

Oracle® VM

Getting Started Guide for Release 3.2



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Oracle® VM: Getting Started Guide for Release 3.2

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Abstract

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Abstract

This tutorial describes how to get started with Oracle VM, and walks you through discovering Oracle VM Servers, registering storage, setting up networking, setting up a storage repository and importing resources into it, creating a server pool and creating virtual machines.

You should read and follow this tutorial if you are new to Oracle VM and want to quickly get up and running.

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Preface

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The preface contains information on how to use the Oracle VM Getting Started Guide.

1 Audience

The Oracle VM Getting Started Guide is intended for system administrators and end users who want to get started with Oracle VM.

2 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

3 Related Documents

For more information, see the following documents in the Oracle VM Release 3.2 documentation set:

- [Oracle VM Release Notes](#)
- [Oracle VM Installation and Upgrade Guide](#)
- [Oracle VM User's Guide](#)
- [Oracle VM Windows Paravirtual Drivers Installation Guide](#)
- [Oracle VM Security Guide](#)
- [Oracle VM Utilities Guide](#)
- [Oracle VM Command Line Interface User's Guide](#)

You can also get the latest information on Oracle VM by going to the Oracle virtualization Web site:

<http://www.oracle.com/virtualization>

4 Conventions

The following text conventions are used in this document:

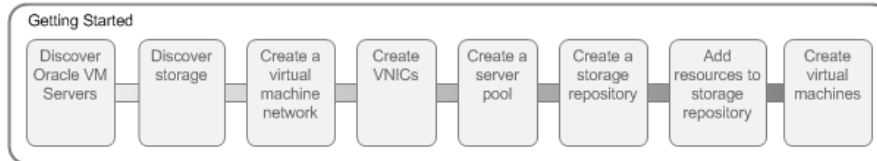
Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
<i>monospace</i>	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Chapter 1 Getting Started with Oracle VM

This tutorial describes how to get started with Oracle VM, and walks you through discovering Oracle VM Servers, registering storage, setting up networking, setting up a storage repository and importing resources into it, creating a server pool and creating virtual machines.

You should read and follow this tutorial if you are new to Oracle VM and want to quickly get up and running.

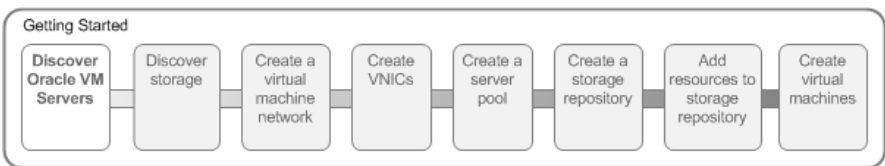
This tutorial includes a visual indicator graphic to show you where you are in relation to the tutorial steps, as shown below.



Chapter 2 Discover Oracle VM Servers

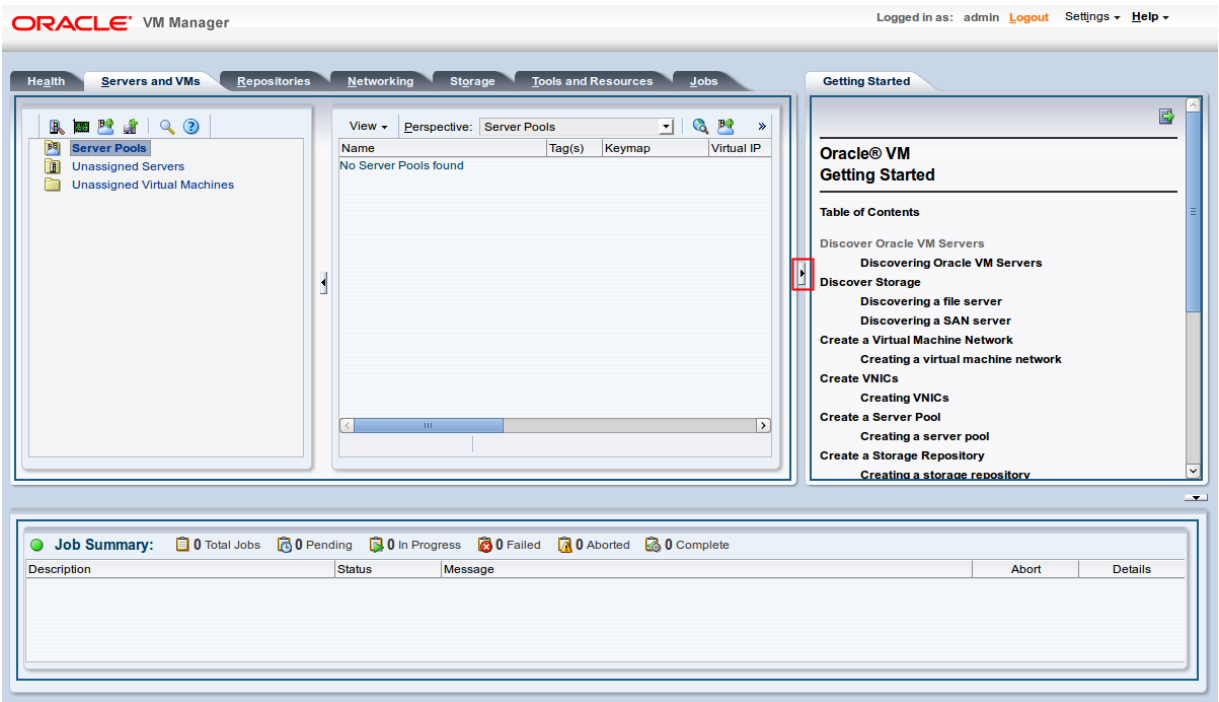
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2.1 Discovering Oracle VM Servers 4



When you log into Oracle VM Manager, the **Servers and VMs** tab is displayed.

Figure 2.1 Default screen



When you first log in a tutorial is displayed in the **Getting Started** tab. To show or hide the tutorial, click the arrow to the right of the management pane.

When you add Oracle VM Servers to your Oracle VM Manager environment, this process is known as *discovering* Oracle VM Servers. This term is used often in this tutorial. The first thing you should do to set up your virtualization environment is to *discover* your Oracle VM Servers.

When an Oracle VM Server is discovered, it contains some basic information about itself, and about any immediate connectivity to a shared SAN, but it is considered to be in an unconfigured state. Any storage attached to the Oracle VM Server is also discovered. For more information on discovering an Oracle VM Server, see [Discovering Oracle VM Servers](#).

Depending on your hardware and networking configuration, external storage may be automatically detected during discovery of the Oracle VM Servers. This is always the case with local OCFS2 storage on an Oracle VM Server.

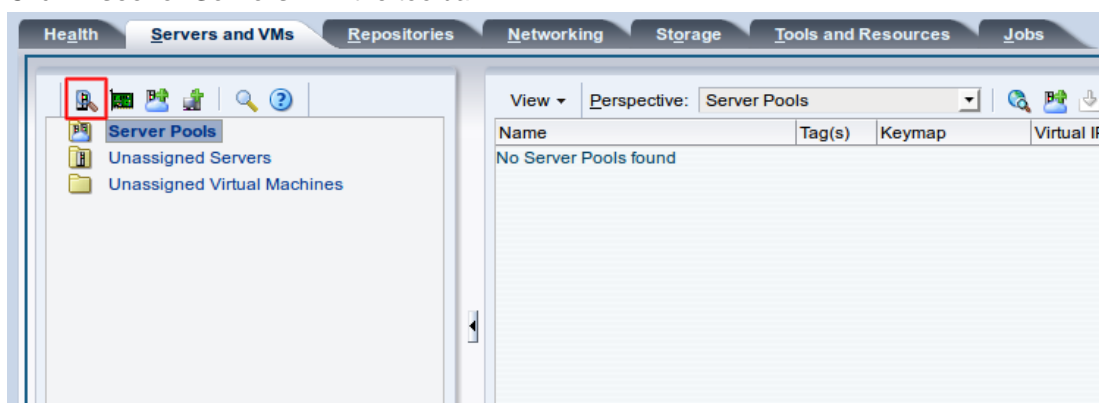
When you have discovered your Oracle VM Servers, you should next discover your storage.

2.1 Discovering Oracle VM Servers

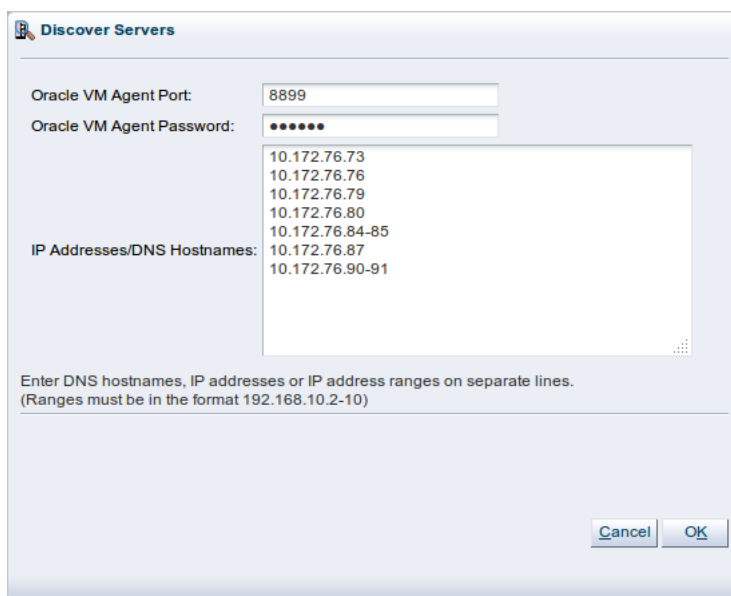
This example walks through discovering three Oracle VM Servers. Replace the IP addresses and the Oracle VM Agent password for that of your own environment.

To discover Oracle VM Servers:

1. Click the **Servers and VMs** tab, if not already selected.
2. Click **Discover Servers** in the toolbar.



3. Enter the IP addresses or hostnames, and the Oracle VM Agent password for the Oracle VM Server(s) to be discovered. Click **OK**.



The Oracle VM Servers are discovered and added to the **Unassigned Servers** folder in the **Servers and VMs** tab. The displayed name of a discovered Oracle VM Server is the assigned DNS name, and not the IP address. You can edit the name after the Oracle VM Server is discovered. For more information on editing an Oracle VM Server, see [Editing Oracle VM Server Information](#).

Discovering Oracle VM Servers

Health **Servers and VMs** **Repositories** **Networking** **Storage** **Tools and Resources** **Jobs**

Server Pools

- Unassigned Servers
 - MyServer1
 - MyServer2
 - MyServer3
 - MyServer4
 - MyServer5
 - MyServer6
 - MyServer7
 - MyServer8
- Unassigned Virtual Machines

View **Perspective:** Server Pools **Tag Filter:** **Go**

Name	Tag(s)	Keymap	Virtual IP	Master Server	Pool File System	Secure
No Server Pools found						

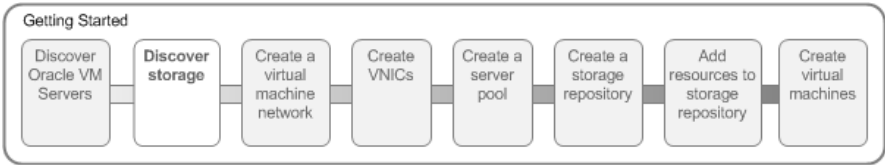
Job Summary: 17 Total Jobs 1 Pending 1 In Progress 0 Failed 0 Aborted 15 Complete

Description	Status	Message	Abort	Details
Discover Server 10.172.76.91	Pending		Abort	Details
Discover Server 10.172.76.90	In Progress		Abort	Details
Discover Server 10.172.76.87	Completed		Abort	Details

Chapter 3 Discover Storage

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Storage refers to two different types of disk space: the space available for environment resources such as virtual machine templates and ISO files, and the logical or physical disks used by virtual machines. You can use two types of storage for virtual machines:

- **Virtual disks:** disk image files on a file system.
- **Raw physical disks:** LUNs accessed directly by the virtual machine.

Your storage can be any of the following:

- iSCSI: Abstracted LUNs or raw disks accessible over existing Ethernet infrastructure (SAN Servers)
- FCP: Abstracted LUNs or raw disks accessible over Fibre Channel host bus adapters (SAN Servers)
- NFS: File-based storage over existing Ethernet infrastructure (NAS or File Servers)

In addition to the storage entities you require for storage repositories, you should make sure you leave at least 12GB of disk space for each server pool file system. The server pool file system is used to hold the server pool and cluster data, and is also used for cluster heartbeating. You create server pool file systems the same way you create storage entities for storage repositories. For more information about the use and management of clusters and server pools, see [Managing Server Pools and Oracle VM Servers](#).

Your storage may have been automatically discovered when you discovered your Oracle VM Servers. If not, you must discover it. If your storage server exposes a writable file system, discover the file server using the procedure in [Discovering File Servers](#). If your storage server exposes raw disks (SAN volumes, iSCSI targets and LUNs) discover the SAN servers using the procedure in [Discovering a SAN Server](#).

The following examples shows how to discover a file server, and a SAN server. Before you discover any storage, you must first perform any storage configuration outside of the Oracle VM environment, such as creating and exporting file system mounts on an NFS server. For more information about discovering and configuring storage, see [Managing Storage](#).

After following the examples, your storage is ready to be used to create a storage repository or server pool file system.

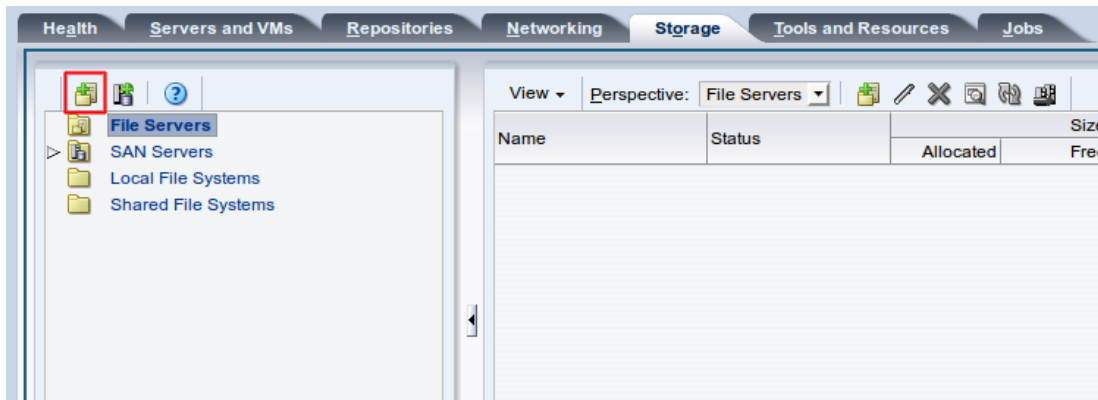
3.1 Discovering a file server

This example uses a *file server* storage type (an NFS share). Replace the IP address for that of your own file server.

