Cisco Modeling Labs OVA Installation

Configure Security and Network Settings

Note When configuring the Cisco Unified Computing System (Cisco UCS) hardware, you must enable Intel Virtualization Technology (Intel VT) in the BIOS for Cisco Modeling Labs to operate correctly.

Before You Begin

- Ensure that you have met the requirements as specified in the section Cisco Modeling Labs Server Requirements.
- Ensure that you have administrator access to the VMware ESXi server in which you plan to deploy the Cisco Modeling Labs open virtual appliance (OVA) in order to enable nested virtualization.

Step 1 Log in as administrator to the remote VMware ESXi server using the VMware vSphere client.

Step 2 Click the **Configuration** tab.

Step 3 Choose **Software** > **Security Profile**.

Step 4 Click **Properties** to edit the properties associated with security services.

Step 5 The **Services Properties** dialog box is displayed. Enable **SSH** access, **ESXi Shell**, and **Direct Console UI**as follows:

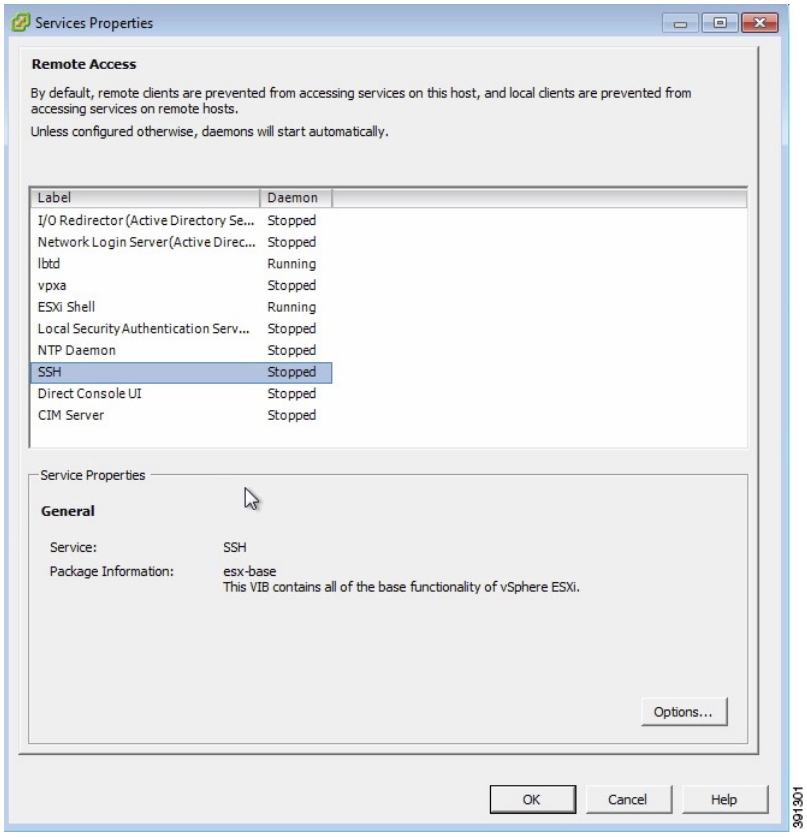
a) Click **Options**.

b) Click the **Start and stop with host** radio button.

c) Click **Start**.

d) Click **OK**.

Figure 1: Services Properties



Step 6 Click **OK**.

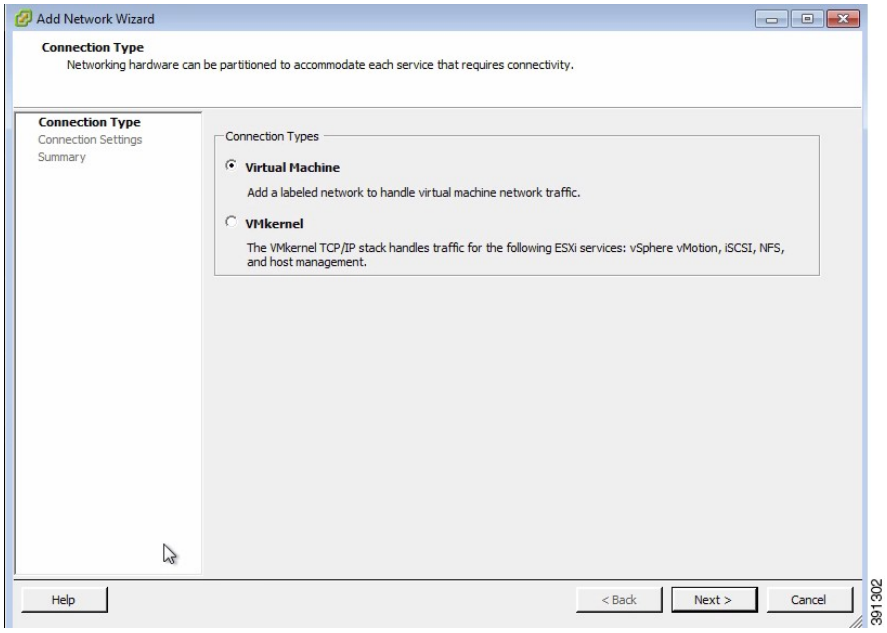
Step 7 To add the two additional port groups **FLAT** or **SNAT** or both, and configure network settings, choose **Hardware** > **Networking**.

