Installing Cisco UCS Director on VMware vSphere

Cisco UCS Director for VMware vSphere

Cisco UCS Director can be hosted on VMware vSphere or vCenter as well as HyperV Manager.

Note   The appliance and boot-up logs are located in the `/var/log/ucsd` directory.

- `install.log` contains the one time appliance installation logs.

- `bootup.log` contains the appliance boot-up sequence information, such as startup messages for the database and infrastructure services.

Default Root and Shelladmin Passwords

During installation, Cisco UCS Director uses default passwords for the following accounts:

- Root user for the CentOS operating system of the Cisco UCS Director VM. The default password is cisco123.

- Shelladmin user for the Cisco UCS Director Shell menu. The default password is changeme.

You are not prompted to enter these passwords during installation. However, the first time you log in to Cisco UCS Director after installation is completed, you are prompted to reset the default root and Shelladmin passwords.

The new root and Shelladmin password must meet the password requirements. It cannot be a dictionary word or be all lowercase.

Prerequisites for VMware vSphere

Before you install Cisco UCS Director for VMware vSphere, complete the following steps:

- Install VMware vSphere or vCenter.

- Configure a VMware vSphere or vCenter user account with system administrator privileges for Cisco UCS Director.

  You need administrator privileges to connect to and install Cisco UCS Director on VMware vCenter. Cisco UCS Director requires a user account with system administrator privileges to discover, manage and automate VMware vCenter configuration from Cisco UCS Director. These operations include creating, deleting and modifying VMs, ESXi hosts and clusters, datastores and datastore clusters, standard and DV switches, and virtual network port groups.

- Download the Cisco UCS Director software from the Download Software area on Cisco.com.

- Extract the Cisco UCS Director OVF file from the digitally signed zip file to your local disk. See Digitally Signed Images.

Minimum System Requirements for a Single-Node Setup on VMware vSphere

The minimum system requirements depend on the number of VMs you plan to manage. We recommend deploying a Cisco UCS Director VM on a local datastore with a minimum of 25 MBps I/O speed, or on an external datastore with a minimum of 50 MBps I/O speed.

Note

- For optimal performance, reserve additional CPU and memory resources. We recommend that you reserve the following resources in addition to the minimum system requirements listed in the tables below: CPU resources of more than or equal to 3000MHz, and memory reservation of more than or equal to 1 GB. You should add more vCPUs if the Cisco UCS Director VM's CPU usage is consistently high.

- The minimum memory required for the inframgr service is automatically set during deployment. However, if you want to modify the memory for the inframgr service, edit the inframgr.env file available in the following location:

  /opt/infra/bin/inframgr.env

  In this file, update the "MEMORY_MAX" parameter to the value you want. After changing this parameter, restart the service for the changes to take effect. The default memory settings are MEMORY_MIN=6144 m and MEMORY_MAX=6144 m.

For information about minimum system requirements for a multi-node setup, see the Cisco UCS Director Multi-Node Installation and Configuration Guide.

Up to 2,000 VMs

If you plan to manage up to 2,000 VMs, the Cisco UCS Director environment must meet at least the minimum system requirements in the following table.

Table 1: Minimum System Requirements for up to 2,000 VMs

Element	Minimum Supported Requirement
vCPU	4
Memory	16 GB
Primary Disk (Hard Disk 1)	100 GB
Secondary Disk (Hard Disk 2)	100 GB

Up to 5,000 VMs

If you plan to manage no more than 5,000 VMs, the Cisco UCS Director environment must meet at least the minimum system requirements and recommended configurations in the following tables.

Table 2: Minimum System Requirements for up to 5,000 VMs

Element	Minimum Supported Requirement
vCPU	8
Memory	20 GB
Primary Disk (Hard Disk 1)	100 GB
Secondary Disk (Hard Disk 2)	100 GB

Table 3: Minimum Memory Configuration

Service	Recommended Configuration	File Location	Parameter
inframgr	8192m	`/opt/infra/bin/ inframgr.env`	MEMORY_MIN
inframgr	8192m	`/opt/infra/bin/ inframgr.env`	MEMORY_MAX

The following configuration must be updated in the `/etc/my.cnf` file.

Table 4: Minimum Database Configuration

Element	Minimum Supported Configuration
thread_cache_size	100
max_connections	1000
innodb_lock_wait_timeout	100
query_cache_size	128 MB
innodb_buffer_pool_size	4 GB
max_connect_errors	10000
connect_timeout	20
innodb_read_io_threads	64
innodb_write_io_threads	64

Note After updating and saving the `/etc/my.cnf` file, you need to restart the Cisco UCS Director database.