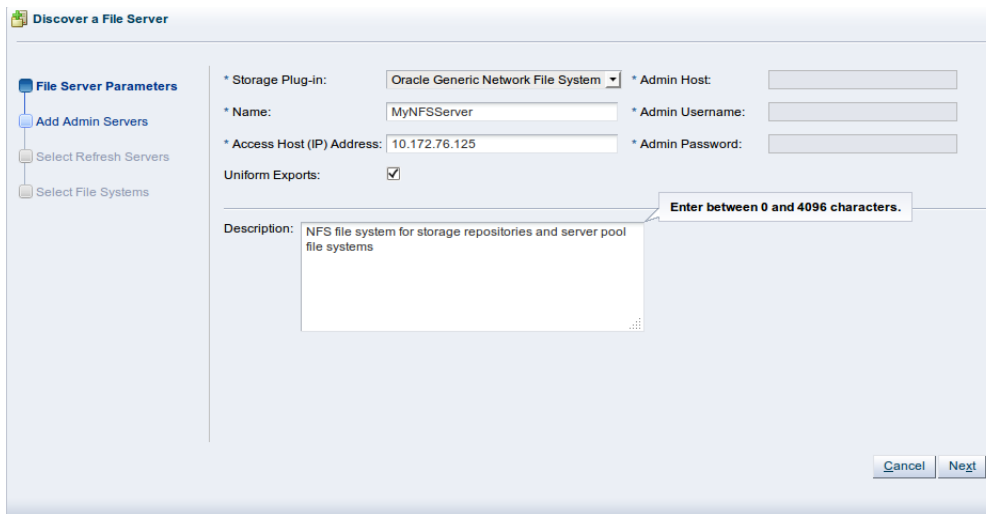
To discover a file server:

1. Click the **Storage** tab.

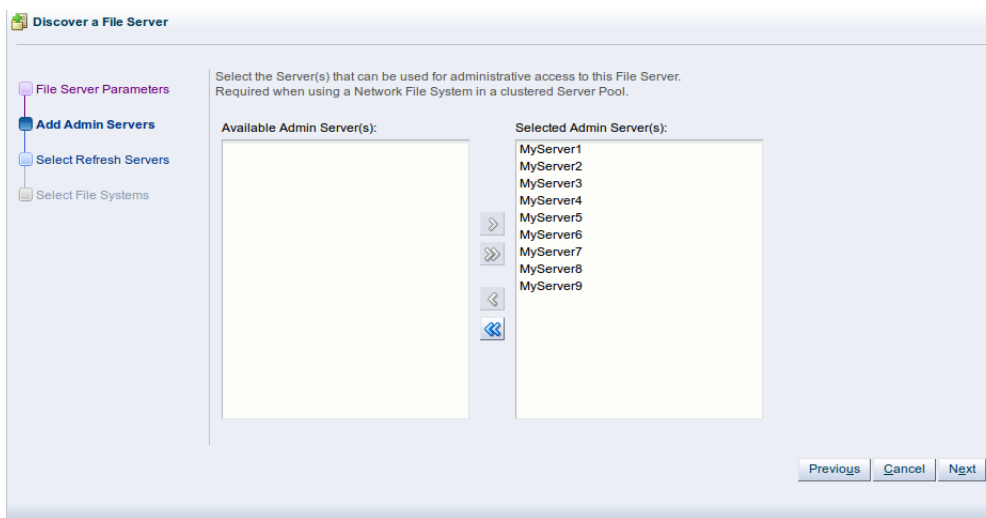
2. Select **Discover File Server**  from the toolbar.



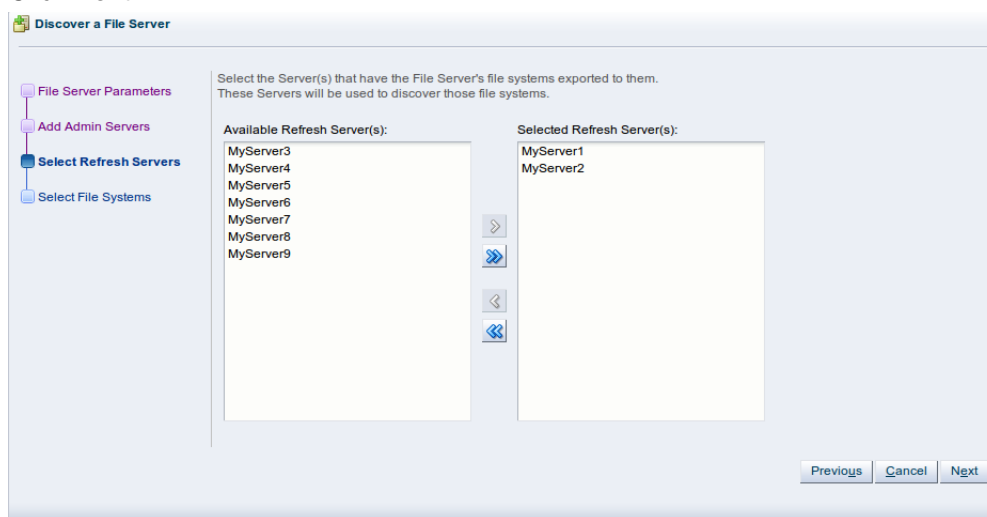
3. The **Discover a File Server** wizard is displayed. Enter the IP address for your file server, and a name for it, then click **Next**.



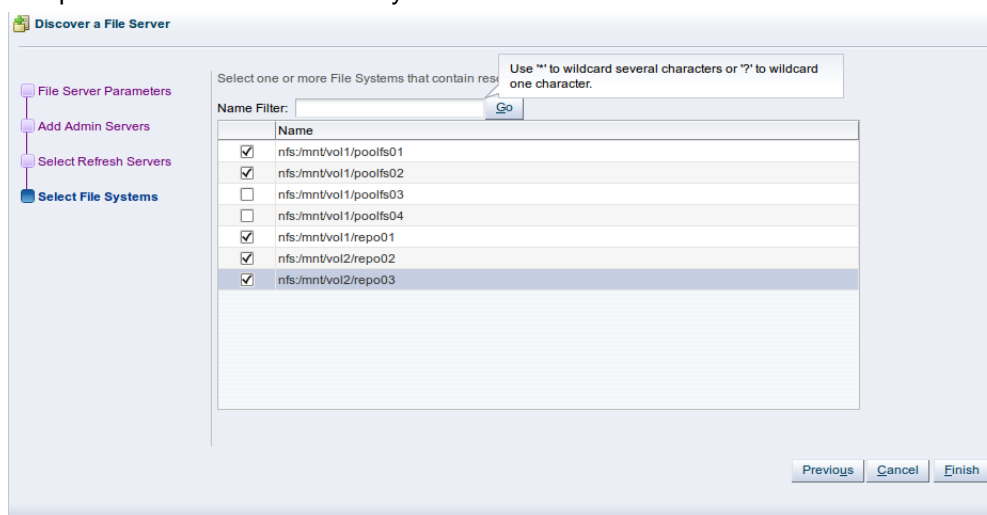
4. Assign one or more Oracle VM Servers to perform any required administration on the file server. Click **Next**.




5. Select one or more servers that can be used to perform a temporary mount during a file system refresh. You should include a server from each of your server pools. For high availability you can select two servers from each server pool, however it is not generally advisable to select more than two per pool. Click **Next**.

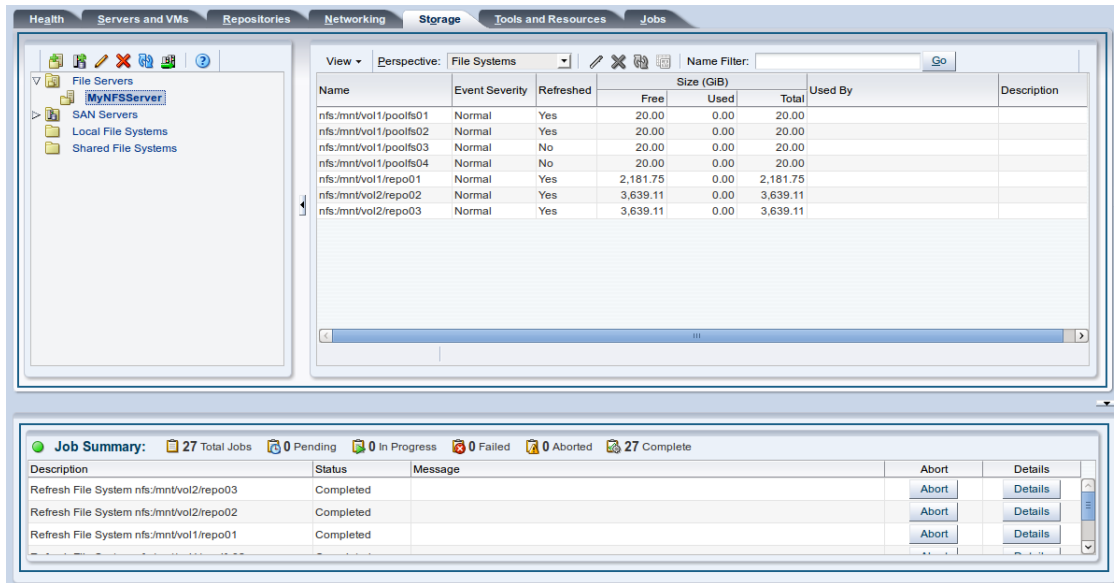


6. If any file systems on the file server contain existing virtual machine resources they are listed on this step of the wizard. Select the corresponding check box to discover the content of the selected file systems. This allows Oracle VM Manager to add the existing resources to the system. Click **Finish** to complete the file server discovery.



At the end of the file server discovery a refresh operation is triggered to make sure all file systems available on the file server appear in Oracle VM Manager. When the operation is complete, the available file systems are displayed in the management pane when you select the file server.

You can change the name of the file systems by selecting the file system in the table and clicking **Edit File System**  in the management pane toolbar.

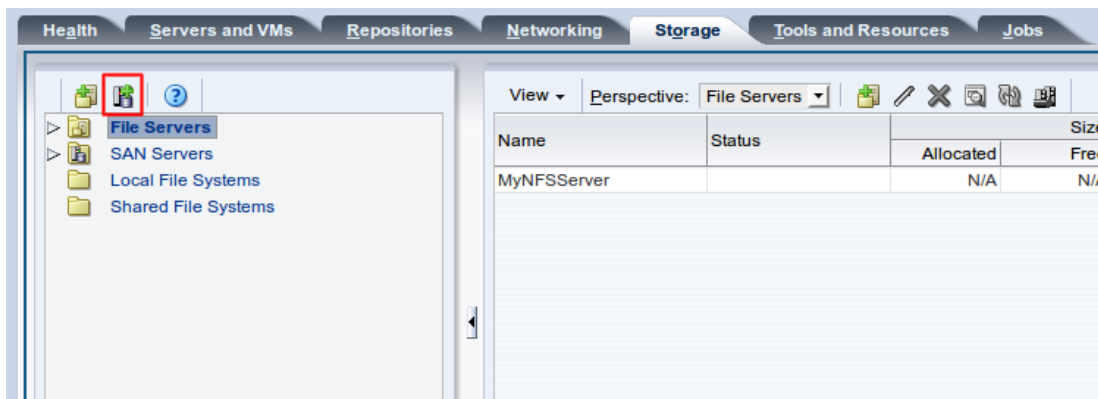


3.2 Discovering a SAN server

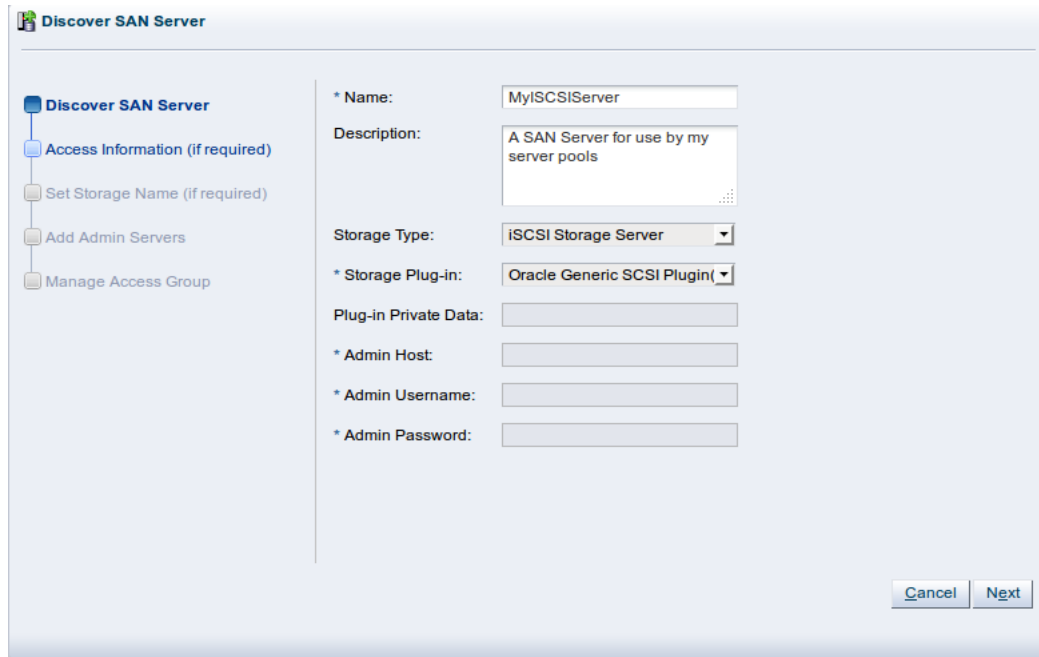
This example uses an iSCSI SAN server. Replace the information here for that of your own SAN server.

To discover a SAN server:

1. Click the **Storage** tab.
2. Click **Discover SAN Server** in the toolbar.



3. The **Discover SAN Server** wizard is displayed. Enter a name for the iSCSI server and optional description. Select **iSCSI Storage Server** from the **Storage Type** drop-down list, and the plug-in type for your SAN server, which in this example is **Oracle Generic SCSI Plugin**. Click **Next**.

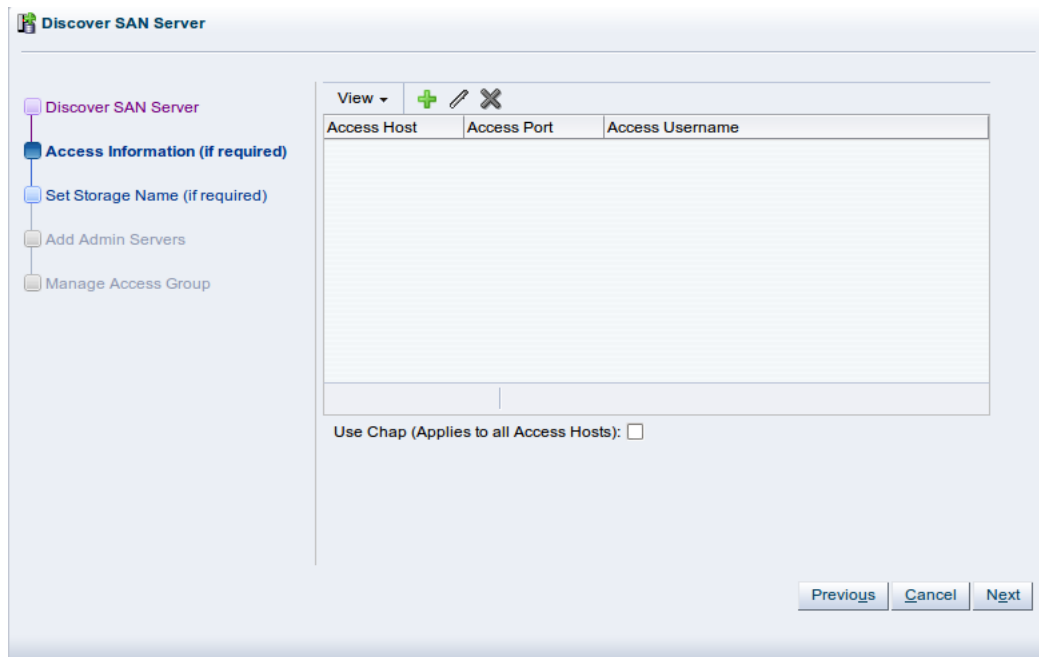


The "Discover SAN Server" dialog box is shown. On the left is a vertical list of steps: "Discover SAN Server" (selected), "Access Information (if required)", "Set Storage Name (if required)", "Add Admin Servers", and "Manage Access Group". The main area contains the following fields:

- * Name: MyISCSIServer
- Description: A SAN Server for use by my server pools
- Storage Type: iSCSI Storage Server
- * Storage Plug-in: Oracle Generic SCSI Plugin
- Plug-in Private Data: (empty text box)
- * Admin Host: (empty text box)
- * Admin Username: (empty text box)
- * Admin Password: (empty text box)

At the bottom right are "Cancel" and "Next" buttons.

