



# Installing Cisco UCS Central

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This chapter includes the following sections:

- [Overview of Installation, page 1](#)
- [Obtaining the Cisco UCS Central Software from Cisco.com, page 1](#)
- [Installing Cisco UCS Central in Standalone Mode, page 2](#)
- [Installing Cisco UCS Central in Cluster Mode, page 10](#)
- [Database Server Information, page 18](#)
- [Restoring the Cisco UCS Central VM in Standalone Mode, page 19](#)
- [Restoring Cisco UCS Central VM in Cluster Mode, page 20](#)

## Overview of Installation

You can install Cisco UCS Central using either one of the following:

- OVA file
- ISO Image

Cisco UCS Central, release 1.1 and newer provides you the option to install in a standalone or cluster set up. You must obtain the software from Cisco.com and save it in your local drive before installation.

## Obtaining the Cisco UCS Central Software from Cisco.com

### Before You Begin

Make sure that you have your Cisco.com username and password ready to be able to successfully download the Cisco UCS Central software.

## Procedure

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- Step 1** In a web browser, navigate to [Cisco.com](http://Cisco.com).
- Step 2** Under **Support**, click **All Downloads**.
- Step 3** In the center pane, click **Unified Computing and Servers**.
- Step 4** If prompted, enter your Cisco.com username and password to log in.
- Step 5** In the right pane, click the link for the Cisco UCS Central software in the format that you want. You can download the Cisco UCS Central software in the following formats:
- An OVA file with a name such as `ucs-central.1.3.1a.ova`
  - An ISO file with a name such as `ucs-central.1.3.1a.iso`
- You can also download the admin password reset ISO image from this location.
- Step 6** On the page from which you download the software, click the **Release Notes** link to download the latest version of the Release Notes.
- Step 7** Click the link for the release of the Cisco UCS Central software that you want to download.
- Step 8** Click one of the following buttons and follow the instructions provided:
- **Download Now**—Allows you to download the Cisco UCS Central software immediately.
  - **Add to Cart**—Adds the Cisco UCS Central software to your cart to be downloaded at a later time.
- Step 9** Follow the prompts to complete your download of the software.
- Step 10** Read the Release Notes before deploying the Cisco UCS Central VM.
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# Installing Cisco UCS Central in Standalone Mode

You can install Cisco UCS Central through either the OVA file or ISO Image in standalone mode.

## Installing the Cisco UCS Central OVA File in VMWare



### Note

After the Cisco UCS Central VM starts up for the first time, it performs a one-time post-installation configuration. Allow the installation to complete before you log in.

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## Procedure

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- Step 1** Save the Cisco UCS Central OVA file to a folder that you can access from the hypervisor.
- Step 2** From the VMware Virtual Center Console, choose **File > Deploy OVF Template**.
- Step 3** Deploy the OVA file by choosing the ESX host on which you want to host the Cisco UCS Central VM.

Follow the steps to boot VM and wait until the process is 100% complete to proceed to the next step.

- Step 4** (Optional) If you want to add shared storage to the standalone installation, add shared storage. See [Adding and Setting up an RDM Shared Storage on VMware](#).
- Step 5** If have not powered up the VM as part of importing the OVA file , power up the Cisco UCS Central VM.
- Step 6** Open up a console window for the Cisco UCS Central VM.
- Step 7** When the Cisco UCS Central VM has completed the initial part of the installation process, answer the following questions in the VM console window:
- a) Setup new configuration or restore full-state configuration from backup [setup/restore] prompt, enter setup and press Enter.
  - b) At the Enter the UCS Central VM eth0 IPv4 Address : prompt, enter the IP address assigned to Cisco UCS Central and press Enter.  
You must enter a static IP address that is reserved for this Cisco UCS Central VM. Cisco UCS Central does not support Dynamic Host Configuration Protocol (DHCP).
  - c) At the Enter the UCS Central VM eth0 IPv4 Netmask : prompt, enter the netmask assigned to Cisco UCS Central and press Enter.
  - d) At the Enter the Default Gateway : prompt, enter the default gateway used by Cisco UCS Central and press Enter.
  - e) At the Is this VM part of a cluster(select 'no' for standalone) (yes/no) prompt, select no and press Enter.  
Selecting yes will setup Cisco UCS Central in cluster mode. For more information about setting up Cisco UCS Central in cluster mode, see [Installing Cisco UCS Central in Cluster Mode, on page 10](#).
  - f) At the Enter the UCS Central VM host name : prompt, enter the host name you want to use for the Cisco UCS Central VM and press Enter.
  - g) (Optional) At the Enter the DNS Server IPv4 Address : prompt, enter the IP address for the DNS server you want to use for Cisco UCS Central and press Enter.  
If you do not plan to use a DNS server for Cisco UCS Central, leave this blank and press Enter.
  - h) (Optional) At the Enter the Default Domain Name : prompt, enter the domain in which you want to include Cisco UCS Central and press Enter.  
If you do not plan to include Cisco UCS Central in a domain, leave this blank and press Enter. Cisco UCS Central will use the default domain named localdomain.
  - i) At the Use Shared Storage Device for Database (yes/no) prompt, if you want to setup shared storage, enter yes, if not enter no and press Enter. See [Adding and Setting up an RDM Shared Storage on VMware](#).
  - j) At the Enforce Strong Password(Yes/No) prompt, if you want to set up strong password alert, select yes and press Enter.
  - k) At the Enter the admin Password : prompt, enter the password you want to use for the admin account and press Enter.
  - l) At the Confirm admin Password : prompt, re-enter the password you want to use for the admin account and press Enter.
  - m) At the Enter the Shared Secret : prompt, enter the shared secret (or password) that you want to use to register one or more Cisco UCS domains with Cisco UCS Central and press Enter.
  - n) At the Confirm Shared Secret : prompt, re-enter the shared secret and press Enter.
  - o) At the Do you want Statistics Collection (yes/no) prompt, if you want to enable statistics collection, enter yes and press Enter.

