

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:

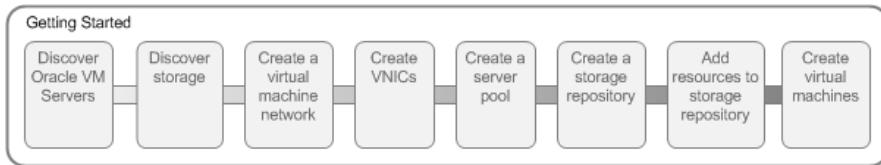
| Convention | Meaning |
|------------------|--|
| boldface | Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary. |
| <i>italic</i> | Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular 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.

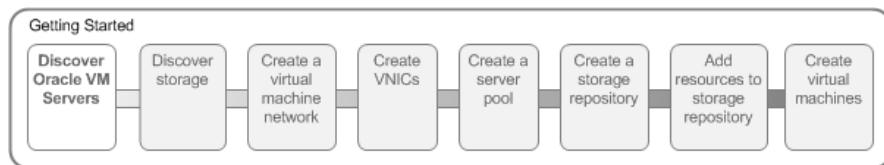
This tutorial includes a visual indicator graphic to show you where you are in relation to the tutorial steps, as shown below.



Chapter 2 Discover Oracle VM Servers

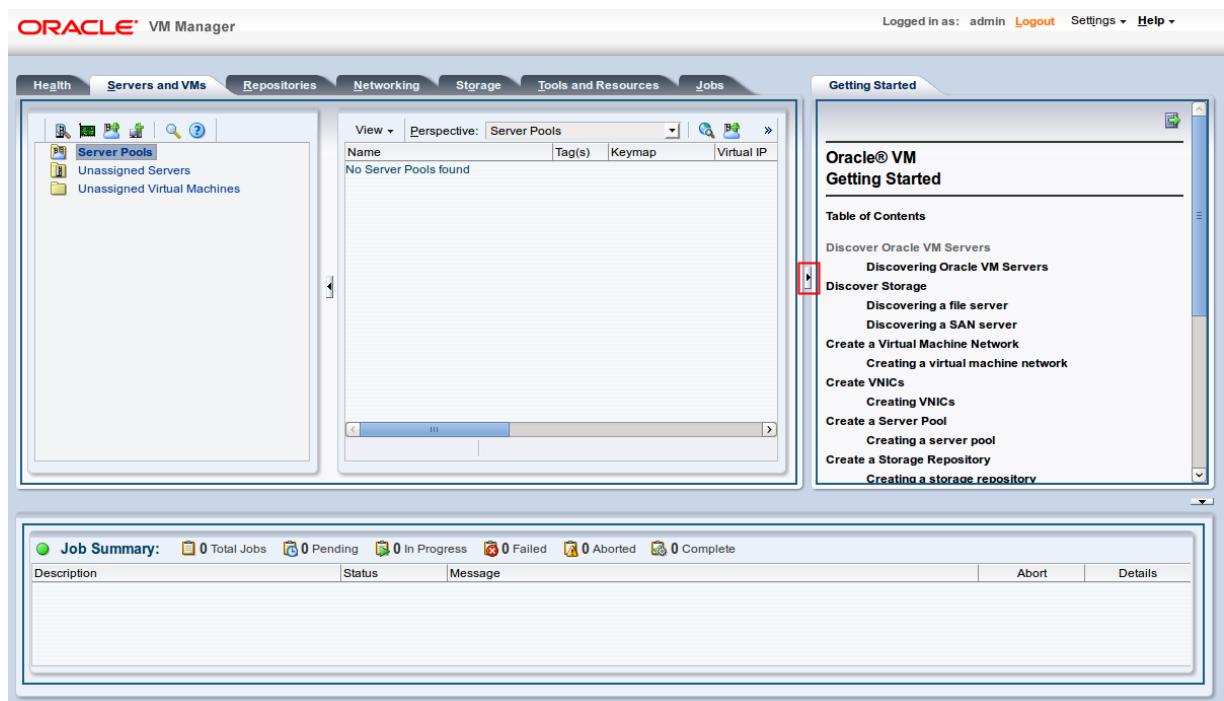
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When you log into Oracle VM Manager, the **Servers and VMs** tab is displayed.

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.

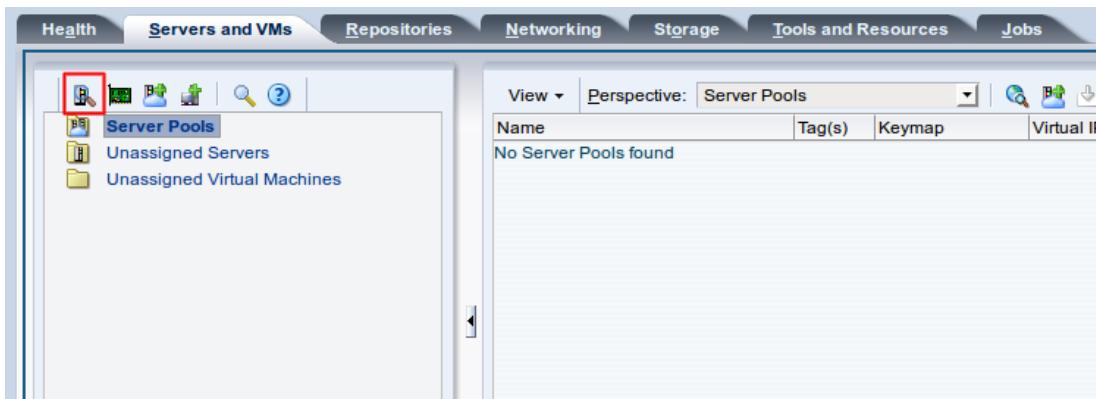
When you have discovered your Oracle VM Servers, you should next discover your storage.

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

The screenshot shows the Oracle VM Server Management interface. The top navigation bar includes tabs for Health, Servers and VMs (selected), Repositories, Networking, Storage, Tools and Resources, and Jobs. The left sidebar displays a tree structure with 'Server Pools' expanded, showing 'Unassigned Servers' with eight entries: MyServer1, MyServer2, MyServer3, MyServer4, MyServer5, MyServer6, MyServer7, and MyServer8. A 'Secure' checkbox is also present. The main content area shows a table for 'Server Pools' with one row: 'No Server Pools found'. Below this is a 'Job Summary' section with the following data:

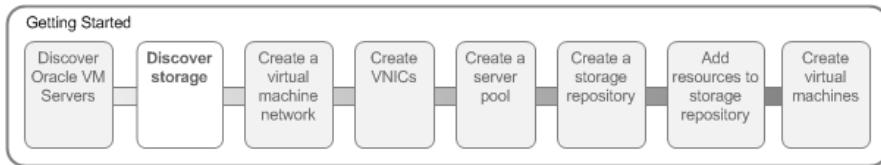
| Job Summary: | | | |
|------------------------------|---------------|-----------|---------------|
| | 17 Total Jobs | 1 Pending | 1 In Progress |
| Discover Server 10.172.76.91 | Pending | | |
| Discover Server 10.172.76.90 | In Progress | | |
| Discover Server 10.172.76.87 | Completed | | |

Each row in the table has 'Abort' and 'Details' buttons.

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.

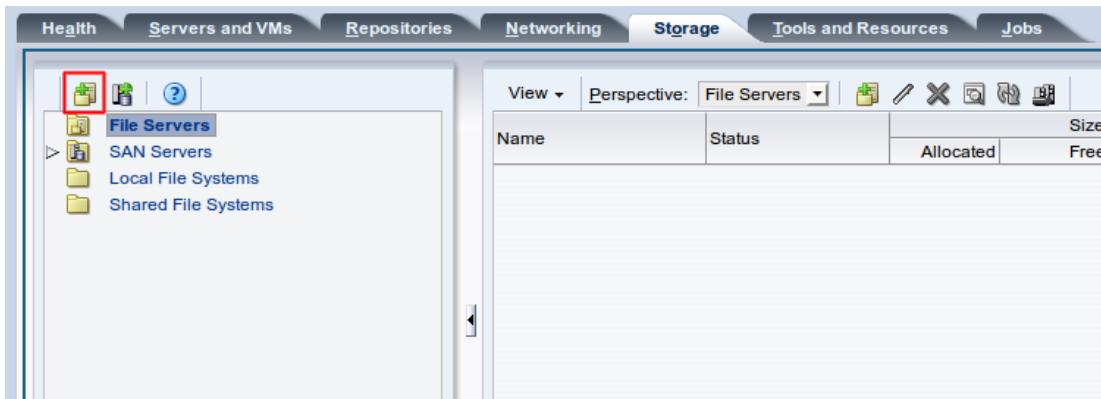
3.1 Discovering a file server

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

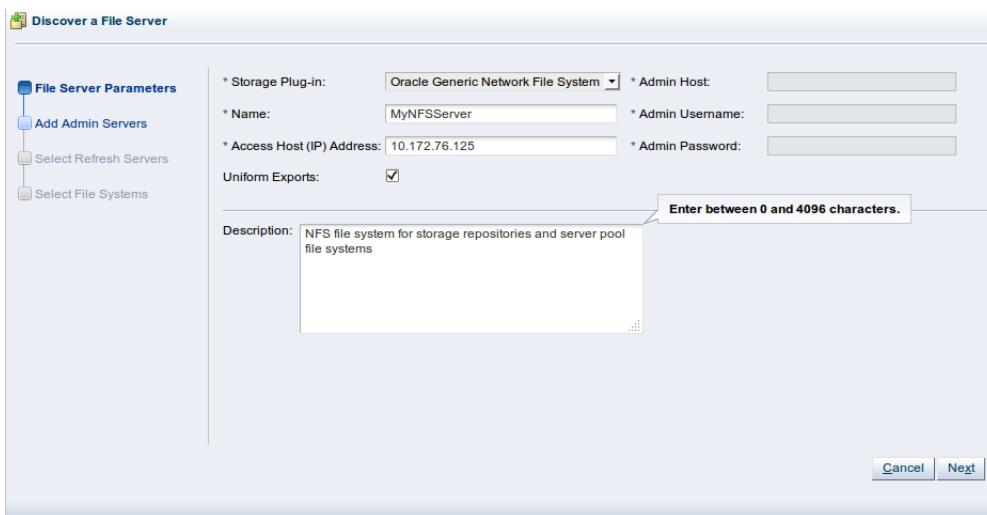
To discover a file server:

1. Click the **Storage** tab.

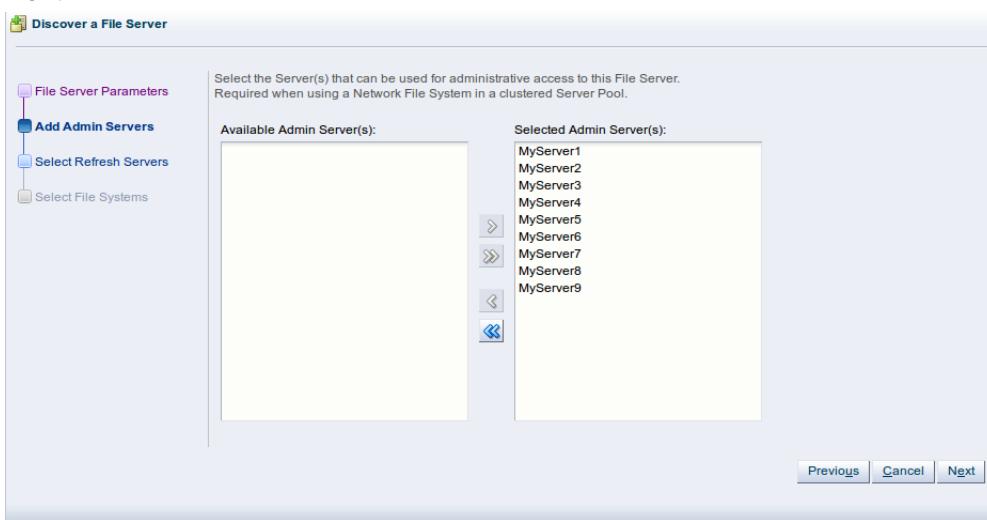
2. Select **Discover File Server**  from the toolbar.