4. The **Access Information** step is displayed.



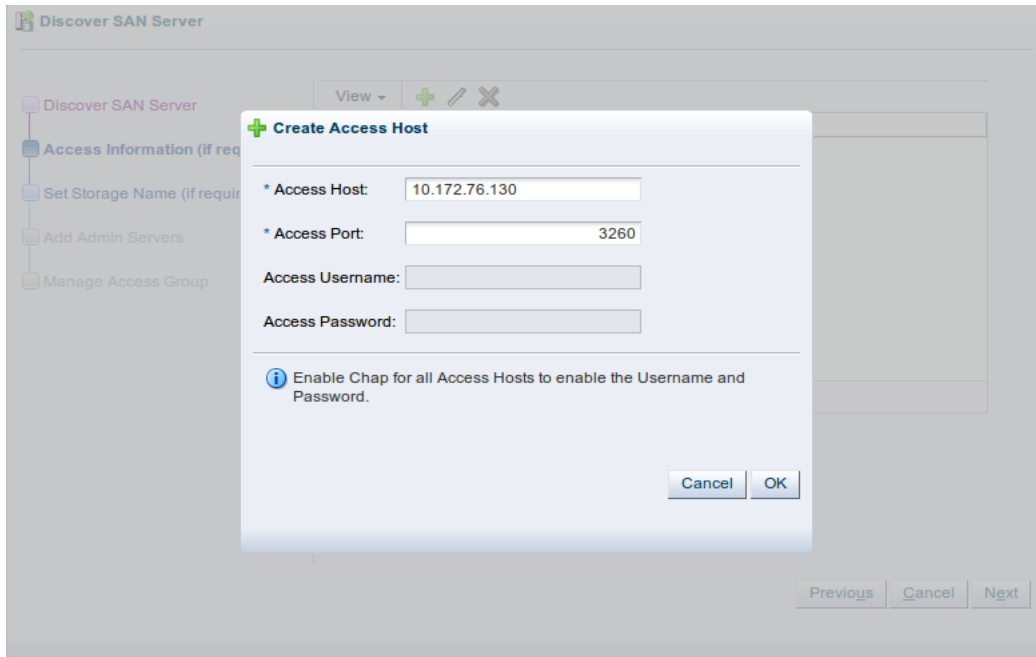
The "Discover SAN Server" dialog box is shown at the "Access Information (if required)" step. The left sidebar shows the same list of steps, with "Access Information (if required)" now selected. The main area contains:

- A toolbar with a "View" dropdown, a green plus icon, an edit icon, and a delete icon.
- A table with three columns: "Access Host", "Access Port", and "Access Username". The table is currently empty.
- A checkbox labeled "Use Chap (Applies to all Access Hosts):" which is unchecked.

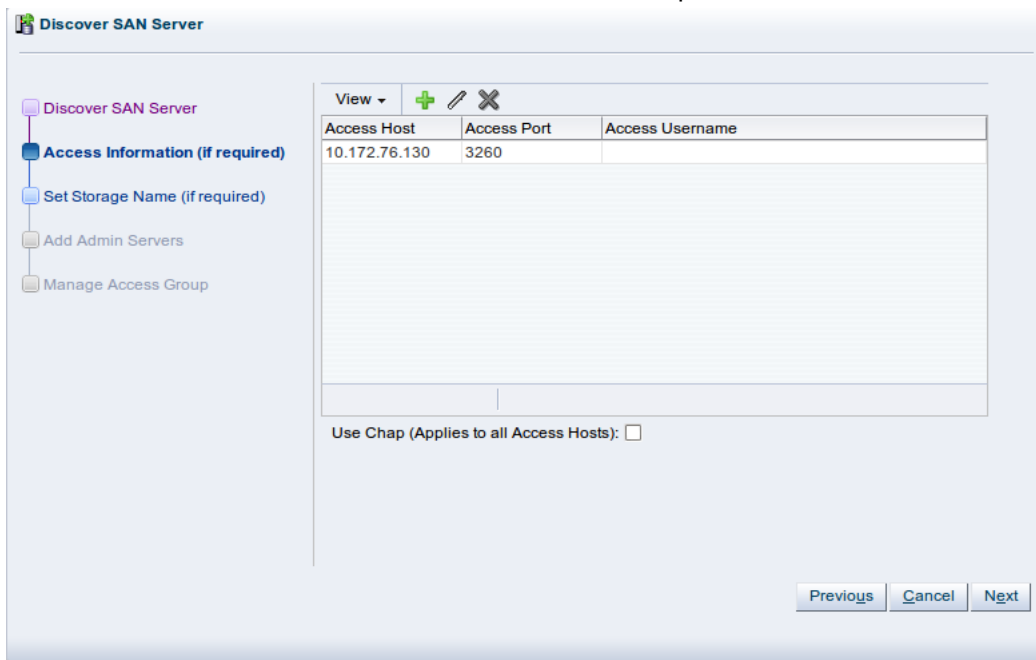
At the bottom right are "Previous", "Cancel", and "Next" buttons.

Enter one or more access hosts to create network paths to the storage. To add multiple paths (for multipathing), add multiple access hosts. Click **Create New Access Host** + to add access hosts for the SAN server.

The **Create Access Host** dialog box is displayed.



Enter the IP address and access port of the host that has access to the SAN server. Typically, this is the IP address of the SAN server and the default access port of 3260. Click **OK**.

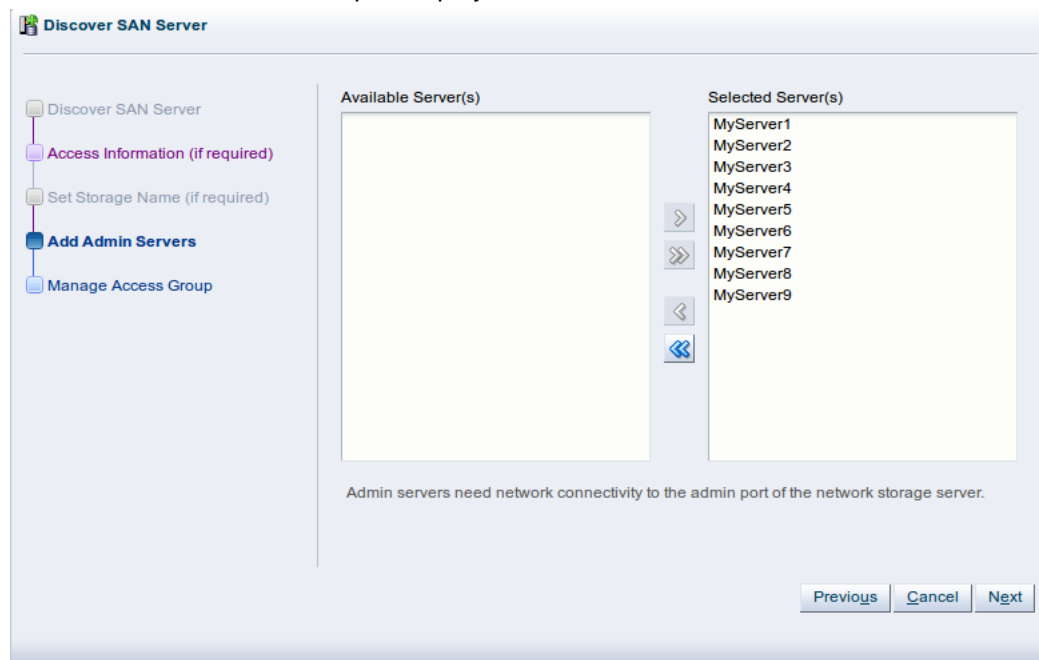


Repeat this step for each access host, for example, you may have access hosts such as 10.172.76.130, 10.172.76.131, 10.172.77.130, and 10.172.77.131 to enable multipathing. When you have entered all access hosts, click **Next**.

- For most SAN servers the wizard moves straight to the **Add Admin Servers** step. However, if you have vendor-specific storage hardware with an admin host handling more than one storage array, such as certain HP EVAs and EMC arrays, enter the name of the array to be used for the new SAN server.

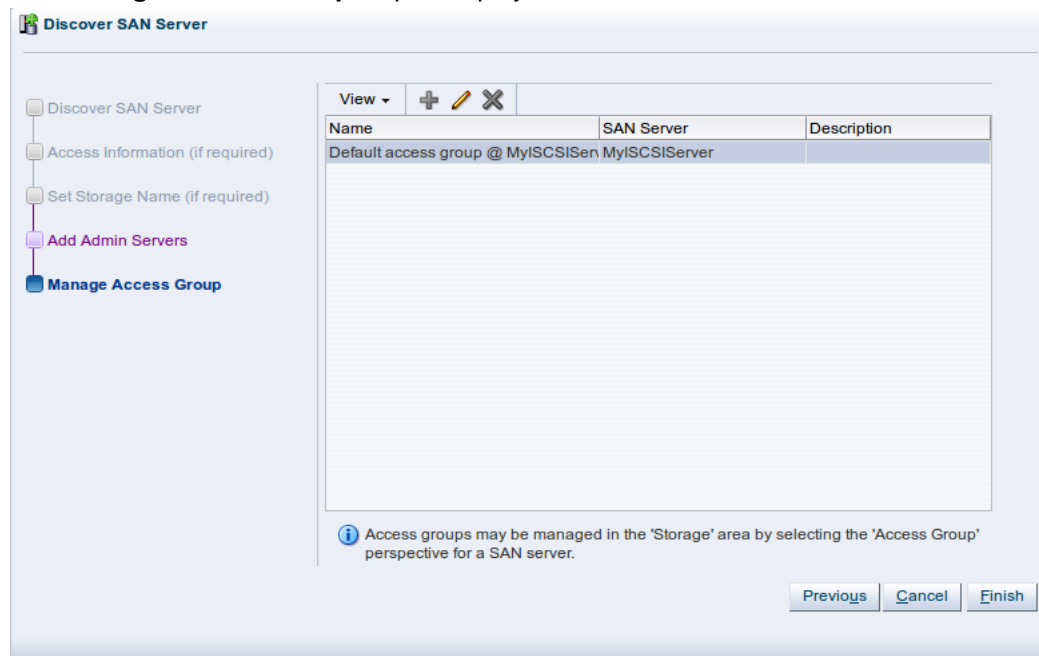
The wizard recognizes this type of storage and displays the **Set Storage Name** step when applicable. Enter the storage name and click **Next**.

6. The **Add Admin Servers** step is displayed.

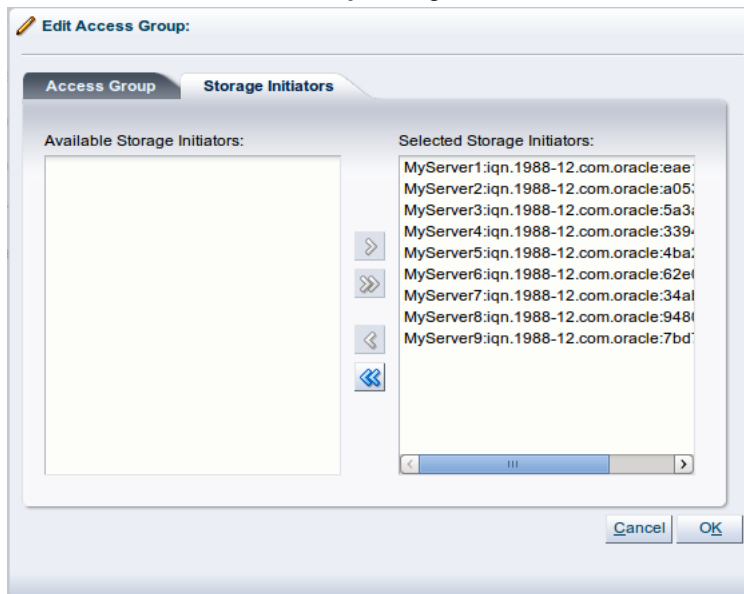


Use the arrow buttons to move the required Oracle VM Servers to the **Selected Servers** box. This selects which Oracle VM Servers are to be made available to perform Oracle VM related admin operations on the SAN server. Click **Next**.

7. The **Manage Access Group** step is displayed.

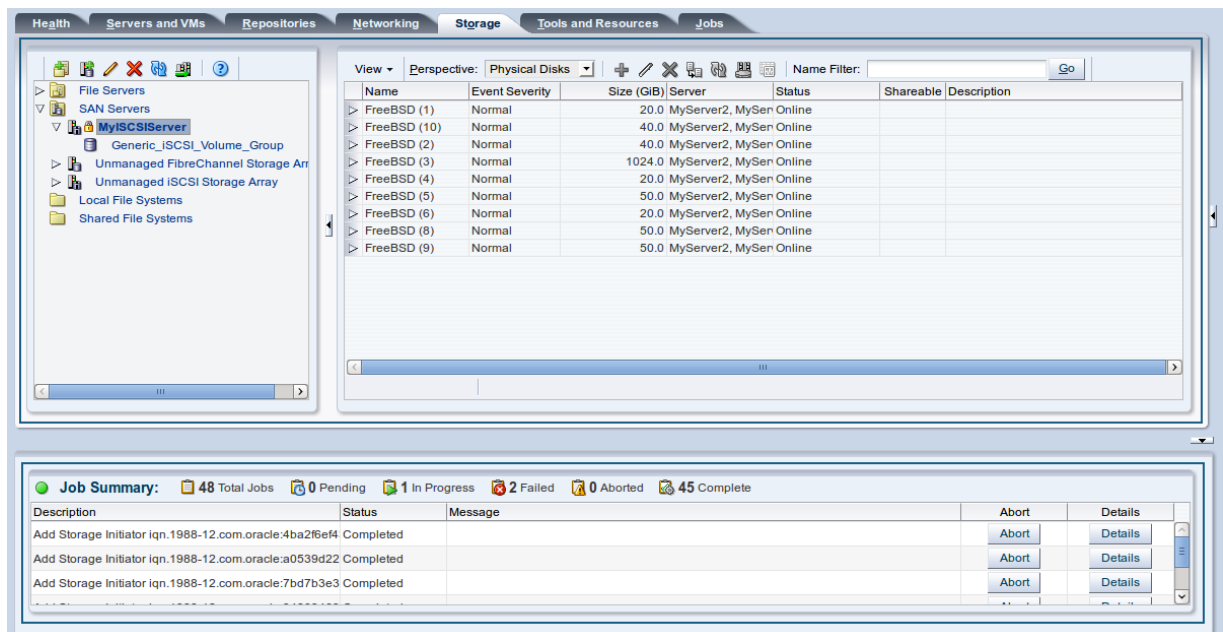


This example uses a generic iSCSI SAN server, so a default access group is created. Select the default access group in the table and click **Edit Access Group** , then select the **Storage Initiators** tab in the **Edit Access Group** dialog box.



Select and move the Oracle VM Servers into the **Selected Storage Initiators** box to add storage initiators to each Oracle VM Server. Click **OK**.

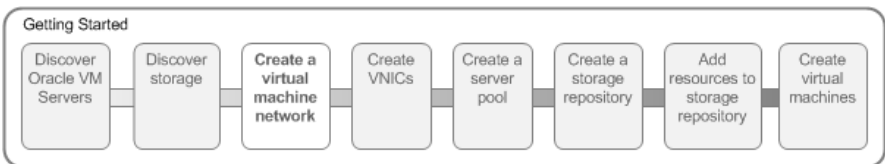
8. Click **Finish** to complete the SAN server discovery operation.
9. Select **Physical Disks** from the **Perspective** drop-down list in the management pane. The list of presented physical disks is listed in the table. These disks are automatically presented to the selected Oracle VM Servers.



Chapter 4 Create a Virtual Machine Network

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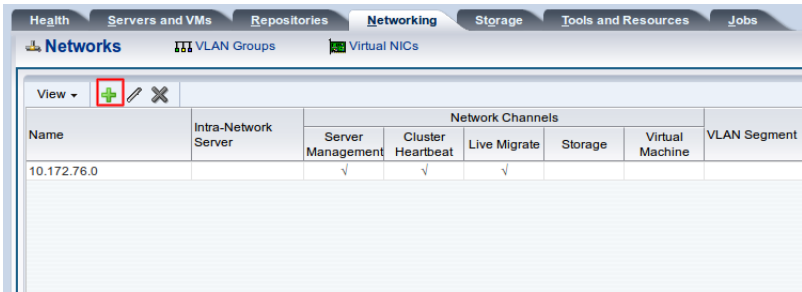
Oracle VM has a number of network functions: Server Management, Live Migrate, Cluster Heartbeat, Virtual Machine, and Storage. The Server Management, Live Migrate and Cluster Heartbeat roles are automatically assigned to the management network when you discover Oracle VM Servers. The Virtual Machine and Storage roles are not automatically created, and you must manually create these. The Storage role is only required for iSCSI-based storage, so for the purposes of the NFS-based storage used in this tutorial, is not required. We do, however, need to create a network with the Virtual Machine role. This can be assigned to the existing management network, or a new network can be created and the Virtual Machine role assigned to it. This tutorial shows you how to create a new network and assign the Virtual Machine role to it. See [Managing Networks](#) for information on creating and configuring networks.