If you do not want to enable statistics collection now, you can enter no and proceed with the installation. You can enable the statistics collection using Cisco UCS Central CLI at any time. If you have entered yes, you will be prompted to provide the database server information. See [Database Server Information](#), on page 18

- p) At the `Proceed with this configuration. Please confirm[yes/no]` prompt, enter yes and press Enter.  
If you think you made an error when completing any of these steps, enter no and press Enter. You will then be prompted to answer the questions again.

After you confirm that you want to proceed with the configuration, the network interface reinitializes with your settings and Cisco UCS Central becomes accessible via the IP address.

## Installing Cisco UCS Central ISO File in VMware



### Note

For VMware, we recommend that you install from the OVA file. Installing from the ISO file works with limitations. See <https://tools.cisco.com/bugsearch/bug/CSCuv32055> for more information.

### Procedure

**Step 1** Create a VM with the following settings:

Setting	Recommended Value
Configuration	Custom configuration
Name	A descriptive name that includes information about the Cisco UCS Central deployment
Virtual machine type	7 or later
Guest operating system	A supported operating system, such as Linux RHEL 5.0(64-bit)
Number of vCPU	4
Memory	No less than 12GB
Virtual adapter	1 virtual adapter with VM network
SCSI controller	LSI Logic parallel
Virtual disk	No less than 40GB of available disk space You also need to create a second 40 GB virtual disk in Step 2.

Setting	Recommended Value
Advanced options	Virtual device node SCSI
Settings - RDM Lun (Optional shared storage for standalone)mode	No less than 40 GB in physical compatibility mode.

- Step 2** In **Edit Settings**, add a new hard disk for the VM with no less than 40GB of available disk space for Standalone Installations and an additional 40GB for remote disk Cluster Installations.
- Step 3** From the **Options** menu, do the following:
- Check **Force BIOS Setup** to change the boot options.
  - Specify **Power on Boot Delay**.
  - Check **Failed Boot Recovery**.
- Step 4** Mount the Cisco UCS Central ISO image to the CD/DVD drive.
- Step 5** Start the VM and connect to the console.
- Step 6** From the **Cisco UCS Central Installation** menu on the ISO image, choose **Install Cisco UCS Central**. The Cisco UCS Central installer checks that the VM has the required RAM and disk space (two disks, both disks should be 40GB). If the VM meets the requirements, the installer formats the disks, transfers the files, and installs Cisco UCS Central.
- Step 7** When the Cisco UCS Central VM has completed the initial part of the installation process, answer the following questions in the VM console window:
- Setup new configuration or restore full-state configuration from backup [setup/restore] prompt, enter setup and press Enter.
  - At the Enter the UCS Central VM eth0 IPv4 Address : prompt, enter the IP address assigned to Cisco UCS Central and press Enter.  
You must enter a static IP address that is reserved for this Cisco UCS Central VM. Cisco UCS Central does not support Dynamic Host Configuration Protocol (DHCP).
  - At the Enter the UCS Central VM eth0 IPv4 Netmask : prompt, enter the netmask assigned to Cisco UCS Central and press Enter.
  - At the Enter the Default Gateway : prompt, enter the default gateway used by Cisco UCS Central and press Enter.
  - At the Is this VM part of a cluster(select 'no' for standalone) (yes/no) prompt, select no and press Enter.  
Selecting yes will setup Cisco UCS Central in cluster mode. For more information about setting up Cisco UCS Central in cluster mode, see [Installing Cisco UCS Central in Cluster Mode, on page 10](#).
  - At the Enter the UCS Central VM host name : prompt, enter the host name you want to use for the Cisco UCS Central VM and press Enter.
  - (Optional) At the Enter the DNS Server IPv4 Address : prompt, enter the IP address for the DNS server you want to use for Cisco UCS Central and press Enter.  
If you do not plan to use a DNS server for Cisco UCS Central, leave this blank and press Enter.
  - (Optional) At the Enter the Default Domain Name : prompt, enter the domain in which you want to include Cisco UCS Central and press Enter.  
If you do not plan to include Cisco UCS Central in a domain, leave this blank and press Enter. Cisco UCS Central will use the default domain named localdomain.

- i) At the `Use Shared Storage Device for Database (yes/no)` prompt, if you want to setup shared storage, enter yes, if not enter no and press Enter. See [Adding and Setting up an RDM Shared Storage on VMware](#)
- j) At the `Enforce Strong Password (Yes/No)` prompt, if you want to set up strong password alert, select yes and press Enter.
- k) At the `Enter the admin Password :` prompt, enter the password you want to use for the admin account and press Enter.
- l) At the `Confirm admin Password :` prompt, re-enter the password you want to use for the admin account and press Enter.
- m) At the `Enter the Shared Secret :` prompt, enter the shared secret (or password) that you want to use to register one or more Cisco UCS domains with Cisco UCS Central and press Enter.
- n) At the `Confirm Shared Secret :` prompt, re-enter the shared secret and press Enter.
- o) At the `Do you want Statistics Collection (yes/no)` prompt, if you want to enable statistics collection, enter yes and press Enter.  
If you do not want to enable statistics collection now, you can enter no and proceed with the installation. You can enable the statistics collection using Cisco UCS Central CLI at any time. If you have entered yes, you will be prompted to provide the database server information. See [Database Server Information, on page 18](#)
- p) At the `Proceed with this configuration. Please confirm[yes/no]` prompt, enter yes and press Enter.  
If you think you made an error when completing any of these steps, enter no and press Enter. You will then be prompted to answer the questions again.