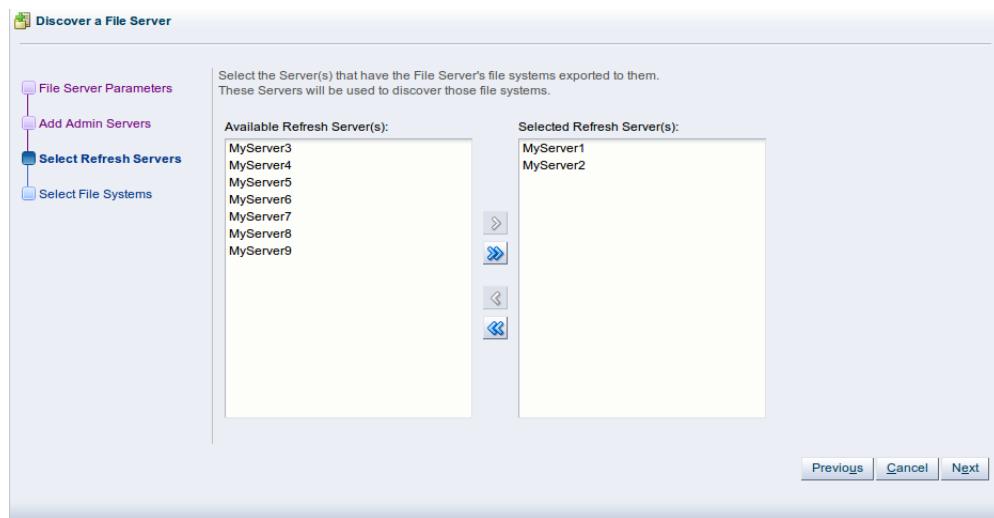
3. The **Discover a File Server** wizard is displayed. Enter the IP address for your file server, and a name for it, then click **Next**.



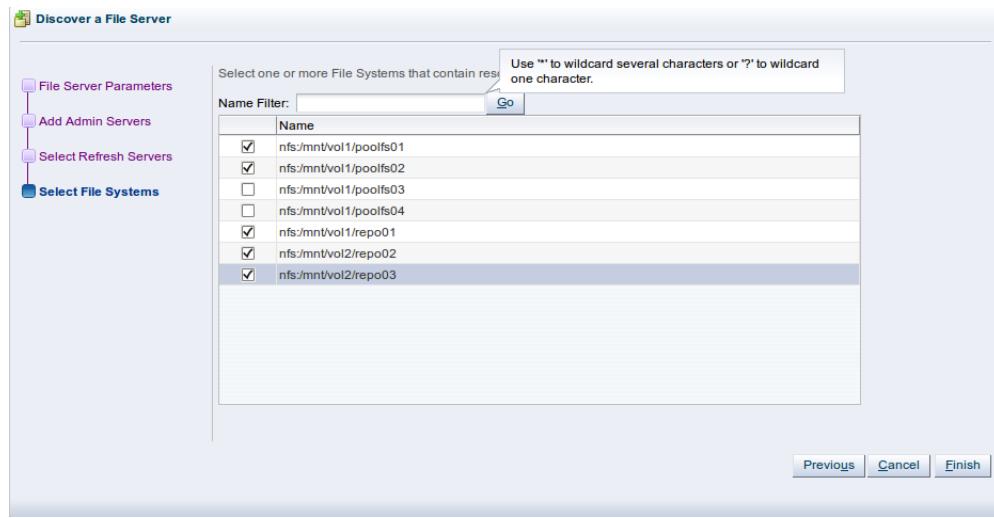
4. Assign one or more Oracle VM Servers to perform any required administration on the file server. Click **Next**.



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**.

Discovering a SAN server

Discover SAN Server

Discover SAN Server

Access Information (if required)

Set Storage Name (if required)

Add Admin Servers

Manage Access Group

* Name:

Description:

Storage Type:

* Storage Plug-in:

* Admin Host:

* Admin Username:

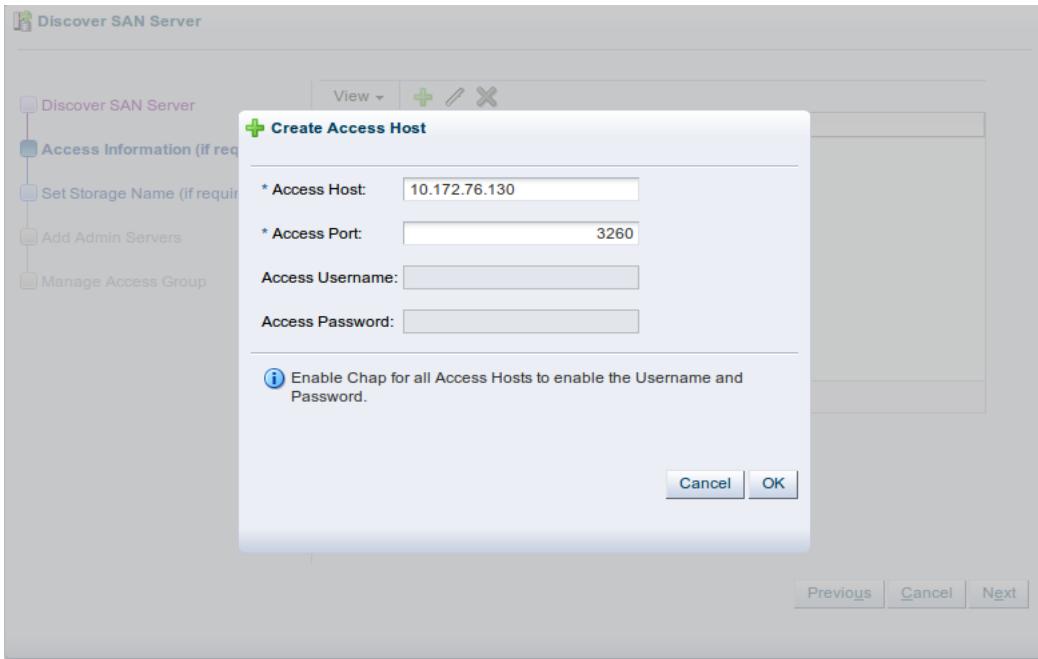
* Admin Password:

[Cancel](#) [Next](#)

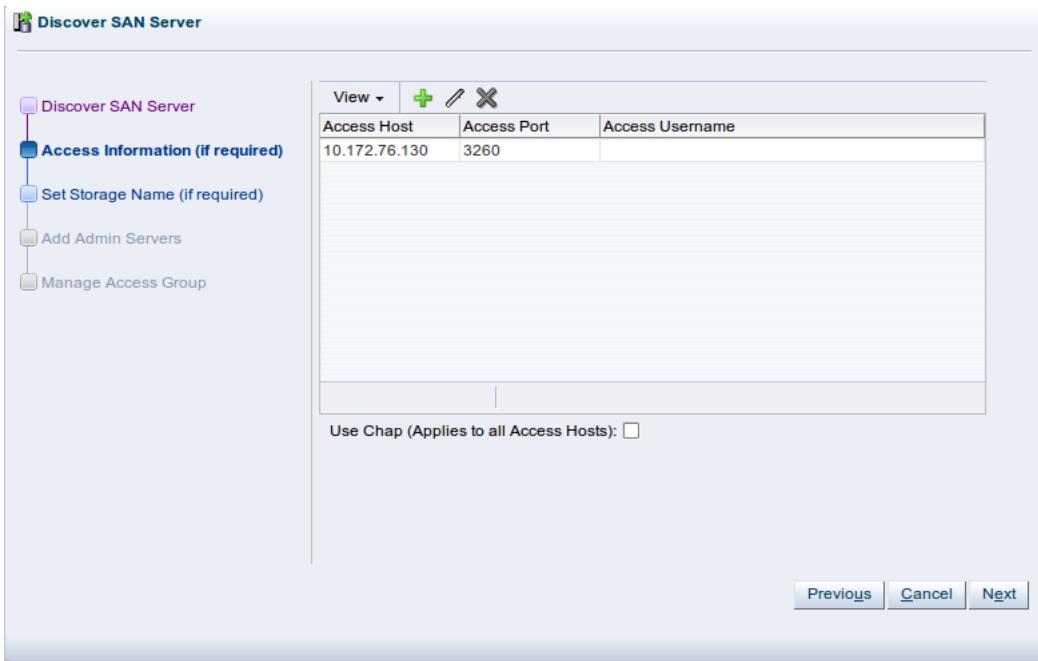
4. The **Access Information** step is displayed.

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**.

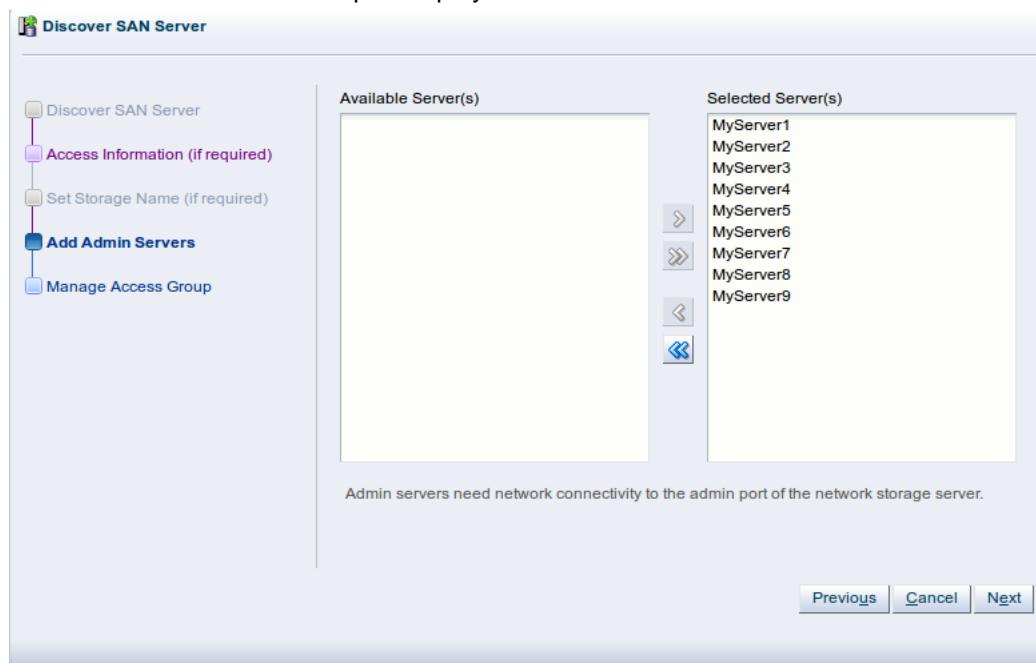


Repeat this step for each access host, for example, you may have access hosts such as 10.172.76.130, 10.172.76.131, 10.172.77.130, and 10.172.77.131 to enable multipathing. When you have entered all access hosts, click **Next**.

5. 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.

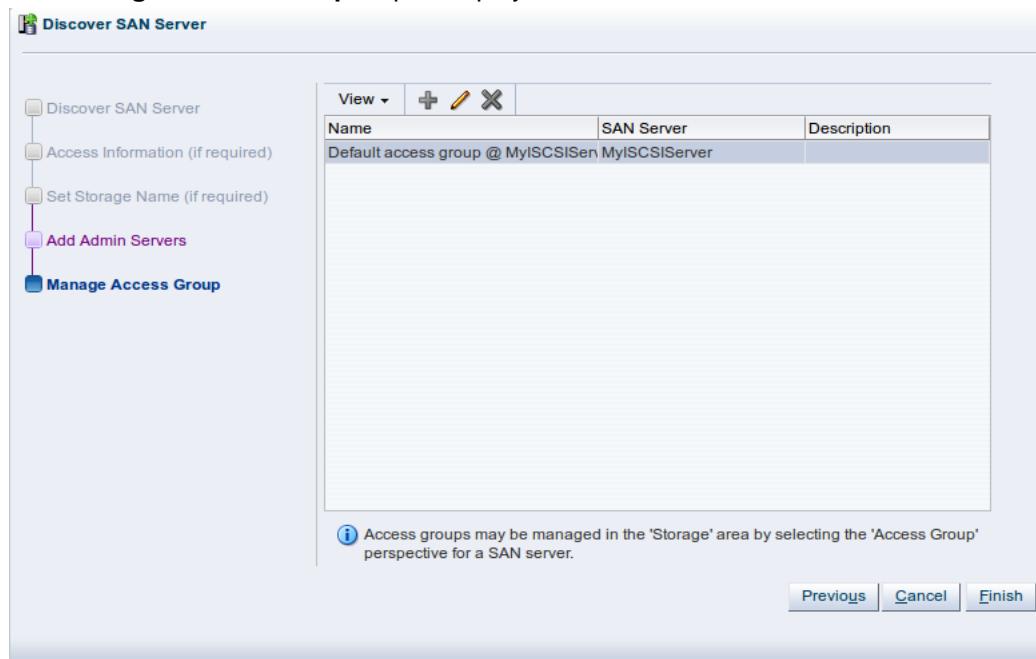
The wizard recognizes this type of storage and displays the **Set Storage Name** step when applicable. Enter the storage name and click **Next**.