4.1 Creating a virtual machine network

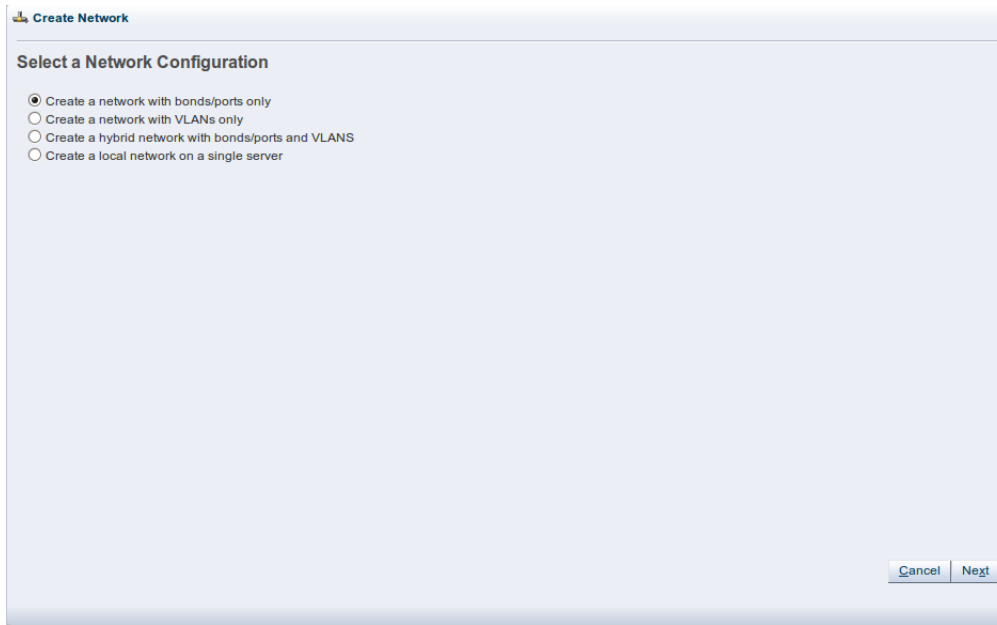
This example creates a virtual machine network using network interface cards (NICs) on the Oracle VM Servers discovered earlier. In this example we are using bonded Ethernet ports. Each Oracle VM Server should have a set of Ethernet ports to use for the virtual machine network. Oracle recommends at least two ports per Oracle VM Server, one for the management network, and one for a network with the Virtual Machine role. Replace the information in this example with that of your Oracle VM Servers and environment.

To create a virtual machine network:

1. Click the **Networking** tab, then the **Networks** subtab.



2. Click **Create New Network...** in the toolbar to start the **Create Network** wizard. Select the type of network to create, based on your network infrastructure. In this example we use the Ethernet ports on each Oracle VM Server to create a network for virtual machine traffic. Select **Create a network with bonds/ports only** and click **Next**.



The screenshot shows the 'Create Network' wizard at the 'Select a Network Configuration' step. It features four radio button options for network configuration. The first option, 'Create a network with bonds/ports only', is selected. At the bottom right, there are 'Cancel' and 'Next' buttons.

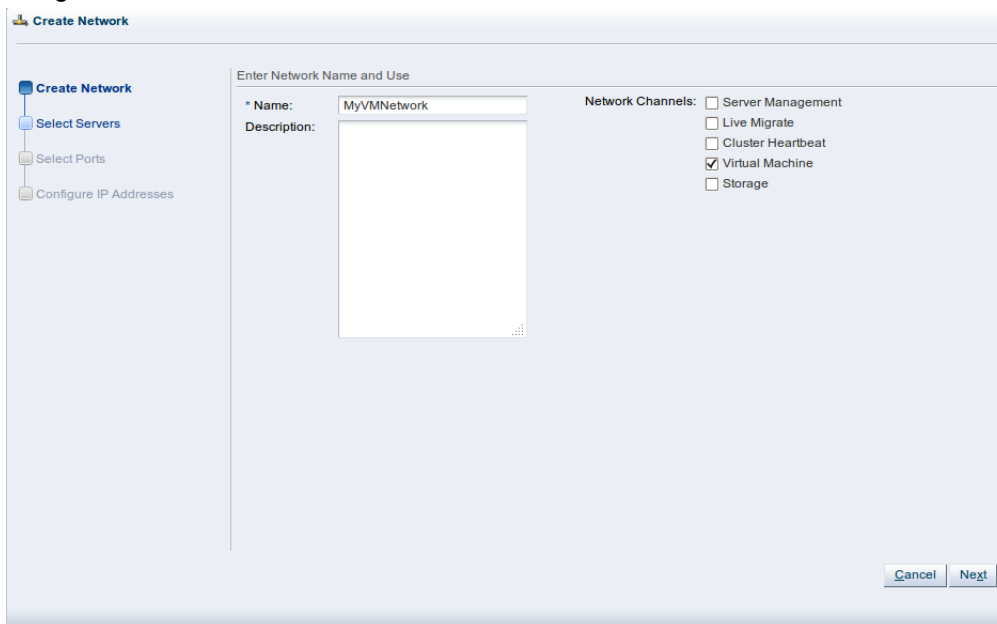
Create Network

Select a Network Configuration

- ☒ Create a network with bonds/ports only
- ☐ Create a network with VLANs only
- ☐ Create a hybrid network with bonds/ports and VLANs
- ☐ Create a local network on a single server

Cancel Next

- At the **Create Network** step of the wizard, enter a name for the network and select the network functions. The **Network Channels** fields are where you decide which network functions are to be assigned to the network. Select **Virtual Machine** and click **Next**.



The screenshot shows the 'Create Network' wizard at the 'Enter Network Name and Use' step. On the left is a navigation pane with four steps: 'Create Network' (selected), 'Select Servers', 'Select Ports', and 'Configure IP Addresses'. The main area has a 'Name' field containing 'MyVMNetwork' and a 'Description' text area. To the right, under 'Network Channels', there are five checkboxes: 'Server Management', 'Live Migrate', 'Cluster Heartbeat', 'Virtual Machine' (checked), and 'Storage'. At the bottom right, there are 'Cancel' and 'Next' buttons.

Create Network

Enter Network Name and Use

* Name: MyVMNetwork

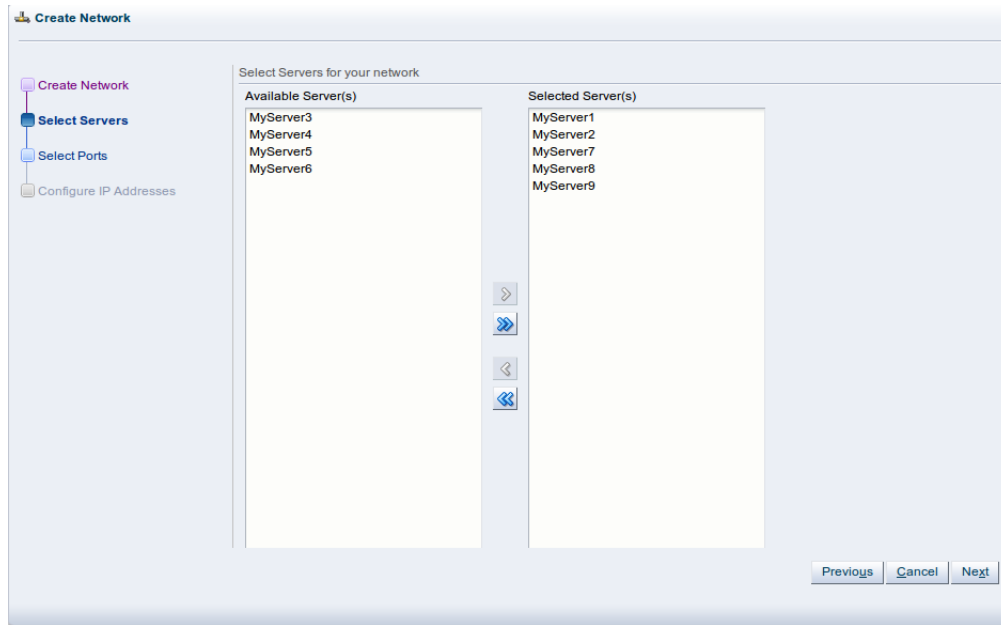
Description:

Network Channels:

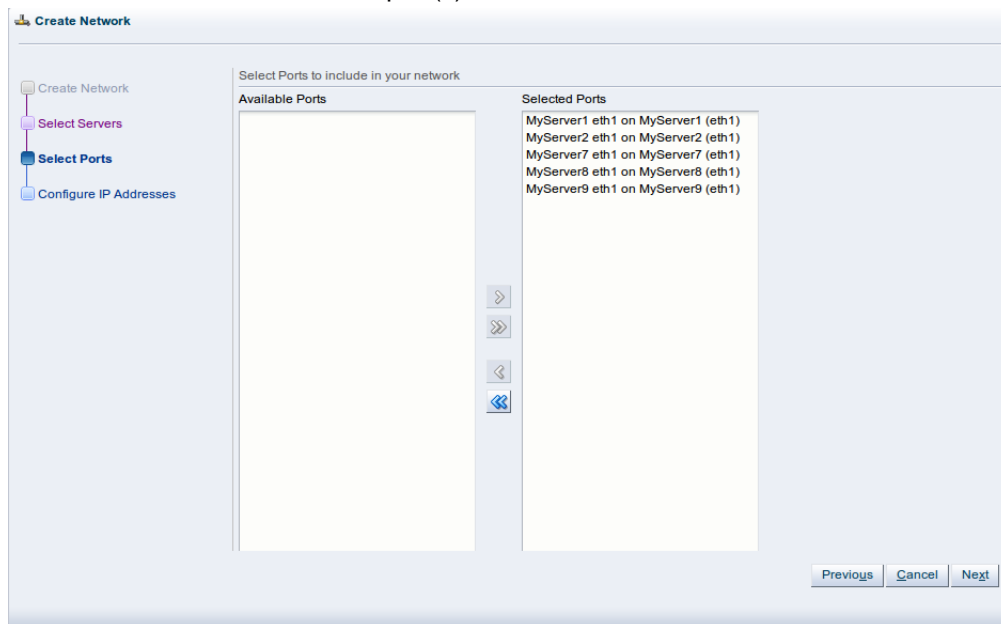
- ☐ Server Management
- ☐ Live Migrate
- ☐ Cluster Heartbeat
- ☒ Virtual Machine
- ☐ Storage

Cancel Next

- At the **Select Servers** step of the wizard, select the Oracle VM Servers to be included in the new network. Select them and move them to the **Selected Servers** field, and click **Next**.



- At the **Select Ports** step of the wizard, the available Ethernet ports on each Oracle VM Server are displayed in the **Available Ports** field. Select a port from each Oracle VM Server to use for the virtual machine network and move the port(s) to the **Select Ports** field, then click **Next**.



- At the **Configure IP Addresses** step of the wizard, you set up the network bonding. You can use static IP addresses, DHCP or have no IP addresses assigned to the network. In this example we do not need to use IP addresses as we are creating a network for use only by virtual machines, so set the **Addressing** to **None**. Click **Finish** to create the network.

Creating a virtual machine network

Create Network

Create Network
Select Servers
Select Ports
Configure IP Addresses

Ports

Ports	Addressing	IP Address	Mask	Bonding
MyServer1 eth1 on MyServer1 (eth1)	Use DHCP			Not Applicable
MyServer2 eth1 on MyServer2 (eth1)	None			Not Applicable
MyServer7 eth1 on MyServer7 (eth1)	None			Not Applicable
MyServer8 eth1 on MyServer8 (eth1)	None			Not Applicable
MyServer9 eth1 on MyServer9 (eth1)	None			Not Applicable

Previous Cancel Finish

The virtual machine network is created and listed in the table. This virtual machine network is ready to use when creating virtual machines.

Health Servers and VMs Repositories **Networking** Storage Tools and Resources Jobs

Networks VLAN Groups Virtual NICs

View + -

Name	Intra-Network Server	Network Channels					VLAN Segment	Description
		Server Management	Cluster Heartbeat	Live Migrate	Storage	Virtual Machine		
10.172.76.0		✓	✓	✓		✓		
MyVMNetwork								

Columns Hidden 1

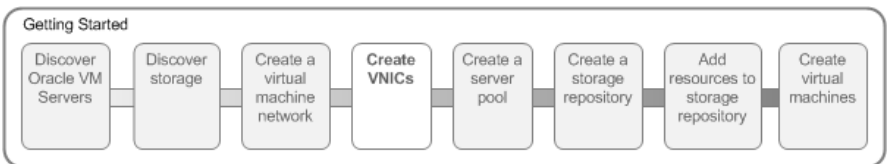
Job Summary: 68 Total Jobs 0 Pending 1 In Progress 4 Failed 0 Aborted 63 Complete

Description	Status	Message	Abort	Details
Create Network MyVMNetwork	In Progress		Abort	Details

Chapter 5 Create VNICs

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5.1 Creating VNICs 19



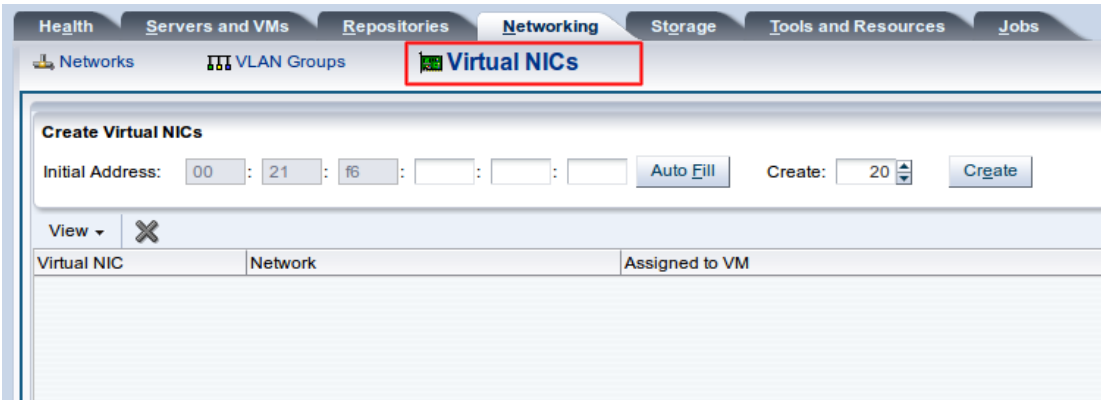
The VNIC Manager creates Virtual Network Interface Cards (VNICs), which are used by virtual machines as network cards. You create virtual network interfaces by defining a range of MAC addresses to use for each VNIC. Each MAC address corresponds with a single VNIC, which is used by a virtual machine. Before you can create a virtual machine which has the ability to connect to the network, you should generate a set of VNICs. You only need to perform this step when you run out of VNICs, not each time you want to create a virtual machine.

5.1 Creating VNICs

This example generates 20 VNICs to use with virtual machines. The MAC addresses will differ in your environment, but the process is the same as that shown here.

To generate VNICs:

1. Click the **Networking** tab.
2. Click the **Virtual NICs** subtab.



3. The **Create Virtual NICs** page is displayed. Click **Auto Fill** to get the next available MAC address and click **Create**.

Creating VNICs

Create Virtual NICs

Initial Address: 00 : 21 : 16 : : : Auto Fill Create: 20 Create

View X

Virtual NIC	Network	Assigned to VM
00:21:16:00:00:00		
00:21:16:00:00:01		
00:21:16:00:00:02		
00:21:16:00:00:03		
00:21:16:00:00:04		
00:21:16:00:00:05		
00:21:16:00:00:06		
00:21:16:00:00:07		
00:21:16:00:00:08		
00:21:16:00:00:09		

MAC addresses must be unique or collisions may occur if you are running multiple OVM Manager Server applications.

Job Summary: 76 Total Jobs 0 Pending 0 In Progress 5 Failed 0 Aborted 71 Complete

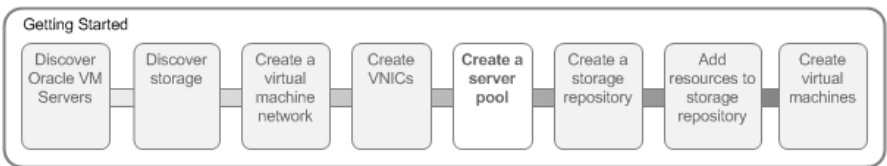
Description	Status	Message	Abort	Details
Create Virtual Network Interface Cards	Completed		Abort	Details

See [Managing VNICs](#) for information on generating VNICs.