**Step 8** Unmount the Cisco UCS Central ISO image from the virtual CD/DVD drive.

**Step 9** Reboot the Cisco UCS Central VM.

## Installing Cisco UCS Central ISO File in Microsoft Hyper-V

### Procedure

**Step 1** Create a VM with the following settings:

Setting	Recommended Value
Name	A descriptive name that includes information about the Cisco UCS Central deployment
RAM	No less than 12GB
Network adapter	Default
Number of vCPU	4

Setting	Recommended Value
Virtual disk	No less than 40GB of available disk space You also need to create a second 40GB virtual disk under IDE Controller in Step 3.
Setting Physical hard disk (Optional for standalone mode)	No less than 40GB. To be mapped using a new SCSI controller.

**Step 2** In the settings for the VM, do the following:

- a) Delete the default network adapter.
- b) Create a new legacy network adapter.
- c) Click **Apply**.

**Step 3** Under the same IDE controller as the first virtual drive, create a second virtual drive for the VM with no less than 40GB of available disk space.

**Step 4** In the **VM settings > Management > Integration Services**, uncheck **Time synchronization** to disable it.

**Step 5** Mount the Cisco UCS Central ISO image to the CD/DVD drive.

**Step 6** Start the VM and connect to the console.

**Step 7** From the **Cisco UCS Central Installation** menu on the ISO image, choose **Install Cisco UCS Central**. The Cisco UCS Central installer checks that the VM has the required RAM and disk space (two disks, both with 40GBs). If the VM meets the requirements, the installer formats the disks, transfers the files, and installs Cisco UCS Central.

**Step 8** When the Cisco UCS Central VM has completed the initial part of the installation process, answer the following questions in the VM console window:

- a) Setup new configuration or restore full-state configuration from backup [setup/restore] prompt, enter setup and press Enter.
- b) At the Enter the UCS Central VM eth0 IPv4 Address : prompt, enter the IP address assigned to Cisco UCS Central and press Enter.  
You must enter a static IP address that is reserved for this Cisco UCS Central VM. Cisco UCS Central does not support Dynamic Host Configuration Protocol (DHCP).
- c) At the Enter the UCS Central VM eth0 IPv4 Netmask : prompt, enter the netmask assigned to Cisco UCS Central and press Enter.
- d) At the Enter the Default Gateway : prompt, enter the default gateway used by Cisco UCS Central and press Enter.
- e) At the Is this VM part of a cluster(select 'no' for standalone) (yes/no) prompt, select no and press Enter.  
Selecting yes will setup Cisco UCS Central in cluster mode. For more information about setting up Cisco UCS Central in cluster mode, see [Installing Cisco UCS Central in Cluster Mode, on page 10](#).
- f) At the Enter the UCS Central VM host name : prompt, enter the host name you want to use for the Cisco UCS Central VM and press Enter.
- g) (Optional) At the Enter the DNS Server IPv4 Address : prompt, enter the IP address for the DNS server you want to use for Cisco UCS Central and press Enter.  
If you do not plan to use a DNS server for Cisco UCS Central, leave this blank and press Enter.

- h) (Optional) At the `Enter the Default Domain Name :` prompt, enter the domain in which you want to include Cisco UCS Central and press Enter.  
If you do not plan to include Cisco UCS Central in a domain, leave this blank and press Enter. Cisco UCS Central will use the default domain named `localdomain`.
- i) At the `Use Shared Storage Device for Database (yes/no)` prompt, if you want to setup shared storage, enter yes, if not enter no and press Enter. See [Adding and Setting up an RDM Shared Storage on VMware](#)
- j) At the `Enforce Strong Password (Yes/No)` prompt, if you want to set up strong password alert, select yes and press Enter.
- k) At the `Enter the admin Password :` prompt, enter the password you want to use for the admin account and press Enter.
- l) At the `Confirm admin Password :` prompt, re-enter the password you want to use for the admin account and press Enter.
- m) At the `Enter the Shared Secret :` prompt, enter the shared secret (or password) that you want to use to register one or more Cisco UCS domains with Cisco UCS Central and press Enter.
- n) At the `Confirm Shared Secret :` prompt, re-enter the shared secret and press Enter.
- o) At the `Do you want Statistics Collection (yes/no)` prompt, if you want to enable statistics collection, enter yes and press Enter.  
If you do not want to enable statistics collection now, you can enter no and proceed with the installation. You can enable the statistics collection using Cisco UCS Central CLI at any time. If you have entered yes, you will be prompted to provide the database server information. See [Database Server Information, on page 18](#)
- p) At the `Proceed with this configuration. Please confirm[yes/no]` prompt, enter yes and press Enter.  
If you think you made an error when completing any of these steps, enter no and press Enter. You will then be prompted to answer the questions again.

**Step 9** Unmount the Cisco UCS Central ISO image from the virtual CD/DVD drive.

**Step 10** Reboot the Cisco UCS Central VM.

## Installing Cisco UCS Central ISO File in KVM Hypervisor



### Note

When you install Cisco UCS Central on KVM Hypervisor, the set up runs in graphics mode. Installing in text mode is not supported.