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

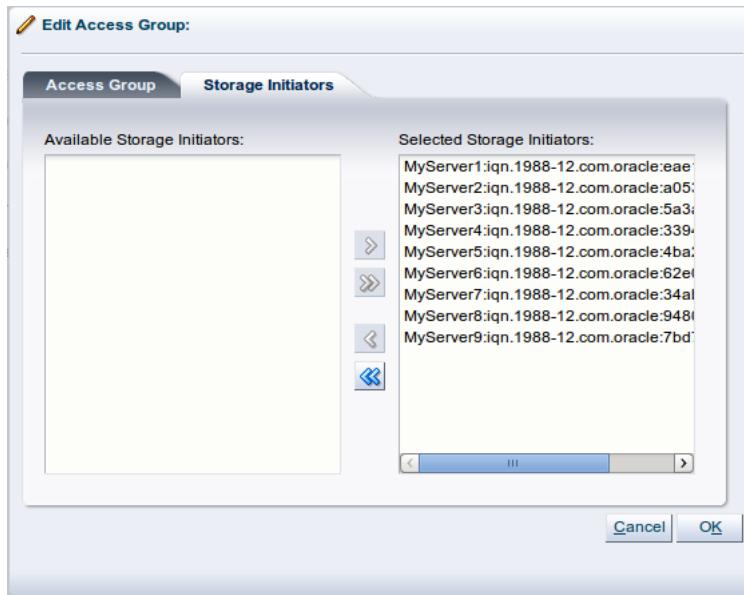


Use the arrow buttons to move the required Oracle VM Servers to the **Selected Servers** box. This selects which Oracle VM Servers are to be made available to perform Oracle VM related admin operations on the SAN server. Click **Next**.

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

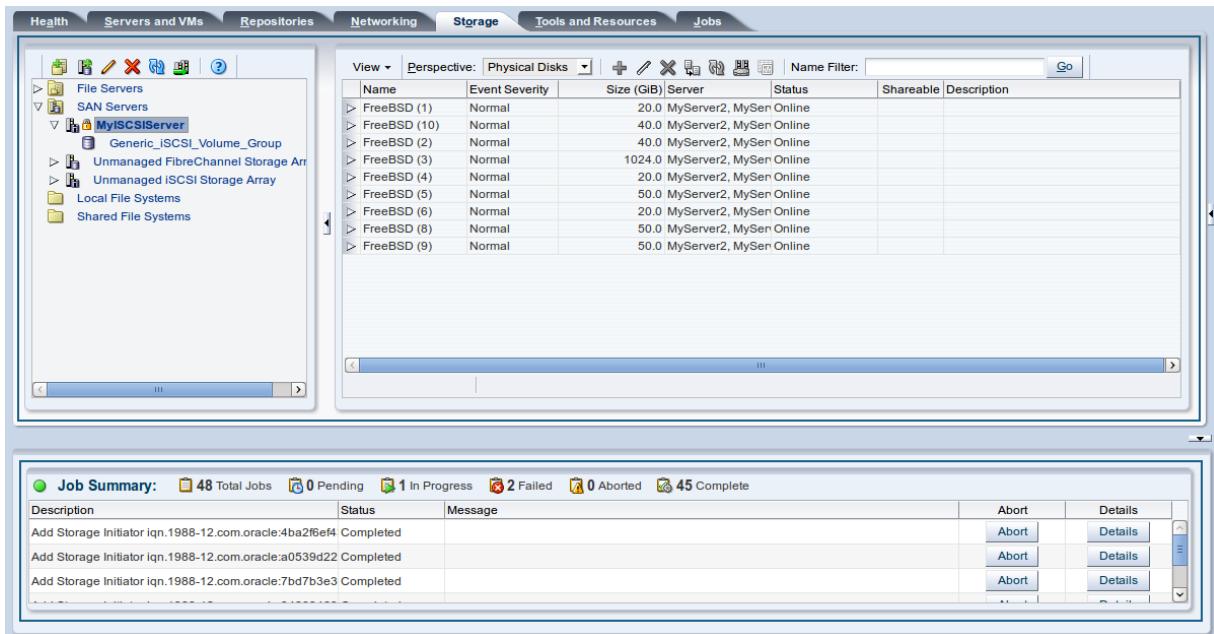


This example uses a generic iSCSI SAN server, so a default access group is created. Select the default access group in the table and click **Edit Access Group** , then select the **Storage Initiators** tab in the **Edit Access Group** dialog box.



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.



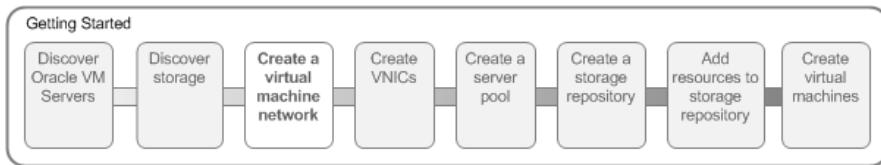
| Name | Event Severity | Size (GiB) | Server | Status | Shareable | Description |
|--------------|----------------|------------|---------------------|--------|-----------|-------------|
| FreeBSD (1) | Normal | 20.0 | MyServer2, MyServer | Online | | |
| FreeBSD (10) | Normal | 40.0 | MyServer2, MyServer | Online | | |
| FreeBSD (2) | Normal | 40.0 | MyServer2, MyServer | Online | | |
| FreeBSD (3) | Normal | 1024.0 | MyServer2, MyServer | Online | | |
| FreeBSD (4) | Normal | 20.0 | MyServer2, MyServer | Online | | |
| FreeBSD (5) | Normal | 50.0 | MyServer2, MyServer | Online | | |
| FreeBSD (6) | Normal | 20.0 | MyServer2, MyServer | Online | | |
| FreeBSD (8) | Normal | 50.0 | MyServer2, MyServer | Online | | |
| FreeBSD (9) | Normal | 50.0 | MyServer2, MyServer | Online | | |

| Job Summary: | | | | | |
|---|-----------|---------------|----------|-----------|-------------|
| 48 Total Jobs | 0 Pending | 1 In Progress | 2 Failed | 0 Aborted | 45 Complete |
| Add Storage Initiator iqn.1988-12.com.oracle:4ba2fe4 Completed | | | | | |
| Add Storage Initiator iqn.1988-12.com.oracle:a0539d22 Completed | | | | | |
| Add Storage Initiator iqn.1988-12.com.oracle:7bd7b3e3 Completed | | | | | |

Chapter 4 Create a Virtual Machine Network

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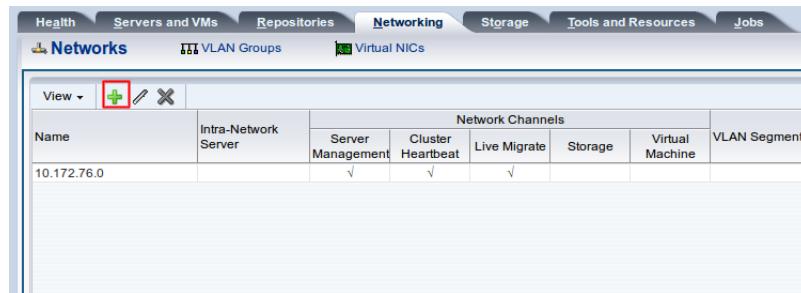
Oracle VM has a number of network functions: Server Management, Live Migrate, Cluster Heartbeat, Virtual Machine, and Storage. The Server Management, Live Migrate and Cluster Heartbeat roles are automatically assigned to the management network when you discover Oracle VM Servers. The Virtual Machine 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

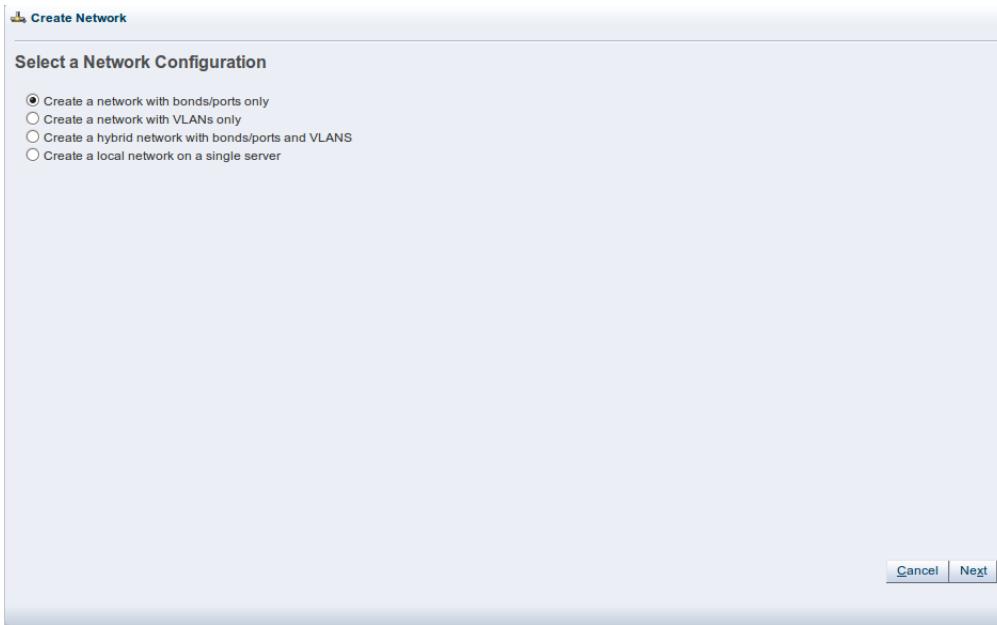
This example creates a virtual machine network using network interface cards (NICs) on the Oracle VM Servers discovered earlier. In this example we are using bonded Ethernet ports. Each Oracle VM Server should have a set of Ethernet ports to use for the virtual machine network. Oracle recommends at least 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:

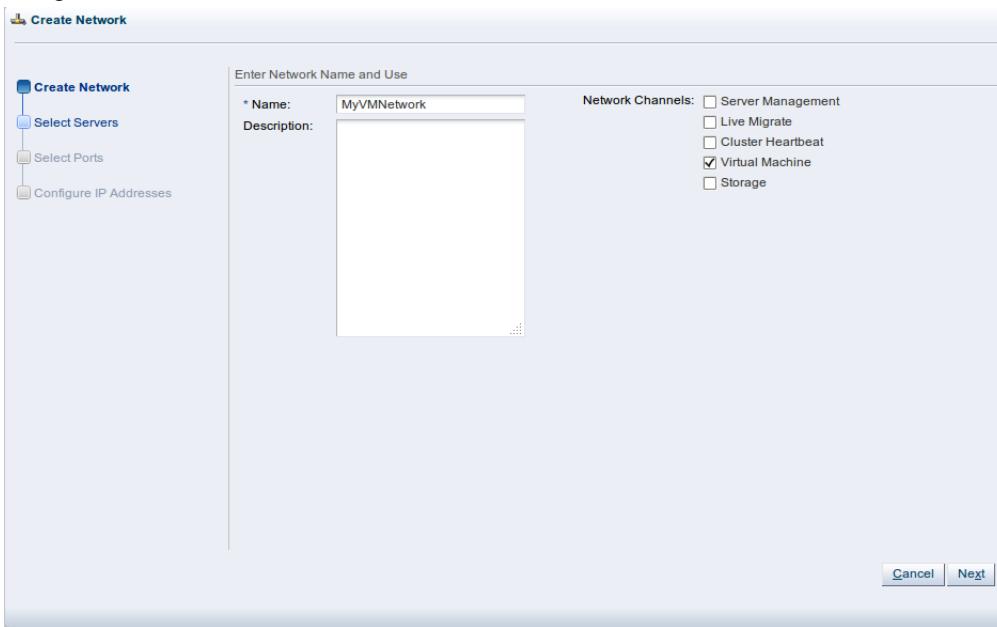
1. Click the **Networking** tab, then the **Networks** subtab.