Chapter 6 Create a Server Pool

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6.1 Creating a server pool 21



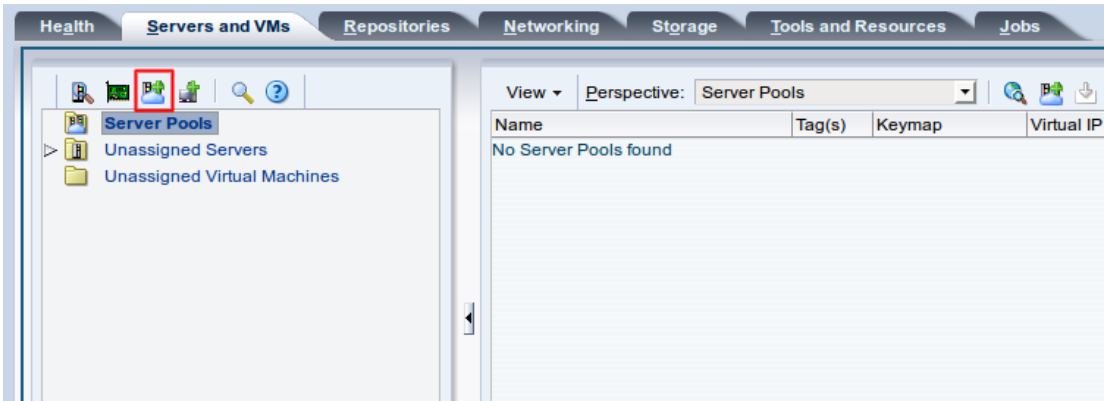
A server pool contains a group of Oracle VM Servers, which as a group perform virtual machine management tasks, such as High Availability (HA), implementation of resource and power management policies, access to networking, storage and repositories.

6.1 Creating a server pool

This example creates a server pool using the Oracle VM Servers, and the server pool file system on the file system-based storage (NFS server). You need an IP address to use as the virtual IP address to enable clustering and HA. Replace the server pool information in this example with that of your environment.

To create a server pool:

- 1. Click the **Servers and VMs** tab.
- 2. Click **Create Server Pool** from the toolbar.



- 3. The **Create a Server Pool** wizard is displayed. Enter the server pool information.

Enter a name and virtual IP address for the server pool.

Select **Clustered Server Pool** to enable clustering of the Oracle VM Servers in the server pool, which is required to enable HA.

The server pool file system is used to hold the server pool and cluster data, and is also used for cluster heartbeating. If you are using a file server for the server pool file system, select **Network File System** as the storage type to use for the server pool. If you are using a physical disk on a storage array as the server pool file system, select **Physical Disk** as the storage type. Click **Storage Location** to search for the server pool file system.

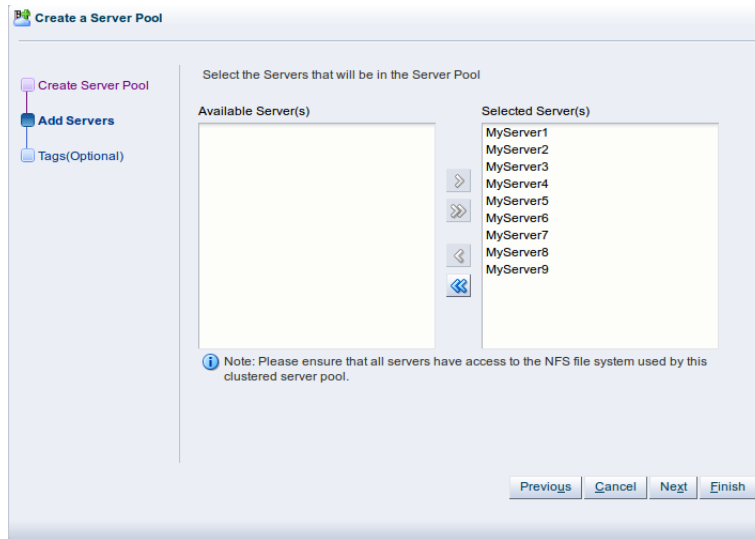
Name	Size (GiB)	Free Size (GiB)	Refreshed	Path
nfs:/mnt/vol1/poolfs01	20.0	20.0	Yes	10.172.76.125:/mnt/vol1/poolfs01
nfs:/mnt/vol1/poolfs02	20.0	20.0	Yes	10.172.76.125:/mnt/vol1/poolfs02
nfs:/mnt/vol1/repo01	2181.75	2181.75	Yes	10.172.76.125:/mnt/vol1/repo01
nfs:/mnt/vol2/repo02	3639.11	3639.11	Yes	10.172.76.125:/mnt/vol2/repo02
nfs:/mnt/vol2/repo03	3639.11	3639.11	Yes	10.172.76.125:/mnt/vol2/repo03

Select the file system to use for the server pool file system and click **OK**.

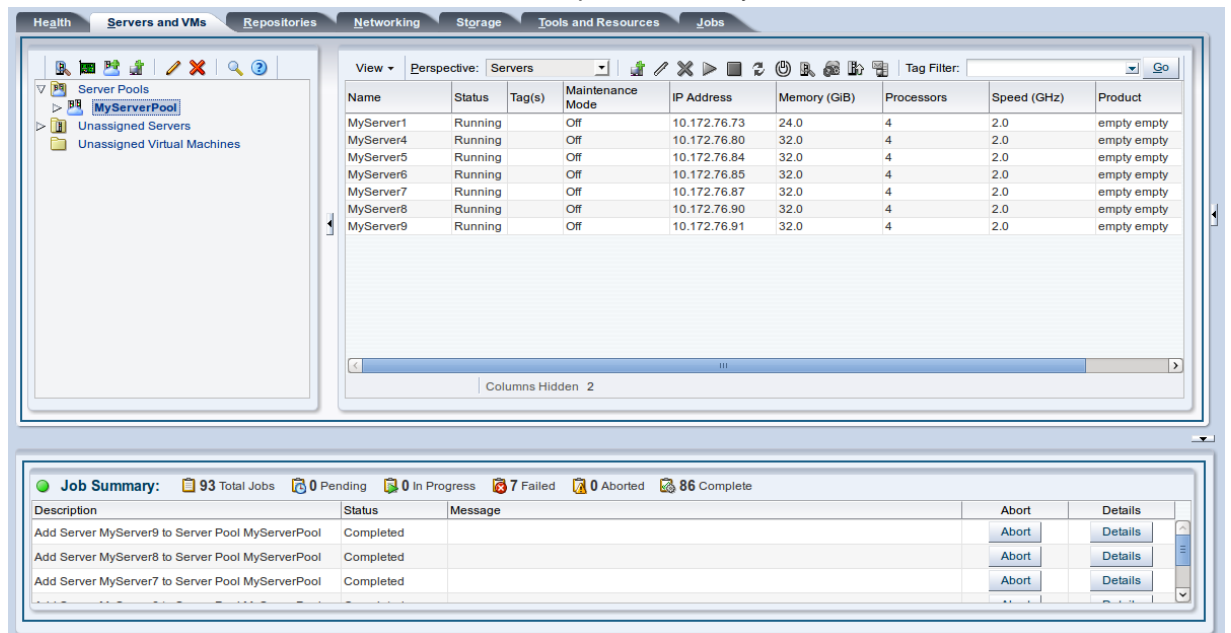
Click **Next** to add Oracle VM Servers to the server pool.

4. The **Add Servers** step of the wizard is displayed. Add Oracle VM Servers to the **Selected Servers** field and click **Finish**.

Creating a server pool



The Oracle VM Servers are added to the server pool and ready to use to create virtual machines.



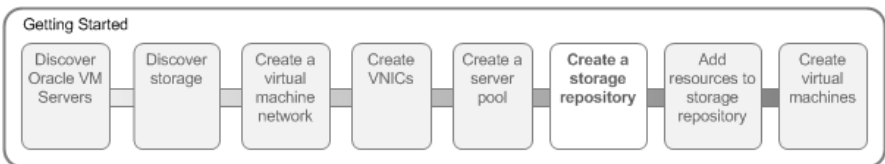
For more information on creating server pools and adding Oracle VM Servers, see [Creating a Server Pool](#) and [Adding an Oracle VM Server to a Server Pool](#).

The next step is to create a storage repository to use for virtual machine resources.

Chapter 7 Create a Storage Repository

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7.1 Creating a storage repository 25



A storage repository is where Oracle VM resources may reside on the storage you registered in [Section 7.1, “Creating a storage repository”](#). Resources include virtual machines, templates for virtual machine creation, virtual machine assemblies, ISO files (DVD image files), shared virtual disks, and so on.

You use Oracle VM Manager to create and configure storage repositories, and to present one or more storage repositories to Oracle VM Servers. When the storage repository is accessible, you can start adding storage resources and building virtual machines with those resources.

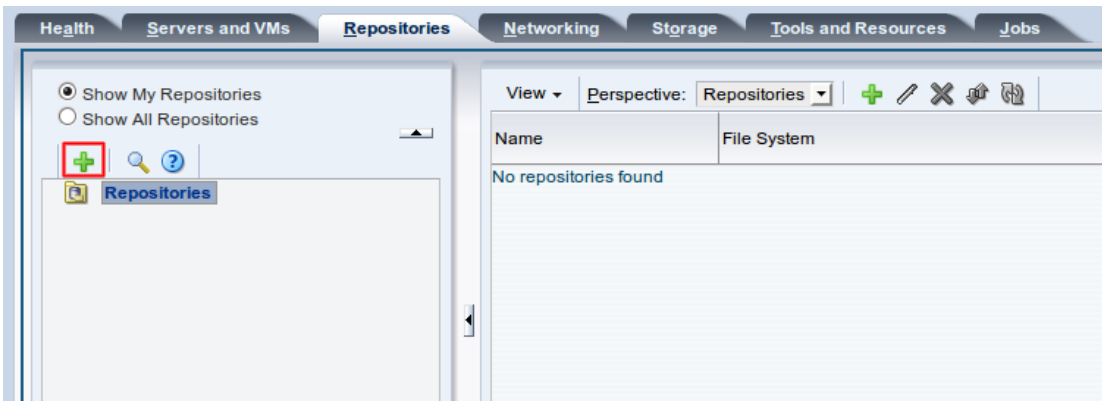
For more information about storage repositories, see [Managing Storage Repositories](#).

7.1 Creating a storage repository

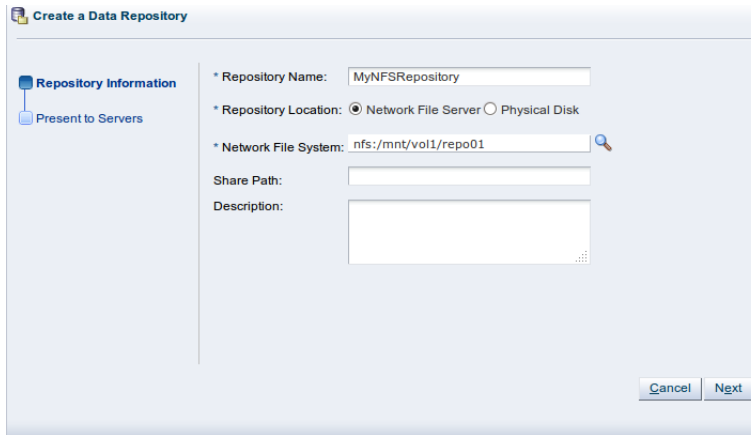
This example creates a storage repository to store virtual machine resources using an NFS file server. Use the larger of the file systems you refreshed earlier. Replace the file server and other names used in this example with that of your own environment.

To create a storage repository:

1. Click the **Repositories** tab.
2. Select **Create New Repository... +** from the toolbar.



3. In the **Create a Data Repository** dialog box, enter information about the repository.



Create a Data Repository

Repository Information

Repository Name: MyNFSRepository


Repository Location: ☒ Network File Server ☐ Physical Disk

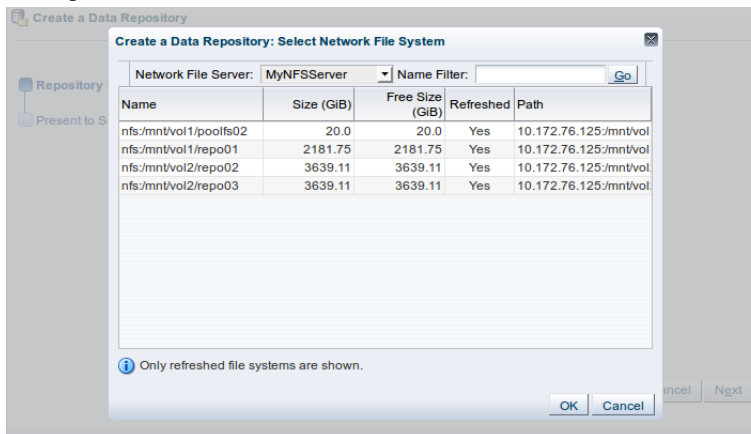
Network File System: nfs:/mnt/vol1/repo01

Share Path:

Description:

Cancel **Next**

Enter a name for the repository. If you are using a file server for the repository, select **Network File System** as the storage type to use for the Repository location. If you are using a physical disk on a storage array for the repository, select **Physical Disk** as the storage type. Click  to search for the storage location to use.



Create a Data Repository: Select Network File System

Network File Server: MyNFSServer **Name Filter:** **Go**

Name	Size (GiB)	Free Size (GiB)	Refreshed	Path
nfs:/mnt/vol1/poolfs02	20.0	20.0	Yes	10.172.76.125:/mnt/vol
nfs:/mnt/vol1/repo01	2181.75	2181.75	Yes	10.172.76.125:/mnt/vol
nfs:/mnt/vol2/repo02	3639.11	3639.11	Yes	10.172.76.125:/mnt/vol
nfs:/mnt/vol2/repo03	3639.11	3639.11	Yes	10.172.76.125:/mnt/vol

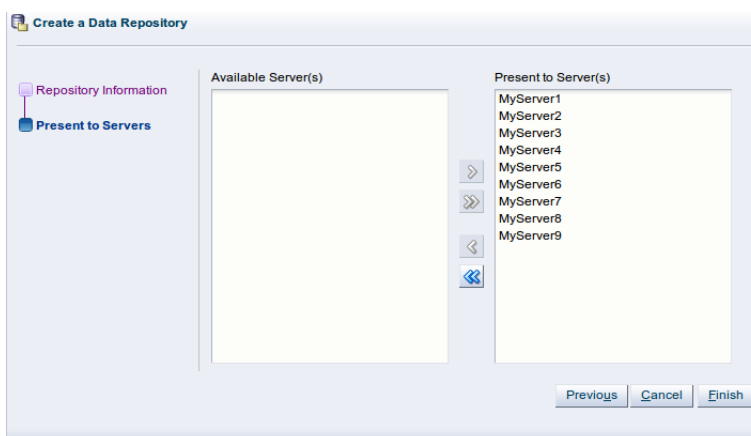
OK **Cancel** **Next**

Only refreshed file systems are shown.

Select a file system in the table and click **OK**.

Click **Next** to present the new the new storage repository to Oracle VM Servers.

- To enable your Oracle VM Servers to use the repository, you must *present* it to the Oracle VM Servers. Select the Oracle VM Servers and move them to the **Present to Server(s)** field and click **Finish**.



Create a Data Repository

Repository Information

Present to Servers

Available Server(s)

Present to Server(s)

Previous **Cancel** **Finish**

The repository is listed in the **Repositories** tab.

Repositories | Perspective: Info

Repository Name: MyNFSRepository

Ownership: Owned by You
 File System: 10.172.76.125:/mnt/vol1/repo01
 Share Path:
 File System Size (GiB): 2181.75
 File System Used (GiB): 0.0
 Used %: 0%
 ID: 0004fb0000030000a25fe0396488ca7

Presented to Servers:

Server Name	Server Pool	Status	IP Address
MyServer1	MyServerPool	Running	10.172.76.73
MyServer2	MyServerPool	Running	10.172.76.76
MyServer3	MyServerPool	Running	10.172.76.79
MyServer4	MyServerPool	Running	10.172.76.80
MyServer5	MyServerPool	Running	10.172.76.84

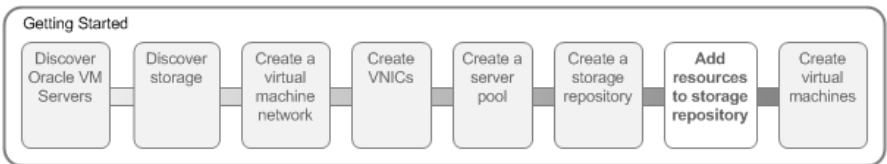
Job Summary: 104 Total Jobs | 0 Pending | 0 In Progress | 7 Failed | 0 Aborted | 97 Complete

Description	Status	Message	Abort	Details
Refresh File System of Repository MyNFSRepository	Completed		Abort	Details
Present Repository MyNFSRepository to Server MyServ	Completed		Abort	Details
Present Repository MyNFSRepository to Server MyServ	Completed		Abort	Details

Chapter 8 Add Resources to Storage Repository

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Virtual machines require some form of installation media, whether it be a virtual machine template, virtual disk, ISO file, or mounted ISO file. Different domain types may require different installation source files. You can read about the different installation media in [Virtual Machine Installation Media](#).