Step 8 Click **Add Networking**.

Step 9 In the **Add Network wizard**, make sure that the connection type is set to **Virtual Machine**.

Step 10 Click **Next**.

Figure 2: Connection Type

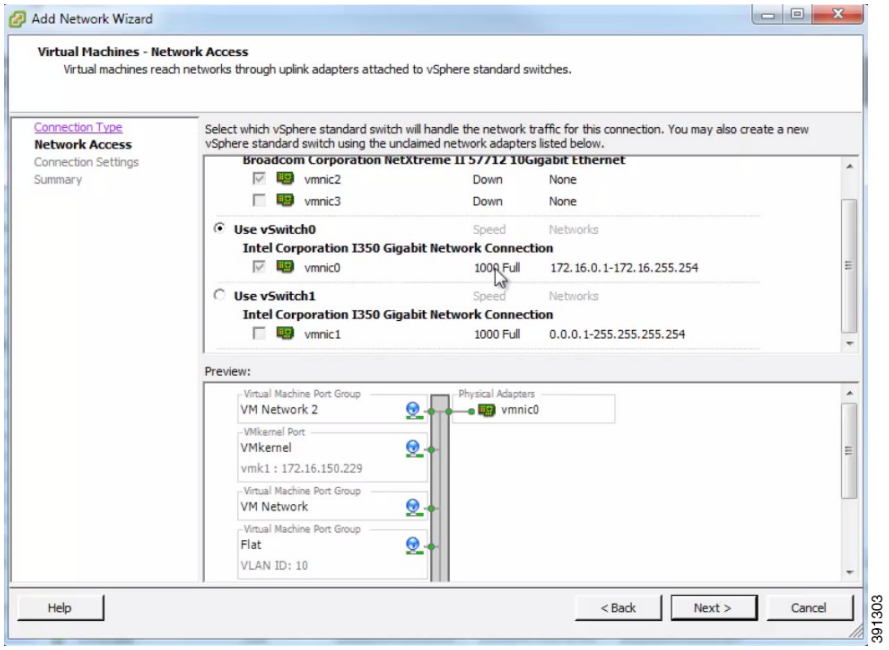


Step 11 Click **Network Access**.

Step 12 In the right pane, click **Use vSwitch0**.

Step 13 Click **Next**.

Figure 3: Virtual Machine Network Access

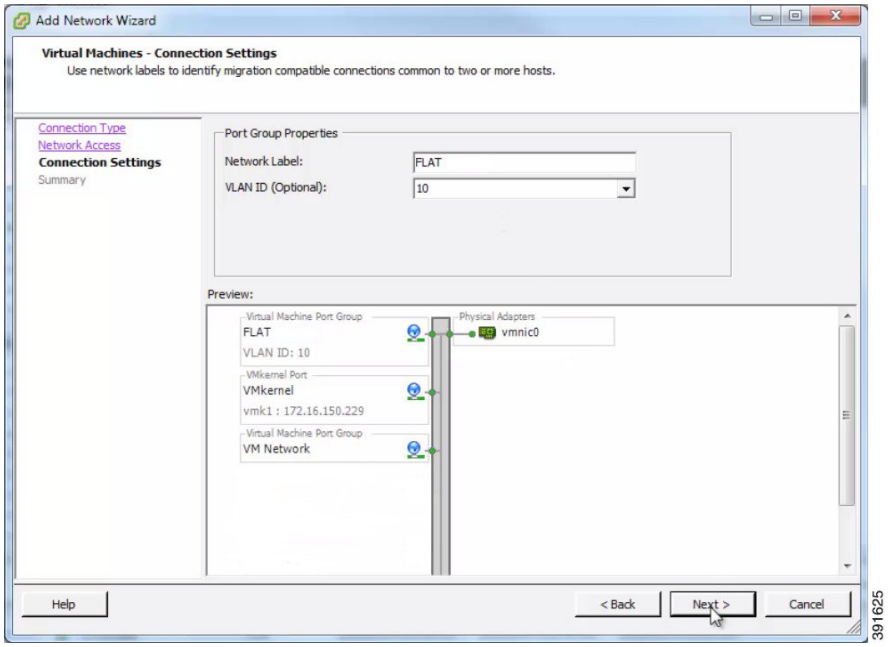


Step 14 Choose **Connection Settings** > **Port Group Properties**.

Step 15 In the **Network Label** field, enter **FLAT** and assign a value, for example, 10, to the **VLAN ID**.