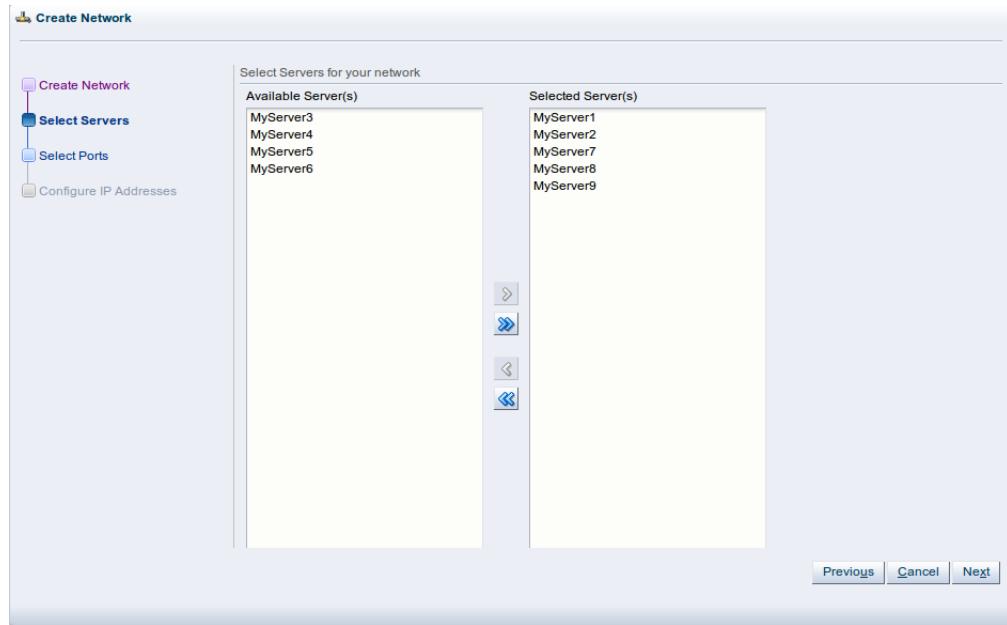
2. Click **Create New Network...**  in the toolbar to start the **Create Network** wizard. Select the type of network to create, based on your network infrastructure. In this example we use the Ethernet ports on each Oracle VM Server to create a network for virtual machine traffic. Select **Create a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



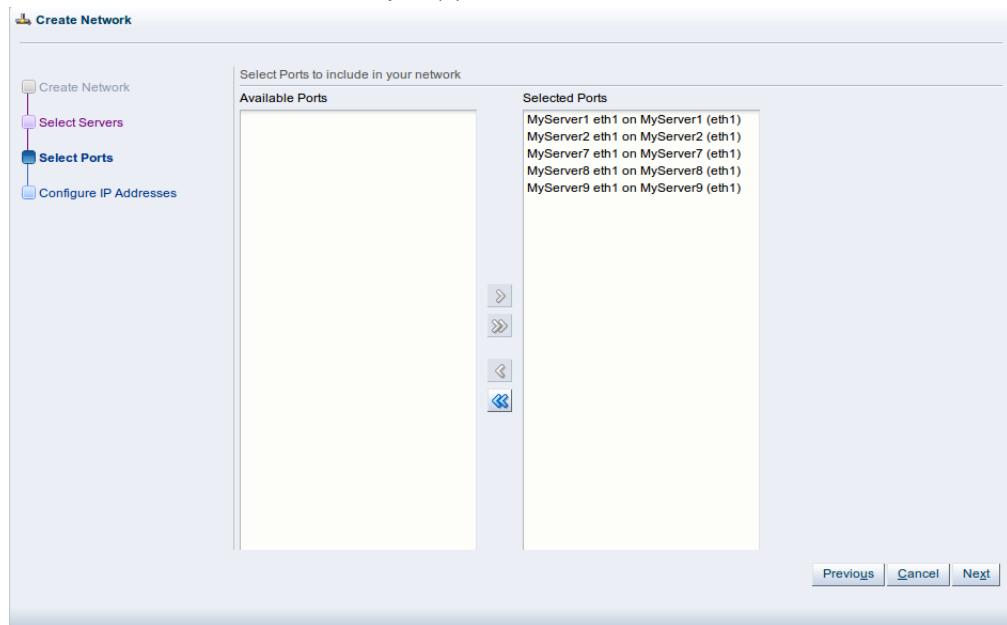
3. At the **Create Network** step of the wizard, enter a name for the network and select the network functions. The **Network Channels** fields are where you decide which network functions are to be assigned to the network. Select **Virtual Machine** and click **Next**.



4. 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**.

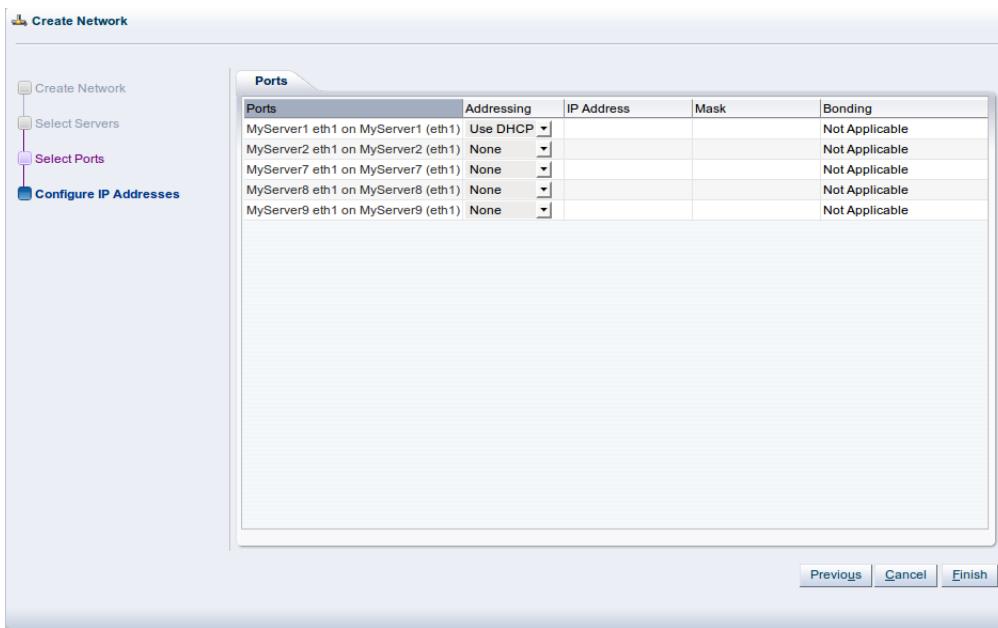


- At the **Select Ports** step of the wizard, the available Ethernet ports on each Oracle VM Server are displayed in the **Available Ports** field. Select a port from each Oracle VM Server to use for the virtual machine network and move the port(s) to the **Select Ports** field, then click **Next**.



- 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



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

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

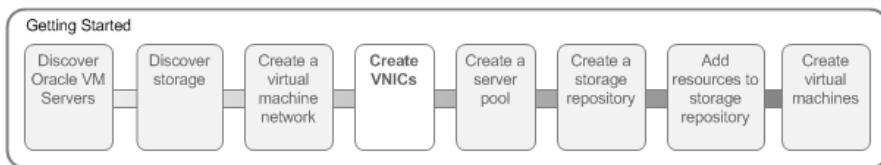
| Job Summary: | | | | |
|--------------|---------|-------------|--------|---------|
| Total Jobs | Pending | In Progress | Failed | Aborted |
| 68 | 0 | 1 | 4 | 0 |
| 63 Complete | | | | |

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

Chapter 5 Create VNICs

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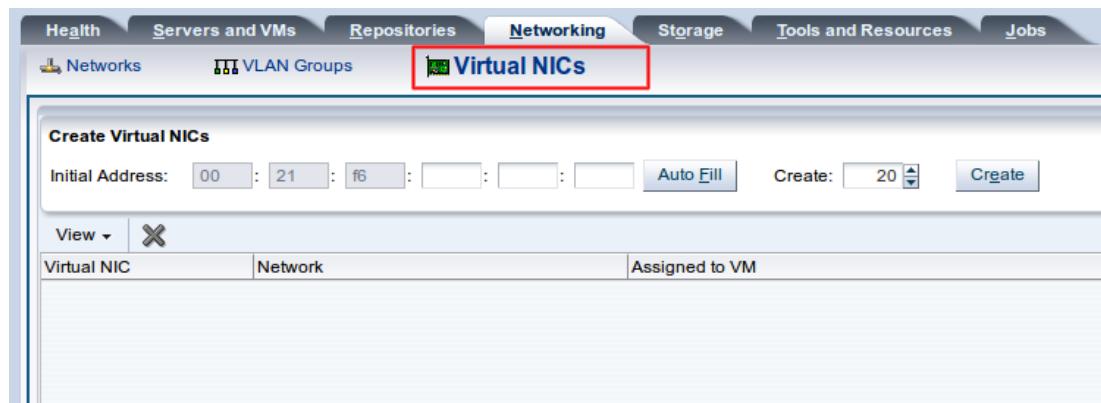
The VNIC Manager creates Virtual Network Interface Cards (VNICs), which are used by virtual machines as network cards. You create virtual network interfaces by defining a range of MAC addresses to use for each VNIC. Each MAC address corresponds with a single VNIC, which is used by a virtual machine. 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

The screenshot shows the OVM Manager interface with the 'Networking' tab selected. In the 'Virtual NICs' section, a table lists 20 created VNICs with MAC addresses ranging from 00:21:16:00:00:00 to 00:21:16:00:00:08. A note at the bottom states: 'MAC addresses must be unique or collisions may occur if you are running multiple OVM Manager Server applications.' Below this, a 'Job Summary' table shows 76 total jobs, with 71 completed and 5 failed.

| 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 | | |
| 00:21:16:00:00:10 | | |
| 00:21:16:00:00:11 | | |
| 00:21:16:00:00:12 | | |
| 00:21:16:00:00:13 | | |
| 00:21:16:00:00:14 | | |
| 00:21:16:00:00:15 | | |
| 00:21:16:00:00:16 | | |
| 00:21:16:00:00:17 | | |
| 00:21:16:00:00:18 | | |
| 00:21:16:00:00:19 | | |
| 00:21:16:00:00:20 | | |

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

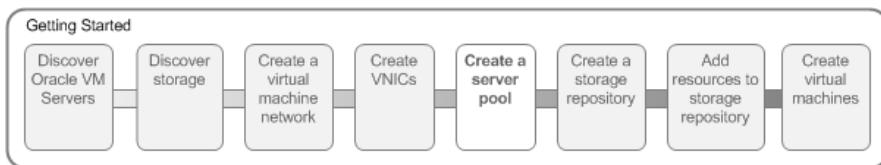
| Description | Status | Message | Abort | Details |
|--|-----------|---------|-------|---------|
| Create Virtual Network Interface Cards | Completed | | Abort | Details |

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

Chapter 6 Create a Server Pool

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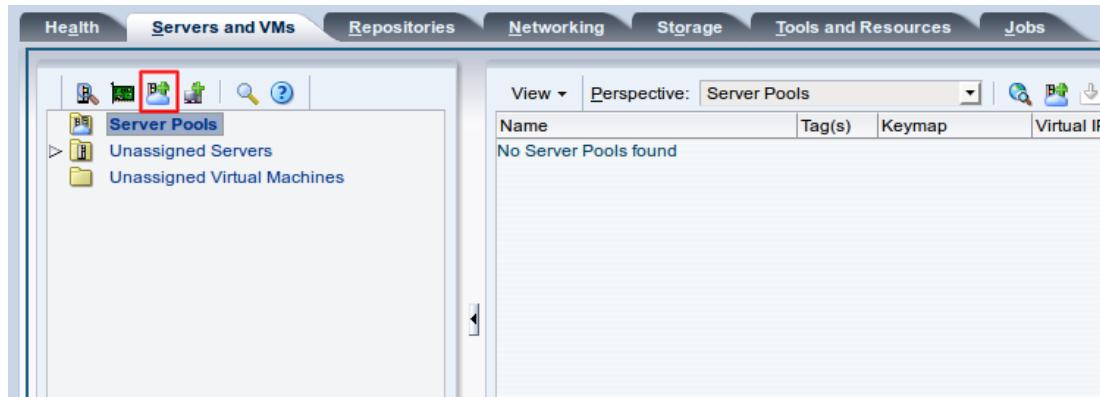
A server pool contains a group of Oracle VM Servers, which as a group perform virtual machine management tasks, such as High Availability (HA), implementation of resource and power management policies, access to networking, storage and repositories.

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.

