



How to Install Cisco Smart PHY

The task below describes how to install the Cisco Smart PHY application:

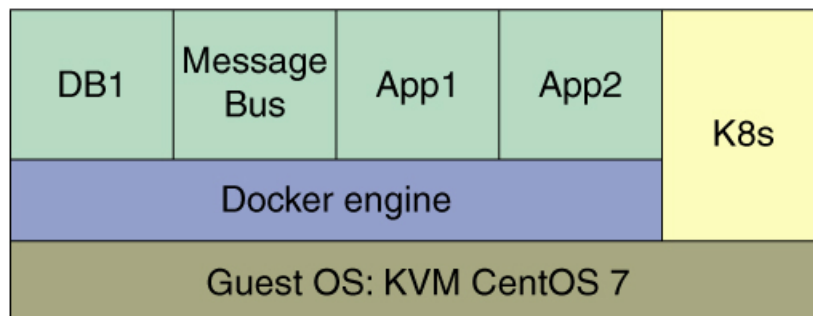
- [Installation Overview, page 1](#)
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Installation Overview

The Cisco Smart PHY application is based on next generation architecture including Kubernetes and Docker containers. It includes a platform that is extensible and scalable.

The Cisco Smart PHY installation is deployed as a self-contained package. The upgrade packages are also self-contained and will be made available periodically.

After the Cisco Smart PHY application is installed, it would include a KVM-based Guest OS running CentOS7 that runs Docker images orchestrated by Kubernetes.



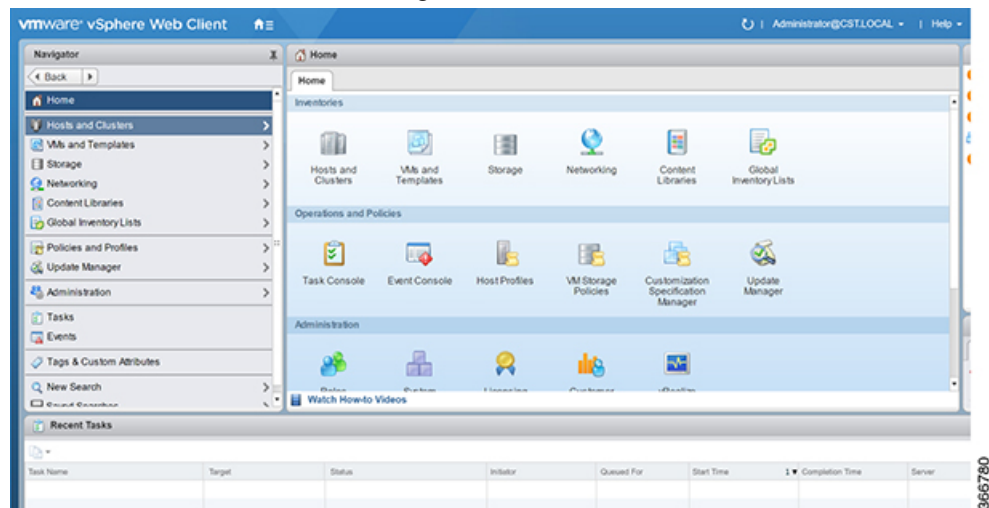
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The Cisco Smart PHY application is supported on both a bare metal server with a CentOS 7 host OS and an ESXi VM with VM-in-VM configuration.

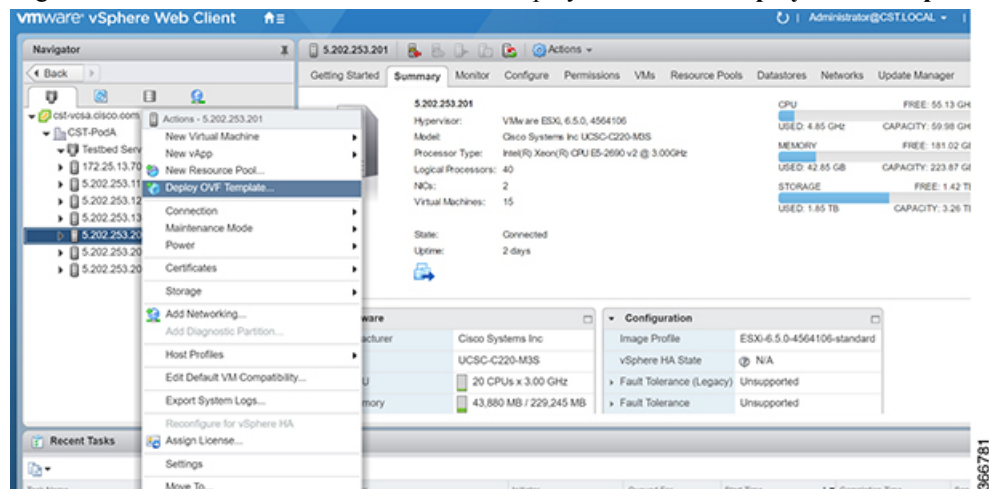
How to Deploy Cisco Smart PHY OVF Template through VMWare vCenter Server

Procedure

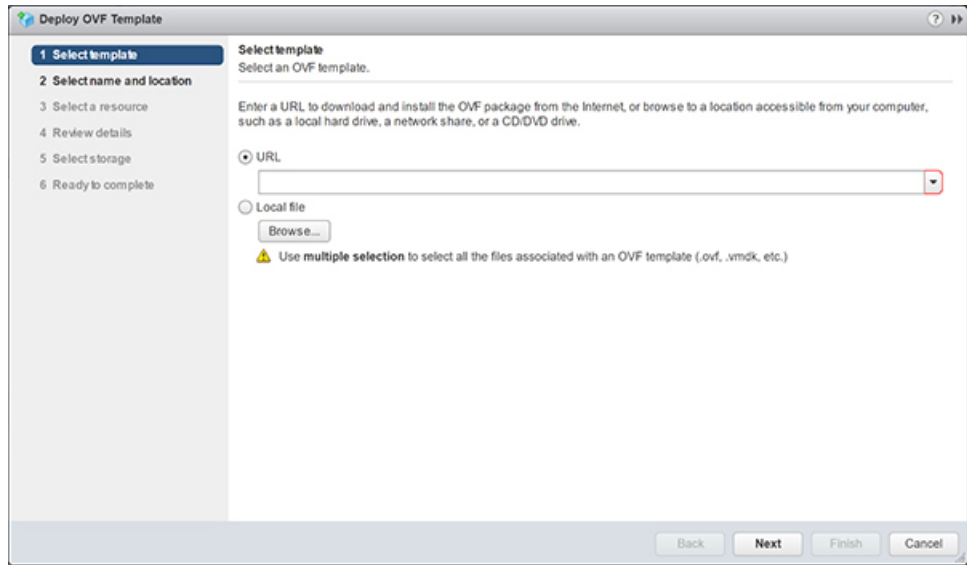
Step 1 From the vCenter Server WebUI, navigate to **Hosts and Clusters**.



