



Overview

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Cisco UCS Director

Cisco UCS Director is a complete, highly secure, end-to-end management, orchestration, and automation solution for a wide array of Cisco and non-Cisco data infrastructure components, and for the industry's leading converged infrastructure solutions based on the Cisco UCS and Cisco Nexus platforms. For a complete list of supported infrastructure components and solutions, see the [Cisco UCS Director Compatibility Matrix](#).

Cisco UCS Director is a 64-bit appliance that uses the following standard templates:

- Open Virtualization Format (OVF) for VMware vSphere
- Virtual Hard Disk (VHD) for Microsoft Hyper-V

Management through Cisco UCS Director

Cisco UCS Director extends the unification of computing and networking layers through Cisco UCS to provide you with comprehensive visibility and management of your data center infrastructure components. You can use Cisco UCS Director to configure, administer, and monitor supported Cisco and non-Cisco components. The tasks you can perform include the following:

- Create, clone, and deploy service profiles and templates for all Cisco UCS servers and compute applications.
- Monitor organizational usage, trends, and capacity across a converged infrastructure on a continuous basis. For example, you can view heat maps that show virtual machine (VM) utilization across all your data centers.

- Deploy and add capacity to converged infrastructures in a consistent, repeatable manner.
- Manage, monitor, and report on data center components, such as Cisco UCS domains or Cisco Nexus network devices.
- Extend virtual service catalogs to include services for your physical infrastructure.
- Manage secure multi-tenant environments to accommodate virtualized workloads that run with non-virtualized workloads.

Automation and Orchestration with Cisco UCS Director

Cisco UCS Director enables you to build workflows that provide automation services, and to publish the workflows and extend their services to your users on demand. You can collaborate with other experts in your company to quickly and easily create policies. You can build Cisco UCS Director workflows to automate simple or complex provisioning and configuration processes.

Once built and validated, these workflows perform the same way every time, no matter who runs the workflows. An experienced data center administrator can run them, or you can implement role-based access control to enable your users and customers to run the workflows on a self-service basis, as needed.

With Cisco UCS Director, you can automate a wide array of tasks and use cases across a wide variety of supported Cisco and non-Cisco hardware and software data center components. A few examples of the use cases that you can automate include, but are not limited to:

- VM provisioning and lifecycle management
- Network resource configuration and lifecycle management
- Storage resource configuration and lifecycle management
- Tenant onboarding and infrastructure configuration
- Application infrastructure provisioning
- Self-service catalogs and VM provisioning
- Bare metal server provisioning, including installation of an operating system

Features and Benefits

The features and benefits of Cisco UCS Director are as follows:

Feature	Benefit
Central management	<ul style="list-style-type: none"> • Provides a single interface for administrators to provision, monitor, and manage the system across physical, virtual, and bare metal environments • Provides unified dashboards, reports, and heat maps, which reduce troubleshooting and performance bottlenecks
Self-service catalog	<ul style="list-style-type: none"> • Allows end users to order and deploy new infrastructure instances conforming to IT-prescribed policies and governance

Feature	Benefit
Adaptive provisioning	<ul style="list-style-type: none"> • Provides a real-time available capability, internal policies, and application workload requirements to optimize the availability of your resources
Dynamic capacity management	<ul style="list-style-type: none"> • Provides continuous monitoring of infrastructure resources to improve capacity planning, utilization, and management • Identifies underutilized and overutilized resources
Multiple hypervisor support	<ul style="list-style-type: none"> • Supports VMware ESX, ESXi, Microsoft Hyper-V, and Red Hat hypervisors
Computing management	<ul style="list-style-type: none"> • Provisions, monitors, and manages physical, virtual, and bare metal servers, as well as blades • Allows end users to implement virtual machine life-cycle management and business continuance through snapshots • Allows administrators to access server utilization trend analysis
Network management	<ul style="list-style-type: none"> • Provides policy-based provisioning of physical and virtual switches and dynamic network topologies • Allows administrators to configure VLANs, virtual network interface cards (vNICs), port groups and port profiles, IP and Dynamic Host Control Protocol (DHCP) allocation, and access control lists (ACLs) across network devices
Storage management	<ul style="list-style-type: none"> • Provides policy-based provisioning and management of filers, virtual filers (vFilers), logical unit numbers (LUNs), and volumes • Provides unified dashboards that allow administrators comprehensive visibility into organizational usage, trends, and capacity analysis details.