Step 16 Click **Next**. The new port group is displayed.

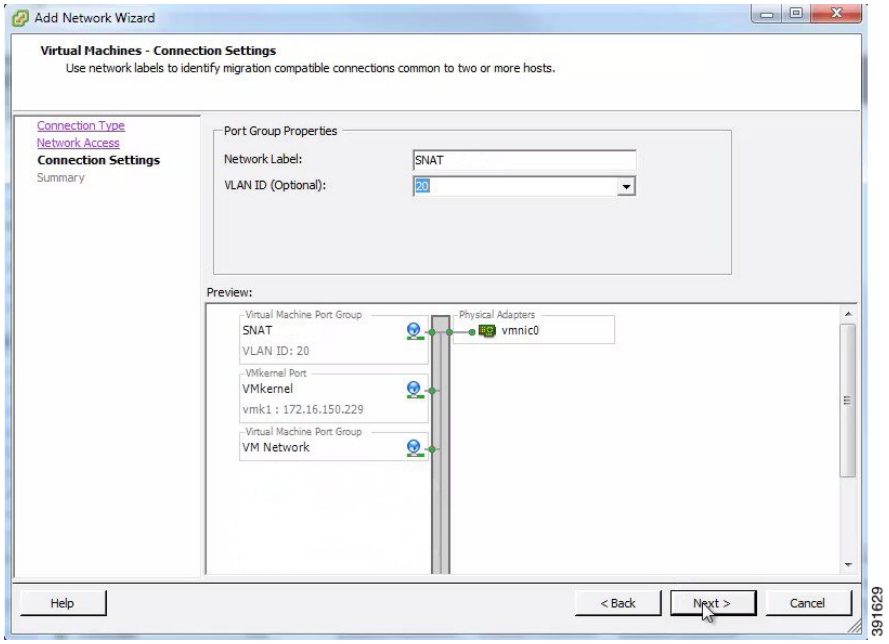
Figure 4: FLAT Port Group Assigned



Step 17 Repeat Step 6 to Step 11 to add the port group **SNAT** and assign a value, for example, 20, to the **VLAN ID**. The VLAN ID values are arbitrary; assign adequate values for your deployment.

The new port group is displayed in the **Preview** pane.

Figure 5: SNAT Port Group Assigned



Step 18 Configure the port groups to allow promiscuous mode as follows:

a) Under the **Configuration** tab, choose **Hardware** > **Networking** and click **Properties** of the port group for which you want to enable promiscuous mode.

b) Select the applicable port group and click **Edit**.

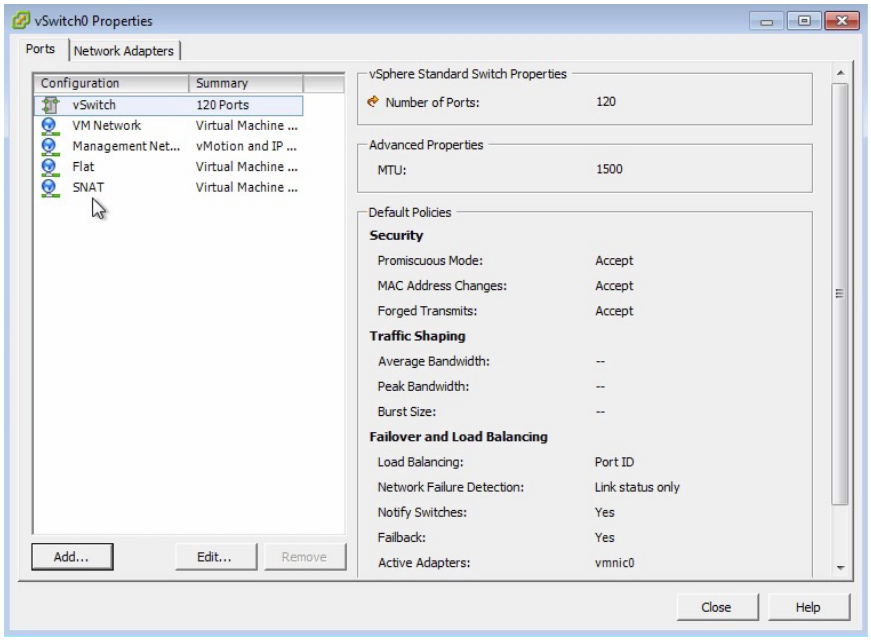
c) Click the **Security** tab.

d) From the **Promiscuous Mode** drop-down list, choose **Accept**.

Step 19 Click **Finish**.

Both FLAT and SNAT port groups are assigned as shown.