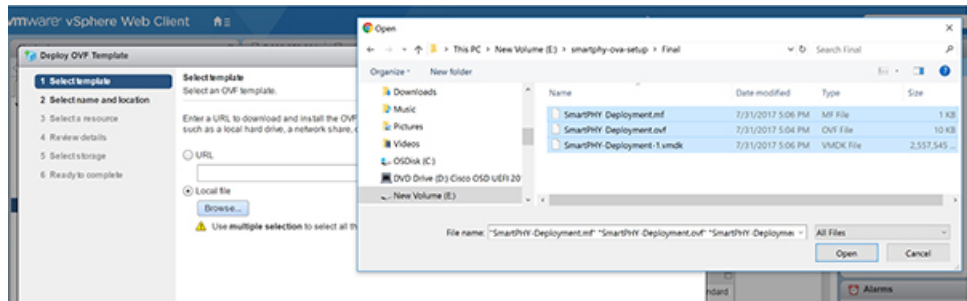
Step 2 Right click on the ESXi host where the VM is deployed and select **Deploy OVF Template**.



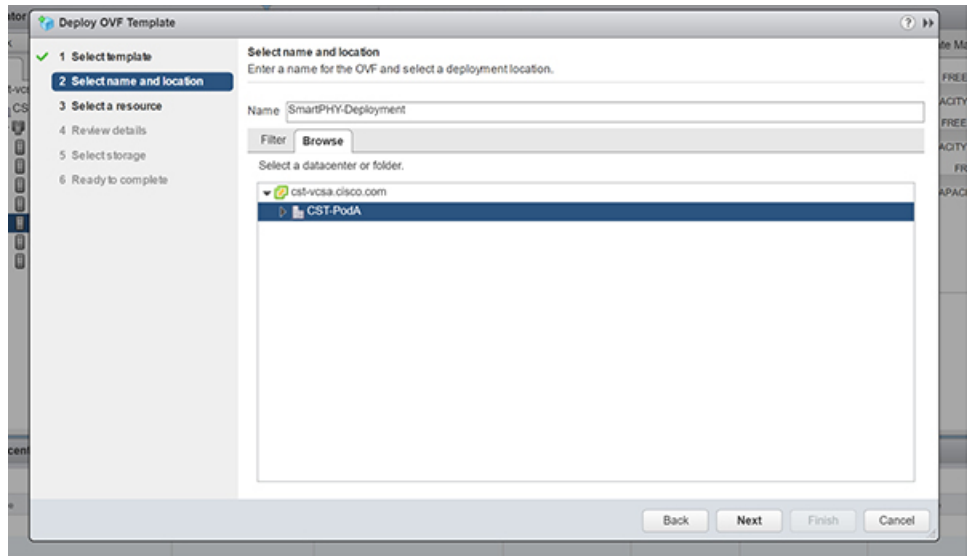
Step 3 Click **Local File**, then click **Browse** and navigate to the local folder containing the OVF files.



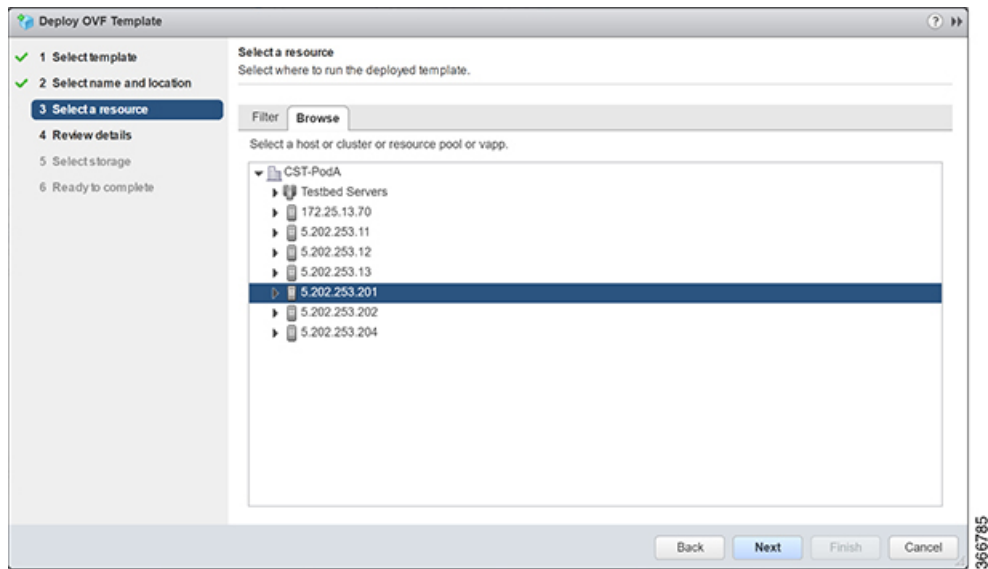
Step 4 Select SmartPHY-Deployment.ovf, SmartPHY-Deployment-1.vmdk, and SmartPHY-Deployment.mf files and click Open.