The following examples show you how to import an assembly, a virtual machine template, and an ISO file which are used in later steps to create virtual machines. A virtual machine template contains virtual machine configuration information, virtual disks that contain the operating system and any application software, packaged as an Oracle VM template file. An assembly is the same as a virtual machine template, but in the open standard Open Virtualization Format (OVF) format. Older Oracle VM template files were packaged as Oracle VM template files, and the more recent templates are packaged in OVF format as assemblies. An operating system ISO file is an image of the CDROM or DVD used to perform an operating system installation.

In this tutorial we use an assembly, a virtual machine template and an Oracle Linux ISO file downloaded from the Oracle Software Delivery Cloud:


<https://edelivery.oracle.com/linux>

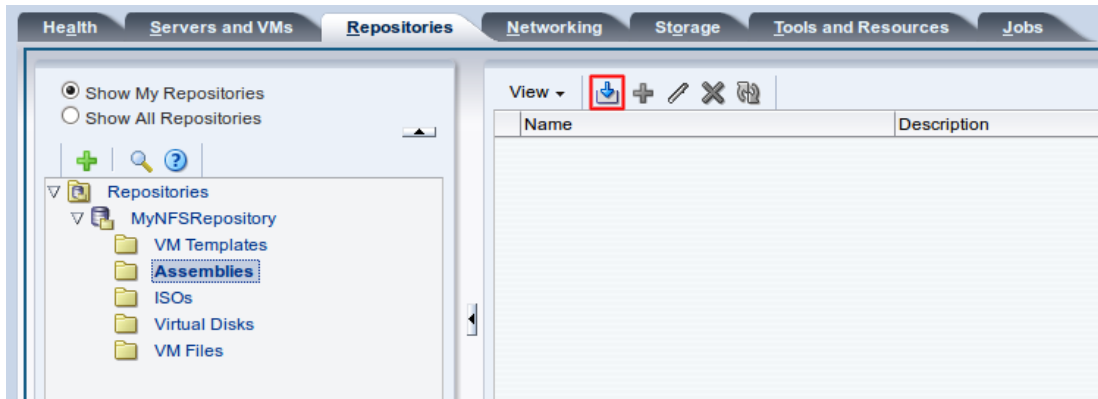
To complete all the examples in this tutorial, download an Oracle VM template, either in the OVF format or as an Oracle VM template. Also download an ISO file of the Oracle Linux operating system. Uncompress (unzip) the Oracle VM template file so that it is in the *template.tgz* format, not the downloaded *template.zip* format. If you downloaded an Oracle VM template in OVF format, uncompress (unzip) the file so that it is in the *template.ova* format. Save the template files and ISO file on a web server. Templates and other installation media must be available on a web server, ftp server or NFS share before being imported into Oracle VM Manager.

8.1 Importing an assembly

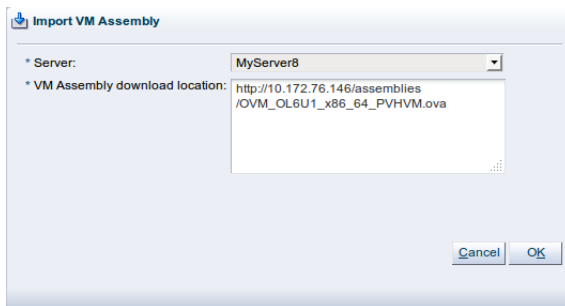
This example shows you how to import a virtual machine assembly. If you downloaded an Oracle VM template from the Oracle Software Delivery Cloud which contains an *template.ova* file, you should use this procedure to import the assembly. An assembly is the most recent format used by Oracle to publish Oracle VM templates. Replace the name and URL of the assembly with that of your assembly.

To import an assembly:

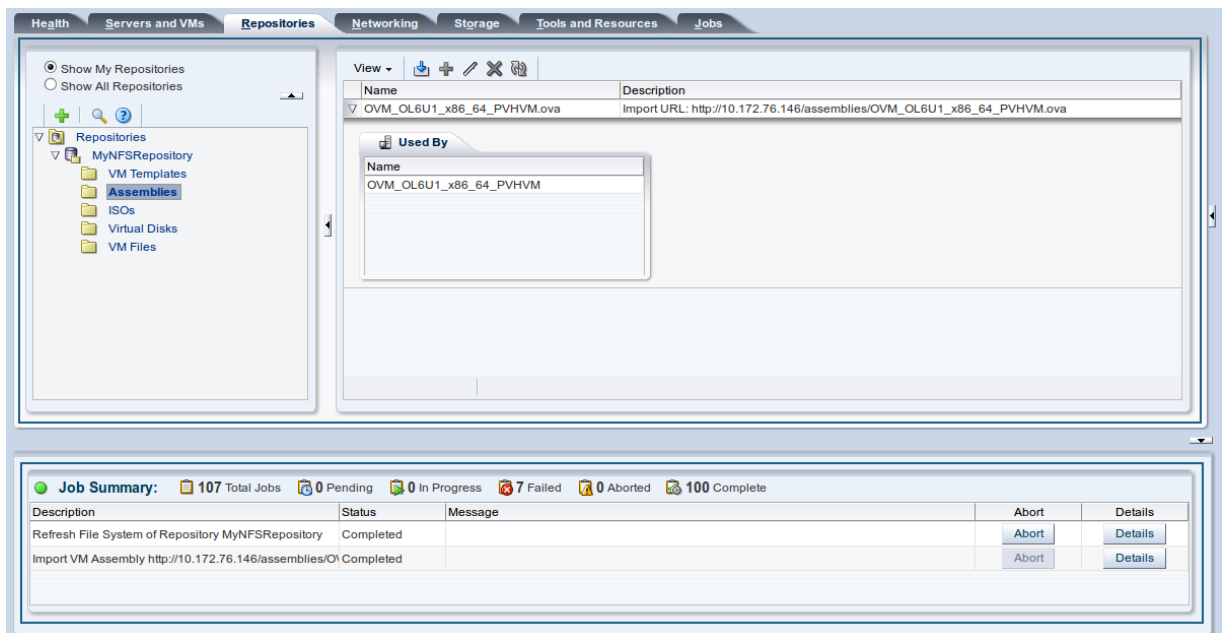
1. Click the **Repositories** tab. Select the repository in which to import the template. Click **Assemblies** in the navigation tree.
2. Click **Import VM Assembly...**  in the management pane toolbar.



3. The **Import VM Assembly** dialog box is displayed. Select an Oracle VM Server to use to perform the assembly import, and enter the URL to the assembly you downloaded and stored on a web server. Click **OK** to import the assembly.




The import job can take some time to complete. When the import job is complete, the new assembly is listed in the table.

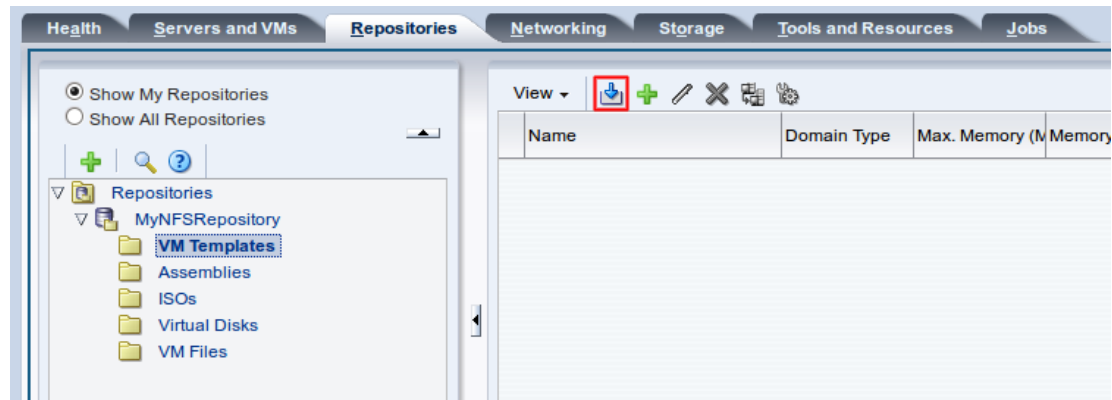


8.2 Importing a virtual machine template

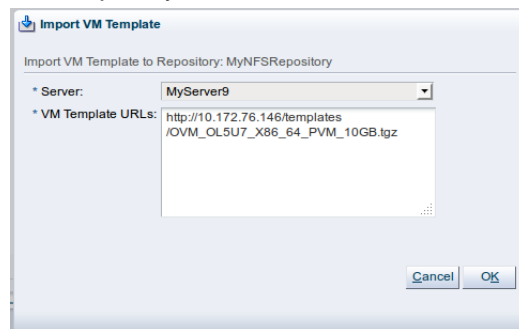
This example shows you how to import a virtual machine template. If you downloaded an Oracle VM template from the Oracle Software Delivery Cloud which contains an *template.tgz* file, you should use this procedure to import the template. This format of a template is the older format used by Oracle to publish Oracle VM templates. Replace the name and URL of the template with that of your template.

To import a virtual machine template:

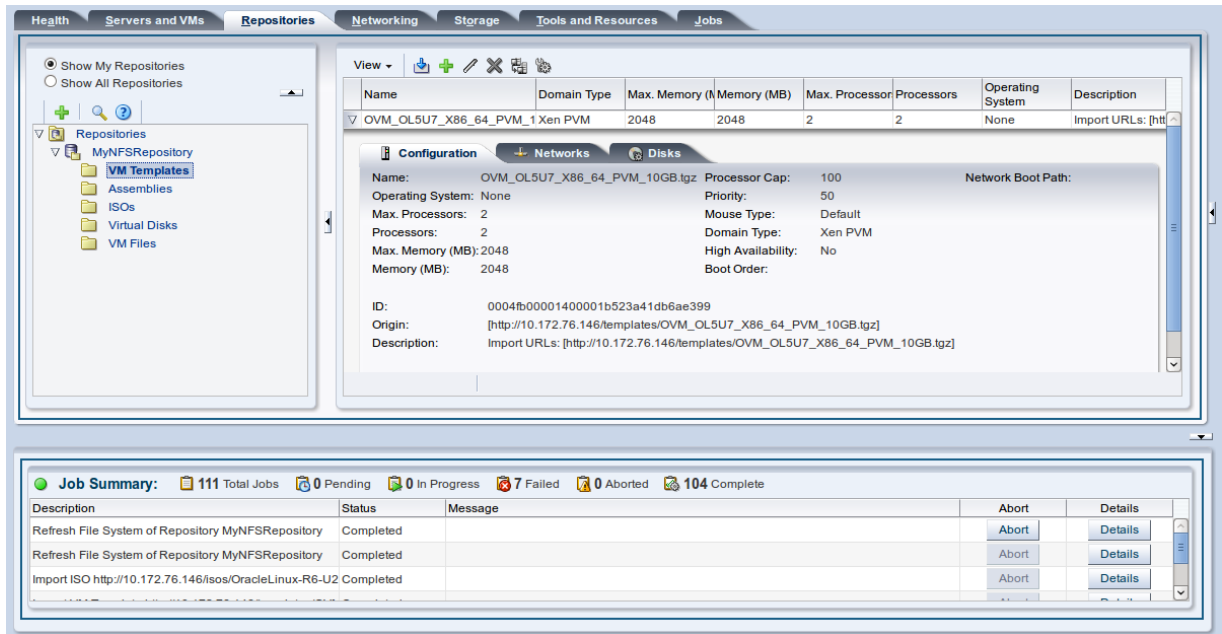
1. Click the **Repositories** tab. Select the repository in which to import the template. Select **VM Templates** in the navigation tree.
2. Click **Import VM Template...**  in the management pane toolbar.



3. The **Import VM Template** dialog box is displayed. Select the repository created earlier to store the template. Select an Oracle VM Server to use to perform the template import, and enter the URL to the template you downloaded and stored on a web server. Click **OK** to import the template.



The import job can take some time to complete. When the import job is complete, the new template is listed in the table.

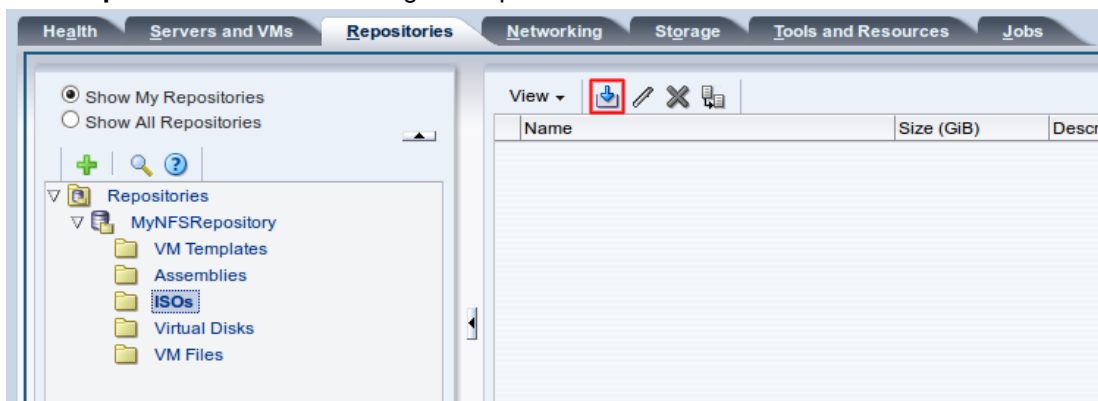


8.3 Importing an ISO file

This example shows you how to import the Oracle Linux ISO file you downloaded from the Oracle Software Delivery Cloud. Replace the name and URL of the ISO file with that of your file.

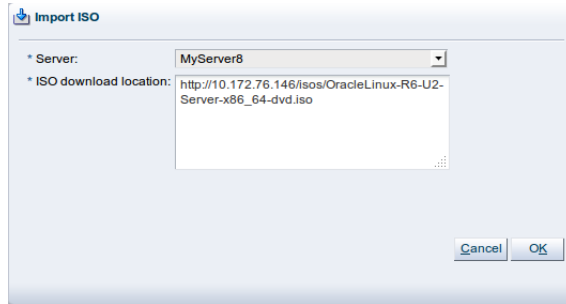
To import an ISO file:

1. Click the **Repositories** tab. Select the repository in which to import the ISO file. Select **ISOs** in the navigation tree.
2. Click **Import ISO...** in the management pane toolbar.

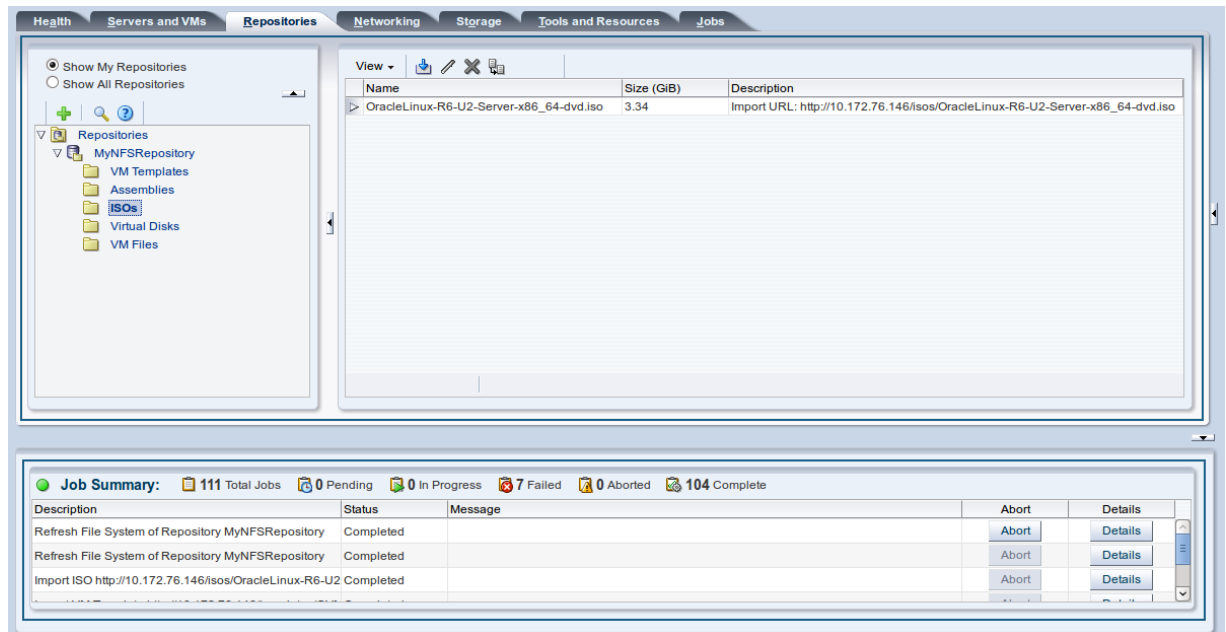


3. The **Import ISO** dialog box is displayed.

Select an Oracle VM Server from the **Server** list to perform the import, and enter the URL to the ISO file you want to import. Click **OK** to import the ISO file.