For optimal performance, ensure that you follow the below recommendations:

Table 5: Minimum Requirements

Element	Minimum Supported Requirement
vCPU	8 CPU cores
Memory	16 GB
IOPS	1200

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Note   We recommend that you use VMware vCenter for OVF deployment. VMware vCenter versions 5.x and above are supported. OVF deployment wizards support only IPv4 addresses. If you require IPv6, deploy the OVF with IPv4 addresses and then use the ShellAdmin to configure IPv6 addresses.

Before You Begin

You need administrator privileges to connect to VMware vCenter. Cisco UCS Director requires a user account with system administrator privileges to discover, manage and automate VMware vCenter configuration from Cisco UCS Director. These operations include creating, deleting and modifying VMs, ESXi hosts and clusters, datastores and datastore clusters, standard and DV switches, and virtual network port groups.

Note   If you do not want to use DHCP, you need the following information: IPv4 address, subnet mask, and default gateway.

Step 1   Log in to VMware vSphere Client.

Step 2   In the **Navigation** pane, choose the **Data Center** where you want to deploy Cisco UCS Director.
You must choose a location with sufficient vCPU and memory to power on the VM. See .

Step 3   Choose **File** > **Deploy OVF Template**.

Step 4   In the **Source** pane, do one of the following to choose your OVF source location:

   • Click **Browse**, navigate to the location where you downloaded the OVF, choose the file, and click **Open**.

   • Replace *FQDN* (Fully Qualified Domain Name) with the path to the URL on your local area network where the OVF is storesd, inclding the IP address or domain name, and click **Next**.

Step 5   In the **OVF Template Details** pane, verify the details, and click **Next**.

Step 6   In the **Name and Location** pane, do the following:

   a) In the **Name** field, edit the default VM name.
   b) From the **Inventory Location** area, choose the inventory location where Cisco UCS Director is being deployed, and click **Next**.
   Note   If you chose a Data Center in Step 2, option b might not be available.

   c) Click **Next**.

Step 7   In the **Resource Pool** pane, choose the required host, cluster, or resource pool, and click **Next**.

Step 8   In the **Disk Format** pane, choose one of the following options and click **Next**:

   • **Thick Provisioned (Lazy Zeroed)** format—To allocate storage immediately in thick format. This is the recommended format. All Cisco UCS Director performance data is verified with this format.

- **Thick Provisioned (Eager Zeroed)** format—To allocate storage in thick format. It might take longer to create disks using this option.

- **Thin Provisioned** format—To allocate storage on demand as data is written to disk.

  Note We recommend that you do not choose the **Thin Provisioned** format.

Step 9 In the **Properties** pane, enter the following information and click **Next**:

- **Management IP Address**—The management IP address to be used for eth0. If your network uses DHCP, leave the default value of 0.0.0.0.

- **Management IP Subnet Mask**—The management IP subnet mask to be used for eth0. If your network uses DHCP, leave the default value of 0.0.0.0.

- **Gateway IP Address**

Step 10 In the **Ready to Complete** pane, do the following:

a) Verify the options that you chose in the previous panes.
b) Check **Power on after deployment**.
   If you do not check this box, you must power on the VM manually after deployment.

c) Click **Finish**.

Step 11 After the appliance has booted up, copy and paste the Cisco UCS Director management IP address (from the IP address that is shown) into a supported web browser to access the **Login** page.

Step 12 On the **Login** page, enter admin as the username and admin for the login password.
   Note We recommend that you change the default admin password after this initial login.

Step 13 Choose **Administration** > **License**.

Step 14 On the **License** page, click **License Keys**.

Step 15 Click **Manage Personalities**.

Step 16 On the **Personality Configuration** screen, check the required personalities.
   You can check either **UCSD** or **Big Data** or both personalities if required.

Step 17 Click **Submit**.

Reserving System Resources

For optimal performance, we recommend reserving extra system resources for Cisco UCS Director beyond the minimum system requirements listed in Minimum System Requirements for a Single-Node Setup on VMware vSphere, on page 2.

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| **Note** | For more information about how to reserve system resources, see the VMWare documentation. |

Step 1	Log in to VMware vCenter.
Step 2	Choose the VM for Cisco UCS Director.
Step 3	Shut down the VM.
Step 4	In VMware vCenter, click the **Resource Allocation** tab to view the current resource allocations, and click **Edit.**
Step 5	In the **Virtual Machine Properties** pane, edit resource allocations by choosing a resource and entering the new values.
Step 6	Verify that the new resource allocations have been made.