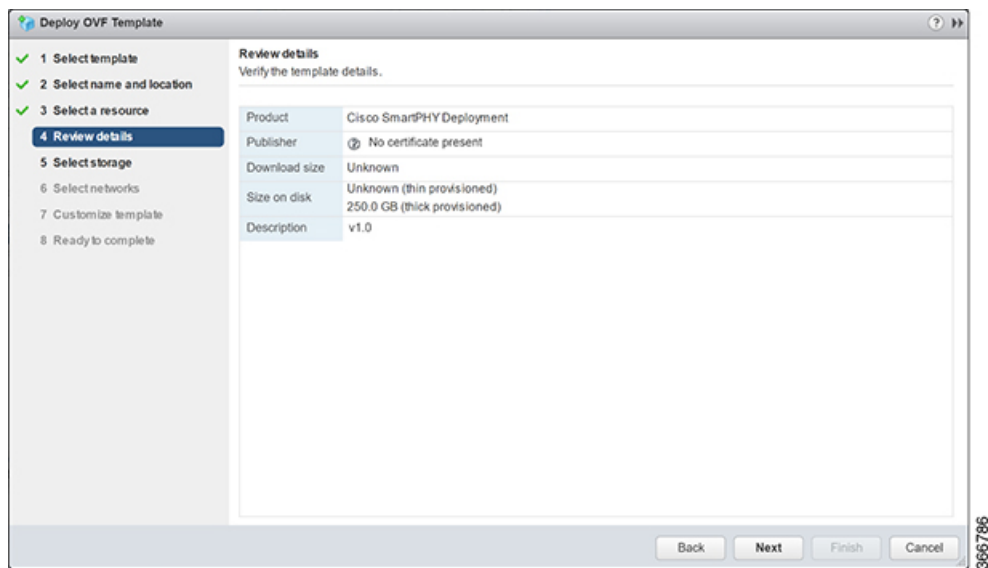
Step 5 Update the name of the Virtual Machine if needed and click Next.



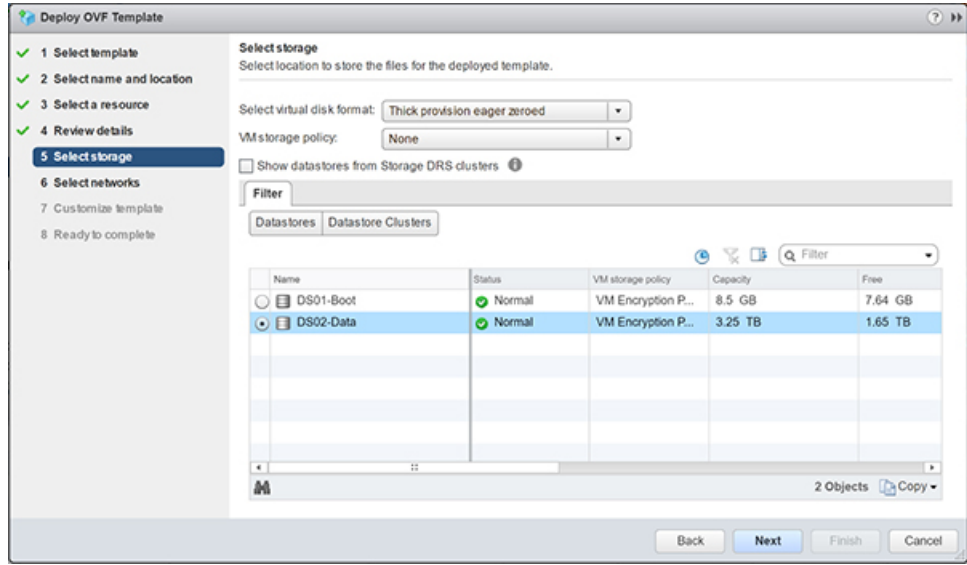
Step 6 Select the ESXi Host for deployment and click Next.



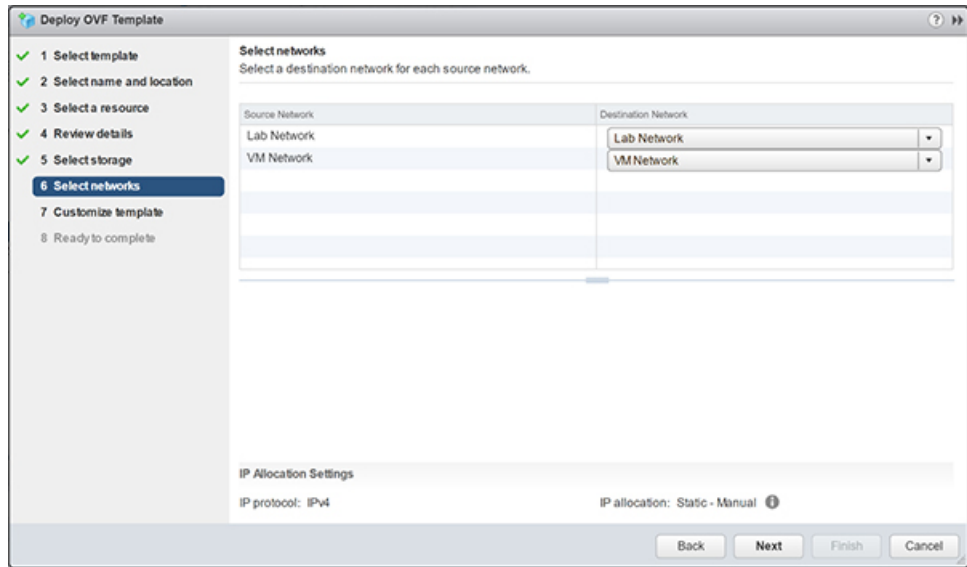
Step 7 Review details and click **Next**.



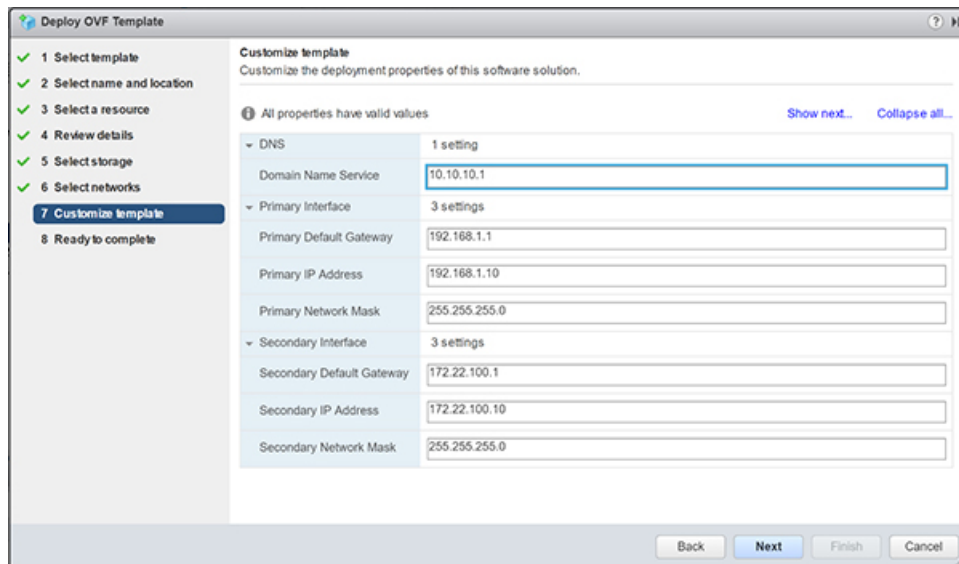
Step 8 Select the **Disk Format**. Choose **Thick Provision Eager Zeroed** and the **Datastore** and click **Next**.