### Procedure

**Step 1** Create a VM with the following settings:

Setting	Recommended Value
Name	A descriptive name that includes information about the Cisco UCS Central deployment



Setting	Recommended Value
RAM	No less than 12GB
Network adapter	Default
Number of vCPU	4
Virtual disk	No less than 40GB of available disk space You also need to create a second 40GB virtual disk under IDE Controller in Step 3.

- Step 2** Under the same IDE controller as the first virtual drive, create a second virtual drive for the VM with no less than 40GB of available disk space.
- Step 3** Mount the Cisco UCS Central ISO image to the CD/DVD drive.
- Step 4** Start the VM and connect to the console.
- Step 5** From the **Cisco UCS Central Installation** menu on the ISO image, choose **Install Cisco UCS Central**. The Cisco UCS Central installer checks that the VM has the required RAM and disk space (two disks, both with 40GBs). If the VM meets the requirements, the installer formats the disks, transfers the files, and installs Cisco UCS Central.
- Step 6** When the Cisco UCS Central VM has completed the initial part of the installation process, answer the following questions in the VM console window:
- Setup new configuration or restore full-state configuration from backup [setup/restore] prompt, enter setup and press Enter.
  - At the Enter the UCS Central VM eth0 IPv4 Address : prompt, enter the IP address assigned to Cisco UCS Central and press Enter.  
You must enter a static IP address that is reserved for this Cisco UCS Central VM. Cisco UCS Central does not support Dynamic Host Configuration Protocol (DHCP).
  - At the Enter the UCS Central VM eth0 IPv4 Netmask : prompt, enter the netmask assigned to Cisco UCS Central and press Enter.
  - At the Enter the Default Gateway : prompt, enter the default gateway used by Cisco UCS Central and press Enter.
  - At the Is this VM part of a cluster(select 'no' for standalone) (yes/no) prompt, select no and press Enter.  
Selecting yes will setup Cisco UCS Central in cluster mode. For more information about setting up Cisco UCS Central in cluster mode, see [Installing Cisco UCS Central in Cluster Mode](#), on page 10.
  - At the Enter the UCS Central VM host name : prompt, enter the host name you want to use for the Cisco UCS Central VM and press Enter.
  - (Optional) At the Enter the DNS Server IPv4 Address : prompt, enter the IP address for the DNS server you want to use for Cisco UCS Central and press Enter.  
If you do not plan to use a DNS server for Cisco UCS Central, leave this blank and press Enter.
  - (Optional) At the Enter the Default Domain Name : prompt, enter the domain in which you want to include Cisco UCS Central and press Enter.  
If you do not plan to include Cisco UCS Central in a domain, leave this blank and press Enter. Cisco UCS Central will use the default domain named localdomain.

- i) At the `Use Shared Storage Device for Database (yes/no)` prompt, enter no and press Enter.
- j) At the `Enforce Strong Password(Yes/No)` prompt, if you want to set up strong password alert, select yes and press Enter.
- k) At the `Enter the admin Password :` prompt, enter the password you want to use for the admin account and press Enter.
- l) At the `Confirm admin Password :` prompt, re-enter the password you want to use for the admin account and press Enter.
- m) At the `Enter the Shared Secret :` prompt, enter the shared secret (or password) that you want to use to register one or more Cisco UCS domains with Cisco UCS Central and press Enter.
- n) At the `Confirm Shared Secret :` prompt, re-enter the shared secret and press Enter.
- o) At the `Do you want Statistics Collection (yes/no)` prompt, if you want to enable statistics collection, enter yes and press Enter.  
If you do not want to enable statistics collection now, you can enter no and proceed with the installation. You can enable the statistics collection using Cisco UCS Central CLI at any time. If you have entered yes, you will be prompted to provide the database server information. See [Database Server Information, on page 18](#)
- p) At the `Proceed with this configuration. Please confirm[yes/no]` prompt, enter yes and press Enter.  
If you think you made an error when completing any of these steps, enter no and press Enter. You will then be prompted to answer the questions again.

**Step 7** Unmount the Cisco UCS Central ISO image from the virtual CD/DVD drive.

**Step 8** Reboot the Cisco UCS Central VM.

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## Installing Cisco UCS Central in Cluster Mode

You can install Cisco UCS Central in two virtual machines in a highly available configuration. In cluster mode, one VM acts as the primary node and the other as the secondary node. This cluster configuration provides redundancy and high availability in case of a VM failure.

With a cluster configuration, the VMs use shared storage on a LUN disk for the database and the images repository. As a result, you download firmware images to the shared storage. The statistics used for reporting are also collected and stored in the shared storage.

**Important**

When you install Cisco UCS Central in a cluster configuration, be aware of the following guidelines:

- The two VMs in the cluster are not on the same server. If both VMs are in the same server, a single host failure would bring down the cluster.
- Both hosts must have the same versions of ESX, HyperV or KVM installed on them.
- Both hosts must share same lun to configure shared storage.
- Both VMs must be on the same sub-net.
- You must install the same release version of Cisco UCS Central in both VMs.
- You must install the first node completely and then install the second node. Parallel installation may corrupt or overwrite the partition table and shared storage might lose all deployed data.
- In a cluster configuration, Cisco UCS Central supports RDM only with a single path, but not with multi-path.

