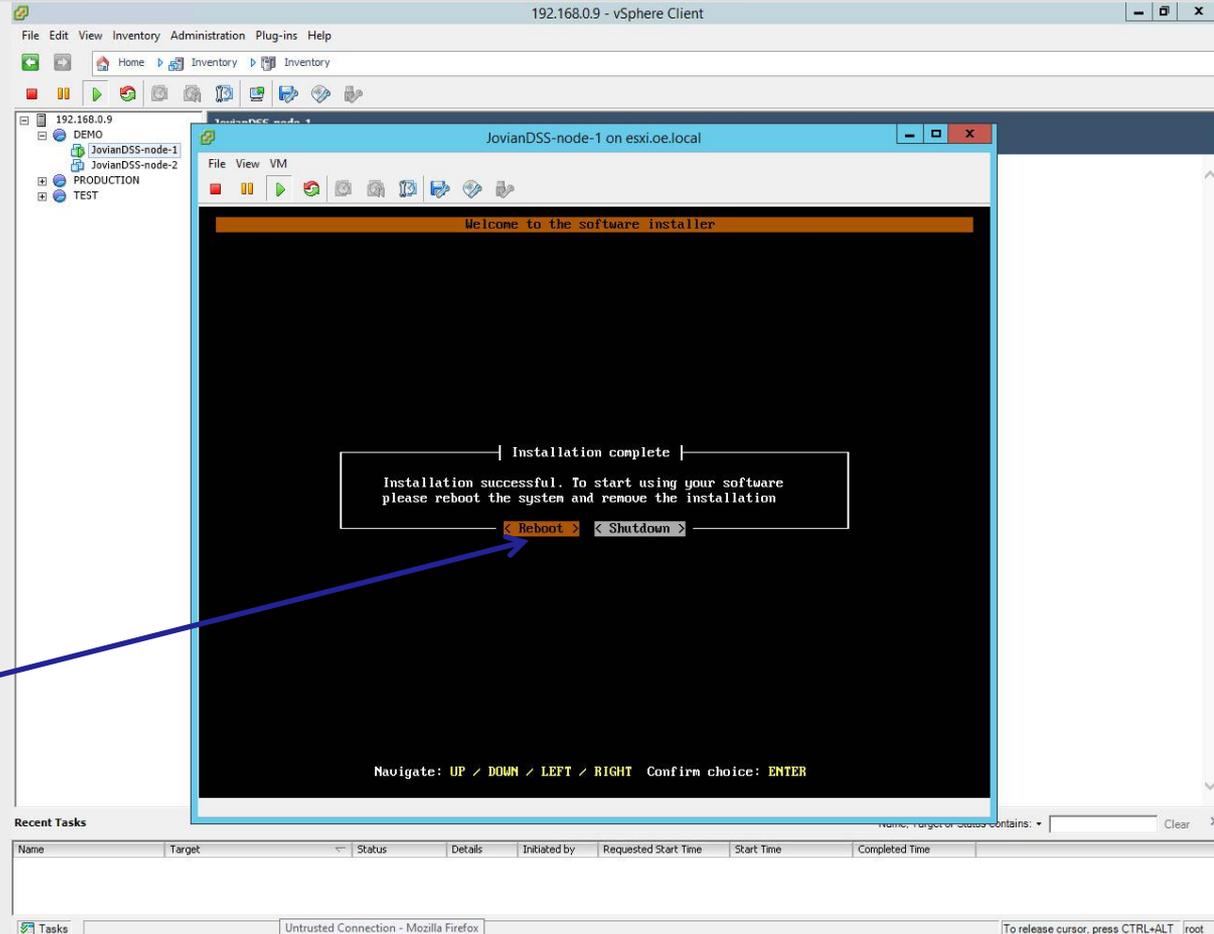
Tasks

To release cursor, press CTRL+ALT root

Select the 20GB drive which is planned for the BOOT disk. With arrow-key navigate to <Select drive > and press **ENTER**.

JovianDSS HA Cluster running as VM on VMware ESXi

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Once Checking and copying files is complete, click ENTER in order to reboot the VM.

JovianDSS HA Cluster running as VM on VMware ESXi



Now the JovianDSS-node-1 is installed and running. Repeat same steps to install JovianDSS OS on the second VM.

The screenshot shows the vSphere Client interface with a VM named 'JovianDSS-node-1' running. The VM's console displays the Open-E JovianDSS boot screen. The screen content is as follows:

```
Press F1 or H for help

Welcome to Open-E JovianDSS

Version: 1.0up11.1000.17837          Release date:      2015-10-22
S/N:                                Licensed storage capacity: 0 TiB

Quick start
To set up and manage your system open this address in your web browser: https://192.168.0.220 *
* if that doesn't work try other network interface marked in green below

--- System Status ---
Uptime:      1m 25s          System load:      1.72/0.55/0.19
System time: 2015-10-23 19:05      IO-Wait:         0.00%
Time zone:   GMT+0200        Internet connection: Unavailable

System Status refresh rate (1s)

--- Network Interfaces ---
Statuses: Green: OK  Red: No Cable  Gray: Disabled          Showing 1 - 4 out of 4

eth0: 192.168.0.220/24  10 Gbps Full-Duplex
eth1: 192.168.1.220/24  10 Gbps Full-Duplex
eth2: 192.168.2.220/24  10 Gbps Full-Duplex
eth3: 192.168.3.220/24  10 Gbps Full-Duplex

Open network interfaces

--- Notifications ---
Last 24h: 0 Info, 2 Warnings, 0 Errors      Last 7d: 0 Info, 2 Warnings, 0 Errors

See all notifications

Help: F1 or H  Navigate: UP / DOWN / LEFT / RIGHT  Confirm choice: ENTER

To release cursor, press CTRL + ALT
```

Follow up with: „Open-E JovianDSS High-Availability Cluster Step-by-Step “
document, which can be downloaded from the web:

http://www.open-e.com/site_media/download/documents/Open-E-JovianDSS-High-Availability-Cluster-Step-by-Step.pdf

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