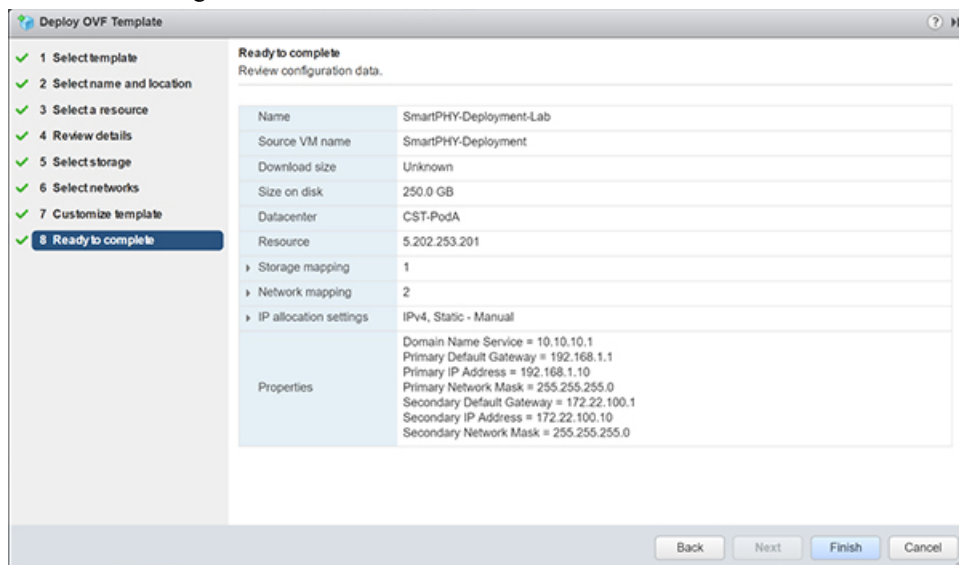
Step 9 Select **Networks**. Lab Network should map to the Destination Network associated with the Management Interface and the VM Network should map to the RPHY/CIN Interface.



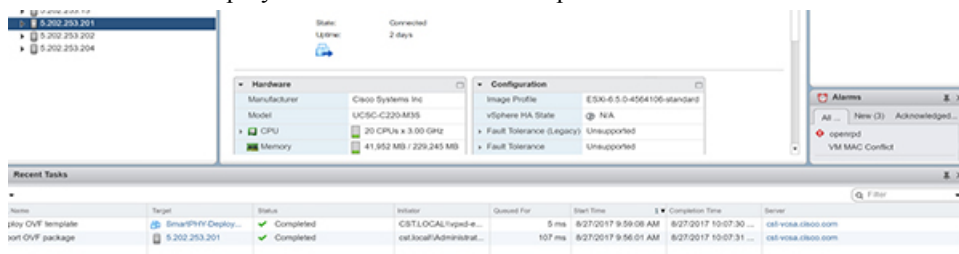
Step 10 Fill in the network information for the Primary Interface (Management), Secondary Interface (RPHY/CIN), and DNS Server.



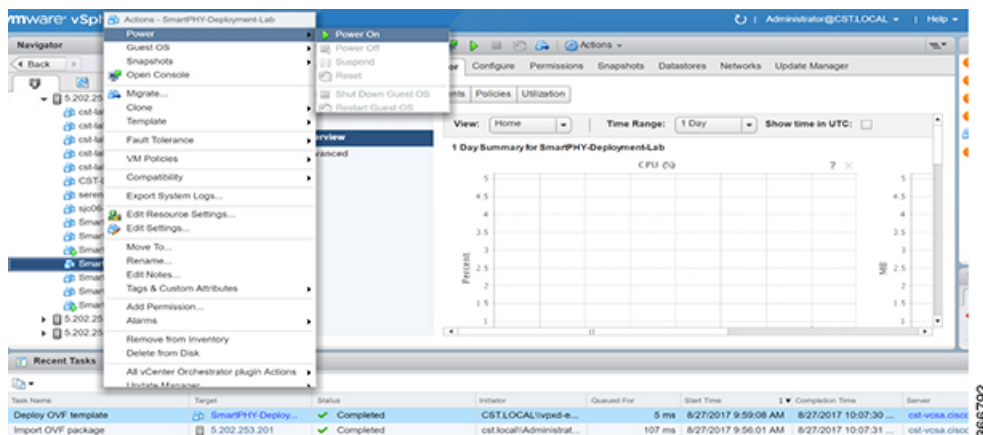
Step 11 Review the settings and select **Finish**.



Step 12 Monitor the OVF deployment in the **Recent Tasks** pane.



Step 13 After the OVF deployment task completes successfully, power on the new virtual machine. Right click on the VM and select **Power** and then **Power On**.