Physical and Virtual Management Features

<p>Physical Server Management</p> <ul style="list-style-type: none"> • Discover and collect configurations and changes • Monitor and manage physical servers • Perform policy-based server provisioning • Manage blade power • Manage server life cycle • Perform server use trending and capacity analysis • Perform bare metal provisioning using preboot execution environment (PXE) boot management 	<p>Virtual Computing Management</p> <ul style="list-style-type: none"> • Discover, collect, and monitor virtual computing environments • Perform policy-based provisioning and dynamic resource allocation • Manage the host server load and power • Manage VM life cycle and snapshots • Perform analysis to assess VM capacity, sprawl, and host utilization
<p>Physical Storage Management</p> <ul style="list-style-type: none"> • Discover, collect, and monitor storage filers • Perform policy-based provisioning of vFilers • Provision and map volumes • Create and map Logical Unit Number (LUN) and iGroup instances • Perform SAN zone management • Monitor and manage network-attached storage (NAS) and SAN-based storage • Implement storage best practices and recommendation 	<p>Virtual Storage Management</p> <ul style="list-style-type: none"> • Discover, collect, and monitor storage of vFilers and storage pools • Perform policy-based storage provisioning for thick and thin clients • Create new datastores and map them to virtual device contexts (VDCs) • Add and resize disks to VMs • Monitor and manage organizational storage use • Perform virtual storage trend and capacity analysis
<p>Physical Network Management</p> <ul style="list-style-type: none"> • Discover, collect, and monitor physical network elements • Provision VLANs across multiple switches • Configure Access Control Lists (ACLs) on network devices • Configure storage network s • Implement dynamic network topologies 	<p>Virtual Network Management</p> <ul style="list-style-type: none"> • Add networks to VMs • Perform policy-based provisioning with IP and DHCP allocation • Configure and connect Virtual Network Interface Cards (vNICs) to VLANs and private VLANs • Create port groups and port profiles for VMs • Monitor organizational use of virtual networks

Model-Based Orchestration

Cisco UCS Director includes a task library containing over 1000 tasks and out-of-the-box workflows. Model-based orchestration and a workflow designer enable you to customize and automate the infrastructure administrative and operational tasks. You can extend and customize the system to meet individual needs.

The following table shows the maintenance and update activities of the task library from day1 through day 3:

Day-1	Day-2	Day-3
<ul style="list-style-type: none"> • Add tenants • Migrate or add applicants • Integrate with enterprise systems • Use End User Portal 	<ul style="list-style-type: none"> • Monitor performance • Start meeting and billing • Manage tenant change • Self-service Infrastructure as a Service (IaaS) 	<ul style="list-style-type: none"> • Add/upgrade hardware • Repurpose

New User Interface of Cisco UCS Director

Cisco UCS Director introduces a new user interface for the administrative portal. This section introduces you to some of the key features of this new user interface.

Change in Navigation

In earlier releases, you could access screens using the main menu bar. Starting with this release, all navigation options are now available from a side bar, and not from the horizontal main menu bar. As a result, the main menu bar is no longer visible in the user interface. You can use your mouse or the cursor to hover over an option on the side navigation bar, and then click on any of the menu options.

Absence of User Interface Labels

The user interface no longer includes labels for actions such as Add, Edit, Delete, Export, and Filter. These actions are represented only with icons. If you use your mouse or cursor to hover over the icon, the label will display the action you can perform using that icon. You can also modify the icons in the user interface for all actions and status messages. For more information, see [Modifying an Icon in the Cisco UCS Director User Interface](#).

Availability of the Classic View

When you login to Cisco UCS Director, by default, the new user interface is displayed. The earlier version of the interface, now referred to as the Classic View, is currently available. However, this Classic View will soon be removed from the user interface. For information on accessing the Classic View, see [Switching to the Classic View, on page 11](#).

Using Dashboard to Access Detailed Reports

If you have enabled the **Dashboard**, then it is the first screen that you will see when you login to Cisco UCS Director. Typically, you can use this dashboard to add important or frequently accessed report widgets. Now, you can click on any of the reports that are displayed on the **Dashboard**, and immediately access the screen in the user interface where more detailed information is displayed.

For more information, see [Enabling the Dashboard](#)

In addition, you can create multiple dashboards and delete them when you no longer need them. For more information, see [Creating Additional Dashboards](#) and [Deleting a Dashboard](#).