**Shared Storage Configuration for Cluster Mode**

For Cisco UCS Central to perform well in cluster mode, make sure to configure and connect shared storage according to the industry best practices. Be aware of the following guidelines:

- Configure high speed SAN connections to enable quick access to shared storage.
- Select a better performing RAID type to configure the shared LUN.
- Make sure the storage is write cache enabled with enough space, proper page size and watermark settings. For example, if you have an EMC storage array, you should have the following cache configuration:
  - Page Size: 8KB
  - Low watermark: 60%
  - High Watermark: 80%

**Important**

- You must have only one path to the shared storage. Multi-path is not supported. If there is more than one path when you add the shared storage to Cisco UCS Central VM, you must disable all additional paths. To disable additional paths,
  - 1 Click **Edit VM Settings**, select the shared storage and click **Manage Paths**.
  - 2 Right click on all additional paths and click **Disable**.
- When you add shared storage to Node B, make sure to directly connect to the ESX host. You must add the disk as an RDM.
- If you are installing Cisco UCS Central in cluster mode, you must use only NFS shared storage based high availability. RDM shared storage is not supported for KVM Hypervisor.

## Setting up the NFS Server for Shared Storage

The NFS server stores database and images used by various applications on Cisco UCS Central. The initial configuration of NFS server might take sometime. Make sure to wait until the Timeout message ends.



### Important

The NFS server must be located as close to Cisco UCS Central VM as possible. We recommend that the NFS server is located in the same subnet as Cisco UCS Central.

### Before You Begin

- Make sure to create a directory on the NFS server with 40Gb or more available space.
- Obtain the IP address of the NFS server.
- Make sure the network latency is less than .5ms for optimal system performance.

### Procedure

**Step 1** Create a partition or a volume with 40Gb or more.

**Step 2** Export the NFS Directory.

Use an editor to open file `/etc/exports` and export the NFS directory.

#### Example:

`/nfs *(rw, sync, no_root_squash)` Where `/nfs` is the directory which needs to be exported. You must export the directory with the options `rw` and `no_root_squash`

**Step 3** Restart the NFS service.

#### Example:

`/sbin/service nfs restart`

**Step 4** Delete any firewall rules on the NFS server that may block the mount of NFS server directories from Cisco UCS Central VM.

## Changing NFS Server or Directory

You can edit and change an existing NFS server or the NFS shared storage directory using the following commands:

- **Changing an existing NFS server to a new server:** `edit-nfs` *IP Address for the new NFS server* *NFS shared directory name*
- **Changing the shared directory for the same server:** `edit-nfs` *NFS IP Address* *New NFS shared directory name*

## Changing RDM Shared Storage to NFS Shared Storage

You can change the shared storage from RDM to NFS using Cisco UCS Central CLI. Make sure to change to NFS server in the primary node. Changing the secondary node separately is not required.

### Procedure

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- Step 1** UCSC # **connect local-mgmt**  
Connects to local management.
- Step 2** UCSC (local-mgmt) # **switch-to-nfs** *NFS IP Address Shared Storage Directory*  
Uses the NFS IP address to switch to the NFS directory and change the directory.
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### What to Do Next

You can log into the system after this message and enter **showstorage-device** to confirm the storage device is changed.

## Adding and Setting up an RDM Shared Storage on Hyper-V



### Important

You must have only one path to the shared storage. Multi-path is not supported.

If there is more than one path when you add the shared storage to Cisco UCS Central VM, you must disable all additional paths. To disable additional paths,

- 1 Click **Edit VM Settings**, select the shared storage and click **Manage Paths**.
  - 2 Right click on all additional paths and click **Disable**.
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### Procedure

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- Step 1** Create a LUN which is no less than 40 GB on the storage array and map it to the Hyper-V host on which you have installed Node A.  
The disk must be in offline mode.
- Step 2** Add the disk to the VM as a 'Physical hard disk' using a new SCSI Controller.
- Step 3** In Powershell command windows, run the Set-ExecutionPolicy unrestricted command.
- Step 4** Disabling SCSI filtering is required for SCSI-3 PGR to work. To disable SCSI filtering for this disk, save and run the following script in both Hyper-V machines, with the virtual machine's name as the parameter:  
**Script:**

```
$HyperVGuest = $args[0]
$VMManagementService = gwmi Msvm_VirtualSystemManagementService -namespace
"root\virtualization"
foreach ($Vm in gwmi Msvm_ComputerSystem -namespace "root\virtualization" -Filter
"elementName='$HyperVGuest'")
```

```
{
$SettingData = gwmi -Namespace "root\virtualization" -Query "Associators of {$Vm} Where
ResultClass=Msvm_VirtualSystemGlobalSettingData AssocClass=Msvm_ElementSettingData"
$SettingData.AllowFullSCSICommandSet = $true
$VMMangementService.ModifyVirtualSystem($Vm,$SettingData.PSBase.GetText(1)) | out-null
}
```

**Example:**

If you have stored the script in Hyper-V host, for example in `c:\`, if Node A's name is `UCSC-Node-1` and the file name is `DisableSCSIFiltering.ps1`, then open the Powershell window to run the script: `C:\>`

`.\DisableSCSIFiltering.ps1 UCSC-Node-1.`

**Important** You must run this script on both Hyper-V machines with the right VM names.

You have now added shared storage on Hyper-V. Do the following to set up the shared storage.

**Step 5** Map the LUN you added to Node A to the Hyper-V host on which you have installed node B. This enables both Hyper-V hosts to view the same LUN.