Step 14 Install the Cisco Smart PHY application on the VM.
 Credentials for deploying:

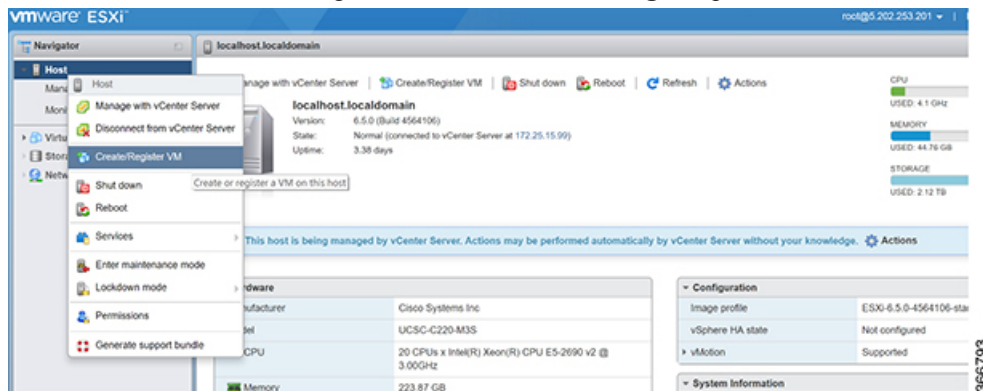
Login: **spadmin**

Password: **spadmin**

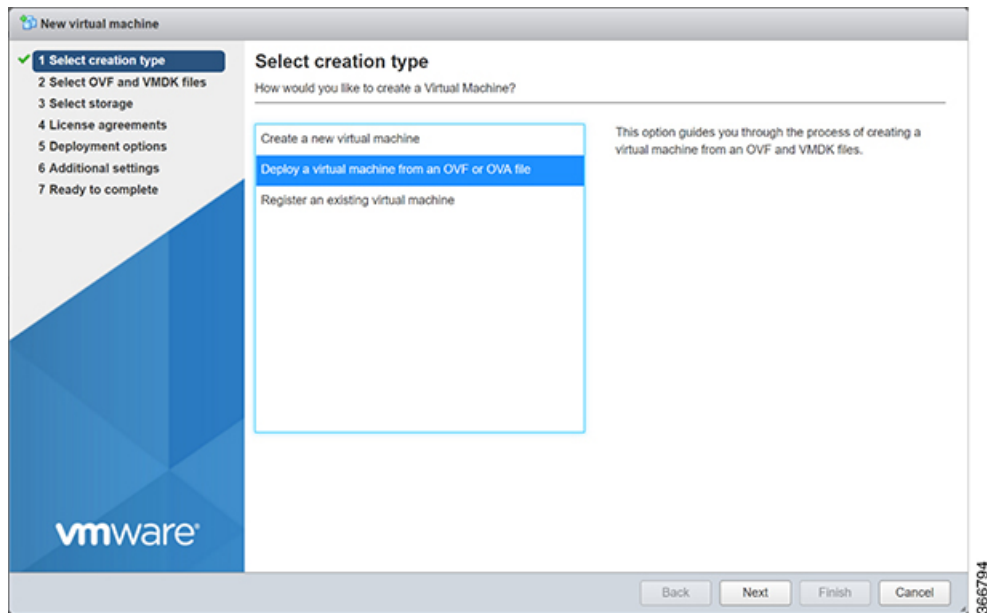
How to Deploy Cisco Smart PHY OVF Template through ESXi Host

Procedure

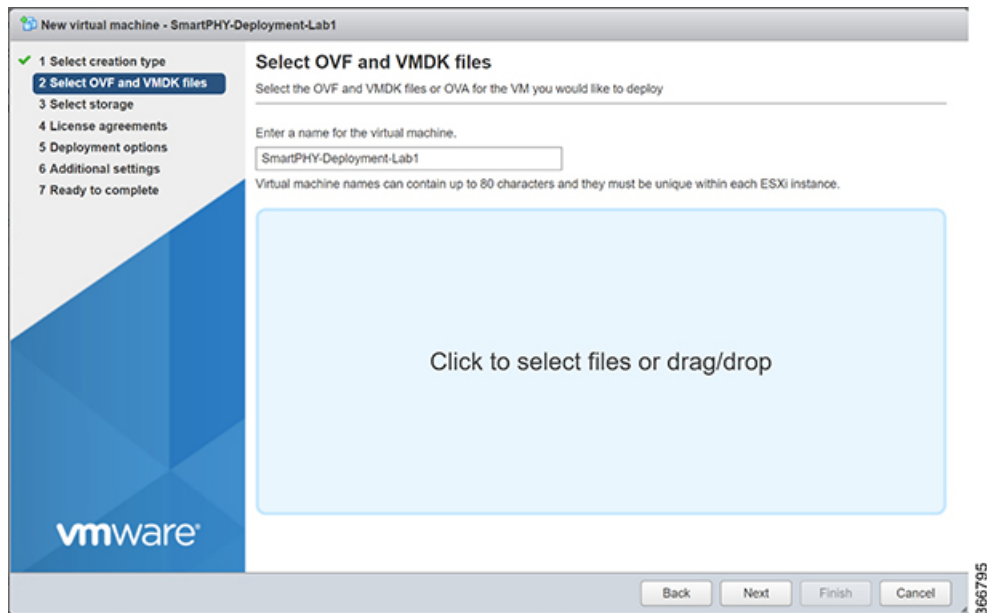
Step 1 From the ESXi host WebUI, right click on **Host** in the **Navigator** pane and select **Create/Register VM**.



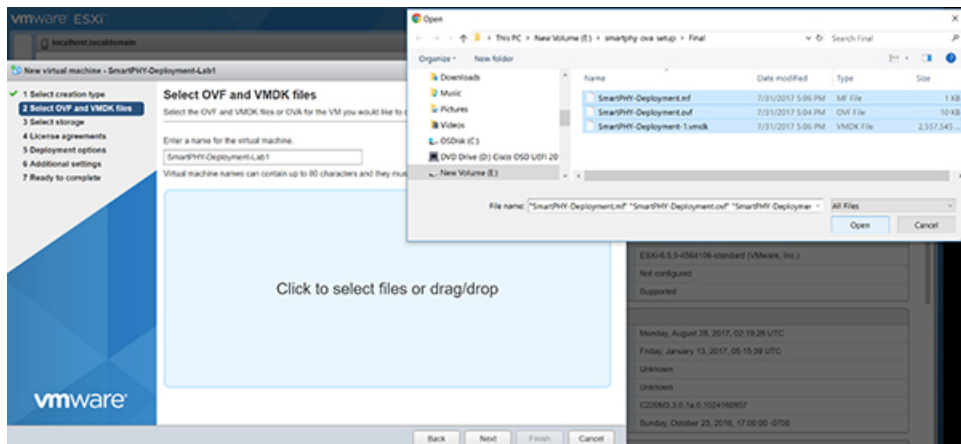
Step 2 Select **Deploy a Virtual Machine** from an OVF or OVA file in the **Select Creation Type** window and click **Next**.