Figure 6: FLAT and SNAT Port Groups Assigned



What to Do Next

Deploy the Cisco Modeling Labs Open Virtual Appliance

Deploy the Cisco Modeling Labs Open Virtual Appliance

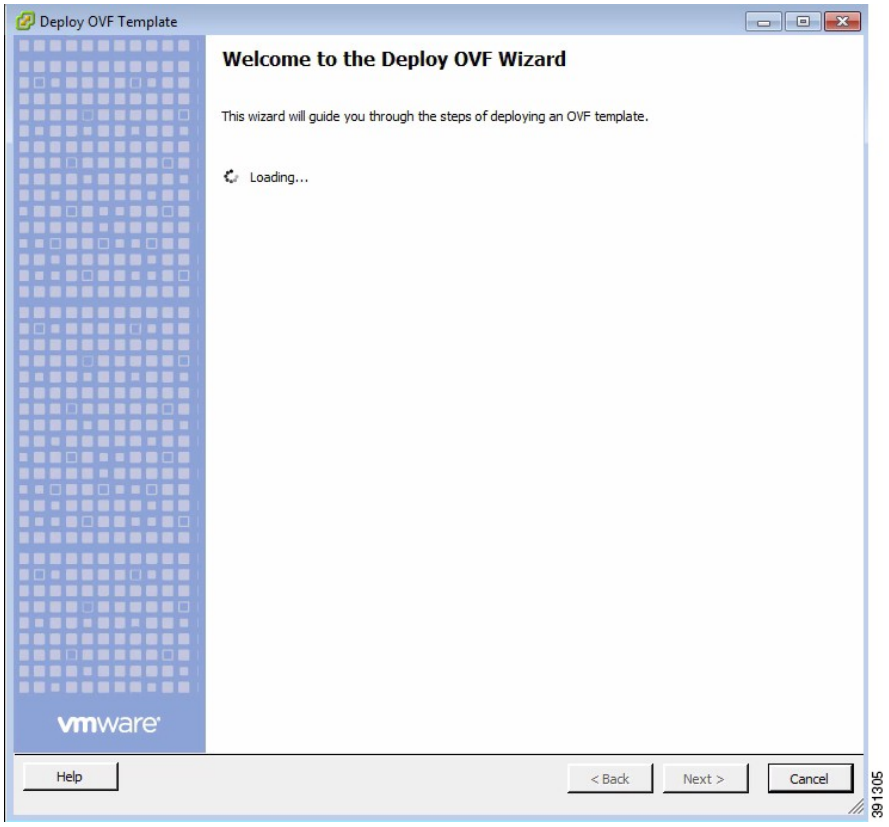
Before You Begin

- Ensure that you have configured the necessary security and network settings.

Step 1 To install the OVA, log in to the VMware ESXi server.

Step 2 From the vSphere client menu, choose **File** > **Deploy OVF Template**.

Figure 7: Deploying OVA



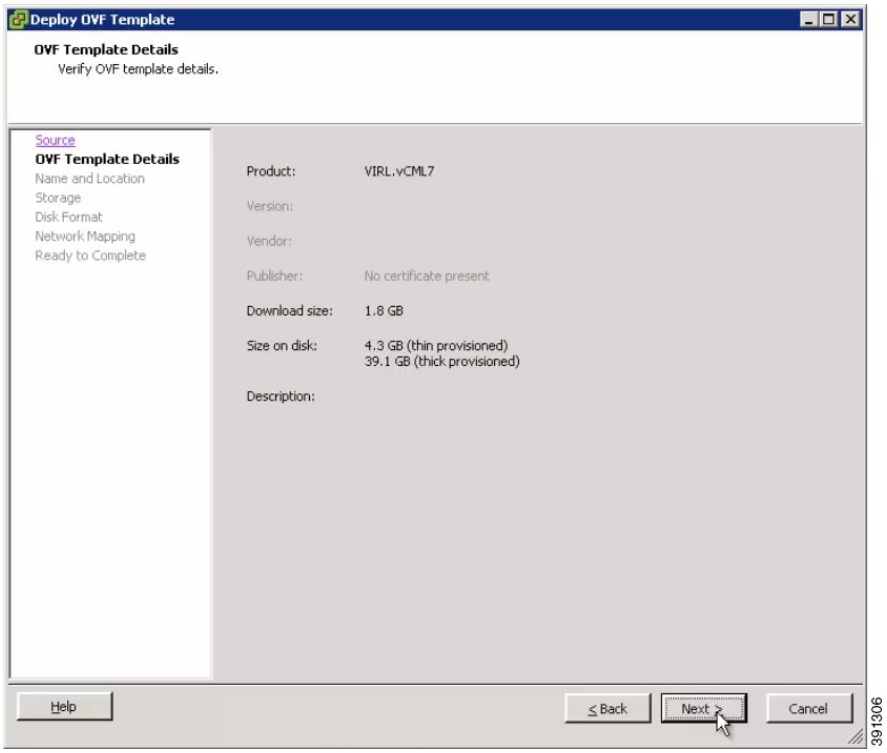
Step 3 Click **Next**.