The import job can take some time to complete. When the import job is complete, the ISO file appears in the table.

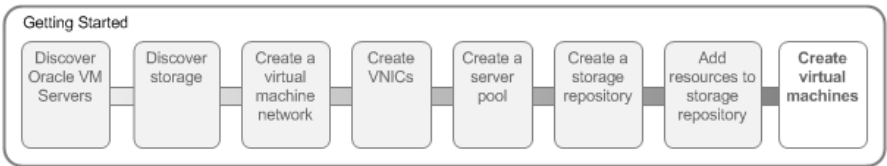


See [Virtual Machine Resources](#) for information on importing, managing and using virtual machine resources.

Chapter 9 Create Virtual Machines

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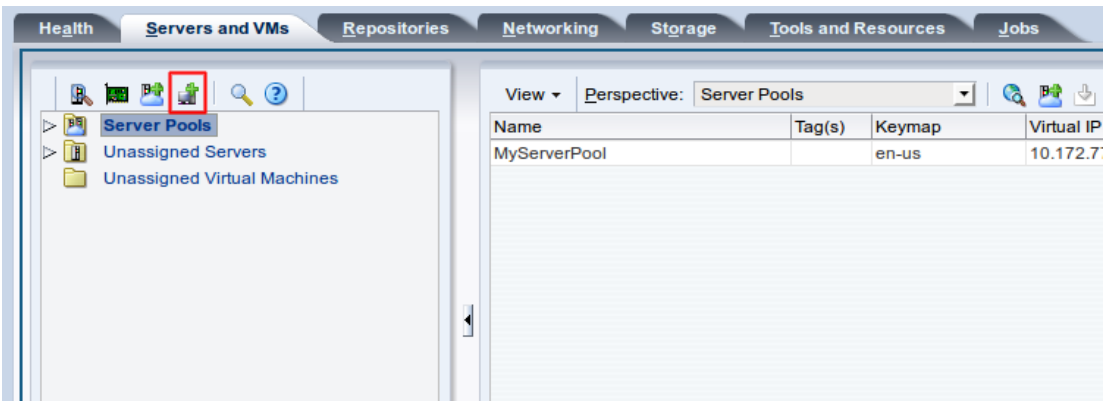
When you have a virtual machine template (either as an Oracle VM template or an assembly file), or an ISO file that contains the installation files for an operating system, you can create a virtual machine. If you use a virtual machine template, you need to clone the template to create a virtual machine. If you use the OVF template format, you first need to create an Oracle VM template from the OVF file, then use that template to clone a virtual machine. If you use an installation source ISO file, you can create a virtual machine directly from the ISO file. The examples in this tutorial first use a template, an assembly, then an ISO file to create virtual machines. A final example shows you how to start a virtual machine and connect to the virtual machine's console.

9.1 Creating a virtual machine from a template

This example uses the virtual machine template you imported in [Section 8.2, "Importing a virtual machine template"](#) to create a virtual machine, and deploy it in the server pool.

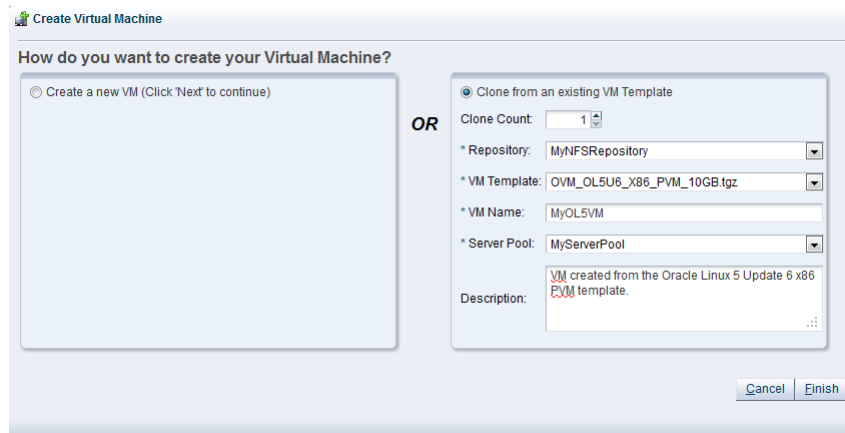
To create a virtual machine from a template:

1. Click the **Servers and VMs** tab.
2. Click **Create Virtual Machine**  in the toolbar.



3. The **Create Virtual Machine** dialog box is displayed. Select the **Clone from an existing VM Template** option. Enter the number of clone virtual machines to create from the template (up to 10 at a time), the storage repository to store the virtual machine files, a name for the server pool, and the server pool

on which to deploy the virtual machines. Optionally enter a description of the virtual machine(s). Click **Finish**.




The image shows the 'Create Virtual Machine' dialog box. It has two main sections separated by an 'OR' label. The left section is titled 'How do you want to create your Virtual Machine?' and contains a radio button for 'Create a new VM (Click 'Next' to continue)'. The right section is titled 'Clone from an existing VM Template' and is selected. It contains the following fields: 'Clone Count' (set to 1), '* Repository' (MyNFSRepository), '* VM Template' (OVM_OL5U6_X86_PVM_10GB.tgz), '* VM Name' (MyOL5VM), and '* Server Pool' (MyServerPool). There is also a 'Description' field with a text area containing the text: 'VM created from the Oracle Linux 5 Update 6 x86 PVM template.' At the bottom right are 'Cancel' and 'Finish' buttons.

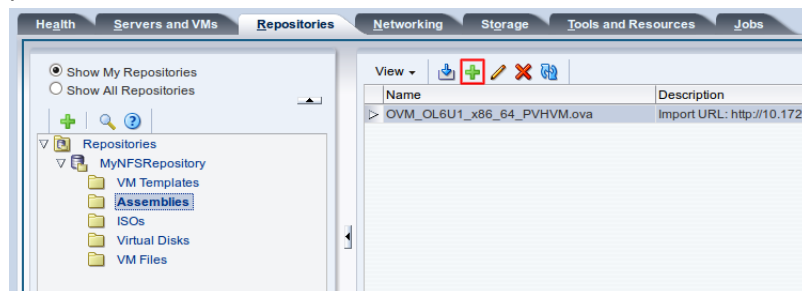
The template is cloned to create one or more virtual machines. The cloning job may take some time. When the clone job is completed, the virtual machine is deployed to an Oracle VM Server in the server pool. To see the virtual machine, select the server pool in the navigation pane and select **Virtual Machines** from the **Perspective** drop-down list in the management pane toolbar.

9.2 Creating a virtual machine from an assembly

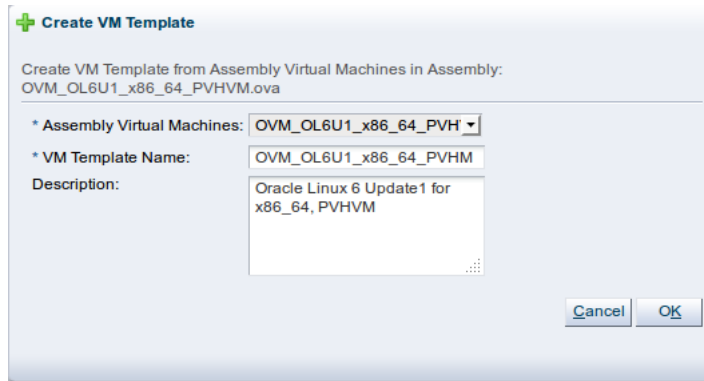
This example uses the virtual machine assembly you imported in [Section 8.1, "Importing an assembly"](#) to create a virtual machine, and deploy it in the server pool.

To create a virtual machine from an assembly:

1. Click the **Repositories** tab.
2. Select the repository in which the assembly is saved, then **Assemblies** in the navigation tree. Select the assembly in the management pane table, and click **Create VM Template**  in the management pane toolbar.



3. The **Create VM Template** dialog box is displayed. Enter a name for the template, and optionally a description, and click **OK**.




The create template job may take some time. When the job is completed, the template is available in **VM Templates** in the navigation tree.

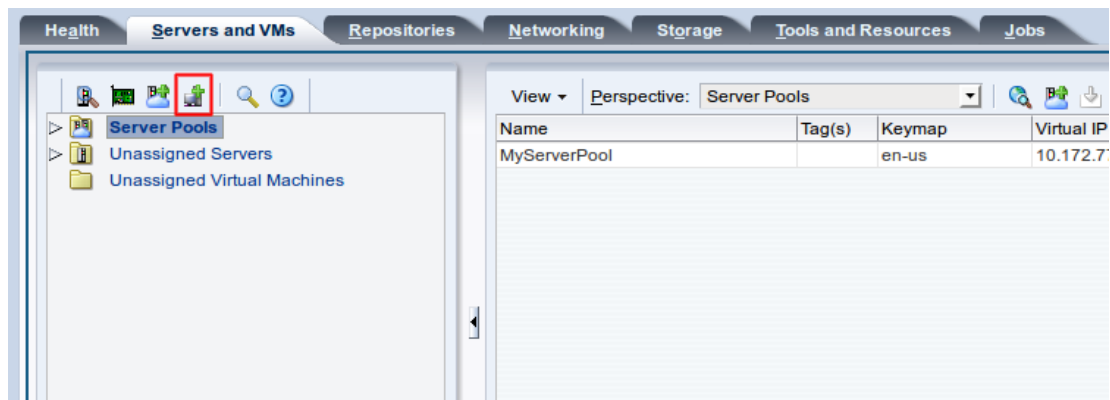
- Follow the procedure in [Section 9.1, “Creating a virtual machine from a template”](#) to use the template to create a virtual machine.

9.3 Creating a virtual machine from an ISO file

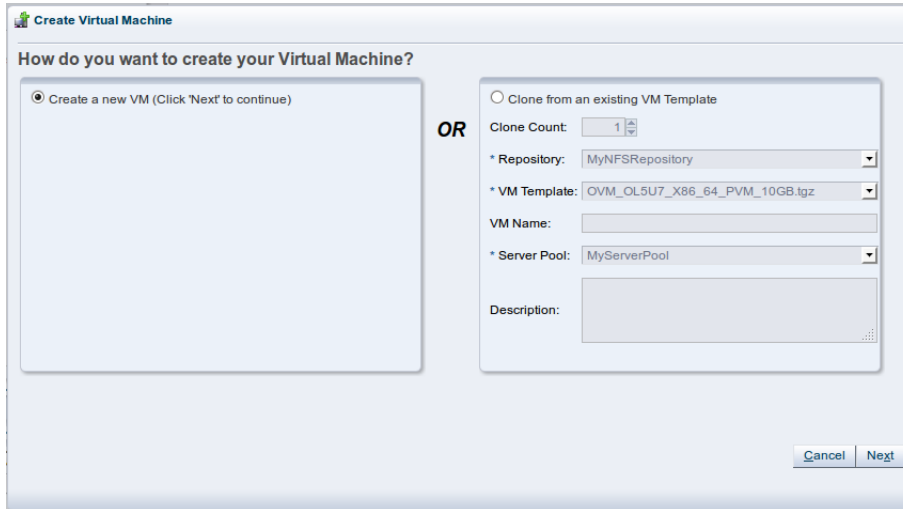
This example uses the ISO file you imported in [Section 8.3, “Importing an ISO file”](#) to create a virtual machine, and deploy it in the server pool.

To create a virtual machine from an ISO file:

- Click the **Servers and VMs** tab.
- Click **Create Virtual Machine**  in the toolbar.

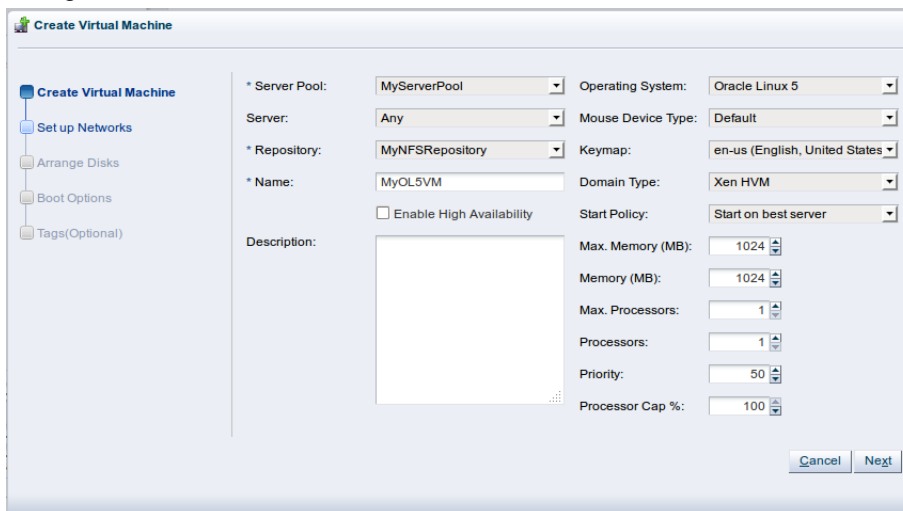


- The **Create Virtual Machine** dialog box is displayed. Select the **Create a new VM** option. Click **Next**.



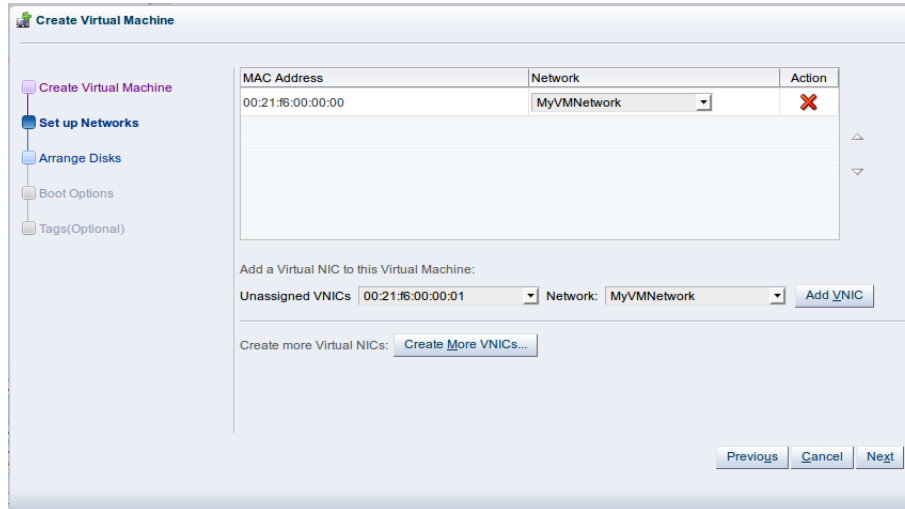
The screenshot shows the 'Create Virtual Machine' wizard. The title bar says 'Create Virtual Machine'. The main heading is 'How do you want to create your Virtual Machine?'. There are two options: 'Create a new VM (Click 'Next' to continue)' which is selected with a radio button, and 'Clone from an existing VM Template' which is unselected. Below the 'OR' separator, the 'Clone from an existing VM Template' section is visible. It includes a 'Clone Count' spinner set to 1, a '* Repository' dropdown set to 'MyNFSRepository', a '* VM Template' dropdown set to 'OVM_OL5U7_X86_64_PVM_10GB.igz', a 'VM Name' text field, a '* Server Pool' dropdown set to 'MyServerPool', and a 'Description' text area. At the bottom right are 'Cancel' and 'Next' buttons.

4. The **Create Virtual Machine** wizard is displayed. In the **Create Virtual Machine** step, select the server pool you created earlier, the repository you created as the location to store the virtual machine configuration file, and enter a name for the virtual machine. Click **Next**.