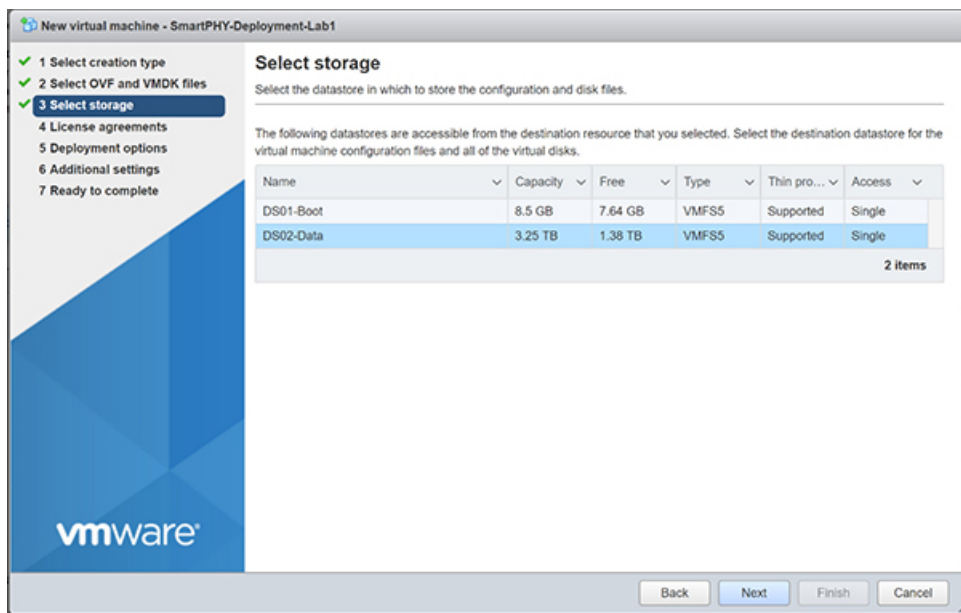
- Step 3** Enter the name of the new virtual machine. For example, "SmartPHY-Deployment-Lab1" and click on the **Click to Select Files** or drag/drop box.



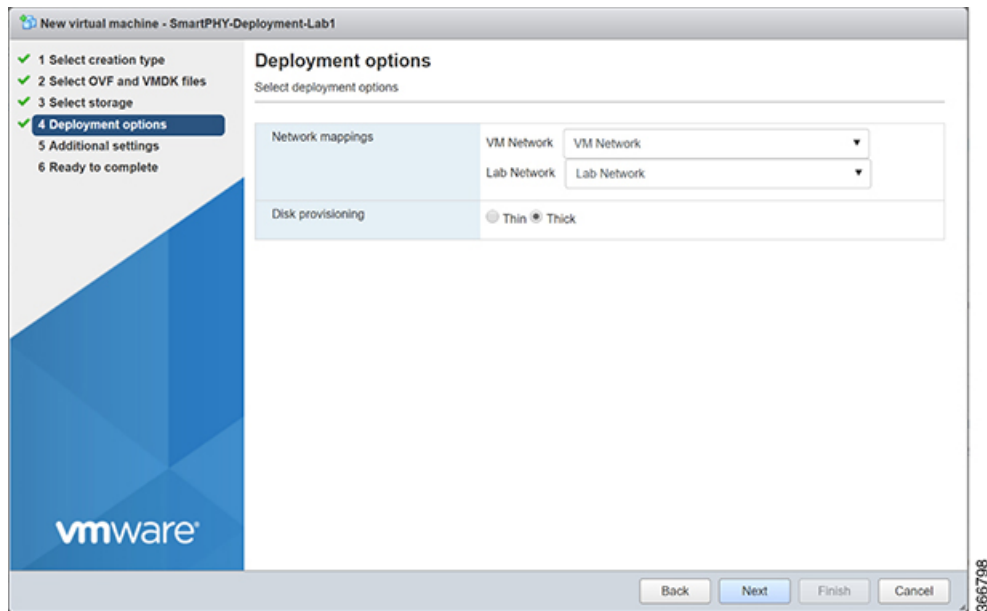
- Step 4** Navigate to the folder containing the OVF files on the local system. Select **SmartPHY-Deployment.ovf**, **SmartPHY-Deployment-1.vmdk**, and **SmartPHY-Deployment.mf** files. Click **Open**, then click **Next**.
- Note** Only the .ovf and .vmdk files may display after selection.



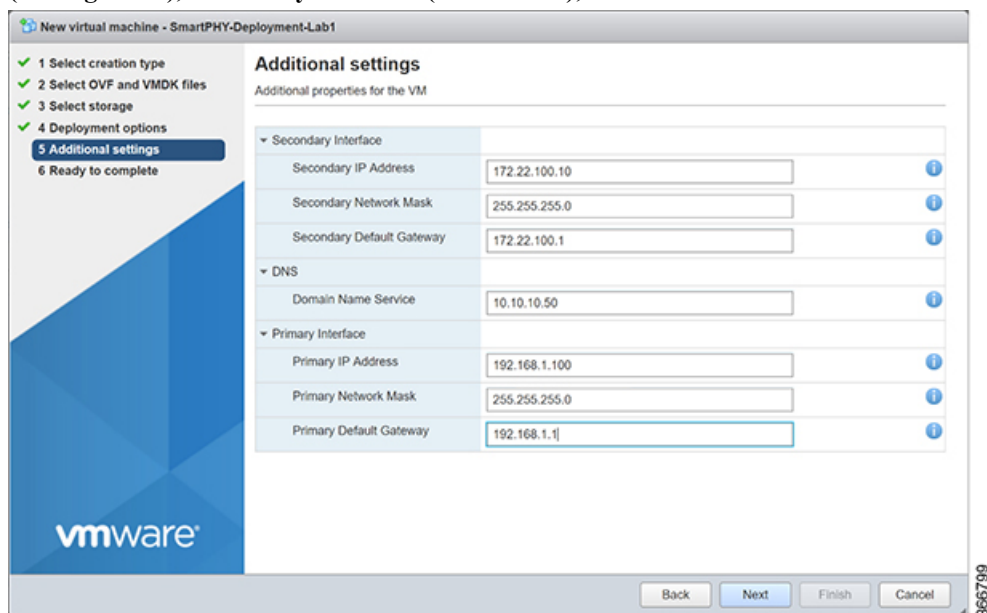
Step 5 Select the **Datastore** for the VM.