**Step 6** Add this LUN to Node B.

**Note**

In a cluster set up, when the RDM link goes down on the primary node, DMEs cannot write to the database. This causes a crash on the primary node and failover to the subordinate node. The subordinate node takes over as the primary node. The database is then mounted in read-write mode on the new primary node. Because the RDM link is down, **umount** fails on the old primary node. When the RDM link comes up, the database is mounted on the old primary (current subordinate) node in read-only mode.

As a workaround, you can restart **pmon** services on the current subordinate node or restart the node itself. Either of these processes will unmount the read-only partition and enable proper cleanup.

## Adding and Setting up an RDM Shared Storage on VMware

**Important**

You must have only one path to the shared storage. Multi-path is not supported.

If there is more than one path when you add the shared storage to Cisco UCS Central VM, you must disable all additional paths. To disable additional paths,

- 1 Click **Edit VM Settings**, select the shared storage and click **Manage Paths**.
- 2 Right click on all additional paths and click **Disable**.

## Procedure

- Step 1** Create a LUN which is no less than 40 GB on the storage array and map it to the ESXi host on which you have installed Node A.
- Step 2** Add the storage array to the VM as Raw Device Mapping in physical compatibility mode. Make sure to select all default options.
- Step 3** Change the path selection policy for raw Device mapping hard disk to Fixed (VMware).  
You have now added a shared storage to VMware. Do the following to setup the shared storage.
- Step 4** Map the LUN you added to Node A to the ESXi host on which you have installed node B.  
This enables both ESXi hosts to view the same LUN.
- Step 5** Open a separate VSphere Client session for this ESXi Host.  
You should not add the VM using the VCenter Server. If you do, that will disallow conflicting LUN mapping.
- Step 6** Add it to the VM as Raw Device Mapping in physical compatibility mode. Make sure to select all default options.
- Step 7** Change the path selection policy for Raw Device Mapping to Fixed VMware.

**Note**

In a cluster set up, when the RDM link goes down on the primary node, DMEs cannot write to the database. This causes a crash on the primary node and failover to the subordinate node. The subordinate node takes over as the primary node. The database is then mounted in read-write mode on the new primary node. Because the RDM link is down, **umount** fails on the old primary node. When the RDM link comes up, the database is mounted on the old primary (current subordinate) node in read-only mode.

As a workaround, you can restart **pmon** services on the current subordinate node or restart the node itself. Either of these processes will unmount the read-only partition and enable proper cleanup.

## Installing Cisco UCS Central on Node A

### Before You Begin

**Note**

The Cisco UCS Central VM performs a one-time installation process the first time it starts up. Allow the installation to complete before you log in.

Make sure you have the following information:

- Network data such as hostname, IP address, default gateway, DNS server, and DNS domain name
- Whether you are setting up a new cluster
- Admin username and password
- Shared secret for communications between the cluster nodes and with Cisco UCS Manager
- IP address of the peer Cisco UCS Central node

- Virtual IP address

## Procedure

- 
- Step 1** Save the Cisco UCS Central OVA or ISO file to a folder that you can access from the hypervisor.
- Step 2** Open or import the Cisco UCS Central OVA file into a supported hypervisor, as required by the hypervisor. Do not continue with the next step until the VM has finished booting.
- Step 3** Add shared storage. See [Adding and Setting up an RDM Shared Storage on VMware, on page 14](#) or [Adding and Setting up an RDM Shared Storage on Hyper-V, on page 13](#).
- Step 4** Power up the Cisco UCS Central VM.
- Step 5** Open up a console window to the Cisco UCS Central VM.
- Step 6** When the Cisco UCS Central VM has completed the initial part of the installation process, answer the following questions in the VM console window:
- At the `Setup new configuration or restore full-state configuration from backup [setup/restore] prompt`, enter `setup` and press Enter.
  - At the `Enter the UCS Central VM eth0 IPv4 Address prompt`, enter the IP address assigned to Cisco UCS Central and press Enter.
  - At the `Enter the UCS Central VM eth0 IPv4 Netmask prompt`, enter the default gateway used by Cisco UCS Central and press Enter.
  - At the `Enter the VM IPv4 Default Gateway prompt`, enter the default gateway used by Cisco UCS Central and press Enter.
  - At the `Is this VM part of a cluster(select 'no' for standalone) (yes/no) prompt`, enter `yes` and press Enter.
  - At the `Is this VM part of a new cluster(select 'no' to add to an existing cluster) (yes/no) prompt`, enter `yes` and press Enter.
  - At the `Enter the UCS Central VM Hostname prompt`, enter the hostname assigned to Cisco UCS Central and press Enter.
  - At the `Enter the DNS Server IPv4 Address prompt`, enter the DNS server IPv4 address used by Cisco UCS Central and press Enter.
  - At the `Enter the Default Domain Name prompt`, enter the default domain name used by Cisco UCS Central and press Enter.
  - At the `Use RDM or NFS for shared storage[rdm/nfs] prompt`, enter `rdm` or `nfs` and press Enter.  
**Important** KVM Hypervisor only supports NFS shared storage. RDM shared storage is not supported for KVM Hypervisor.
  - If you entered `rdm`, at the `Enter the Shared Storage Device from the above list (enter serial no.) prompt`, enter the serial number of the shared storage device and press Enter.
  - If you entered `nfs`, at the `Enter the NFS IPv4 Address prompt`, enter the NFS IPv4 Address and press Enter.
  - If you entered `nfs`, at the `Enter the NFS Direcotry prompt`, enter the NFS directory Enter.
  - At the `Enforce Strong Password (yes/no) prompt`, enter `no` and press Enter.
  - At the `Enter the admin Password prompt`, enter the admin password and press Enter.
  - At the `Confirm the admin Password prompt`, enter the admin password again and press Enter.
  - At the `Enter the Shared Secret prompt`, enter the shared secret and press Enter.
  - At the `Confirm Shared Secret prompt`, enter the shared secret again and press Enter.
  - At the `Enter the Peer UCS Central Node IPv4 Address prompt`, enter the IPv4 address of the peer UCS central node and press Enter.