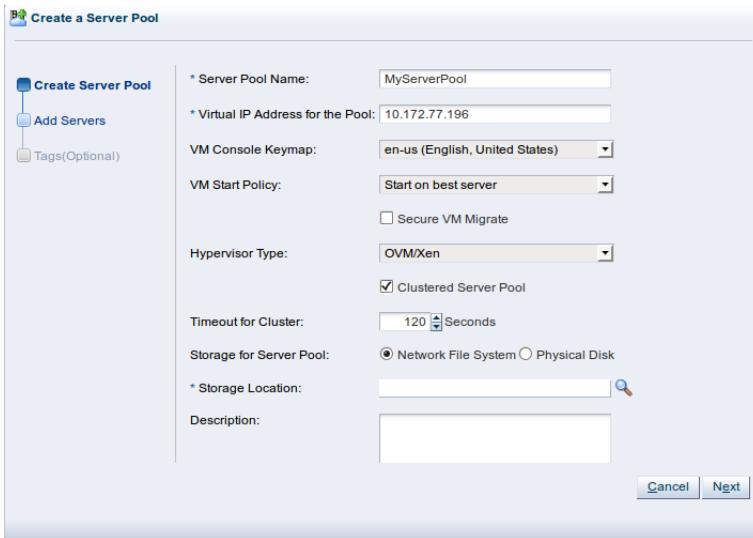
To create a server pool:

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.

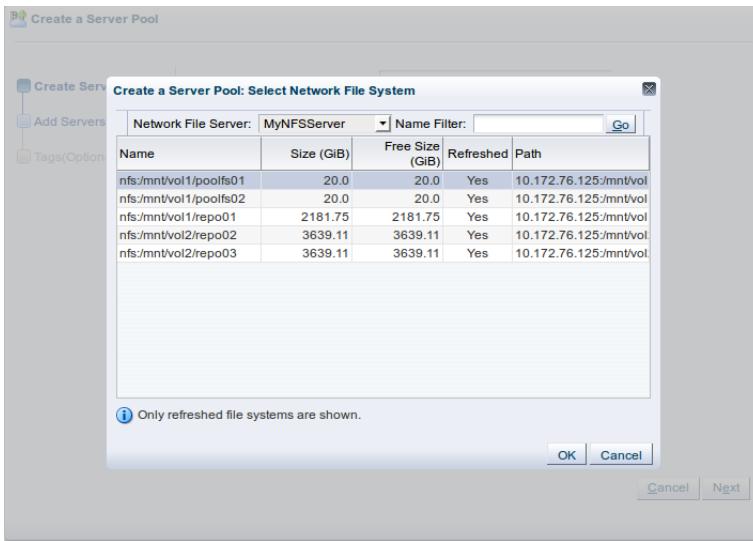
Creating a server pool



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.

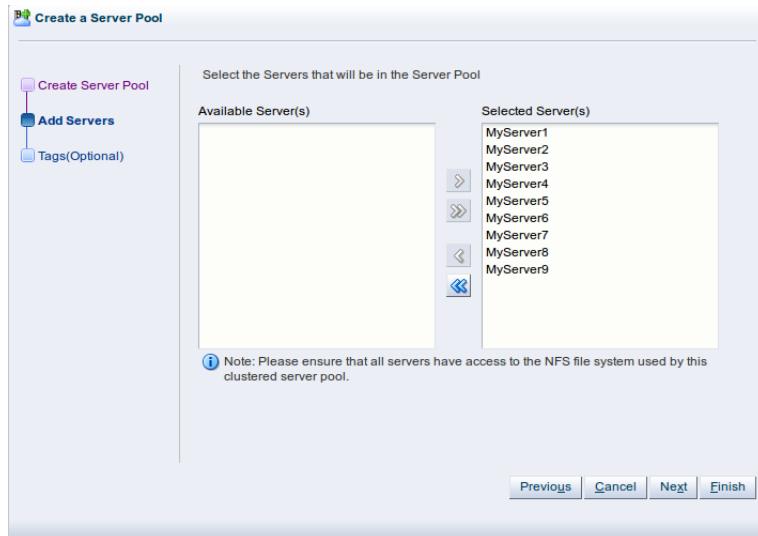


Select the file system to use for the server pool file system and click **OK**.

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.

The screenshot shows the Oracle VM Manager interface. The top navigation bar includes 'Health', 'Servers and VMs' (selected), 'Repositories', 'Networking', 'Storage', 'Tools and Resources', and 'Jobs'. The left sidebar shows 'Server Pools' (with 'MyServerPool' selected), 'Unsigned Servers', and 'Unsigned Virtual Machines'. The main content area has a 'Servers' perspective. It displays a table of servers with the following data:

| Name | Status | Tag(s) | Maintenance Mode | IP Address | Memory (GiB) | Processors | Speed (GHz) | Product |
|-----------|---------|--------|------------------|--------------|--------------|------------|-------------|-------------|
| MyServer1 | Running | | Off | 10.172.76.73 | 24.0 | 4 | 2.0 | empty empty |
| MyServer4 | Running | | Off | 10.172.76.80 | 32.0 | 4 | 2.0 | empty empty |
| MyServer5 | Running | | Off | 10.172.76.84 | 32.0 | 4 | 2.0 | empty empty |
| MyServer6 | Running | | Off | 10.172.76.85 | 32.0 | 4 | 2.0 | empty empty |
| MyServer7 | Running | | Off | 10.172.76.87 | 32.0 | 4 | 2.0 | empty empty |
| MyServer8 | Running | | Off | 10.172.76.90 | 32.0 | 4 | 2.0 | empty empty |
| MyServer9 | Running | | Off | 10.172.76.91 | 32.0 | 4 | 2.0 | empty empty |

Below the table is a 'Job Summary' section with the following data:

| Description | Status | Message | Abort | Details |
|--|-----------|---------|-------|---------|
| Add Server MyServer9 to Server Pool MyServerPool | Completed | | Abort | Details |
| Add Server MyServer8 to Server Pool MyServerPool | Completed | | Abort | Details |
| Add Server MyServer7 to Server Pool MyServerPool | Completed | | Abort | Details |

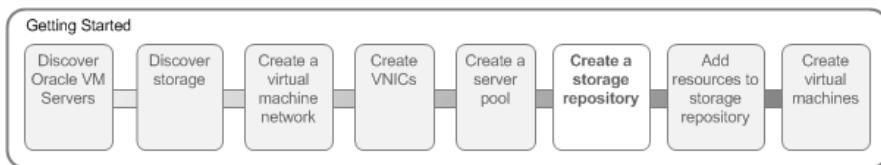
For more information on creating server pools and adding Oracle VM Servers, see [Creating a Server Pool](#) and [Adding an Oracle VM Server to a Server Pool](#) .

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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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.

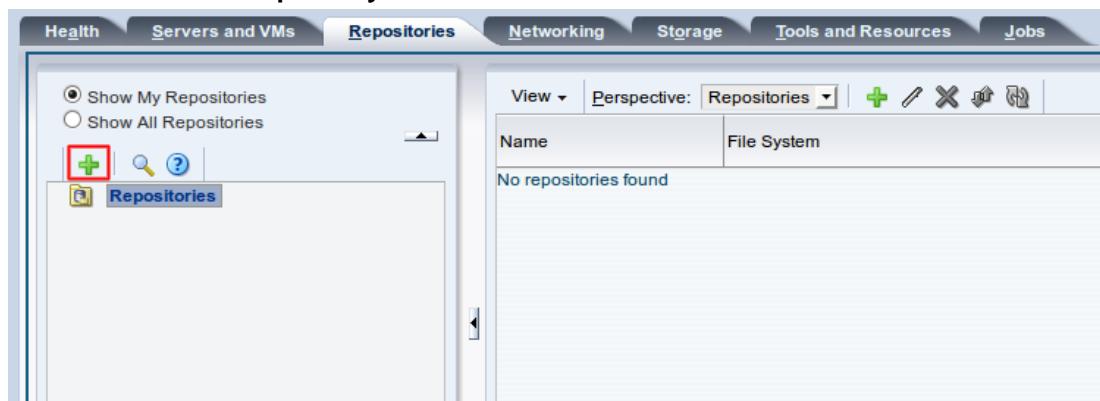
For more information about storage repositories, see [Managing Storage Repositories](#).

7.1 Creating a storage repository

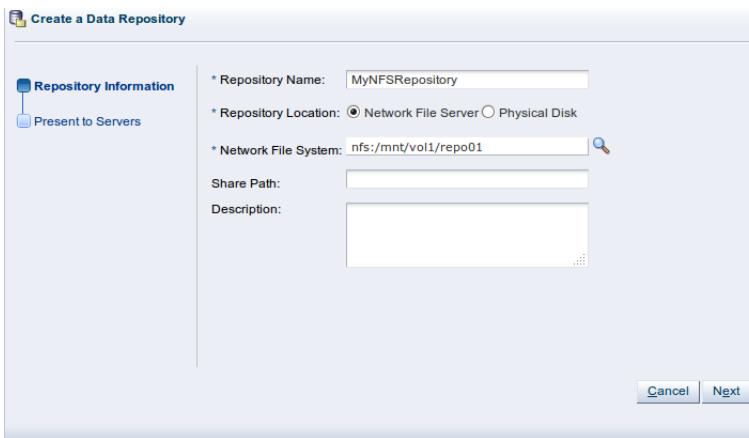
This example creates a storage repository to store virtual machine resources using an NFS file server. Use the larger of the file systems you refreshed earlier. Replace the file server and other names used in this example with that of your own environment.

To create a storage repository:

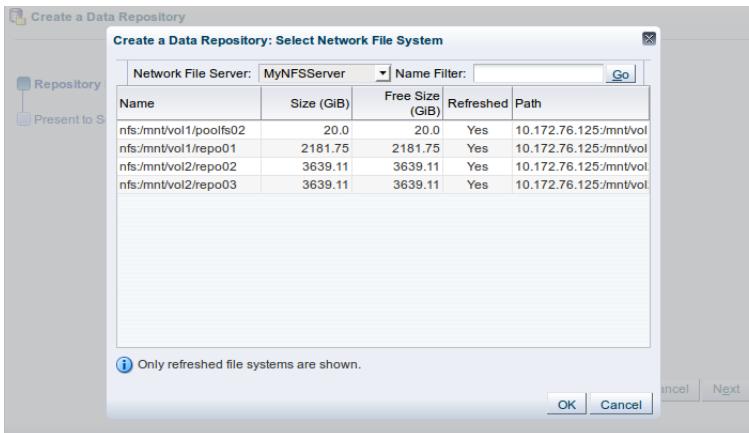
1. Click the **Repositories** tab.
2. Select **Create New Repository...**  from the toolbar.



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



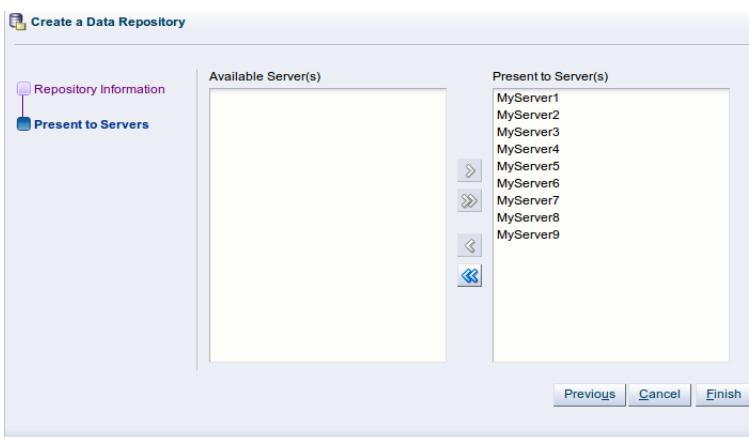
Enter a name for the repository. If you are using a file server for the repository, select **Network File System** as the storage type to use for the Repository location. If you are using a physical disk on a storage array for the repository, select **Physical Disk** as the storage type. Click  to search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



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

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

4. 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**.



Creating a storage repository

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

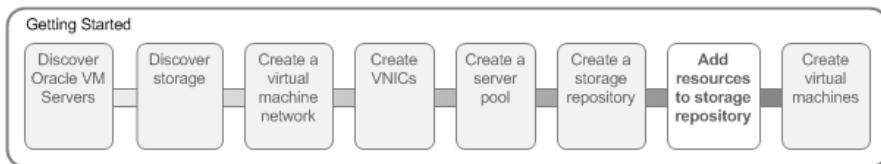
The screenshot shows the vSphere Client interface with the 'Repositories' tab selected. In the left sidebar, a tree view shows 'MyNFSRepository' under 'Repositories'. The main pane displays the repository details for 'MyNFSRepository', including ownership ('Owned by You'), file system path ('10.172.76.125:/mnt/vol1/repo01'), and usage statistics. Below this, a table lists the servers to which the repository is presented, showing five servers (MyServer1 to MyServer5) with their respective status and IP addresses. At the bottom, a 'Job Summary' table shows the status of three recent operations: 'Refresh File System of Repository MyNFSRepository' (Completed), 'Present Repository MyNFSRepository to Server MyServ' (Completed), and another 'Present Repository MyNFSRepository to Server MyServ' (Completed).

| 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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| 8.3 Importing an ISO file | 32 |



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.