Enhanced Capabilities with Tabular Reports

Following are some of the enhanced capabilities with tabular reports available in the user interface:

- Right-click to view additional options
After you select a row, if you right-click on your mouse, a list of options relevant to the row you selected are displayed.
- Filter and Search
You can use a **Filter** option or a **Search** option with tabular reports in the Cisco UCS Director interface. On any page with a tabular report, you can use the **Filter** option that allows you to narrow down the tabular report results with a specific criteria. You can use this **Filter** option on tabular reports that do not span across pages. For tabular reports that do span across multiple pages, you can use the **Search** option to narrow down your search result.
- Adding tabular reports to the **Favorites** menu
You can add any tabular report displayed in the user interface as a Favorite. By adding a report as a favorite, you can access this report from the **Favorites** menu.
- Resizing of columns
You can resize all the columns that are displayed in the tabular report, including the last column. After you expand the columns, you can use the horizontal scroll bar to view the complete screen.
- Informational message displayed in the absence of data
If there is no information to be displayed in a report, the following message is displayed.
No Data

Removing and Restoring Tabs

On any screen that has multiple tabs available, you can choose the number of tabs that you would like to see on that screen. If you close a tab on a screen, it will no longer be displayed in the row of tabs displayed in the user interface. If you would like to bring it back on the screen, then click the arrow facing downwards that is visible on the far right of the screen. It displays a drop-down list of tabs that are available but hidden from view. Choose the tab you would like to restore.



Note

You can remove and restore tabs on a screen only when there are a minimum of two tabs. This functionality is not available when there is only one tab displayed on a screen in the interface.

Enhancements to Reporting Capabilities

Following are some of the enhanced reporting capabilities available in the user interface:

- Introduction of pie charts and bar graphs

Each individual pie chart or bar graph can be exported out of the system in PDF, CSV or XLS format, or can be added to the **Dashboard**.

- Availability of **More Reports** option

Using the **More Reports** option, you can now generate reports on specific data for the resources in the cloud accounts. For more information, see [Generating Additional Reports for a Cloud Account](#), on page 11.

Landing Page

The landing page opens when you log in to the Cisco UCS Director administrator portal. The elements that you see on the landing page depend upon how you have configured the display. By default, the Converged View is displayed when you login to the portal.

The following are the available elements for your landing page:

- Header—Displays across the top of the screen.
- Navigation menu—The main navigation bar is no longer on the top of the screen. It is now available as a vertical menu on the left-side of the screen.

**Note**

The menu does not have a scroll bar. The menu only displays the number of options that fit in the space available. Some options may not appear if you minimize your screen or zoom in. You can click **Site Map** to view all available options.

Figure 1: New User Interface





















Number	Name	Description
1	Header	Contains frequently accessed elements, including the menu. The header is always visible.
2	Link	Provides a link to the Cisco website from where you can access information on using the software.
3	Search icon	Allows you to search for and navigate directly to a specific report in the portal.
4	Diagnostic System Messages icon	Displays the number of diagnostic system messages that have been logged. Clicking on this link takes you to the Diagnostic System Messages screen from where you can view detailed information.
5	Help icon	Links to the online help system for the administrator portal.

Number	Name	Description
6	About icon	Displays information about the software, and the version that is currently installed.
7	Home icon	Returns you to the landing page from any location in the user interface.
8	User icon	Allows you to edit your profile, enable or disable the dashboard, access the classic view of the user interface, and log out.
9	Navigation menu	The vertical navigation menu using which you can access different screens in the interface.

Common Icons

The following table provides information about the common icons used in the user interface. You can see the name of an icon when you hover over it with your mouse. Some icons may have a different name, depending upon the context in which they're used.

Icon	Name	Description
	Search	Search is available on the header and on individual screens. Click Search on the header to find a report in the user interface. Click Search on an individual screen to find one or more items in the report.
	Alert	Alert is available on the header. Click Alert to view your diagnostic system messages.
	User	User is available on the header. Click User to access your profile, log out, or access the classic view of the user interface.
	Export	Export is available on individual screens. Click Export to export the content of the report that is visible on the screen.
	Import	Import is available on individual screens. Click Import to import a file.
	Refresh	Refresh is available on individual screens. Click Refresh to refresh the data that is visible on the screen.
	View Details	View Details is available on individual screens. Click View Details to see details about the selected row in the table.
	Table View	Table view is available for your application containers and catalogs. Click Table View to view your application containers or catalogs in a table with details about each application container or catalog displayed.