Step 4 In the **Source** window, click **Browse** to navigate to the OVA package.

Step 5 In the dialog box displayed, click **Open**.

Step 6 Click **Next**.

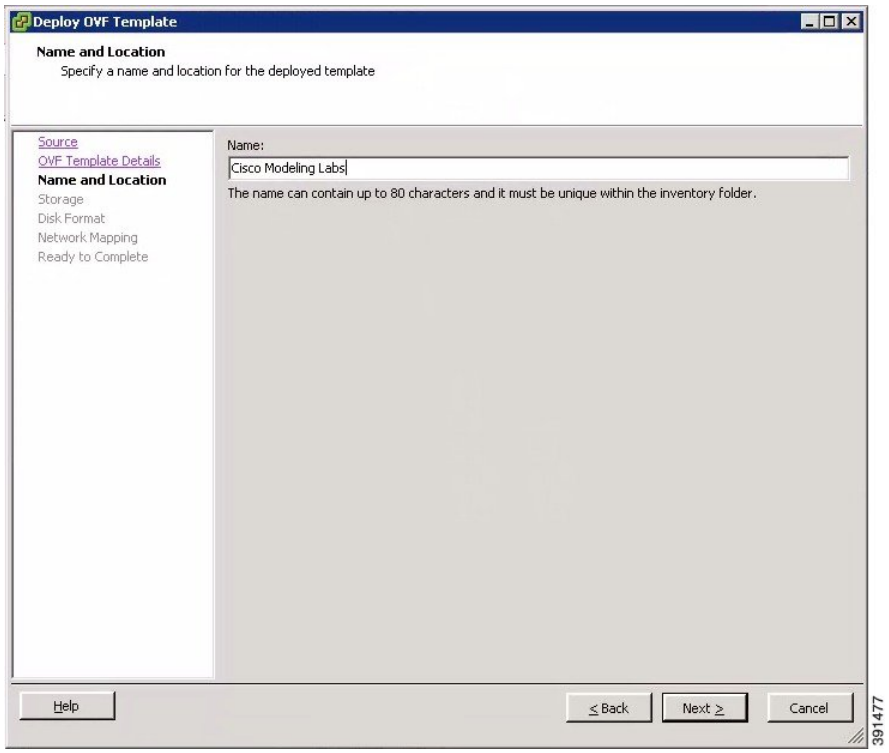
Figure 8: OVF Template Details



Information about the OVA you are about to deploy is displayed.

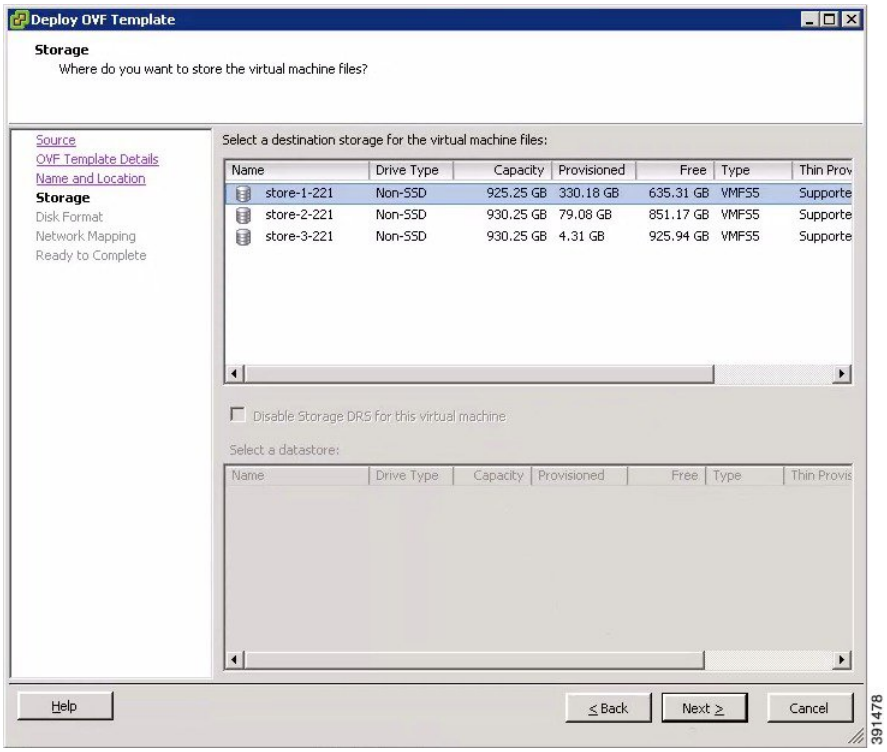
Step 7 In the **Name and Location** window, provide a name for the virtual machine, for example, Cisco Modeling Labs and click **Next**.