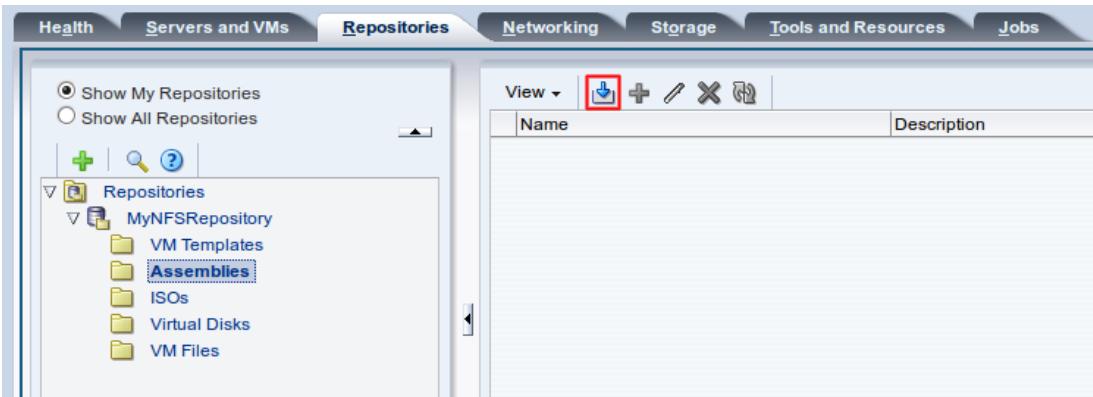
8.1 Importing an assembly

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.

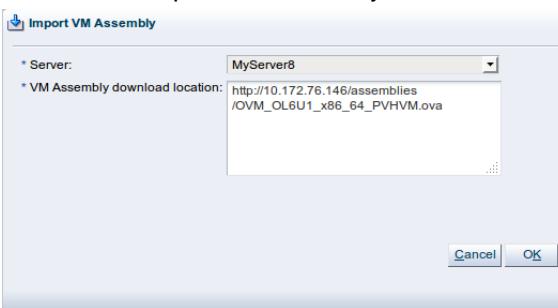
To import an assembly:

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.

Importing an assembly



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.



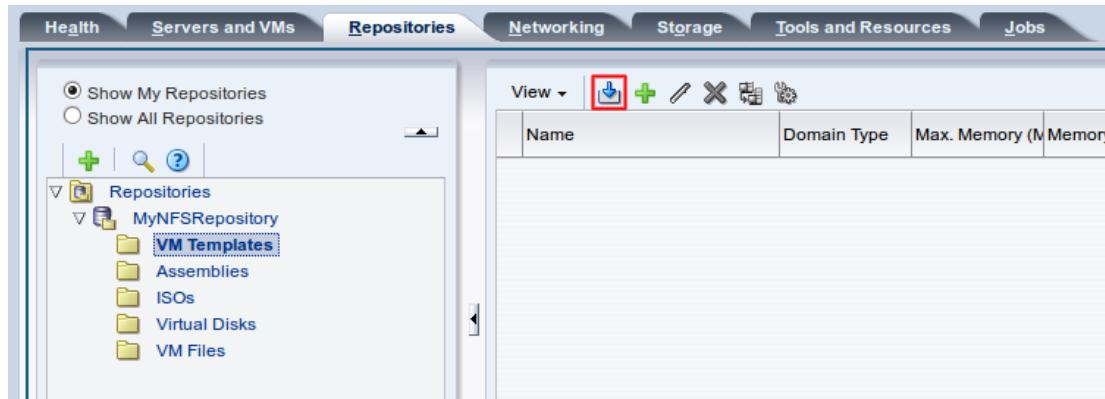
The import job can take some time to complete. When the import job is complete, the new assembly is listed in the table.

8.2 Importing a virtual machine template

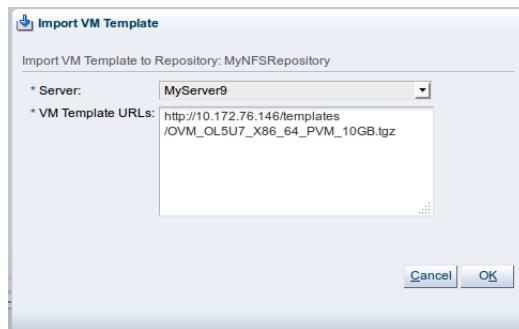
This example shows you how to import a virtual machine template. If you downloaded an Oracle VM template from the Oracle Software Delivery Cloud which contains an *template.tgz* file, you should use this procedure to import the template. This format of a template is the older format used by Oracle to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

To import a virtual machine template:

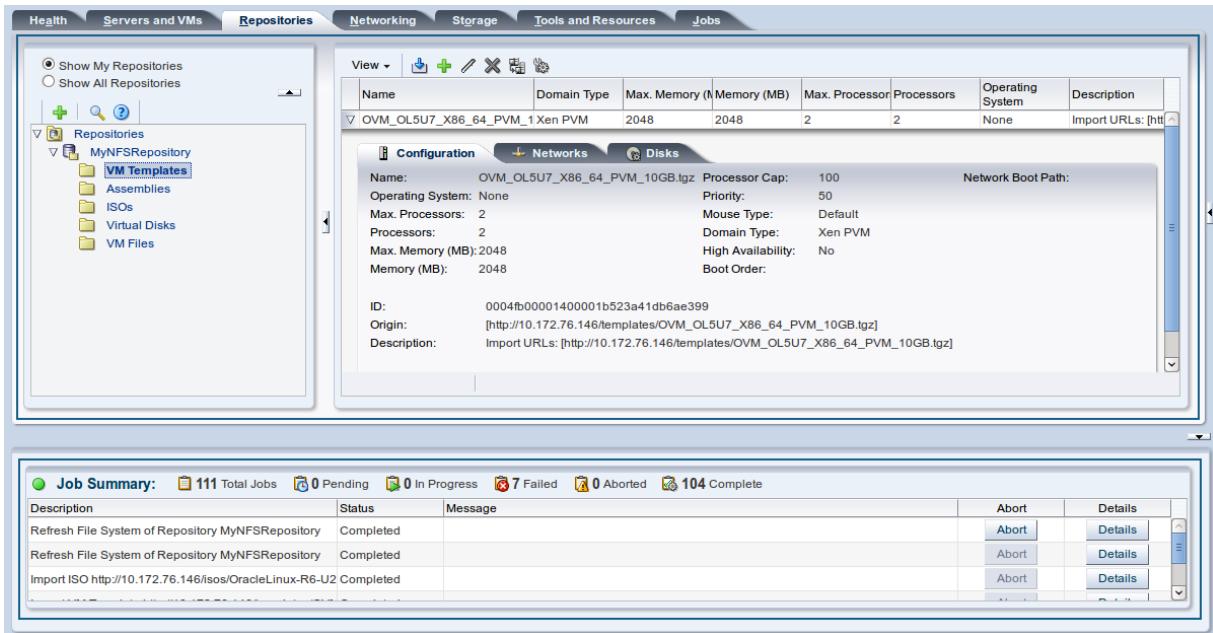
1. Click the **Repositories** tab. Select the repository in which to import the template. Select **VM Templates** in the navigation tree.
2. Click **Import VM Template...**  in the management pane toolbar.



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.

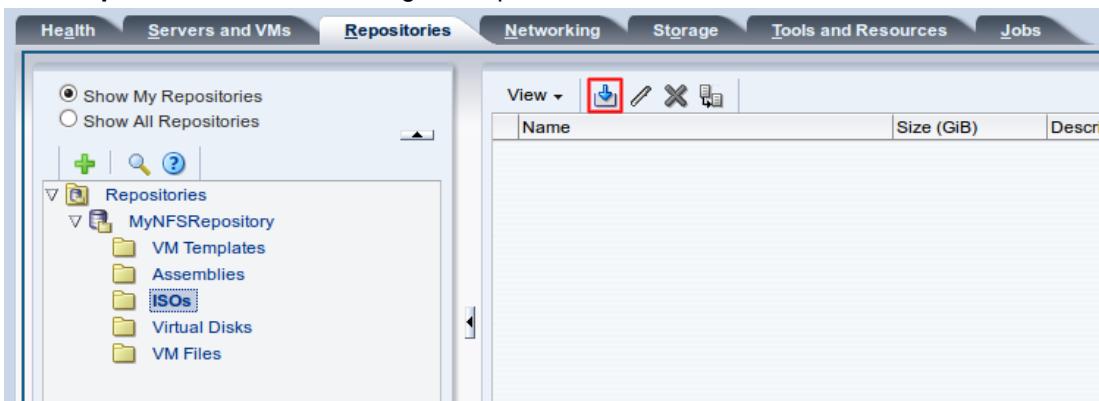


8.3 Importing an ISO file

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:

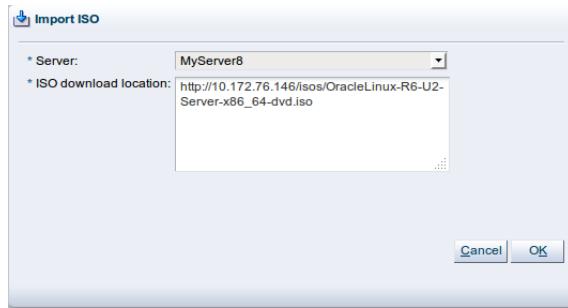
1. Click the **Repositories** tab. Select the repository in which to import the ISO file. Select **ISOs** in the navigation tree.
2. Click **Import ISO...**  in the management pane toolbar.



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.

Importing an ISO file



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

A screenshot of the vSphere Web Client interface. The top navigation bar includes 'Health', 'Servers and VMs', 'Repositories', 'Networking', 'Storage', 'Tools and Resources', and 'Jobs'. The 'Repositories' tab is selected. The left sidebar shows 'Show My Repositories' is selected, and the 'Repositories' section lists 'MyNFSRepository' with sub-folders 'VM Templates', 'Assemblies', 'ISOs' (which is selected), 'Virtual Disks', and 'VM Files'. The main content area shows a table of imported ISO files:

| Name | Size (GiB) | Description |
|---|------------|---|
| OracleLinux-R6-U2-Server-x86_64-dvd.iso | 3.34 | Import URL: http://10.172.76.146/isos/OracleLinux-R6-U2-Server-x86_64-dvd.iso |

. Below this is a 'Job Summary' table:

| Job Summary: | | |
|--|-----------|---------|
| Description | Status | Message |
| Refresh File System of Repository MyNFSRepository | Completed | |
| Refresh File System of Repository MyNFSRepository | Completed | |
| Import ISO http://10.172.76.146/isos/OracleLinux-R6-U2 | Completed | |

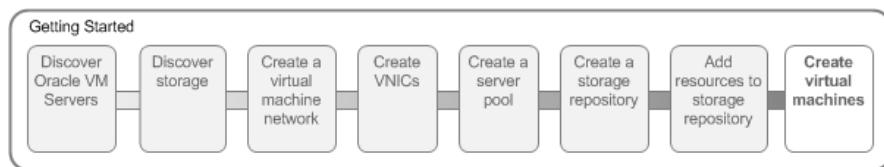
. The 'Job Summary' table includes columns for 'Abort' and 'Details'.