- t) At the `Enter the Virtual IPv4 Address` prompt, enter the virtual IPv4 address used by Cisco UCS Central and press Enter.
  - u) At the `Do you want Statistics Collection (yes/no)` prompt, if you want to enable statistics collection, enter yes and press Enter.  
If you do not want to enable statistics collection now, you can enter no and proceed with the installation. You can enable the statistics collection using Cisco UCS Central CLI at any time. If you have entered yes, you will be prompted to provide the database server information. See [Database Server Information, on page 18](#)
  - v) At the `Proceed with this configuration? Please confirm (yes/no)` prompt, enter yes and press Enter to initiate the system installation.
- 

## Installing Cisco UCS Central on Node B

### Before You Begin

Make sure you have the following information:

- UCS Central IPv4 address, IPv4 netmask, and IPv4 default gateway
- The IP Address, admin username and password of the peer node

### Procedure

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- Step 1** Save the Cisco UCS Central OVA or ISO file to a folder that you can access from the hypervisor.
- Step 2** Open or import the Cisco UCS Central OVA file into a supported hypervisor, as required by the hypervisor. Do not continue with the next step until the VM has finished booting.
- Step 3** Setup the shared storage. See [Adding and Setting up an RDM Shared Storage on VMware, on page 14](#) or [Adding and Setting up an RDM Shared Storage on Hyper-V, on page 13](#).
- Step 4** Power up the Cisco UCS Central VM.
- Step 5** Open up a console window to the Cisco UCS Central VM.
- Step 6** When the Cisco UCS Central VM has completed the initial part of the installation process, answer the following questions in the VM console window:
  - a) At the `Setup new configuration or restore full-state configuration from backup [setup/restore] prompt`, enter setup and press Enter.
  - b) At the `Enter the UCS Central VM eth0 IPv4 Address` prompt, enter the IP address assigned to Cisco UCS Central and press Enter.
  - c) At the `Enter the UCS Central VM eth0 IPv4 Netmask` prompt, enter the default gateway used by Cisco UCS Central and press Enter.
  - d) At the `Enter the VM IPv4 Default Gateway` prompt, enter the default gateway used by Cisco UCS Central and press Enter.
  - e) At the `Is this VM part of a cluster(select 'no' for standalone) (yes/no)` prompt, enter yes and press Enter.
  - f) At the `Is this VM part of a new cluster(select 'no' to add to a new cluster) (yes/no)` prompt, enter no and press Enter.

- g) At the Enter the Peer UCS Central Node IPv4 Address prompt, enter IP address assigned to Cisco UCS Central and press Enter.
  - h) At the Enter the admin Username on Peer Node prompt, enter the admin username of the peer node and press Enter.
  - i) At the Enter the admin Password on Peer Node prompt, enter the admin password of the peer node and press Enter.
  - j) At the Proceed with this configuration? Please confirm (yes/no) prompt, enter yes and press Enter to initiate a system reboot.
- 

## Database Server Information

If you answer yes to enable Statistics Collection question during install , then you must specify the database details during Cisco UCS Central installation.

- D : Default (internal Postgres db). The internal database is not recommended if you have more than 5 Cisco UCS domains registered with Cisco UCS Central.
- P : Postgre
- O: Oracle
- M: Microsoft SQL Server

If you select either P or O for either of the external database options, make sure you have the following Database information ready:

- Type : Oracle, PostgreSQL and MSSQL are the supported options.
- Server Name or IP Address: This must be accessible from Cisco UCS Central.
- Port: You can configure any custom DB port for accessing the Database server. You must have enabled this port in the firewall settings to enable Cisco UCS Central access the database server through this port.
  - Default port for Oracle: 1521
  - Default port for PostgreSQL: 5432
  - Default port for MSSQL: 1433

Check your database administrator for port information.
- Name : Name of the database where statistics data would be stored.
- Username: The user with administrative privileges to the database to create, delete, read and write.
- Password: We recommend to have password expiry set to never or 1 year, so the statistics collection is not interrupted due to expired DB password.

# Restoring the Cisco UCS Central VM in Standalone Mode

You cannot use a Cisco UCS Central, release 1.1 OVA file to restore a full-state backup from Cisco UCS Central, release 1.0.

**Note**

This procedure describes the process to restore using an OVA file.

## Before You Begin

You must have a backup file with extension .tgz from a Cisco UCS Central system that you want to use to restore the configuration of the Cisco UCS Central VM. For information on how to back up a Cisco UCS Central system, see Managing Back up and Restore in [Cisco UCS Central User Manual and CLI Reference Manual](#).