Figure 9: Name and Location Details



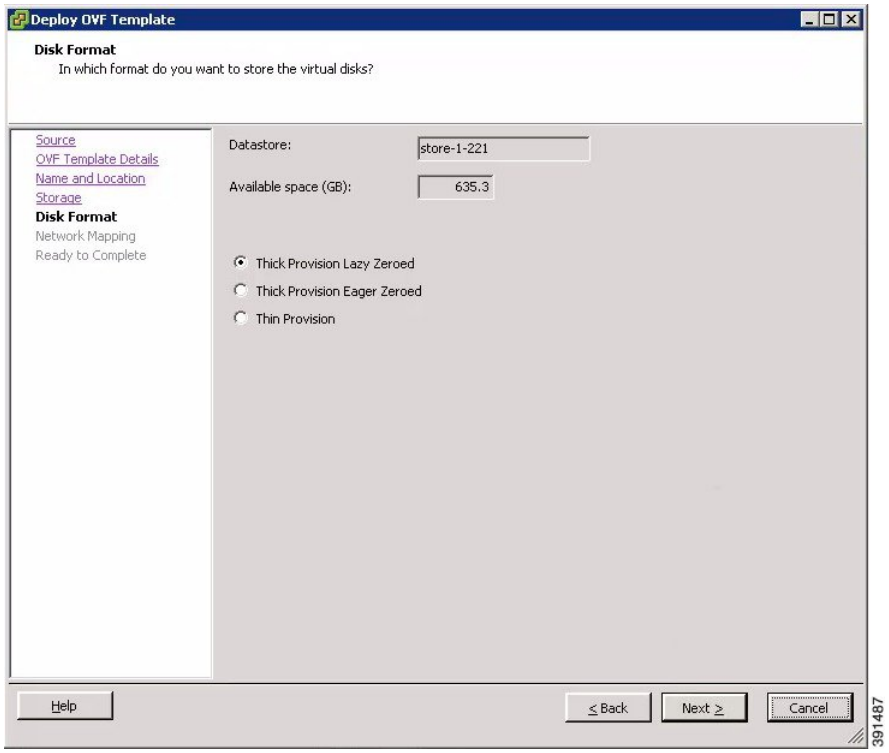
Step 8 In the **Storage** window, click the target data storage (Datastore) and click **Next**.

Figure 10: Target Datastore Details



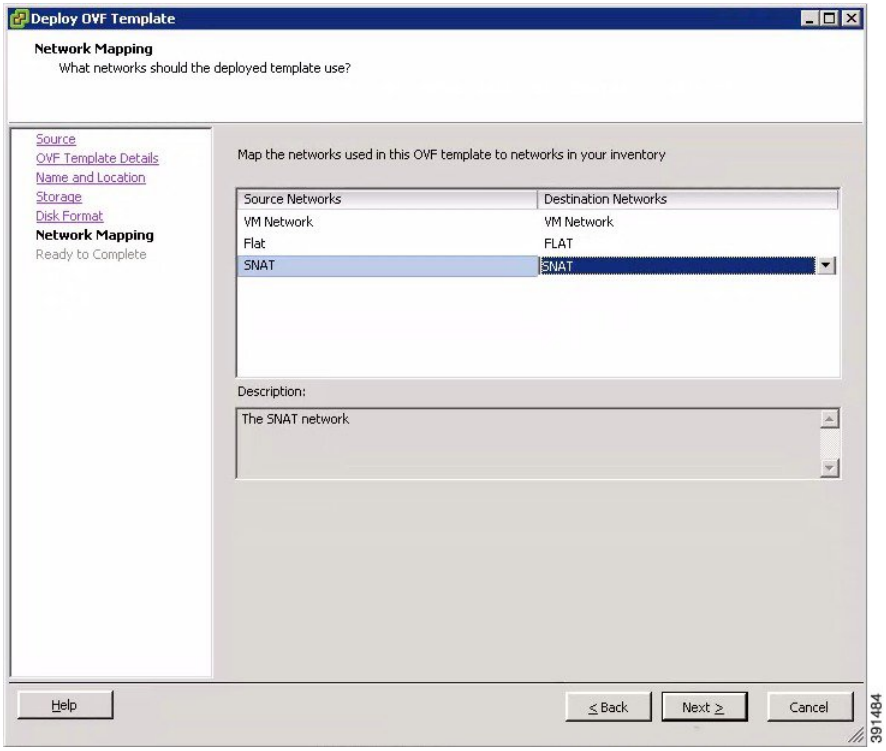
Step 9 In the **Disk Format** window, choose the target data storage (Datastore) disk format, and click **Next**.

Figure 11: Disk Format Details



Step 10 In the **Network Mapping** window, map the virtual networks FLAT and SNAT defined in the OVA, with those present in the host, and click **Next**.