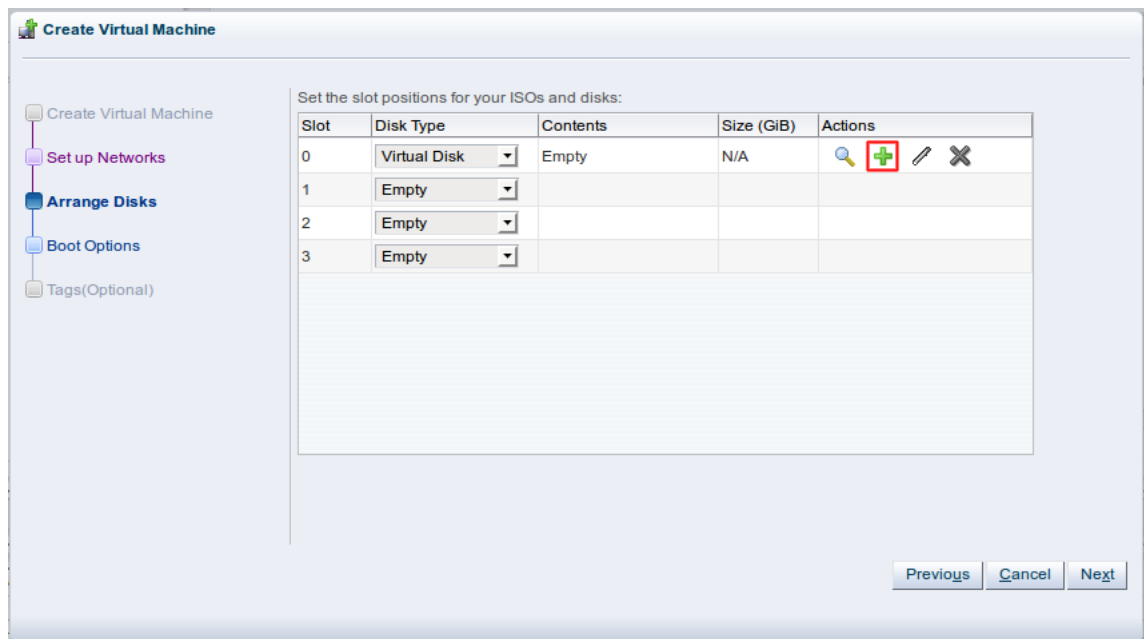


The screenshot shows the 'Create Virtual Machine' wizard at the configuration step. The title bar says 'Create Virtual Machine'. On the left is a navigation pane with 'Create Virtual Machine' selected, and other steps: 'Set up Networks', 'Arrange Disks', 'Boot Options', and 'Tags(Optional)'. The main area has several configuration fields: '* Server Pool' dropdown set to 'MyServerPool', 'Server' dropdown set to 'Any', '* Repository' dropdown set to 'MyNFSRepository', '* Name' text field set to 'MyOL5VM', an unchecked 'Enable High Availability' checkbox, and a 'Description' text area. On the right are: 'Operating System' dropdown set to 'Oracle Linux 5', 'Mouse Device Type' dropdown set to 'Default', 'Keymap' dropdown set to 'en-us (English, United States)', 'Domain Type' dropdown set to 'Xen HVM', 'Start Policy' dropdown set to 'Start on best server', 'Max. Memory (MB)' spinner set to 1024, 'Memory (MB)' spinner set to 1024, 'Max. Processors' spinner set to 1, 'Processors' spinner set to 1, 'Priority' spinner set to 50, and 'Processor Cap %' spinner set to 100. At the bottom right are 'Cancel' and 'Next' buttons.

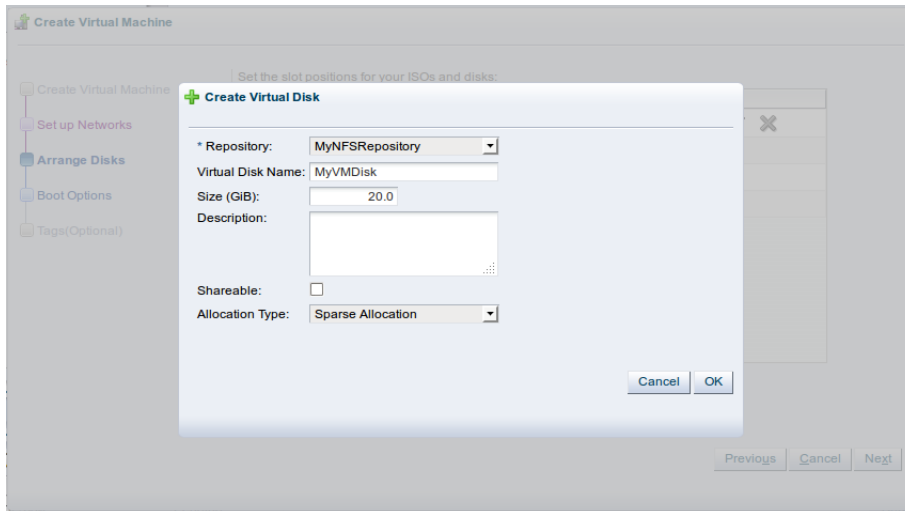
5. In the **Setup Networks** step, add one or more VNICs to the virtual machine. Click **Next**.



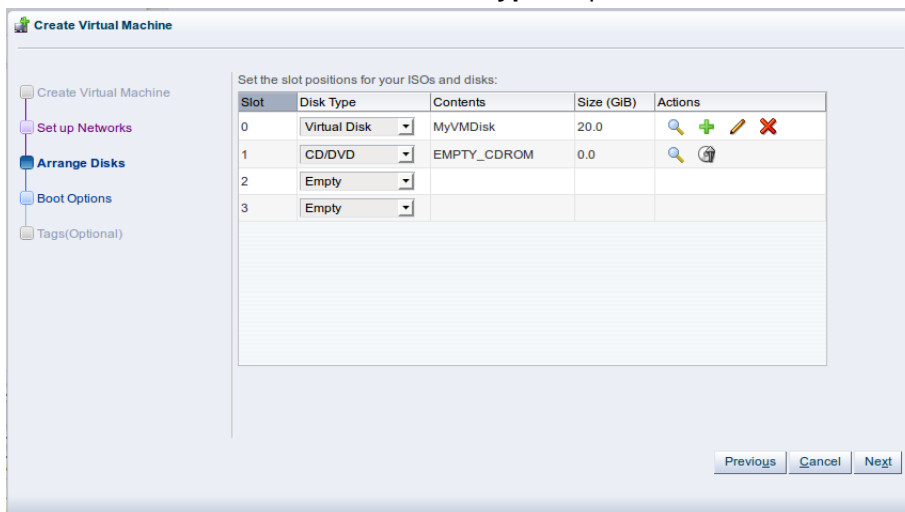
- In the **Arrange Disks** step, create a virtual disk to use as the virtual machine's hard disk and select the ISO to use to create the virtual machine. For slot **0** select **Virtual Disk** from the **Disk Type** drop-down list. Click **Create a Virtual Disk**



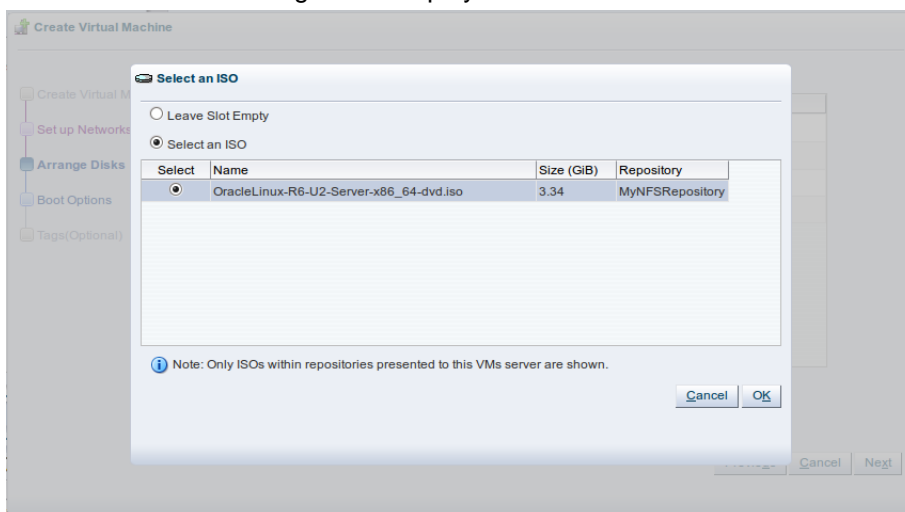
The **Create Virtual Disk** dialog box is displayed. Select the repository on which to create the virtual disk, enter a name for the disk, and enter the size of the disk. Click **OK**.



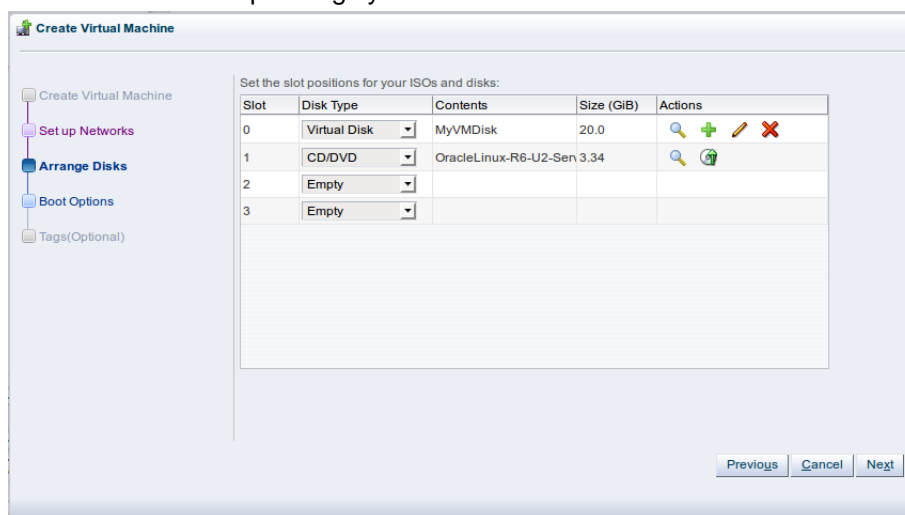
For slot 1 select **CD/DVD** from the **Disk Type** drop-down list. Click **Select a Virtual Machine Disk** .



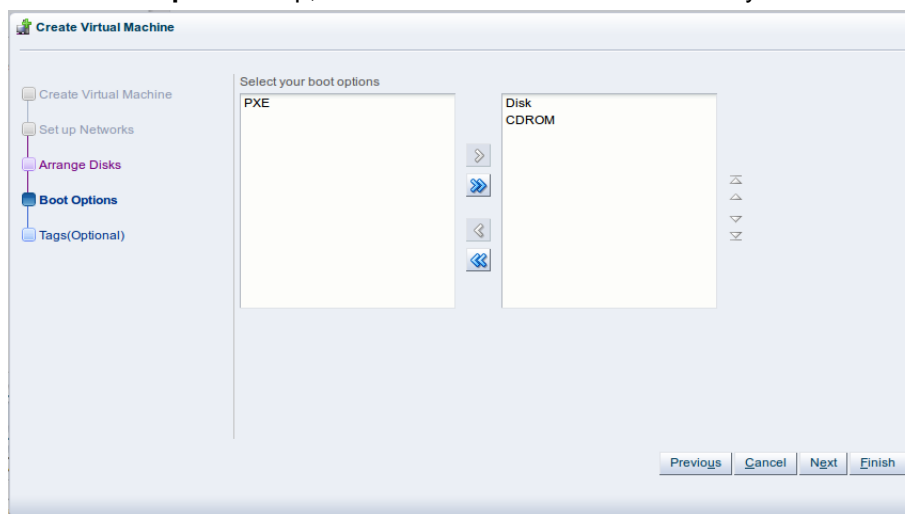
The **Select an ISO** dialog box is displayed. Select the ISO file and click **OK**.



You have now created a virtual disk to use as the virtual machine's hard disk, and added the ISO file which contains the operating system to be installed. Click **Next**.



7. In the **Boot Options** step, select the boot media and order for your virtual machine. Click **Finish**.



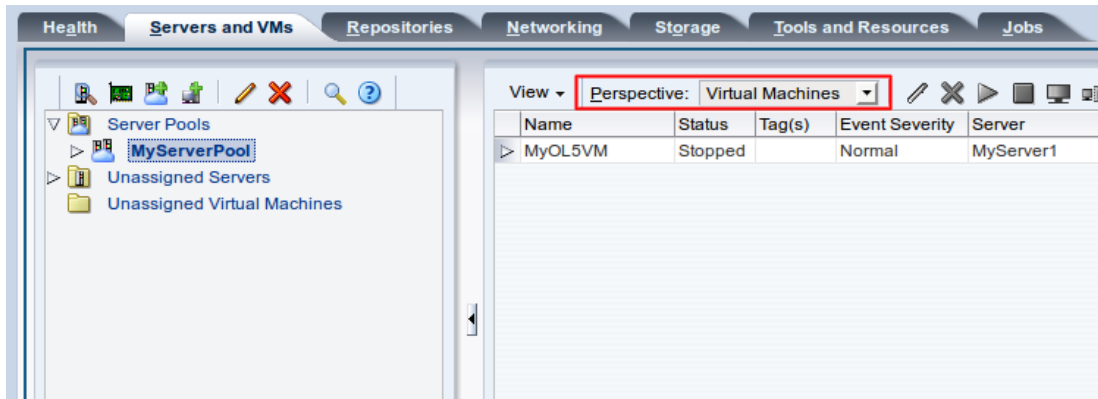
The virtual machine is created and deployed to an Oracle VM Server in the server pool. To see the virtual machine, select the server pool in the navigation pane and select **Virtual Machines** from the **Perspective** drop-down list in the management pane toolbar.

9.4 Starting a virtual machine and connecting to the console

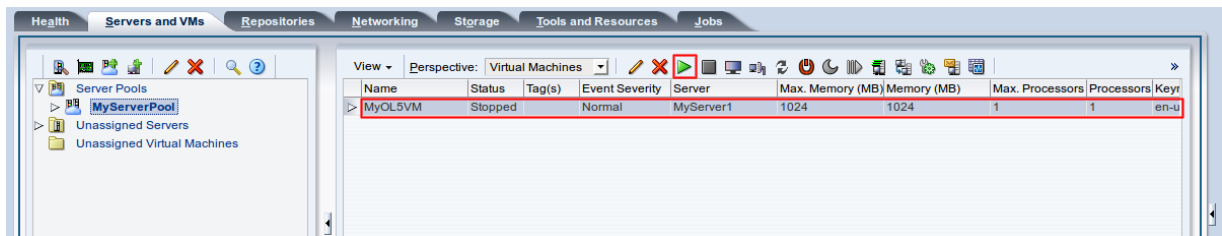
When a virtual machine is created, it is deployed to the server pool in a *stopped* state. This step of the tutorial starts the virtual machine created with an ISO file, and logs into the virtual machine console.

To start a virtual machine and connect to the console:

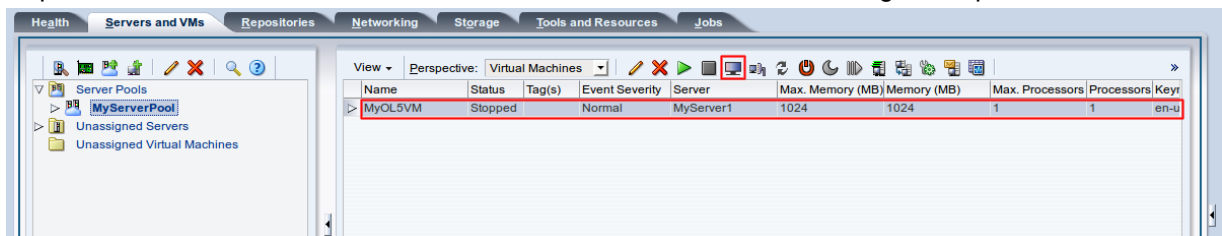
1. Click the **Servers and VMs** tab. Select the server pool in which the virtual machine is deployed in the navigation pane.
2. From the **Perspective** field in the management pane, select **Virtual Machines** from the drop-down list.



3. Select the virtual machine in the table and click **Start** ► in the management pane toolbar.

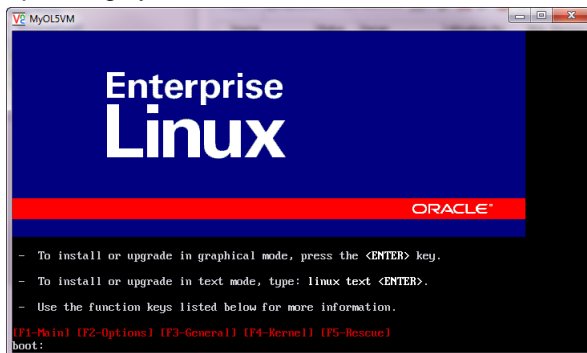


4. When the virtual machine is running, you can connect to the virtual machine's console and log in, if required. To connect to the console, click **Launch Console** in the management pane toolbar.



5. The virtual machine console is displayed. Log in and interact with the virtual machine as you would through any other VNC session.

This example shows the initial installation screen for the virtual machine created with the Oracle Linux operating system ISO file.



See [Managing Virtual Machines](#) for more information on creating and managing virtual machines.