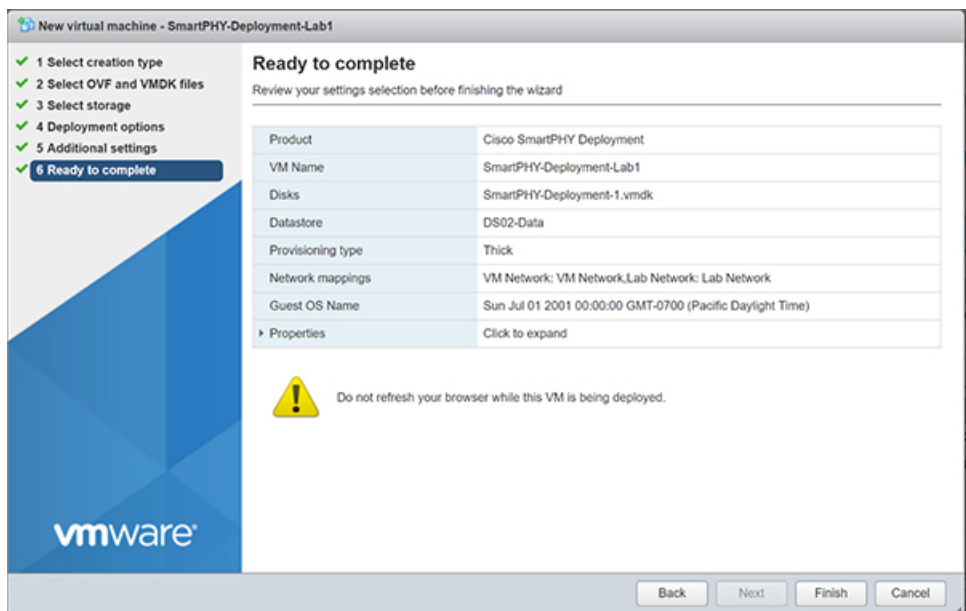
Step 6 Select **Networks** and **Storage Type**. Lab Network should map to the Destination Network associated with the Management Interface and the VM Network should map to the RPHY/CIN Interface. Select **Thick for Disk Provisioning** and click **Next**.



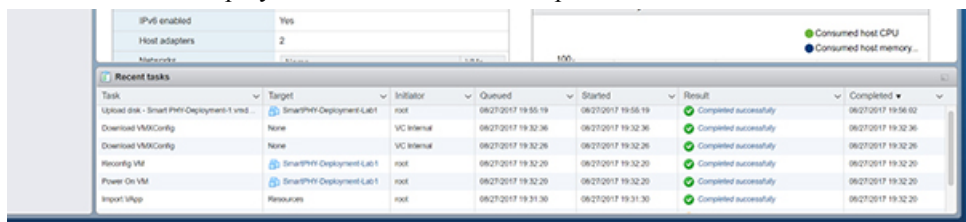
Step 7 In the **Additional Settings** configuration box, fill in the network information for the **Primary Interface (Management)**, **Secondary Interface (RPHY/CIN)**, and **DNS Server** and click **Next**.



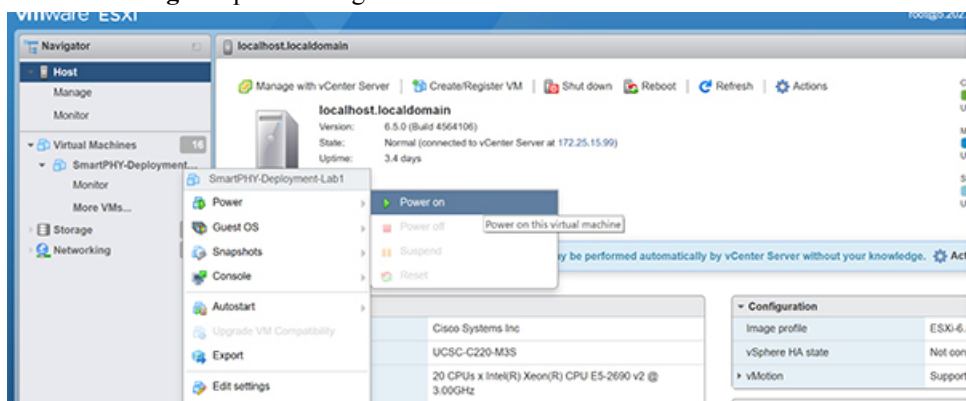
Step 8 Review the settings and select **Finish**.



Step 9 Monitor the OVF deployment in the **Recent Tasks** pane.



Step 10 The new Virtual Machine should power on automatically. However, if it does not, expand the Virtual Machines list in the **Navigator** pane and right click on the VM. Select **Power** and then **Power On** to start it.



Step 11 Install the Cisco Smart PHY application on the VM. Credentials for deploying:

Login: **spadmin**

Password: **spadmin**

How to Install VMware Tools

Procedure

Step 1 CentOS / Fedora based Installation

```
yum clean all
yum install -y epel-release
yum install -y open-vm-tools
```

Step 2 Debian and Ubuntu based Installation

```
sudo aptitude install -y open-vm-tools
```

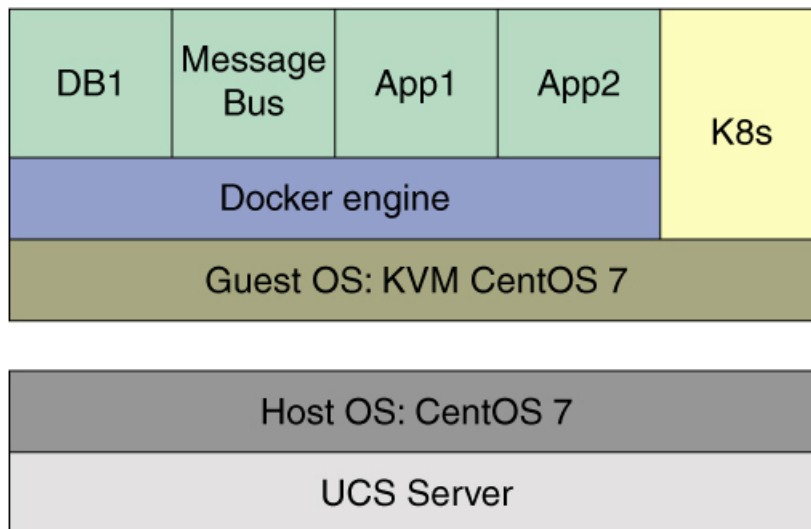
Note You MUST make sure that the vCPU entry in the smartphy.xml file is \leq the number of CPUs allocated to the ESXi VM. By default there are 16 CPUs allocated.