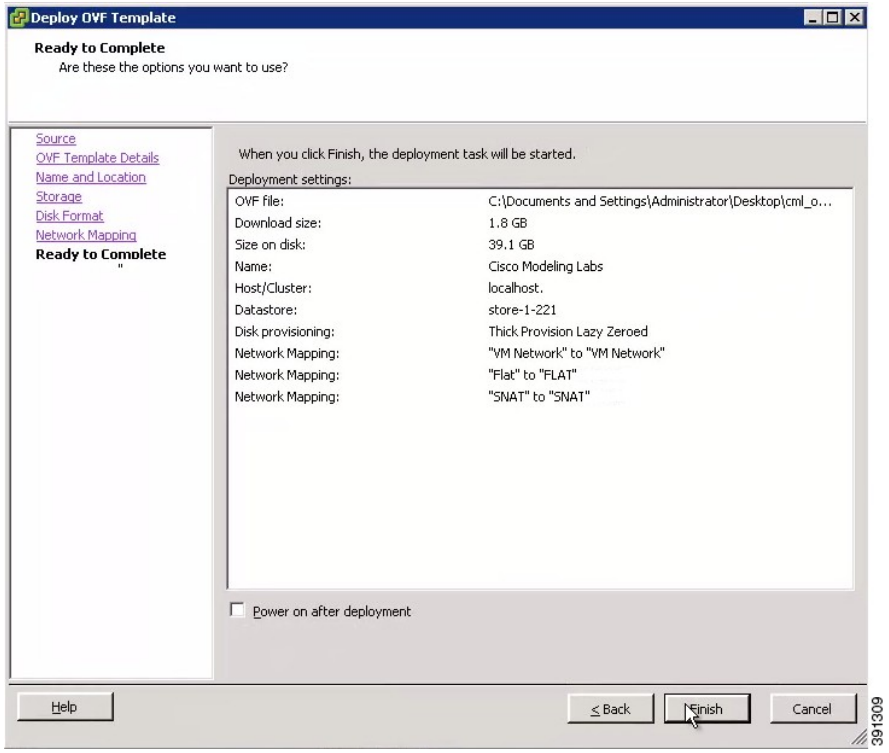
Figure 12: Network Mapping Details



Step 11 In the **Ready to Complete** window, ensure that the **Power on after deployment** check box remains unchecked to allow the virtual machine settings to be updated before it is powered on.

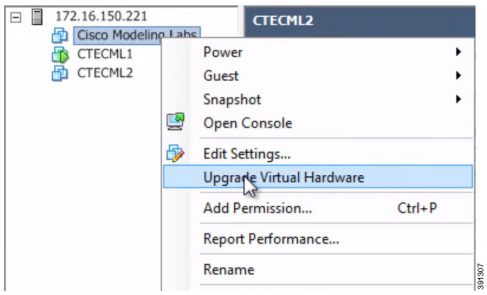
Step 12 Click **Finish** to start the OVA deployment.

Figure 13: Final Summary Page



Step 13 After the OVA is deployed, navigate to the new virtual machine, right-click and select **Upgrade Virtual Hardware** if this is applicable to your VMware ESXi version.

Figure 14: Upgrade Virtual Hardware Option



Note To check if the upgrade is completed successfully, check under **Recent Tasks**.

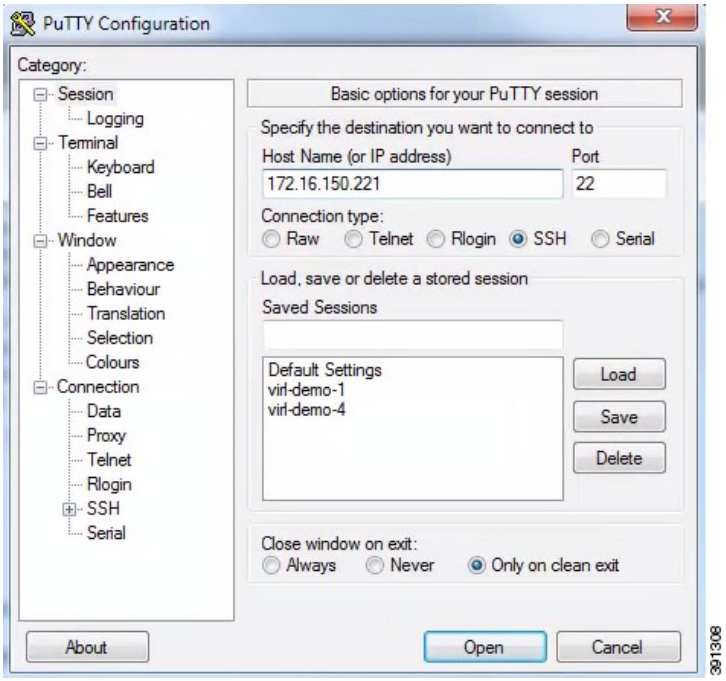
Step 14 In the **Confirm Virtual Machine Upgrade** dialog box, click **Yes**.