Icon	Name	Description
	Tile View	Tile view is available for your catalogs and application containers. Tile View to view your catalogs and application containers in a tiled view of icons. With this view, you must click on an icon to see details about that catalog item or application container.
	Create	Create is available on individual screens. Click Create to create a new object, such as a VM disk.
	Add	Add is available on individual screens. Click Add to add an item to an existing object, such as adding a catalog item to an existing catalog folder. The name of this icon may also include the item that you want to add, such as Add Catalog .
	Expand a list of values	Lists of values are available in forms when you must select one (single select) or more (multi select) items, for example IP addresses or VMs. Tip A <i>multi-select</i> list displays a check box in the upper left corner of the table next to the first column label. Click this check box to select all items in the table. The item label appears to the right of the Expand icon. Click the Expand icon to display the list, then select an item or items. Once an item is selected, its value appears in parentheses to the right of the Expand icon and label.
	Collapse a list of values	Once a list of values is expanded, the Expand icon changes to a Collapse icon. Click the Collapse icon to hide the list of values, for example to see what is beneath the list.
	Edit	Edit is available on individual screens. Click Edit to modify an existing object, such as a catalog item or a VM disk.
	Delete	Delete is available on individual screens. Click Delete to delete an object, such as a catalog item or a VM disk.
	Custom Actions	This icon represents additional tasks that do not have an associated icon. It also represents the default icon available in the user interface.
	Favorites	Adds a page to the Favorites menu. You can use this option to view frequently accessed pages more quickly.
	Filter	Provides filtering parameters on the page.

**Note**

You can view the complete list of icons and the details from the **Administration > User Interface Settings > Icon Management** screen. These icons are listed in the **Action Icon Set** category.

Converged View

When you login to the administrator portal for the first time, by default, the **Converged** screen is displayed. This screen displays the currently configured pods in your environment. From this screen, you can add additional pods, or you can select a pod and view additional details on the resources within the pod. Typically, the additional details displayed include the following:

- Virtual resources
- Compute resources
- Network resources
- Storage resources

You can click on any of these resources, and the screen loads additional information.

Cisco UCS Director allows you to configure the Dashboard as the first screen to be displayed when you login to the user interface. For more information, see [Enabling the Dashboard](#).

Generating Additional Reports for a Cloud Account

You can use the **More Reports** option to generate specific reports for either a virtual cloud account or for a physical pod account. The type of reports that are generated using this **More Reports** option varies based on the type of account.

If there is no information available to generate this report, then a message stating that there is no data is displayed.

Procedure

- Step 1** Navigate to the cloud account that you want to generate additional reports for.
- Step 2** From the **More Actions** drop-down menu, click **More Reports**.
- Step 3** From the **Type** drop-down list, and **Report** drop-down list, choose the type of report that you want to generate. The report is generated and displayed in the user interface.
- Step 4** (Optional) Click **Settings > Export Report** to choose the format in which you want the report to be exported in.

Switching to the Classic View

The classic view is the earlier version of the administrator user interface of Cisco UCS Director. You can switch to the classic view from the new user interface.

On the header, click the icon for your user name, and choose **Classic View**. The earlier interface opens in a new browser tab.

This **Classic View** option is available in the user interface only if you set the enableClassicView parameter to **true**.

```
cd /opt/infra/web_cloudmgr/apache-tomcat/webapps/app/ux/resources/  
vi appConfigs.json  
enableClassicView=true
```

You must refresh the user interface to view this option.

Guided Setup Wizards in Cisco UCS Director

Cisco UCS Director includes a set of wizards that guide you through configuring important features. The following are the available guided setup wizards:

- **Device Discovery**—This wizard enables you to discover devices and assign them to a pod.
- **Initial System Configuration**—This wizard helps you complete initial tasks to set up Cisco UCS Director, such as uploading licenses, and setting up SMTP, NTP, and DNS servers.
- **vDC Creation**—This wizard enables you to configure the policies required to provision VMs in private clouds.
- **FlexPod Configuration**—This wizard helps you set up a FlexPod account.
- **Vblock Pod Configuration**—This wizard enables you to discover and assign accounts to Vblock pods.
- **VSPEX Pod Configuration**—This wizard enables you to discover and assign accounts to VSPEX pods.
- **Virtual SAN Pod Configuration**—This wizard enables you to set up a Virtual SAN Pod and add devices.