How to Install the Cisco Smart PHY

Before You Begin

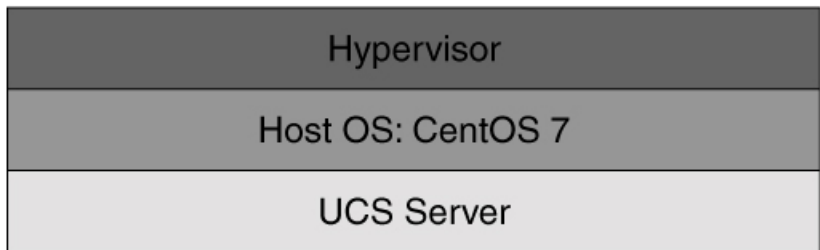
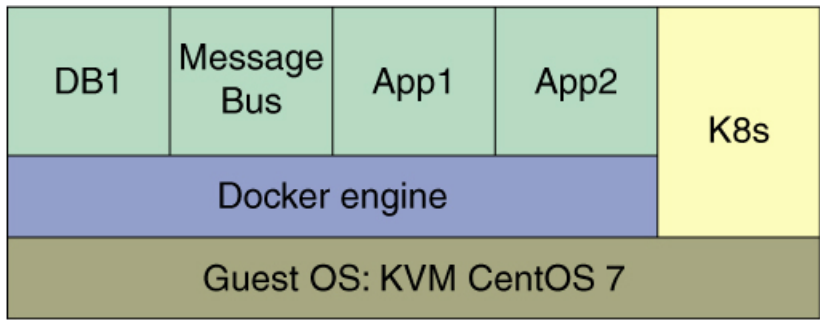
You must install CentOS7 on bare metal server. This ensures that the installation script spins a VM-based KVM and the required containers.

Bare Metal Solution



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EXSi Solution



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At a minimum, it is recommended that the server has the following attributes:

- 32 Gb RAM
- 16 Physical CPU Cores
- 250GB of Disk

Procedure

Step 1 Download the Cisco Smart PHY release image tarball (which is about 16 GB) from [Cisco Software Central](#).

Step 2 Unzip and untar the file:

```
pbunzip2 smartphy-1.0.9.tar.bz2
tar -xvf smartphy-1.0.9.tar
```

Step 3 Run the installer.

```
./install.sh <mysereno>
```

The installer will automatically add a DNS entry in /etc/hosts to identify the new VM.

Step 4 Add routes to the VM for both management and CIN network if applicable. And run the iptables.sh script individually for the management and CIN network as applicable.

```
./iptables.sh <HostOS_IP> <GuestOS_IP>
```

Note The IP address of the VM is displayed during the install process. To get the MAC and IP address of the VM, do the following:

MAC Address:

```
sudo virsh domiflist vmname | grep robot-br1
```

IP Address:

```
sudo virsh net-dhcp-leases robot-br1 | grep MAC
```

How to Install the Mobile Application

You can install the Cisco Smart PHY application on iOS and Android hand-held devices.

Minimum required versions:

- iOS version 10
- Android version 5

Procedure

- Step 1** Download the iOS version of the Cisco Smart PHY application from the App Store. Search for Cisco Smart PHY.
Or
- Step 2** Download the Android version (apk file) of the Cisco Smart PHY application from [Cisco Software Central](#).
Note Disable download from unknown sources in Security (Settings -> Security -> Enable unknown sources).
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How to Upgrade the Cisco Smart PHY

The Cisco Smart PHY application will be upgraded periodically with newer features. To upgrade an existing installation:

Procedure

- Step 1** Download the upgrade image from [Cisco Software Central](#).
- Step 2** Unzip and untar the file:

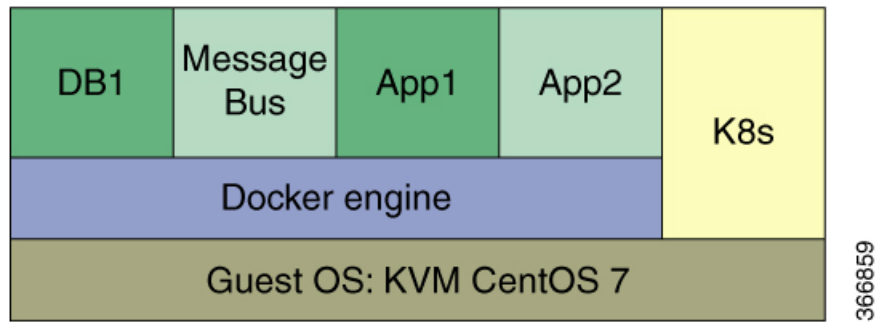
```
pbunzip2 smartphy-1.0.9-upgrade.tar.bz2
tar -xvf smartphy-1.0.9-upgrade.tar
Or
```

```
pbunzip2 smartphy-1.0.9-upgrade.tar.bz2
tar jxvf smartphy-1.0.9-upgrade.tar.bz2
```

- Step 3** Run the upgrade script.

```
./upgrade.sh <mysereno>
```

Specific components of the Cisco Smart PHY guest OS will be updated.



How to Uninstall the Cisco Smart PHY

Be aware that this procedure removes all of your Cisco Smart PHY data.

Procedure

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- Step 1** (Recommended) Back up your current data. Uninstalling the Cisco Smart PHY application will permanently delete all data on the bare metal server.
- Step 2** On the bare metal server, enter:
- ```
sudo virsh destroy VM_name
```
-