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

Chapter 9 Create Virtual Machines

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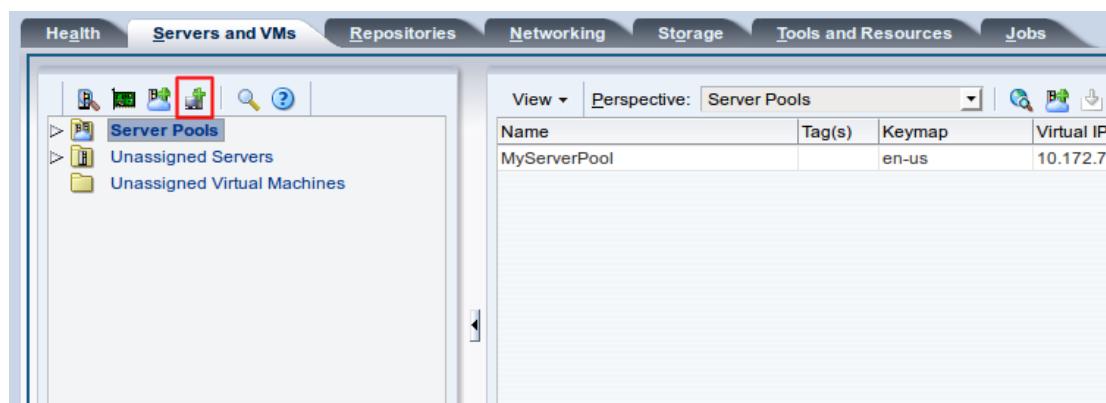
When you have a virtual machine template (either as an Oracle VM template or an assembly file), or an ISO file that contains the installation files for an operating system, you can create a virtual machine. If you use a virtual machine template, you need to clone the template to create a virtual machine. 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.

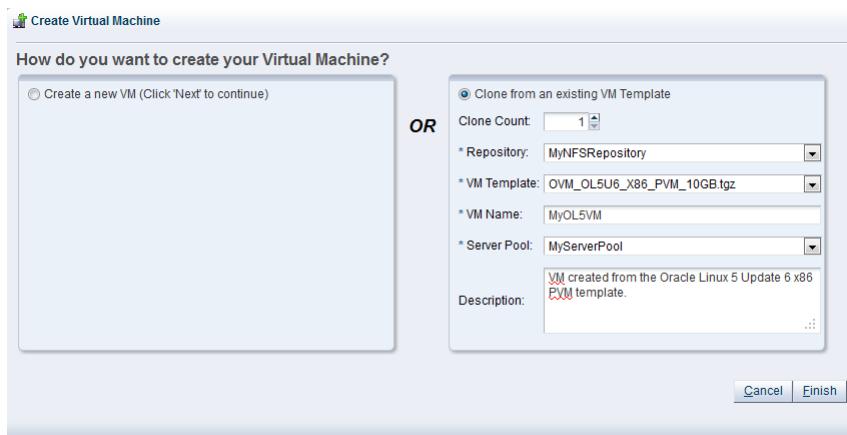
To create a virtual machine from a template:

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**.



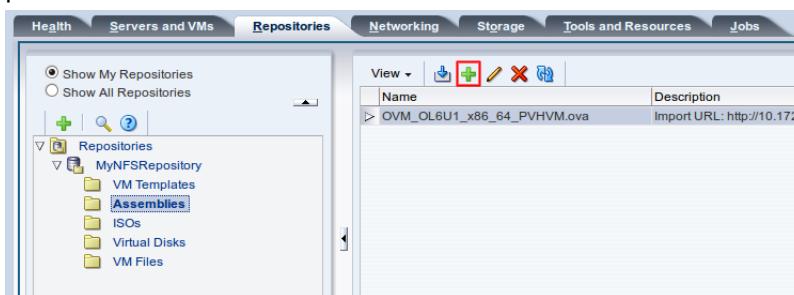
The template is cloned to create one or more virtual machines. The cloning job may take some time. When the clone job is completed, the virtual machine is deployed to an Oracle VM Server in the server pool. To see the virtual machine, select the server pool in the navigation pane and select **Virtual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

9.2 Creating a virtual machine from an assembly

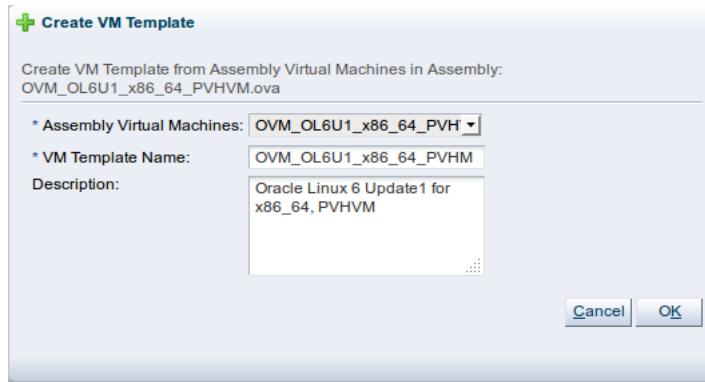
This example uses the virtual machine assembly you imported in [Section 8.1, “Importing an assembly”](#) to create a virtual machine, and deploy it in the server pool.

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.

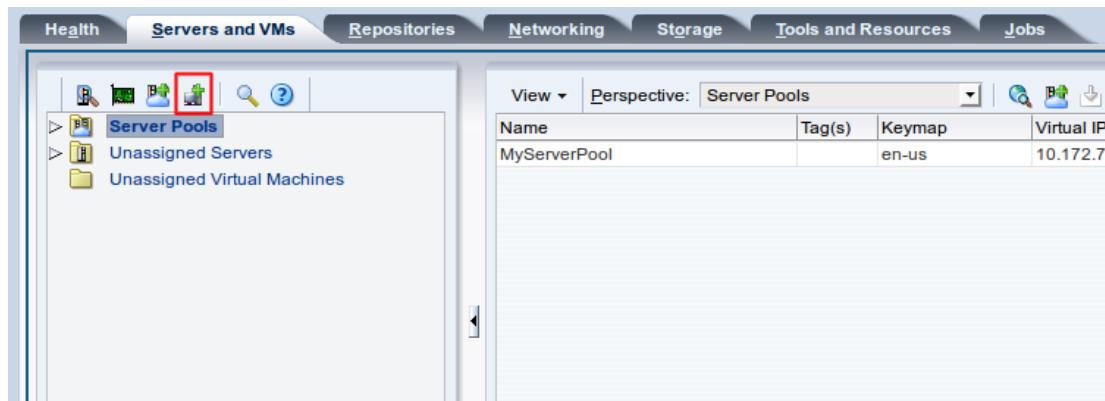
4. Follow the procedure in [Section 9.1, “Creating a virtual machine from a template”](#) to use the template to create a virtual machine.

9.3 Creating a virtual machine from an ISO file

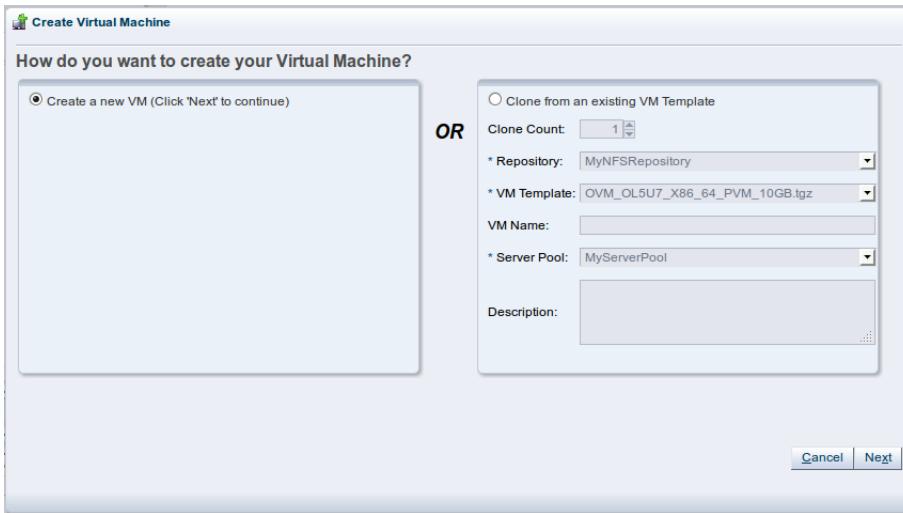
This example uses the ISO file you imported in [Section 8.3, “Importing an ISO file”](#) to create a virtual machine, and deploy it in the server pool.

To create a virtual machine from an ISO file:

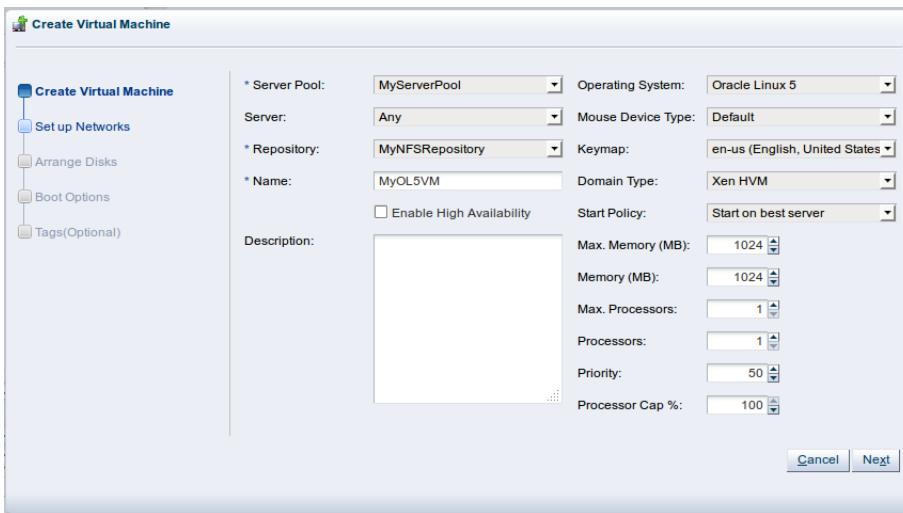
1. Click the **Servers and VMs** tab.
2. Click **Create Virtual Machine**  in the toolbar.



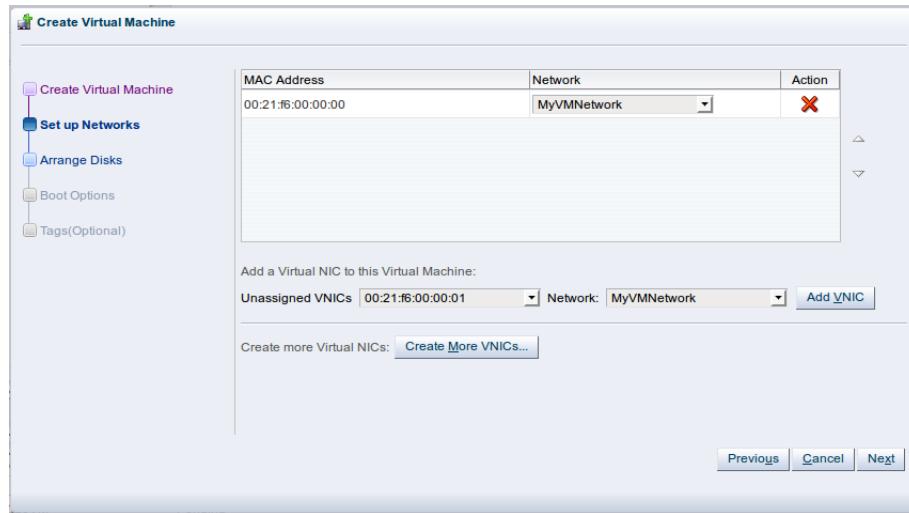
3. The **Create Virtual Machine** dialog box is displayed. Select the **Create a new VM** option. Click **Next**.



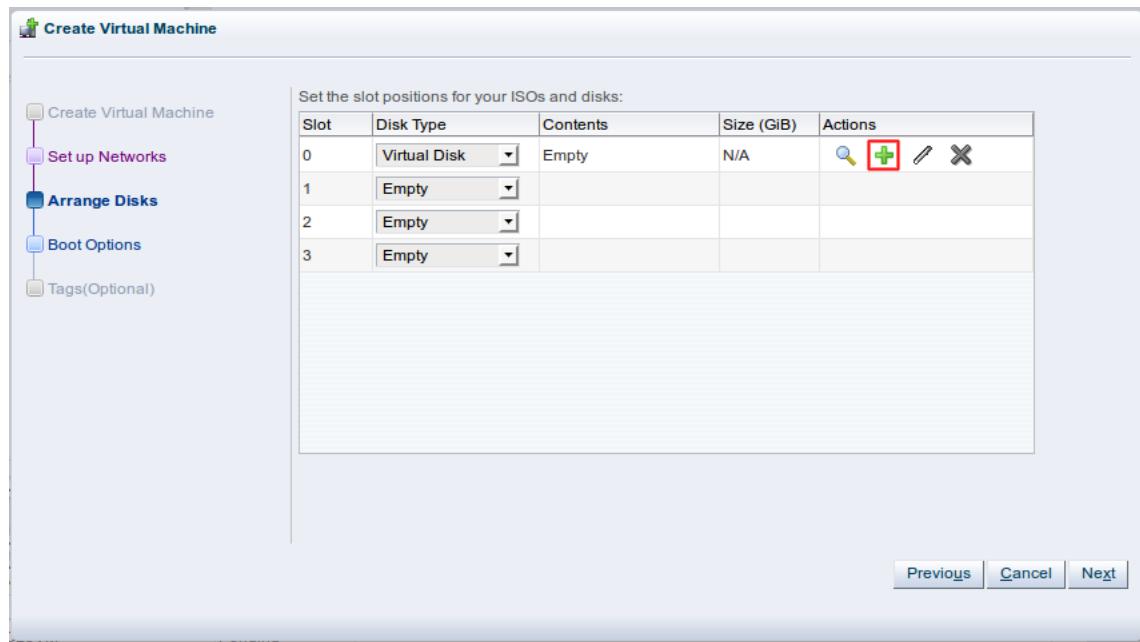
4. The **Create Virtual Machine** wizard is displayed. In the **Create Virtual Machine** step, select the server pool you created earlier, the repository you created as the location to store the virtual machine configuration file, and enter a name for the virtual machine. Click **Next**.