When you first log into Cisco UCS Director, a **Wizard Explorer** window is displayed. From this window, you can view the details of the available guided setup wizards and choose to launch any of them. If you do not want this **Wizard Explorer** to appear every time you log in, you can check the **Do not show this page again** checkbox. To launch these wizards later on, click **Administration > Guided Setup**.

In addition to these system-provided wizards, you can create a wizard from a workflow that you have previously configured. For more information, see [Creating a Wizard from a Workflow](#), on page 12.

Creating a Wizard from a Workflow

You can convert valid workflows into wizards, and save them in Cisco UCS Director.

Before You Begin

You must have created valid workflows in Cisco UCS Director.

Procedure

-
- Step 1** Choose **Administration > Guided Setup**.
 - Step 2** On the **Guided Setup** page, click **Setup**.
 - Step 3** From the **More Actions** drop-down menu, click **Create from Workflow**.
 - Step 4** In the **Create Wizard from Workflow** screen, complete the required fields, including the following:

Name	Description
Select Workflow field	Check the check boxes of the workflow that you want to convert to a wizard. After you select a workflow, click Validate to ensure that the workflow is valid.
Carry over static field values check box	Check this check box if you want the static values from the selected workflow tasks to be carried over into the wizard pages.
Label field	The name of the wizard. This is the primary name of the wizard.
Second Label field	A secondary name of the wizard.
Description field	A description of the wizard.
Icon Image field	Expand the list to check the check box of the icon that you want to associate with this workflow.

Step 5 Click **Submit**.

What to Do Next

You can perform the following tasks:

- Launch the wizard.
- Edit the wizard.
- View details of the wizard.
- Re-order the wizard in the interface.
- Delete the wizard.

Setting up Non-Secure Connection to the Cisco UCS Director User Interface

By default, the Cisco UCS Director user interface launches in the secure mode. If you want to bypass the secure mode, and launch the user interface in a non-secure mode (HTTP), you must follow this procedure.

Procedure

Step 1 Log in as root.

Step 2 Make the following changes in the `/opt/infra/web_cloudmgr/apache-tomcat/conf/server.xml` file:

a) Comment out the existing port 8080 Connector tag

```
<!--
<Connector port="8080" protocol="HTTP/1.1"
  redirectPort="443" maxHttpHeaderSize="65536"
  URIEncoding = "UTF-8"/>
-->
```

b) Add the following as a new port 8080 Connector tag:

```
<Connector port="8080" protocol="HTTP/1.1"
  maxThreads="150" minSpareThreads="4"
  connectionTimeout="20000"
  URIEncoding = "UTF-8" />
```

Step 3 Comment the `<security-constraint>` tag in the `/opt/infra/web_cloudmgr/apache-tomcat/webapps/app/WEB-INF/web.xml` file.

```
<!--
<security-constraint>
<web-resource-collection>
<web-resource-name>HTTPSOnly</web-resource-name>
<url-pattern>*/</url-pattern>
</web-resource-collection>
<user-data-constraint>
<transport-guarantee>CONFIDENTIAL</transport-guarantee>
</user-data-constraint>
</security-constraint>
-->
```

Step 4 Restart the services.

Step 5 Launch the user interface and log in to the system.

You can now log into the system in the non-secure mode using the following URL format:

`http://<IP-Address>:8080` or `http://<IP-Address>`

You can launch the user interface in both, secure and non-secure modes.

Initial Login

Log into Cisco UCS Director by hostname or IP address with the following credentials:

- Username: admin
- Password: admin



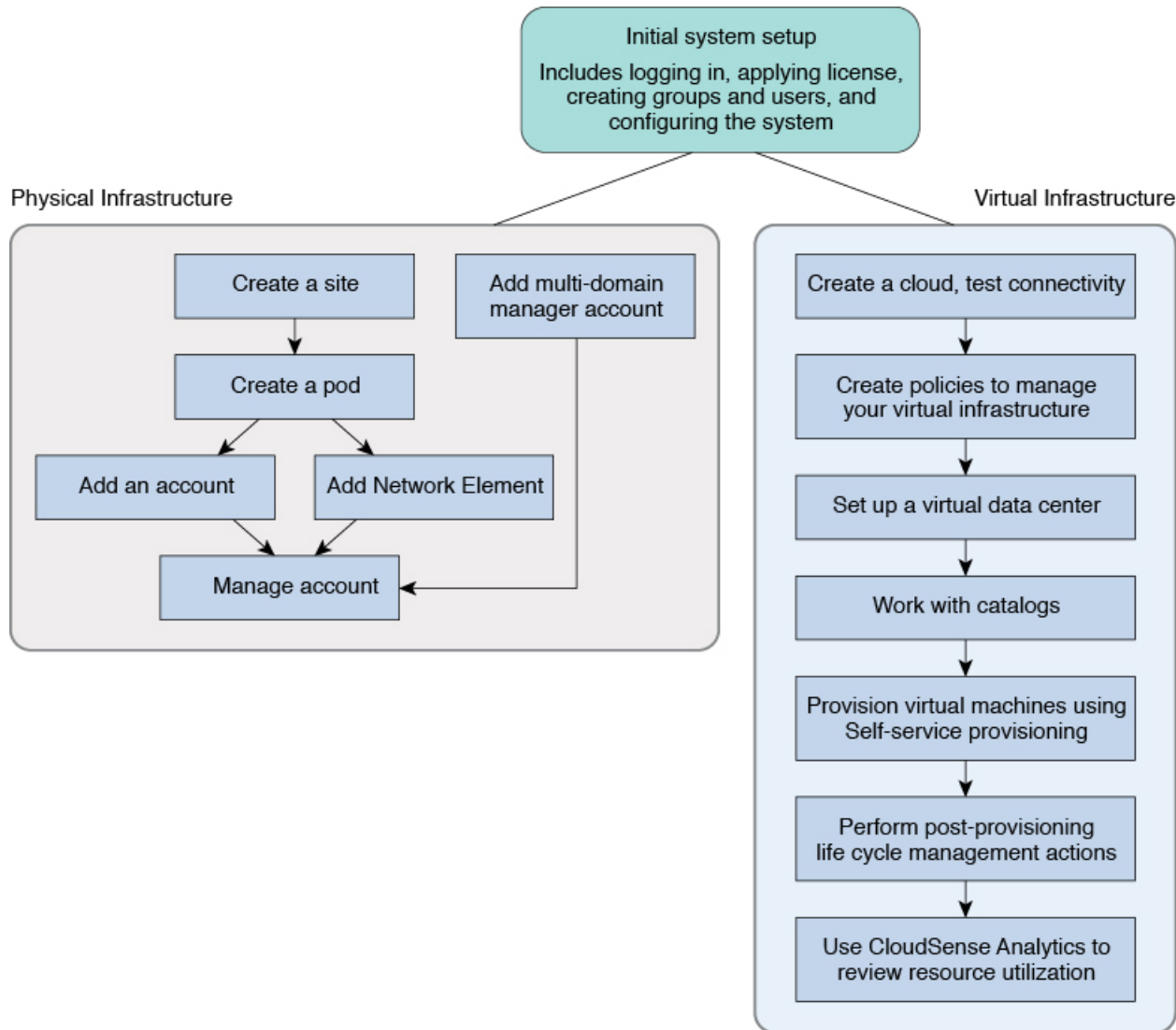
Note

We recommend that you delete the startup admin account after you create the first admin account or, at least, change the default password. To access the End User Portal, you must have a valid email address.

Recommended Order of System Setup

The following figure illustrates the workflow to set up your environment using Cisco UCS Director:

Figure 2: Sample Workflow to Set up Your Environment



The following table describes the chapters available in this book using which you can complete setting up your environment.