## Procedure

- Step 1** Save the Cisco UCS Central OVA file to a folder that you can access from the hypervisor.
- Step 2** Open or import the Cisco UCS Central OVA file into a supported hypervisor, as required by the hypervisor. Do not continue with the next step until the VM has finished booting.
- Step 3** If you have not already done so as part of importing the OVA file, power up the Cisco UCS Central VM.
- Step 4** Open up a console window to the Cisco UCS Central VM.
- Step 5** When the Cisco UCS Central VM has completed the initial part of the installation process, answer the following questions in the VM console window:
  - a) Setup new configuration or restore full-state configuration from backup [setup/restore] prompt, enter restore and press Enter.
  - b) At the Enter the UCS Central VM eth0 IPv4 Address : prompt, enter the IP address assigned to Cisco UCS Central and press Enter.
  - c) At the Enter the UCS Central VM eth0 IPv4 Netmask : prompt, enter the netmask assigned to Cisco UCS Central and press Enter.
  - d) At the Enter the Default Gateway : prompt, enter the default gateway used by Cisco UCS Central and press Enter.
  - e) At the Enter the File copy protocol[tftp/scp/ftp/sftp] : prompt, enter the supported protocol that you want to use to copy the backup file to the Cisco UCS Central VM and press Enter.
  - f) At the Enter the Backup server IPv4 Address : prompt, enter the IP address assigned to the server where the backup file is stored and press Enter.
  - g) At the Enter the Backup file path and name : prompt, enter the full file path and name of the backup file on the server and press Enter.
  - h) At the Enter the Username to be used for backup file transfer : prompt, enter the username the system should use to log in to the remote server and press Enter.
  - i) (Optional) At the Enter the Password to be used for backup file transfer : prompt, enter the password for the remote server username and press Enter.
  - j) At the Proceed with this configuration. Please confirm[yes/no] prompt, enter yes and press Enter.

If you think you made an error when completing any of these steps, enter no and press Enter. You will then be prompted to answer the questions again.

After you confirm that you want to proceed with the configuration, the network interface reinitializes with your settings and Cisco UCS Central becomes accessible via the IP address.

### What to Do Next

After Cisco UCS Central is restored, login to Cisco UCS Central and download the firmware images into Image library. If any firmware images are referenced in the service profiles, then you must make sure that the images are downloaded and available in the image library before you re-acknowledge a Cisco UCS domain from the suspended state.

## Restoring Cisco UCS Central VM in Cluster Mode

The restored VM is configured to Node A by default. If this is a new cluster, you must install Node B and add it to the cluster mode.



#### Note

We recommend that you use a different NFS shared directory, or completely clean up the previously used NFS shared directory before starting the full-state restore.

### Before You Begin

You must have a backup file with extension .tgz from a Cisco UCS Central system that you want to use to restore the configuration of the Cisco UCS Central VM. For information on how to back up a Cisco UCS Central system, see Managing Back up and Restore in [Cisco UCS Central User Manual and CLI Reference Manual](#).

When you are restoring a cluster setup, you must map shared storage before initiating restore.

### Procedure

- Step 1** Save the Cisco UCS Central OVA or ISO file to a folder that you can access from the hypervisor.
- Step 2** Open or import the Cisco UCS Central OVA file into a supported hypervisor, as required by the hypervisor. Do not continue with the next step until the VM has finished booting.
- Step 3** Add shared storage. See [Adding and Setting up an RDM Shared Storage on VMware, on page 14](#) or [Adding and Setting up an RDM Shared Storage on Hyper-V, on page 13](#).
- Step 4** Power up the Cisco UCS Central VM.
- Step 5** Open up a console window to the Cisco UCS Central VM.
- Step 6** When the Cisco UCS Central VM has completed the initial part of the installation process, answer the following questions in the VM console window:
  - a) At the Setup new configuration or restore full-state configuration from backup [setup/restore] prompt, enter restore and press Enter.
  - b) At the Enter the UCS Central VM eth0 IPv4 Address prompt, enter the IP address assigned to Cisco UCS Central and press Enter.

- c) At the Enter the UCS Central VM eth0 IPv4 Netmask prompt, enter the default gateway used by Cisco UCS Central and press Enter.
- d) At the Enter the VM IPv4 Default Gateway prompt, enter the default gateway used by Cisco UCS Central and press Enter.
- e) At the Enter File copy protocol[tftp/scp/ftp/sftp] : prompt, enter the supported protocol that you want to use to copy the backup file to the Cisco UCS Central VM and press Enter.
- f) At the Enter the Backup server IPv4 Address : prompt, enter the IP address assigned to the server where the backup file is stored and press Enter.
- g) At the Enter the Backup file path and name : prompt, enter the full file path and name of the backup file on the server and press Enter.
- h) At the Enter the Username to be used for backup file transfer : prompt, enter the username the system should use to log in to the remote server and press Enter.
- i) (Optional) At the Enter the Password to be used for backup file transfer : prompt, enter the password for the remote server username and press Enter.
- j) At the Proceed with this configuration? Please confirm (yes/no) prompt, enter yes and press Enter to initiate the system installation.  
If you think you made an error when completing any of these steps, enter no and press Enter. You will then be prompted to answer the questions again. After you confirm that you want to proceed with the configuration, a message will appear:  
  
The Shared Storage Device (Lun ID as present in the backup file) was not detected on this system.
- k) At the Enter Shared Storage Device from the above list (enter serial no) prompt, enter the serial number of the shared storage device you want to configure and press Enter.  
**Note** This shared storage device(lun) can be different from the expected storage. It will reconfigure a new storage and update the configuration files of the new setup.
- l) (Optional) At the Shared Storage device (lun id) will be formatted as part of the restore operation and any existing data will be wiped out. Do you want to proceed[y/n]? prompt, enter yes  
The network interface re-initializes with IP details in the backup file, shared storage is configured for Database and Cisco UCS Central becomes accessible via the IP address.

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### What to Do Next

Map the same shared storage device to node B, configure Node B for the cluster. See [Installing Cisco UCS Central on Node B](#) , on page 17