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

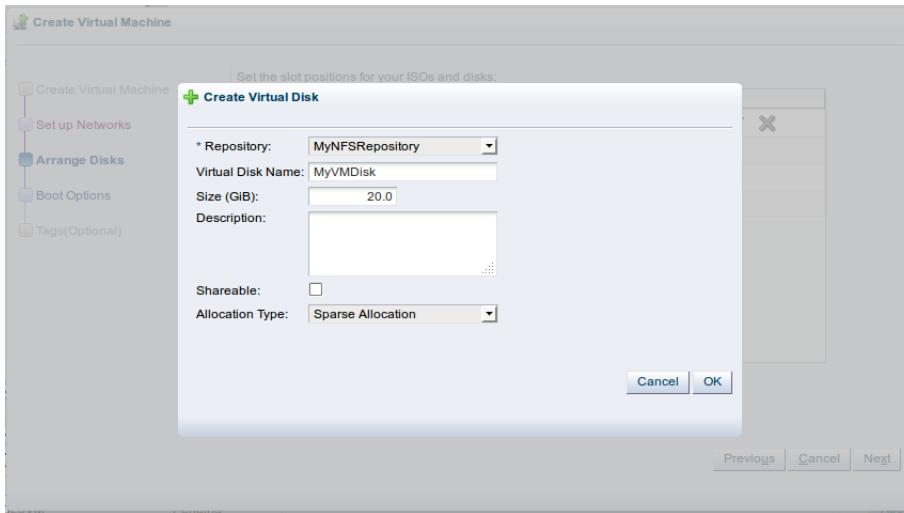


6. In the **Arrange Disks** step, create a virtual disk to use as the virtual machine's hard disk and select the ISO to use to create the virtual machine. For slot **0** select **Virtual Disk** from the **Disk Type** drop-down list. Click **Create a Virtual Disk** **+**.

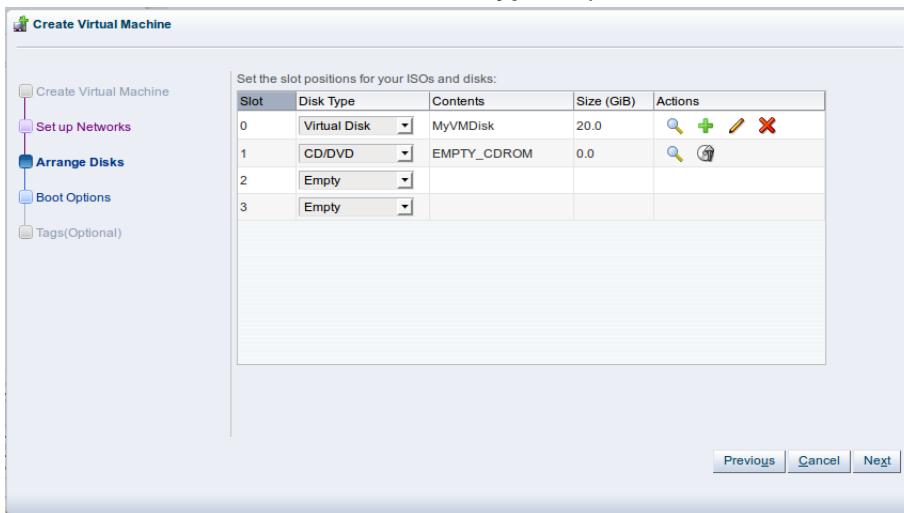


The **Create Virtual Disk** dialog box is displayed. Select the repository on which to create the virtual disk, enter a name for the disk, and enter the size of the disk. Click **OK**.

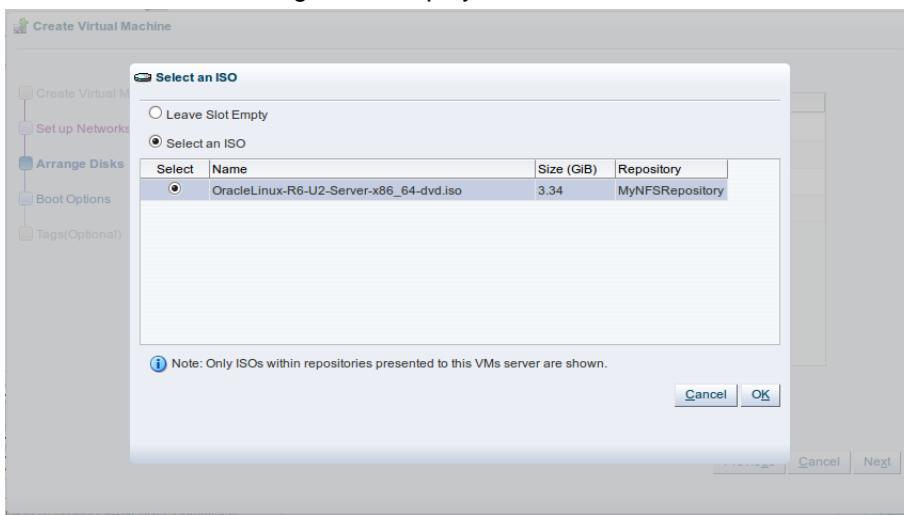
Creating a virtual machine from an ISO file



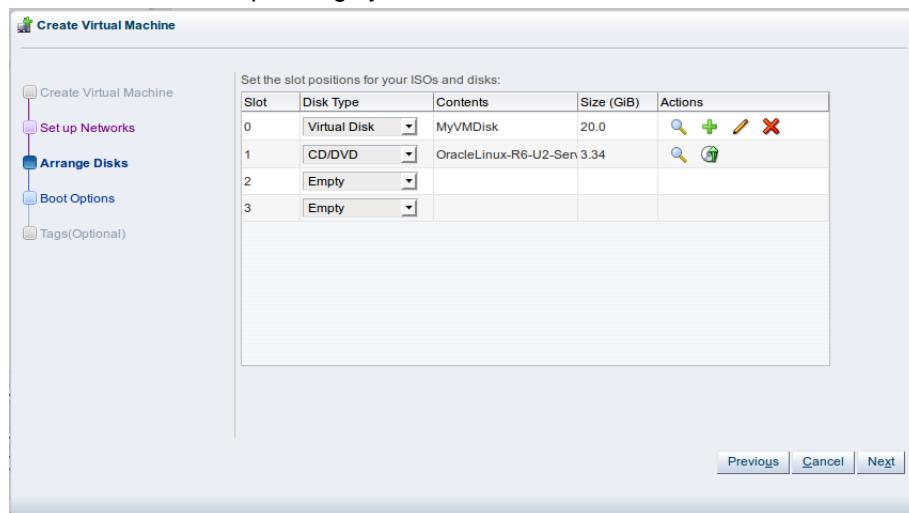
For slot 1 select **CD/DVD** from the **Disk Type** drop-down list. Click **Select a Virtual Machine Disk** .



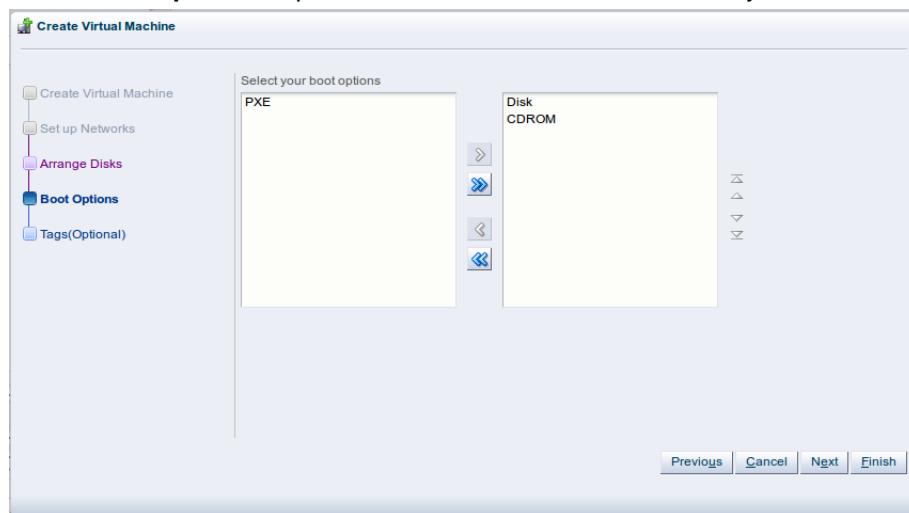
The **Select an ISO** dialog box is displayed. Select the ISO file and click **OK**.



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**.



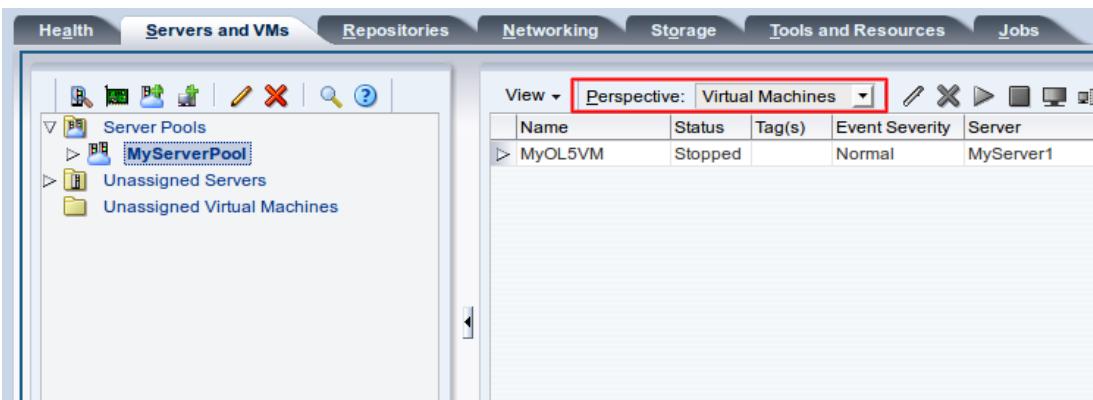
The virtual machine is created and deployed to an Oracle VM Server in the server pool. To see the virtual machine, select the server pool in the navigation pane and select **Virtual Machines** from the **Perspective** drop-down list in the management pane toolbar.

9.4 Starting a virtual machine and connecting to the console

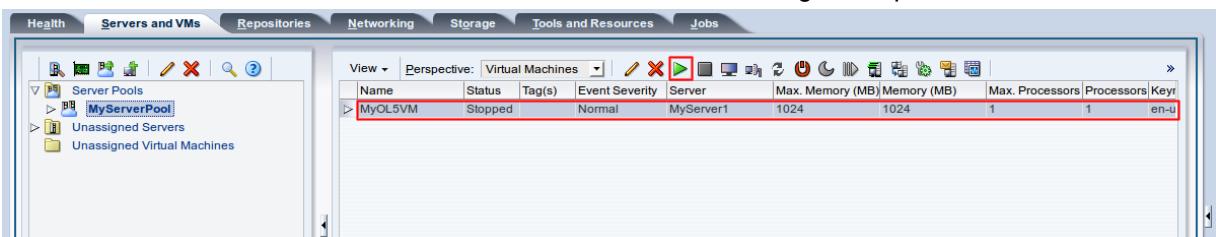
When a virtual machine is created, it is deployed to the server pool in a *stopped* state. This step of the tutorial starts the virtual machine created with an ISO file, and logs into the virtual machine console.

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.