Note The option to upgrade the virtual hardware will not be displayed if the virtual machine is powered on, or if it already has the latest supported virtual hardware version.

Step 15 Use a terminal application, such as PuTTY, to connect to the VMware ESXi server using SSH.

- Use the same IP address as your vSphere client.
- Log in to the deployment using an account with administrator access.

Figure 15: Log In to the Deployed OVA

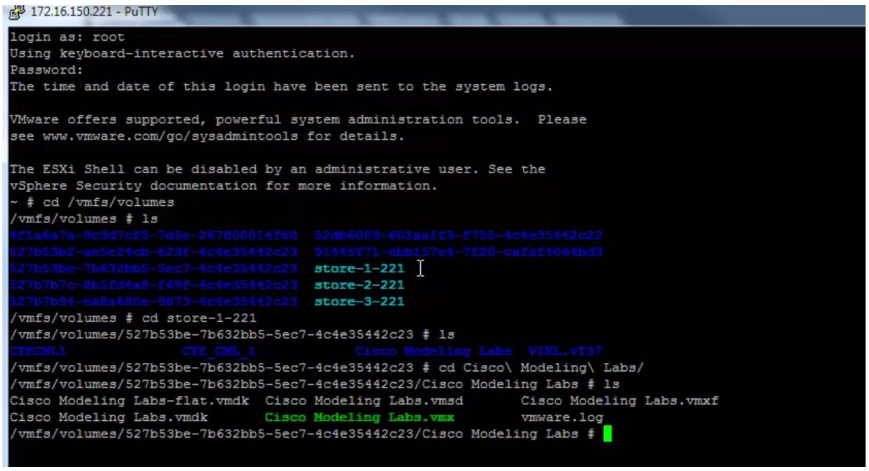


Step 16 After logging into the VMware ESXi server, complete the following steps:

a) Change the directory to **/vmfs/volumes/** directory.

b) Select the datastore, as specified in Step 8.

Figure 16: Accessing the Datastore



c) Select the name of the server as specified in Step 7.

d) For VMware ESXi 5.0, add the following command to the **/etc/vmware/config** file:

```
vhv.allow = "TRUE"
```

e) Edit the .vmx file associated with the new virtual machine using a text editor for example, vi Editor. Add the following commands to enable support for nested hypervisors by the virtual machine:

For VMware ESXi 5.0:

```
cpuid.1.ecx="----:----:----:----:----:----:--h-:----"
cpuid.80000001.ecx.amd="----:----:----:----:----:----:----:-h--"
cpuid.8000000a.eax.amd="hhhh:hhhh:hhhh:hhhh:hhhh:hhhh:hhhh:hhhh"
cpuid.8000000a.ebx.amd="hhhh:hhhh:hhhh:hhhh:hhhh:hhhh:hhhh:hhhh"
cpuid.8000000a.edx.amd="hhhh:hhhh:hhhh:hhhh:hhhh:hhhh:hhhh:hhhh"
monitor.virtual_mmu = "hardware"
monitor.virtual_exec = "hardware"
vcpu.hotadd = "FALSE"
```

For VMware ESXi 5.1 and VMware ESXi 5.5:

```
vhv.enable = "TRUE"
virtualHW.version = "9"
```

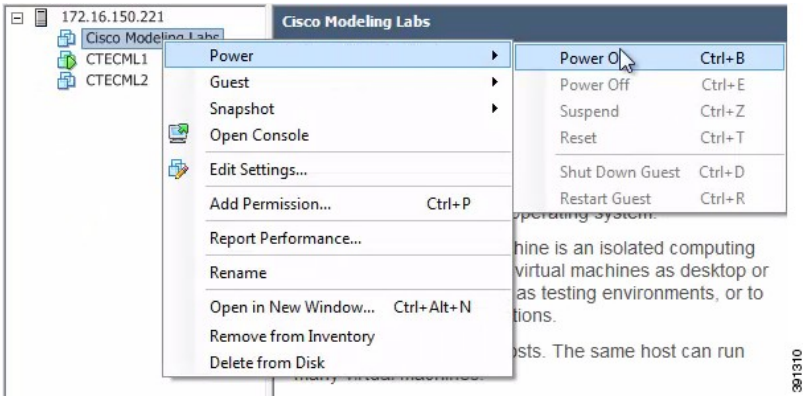
Note The **vhv.allow** command applies to *ESXi Version 5.0 only* and the **vhv.enable** command applies to *ESXi Version 5.1 and later*.

Note Choose the command that is appropriate to your VMware ESXi server version and add it to your .vmx file along with the other commands.

Step 17 Save the file and exit.

Step 18 To power on your Cisco Modeling Labs server for the first time, right-click **Cisco Modeling Labs** and choose **Power** > **Power On** in the vSphere client.

Figure 17: Powering On the Cisco Modeling Labs Server



What to Do Next

Start the Cisco Modeling Labs Server.