Name	Chapter	Description
Initial set up	2, 3, 4 and 5	Describes how to apply a license, set up the Admin profile, create groups, and create users. You will learn how to access language support, apply portal customization, and system settings
Physical Infrastructure	6	Describes how to optionally add a pod and physical account, add network elements, test the connections, and verify account discovery. Note You can create the virtual infrastructure before the physical infrastructure if you want.
Virtual Infrastructure	7	Describes how to create a cloud, verify cloud discovery and connectivity, test the connections, and view vCenter plug ins.
Policies	8	Describes how to create and manage computing policies, storage policies, network policies, and system policies. You will learn how to add OS licenses for Microsoft Windows catalogs.
Virtual Data Centers	9	Describes how to set up VDCs to manage specific environments for groups, policies, and cost models, and how resource limits are configured and managed at the VDC level.
Catalogs	10	Describes how to set up catalog items, attach groups with access to a catalog, and publish catalog items.
Self-Service Provisioning	11	Describes how you can create and manage provisioning service requests.
Multi-Disk Provisioning	12	Describes how to configure VM disk provisioning on a preferred single datastore or multiple datastores. It also provides instructions on how to configure individual disk policies for each additional disk in a template.
Chargeback	13	Describes how to create chargeback summary reports, detailed reports, and resource accounting reports. It shows how cost models are defined and assigned to policies within departments and organizations.
Cloud Management	14	Describes how you can get complete cloud visibility, monitor resource usage, and manage the cloud stack—clouds, clusters, host servers, and virtual machines.
Life Cycles	15	Describes how to perform post provisioning life cycle management actions on VMs, such as VM power management, VM resizing, VM snapshot management, and other VM actions.
CloudSense	16	Describes the analytical reports about the underlying physical and virtual infrastructure that Cisco UCS Director can generate.

Configuring the Host Name for Cisco UCS Director

If you changed the default host name of the appliance of Cisco UCS Director using the command prompt, then you must follow this procedure to ensure that the name is updated in the `/etc/hosts` file.

Procedure

Step 1 SSH to the appliance using the root account.

Step 2 Edit the `/etc/hosts` to update the new host name.

In a single node environment, you must update the file in the following format:

```
vi /etc/hosts
198.51.100.1 new_hostname
```

In a multi-node environment, if the host names of other nodes are changed, then you must update the IP address and the new host name on the primary node, service nodes and database nodes. For example:

```
vi /etc/hosts
198.51.100.1 new_hostname
Ex:
198.51.100.2 UCSD_Primary
198.51.100.3 UCSD_Service
198.51.100.4 UCSD_Inv_DB
198.51.100.5 UCSD_Mon_DB
```

Step 3 Restart the appliance services.

Working with Ciphers

As an administrator in Cisco UCS Director, you have the capability to enable or disable ciphers from the property file. In the event that you enable a cipher with a potential security risk, a warning message is logged in the Cisco UCS Director log file. By default, all ciphers that pose a risk are disabled. You can configure specific ciphers from the `defaultEnabledCipherSuites.properties` file, located in the `/opt/infra/inframgr` folder. For more information, see [Editing Cipher Usage](#), on page 17.

In addition, you can change the preference order of the standard set of ciphers, based on your system requirements. By default, the standard ciphers are listed according to the preference order.

Cisco UCS Director currently supports the use of "limited" and "strong" Java Cryptography Extension (JCE) Policy files for Java SE Runtime Environment. If you want to change these policies to "unlimited" and "strong" JCE policies, then you must download and install the latest JCE policy files from the Oracle website. For more information, see [Installing the Latest Java Cryptography Extension \(JCE\) Policy Files](#), on page 18.

Editing Cipher Usage

CipherSuites are maintained in the `defaultEnabledCipherSuites.properties` file. You can edit the list of ciphers in this file, based on the application requirements for your network.

We recommend that you always use the standard ciphers and not enable any broken or risky ciphers for your application.

Procedure

Step 1 Open the `defaultEnabledCipherSuites.properties` file.

It is available in the `opt/infra/inframgr/` directory.

- Step 2** To use a broken cipher, locate the cipher in the file, and uncomment it.
 - Step 3** Save the file.
 - Step 4** Restart the service.
-

Installing the Latest Java Cryptography Extension (JCE) Policy Files

Complete the following procedure to download and install the latest JCE policy files:

Procedure

- Step 1** Take a backup of the following files in the `$JAVA_HOME/jre/lib/security` folder:
 - `local_policy.jar`
 - `US_export_policy.jar`
 - Step 2** Access the oracle Java SE download page at <http://www.oracle.com/technetwork/java/javase/downloads.index.html>.
 - Step 3** Scroll to the **Additional Resources** section to locate the Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy File.
 - Step 4** Download the Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files for JDK/JRE 8 zipped file.
 - Step 5** Extract the contents of the zipped file.
 - Step 6** Replace the `local_policy.jar` and `US_export_policy.jar` in the `$JAVA_HOME/jre/lib/security` folder.
 - Step 7** Restart the application.
-