# Installing Cisco VIM through Cisco VIM Unified Management

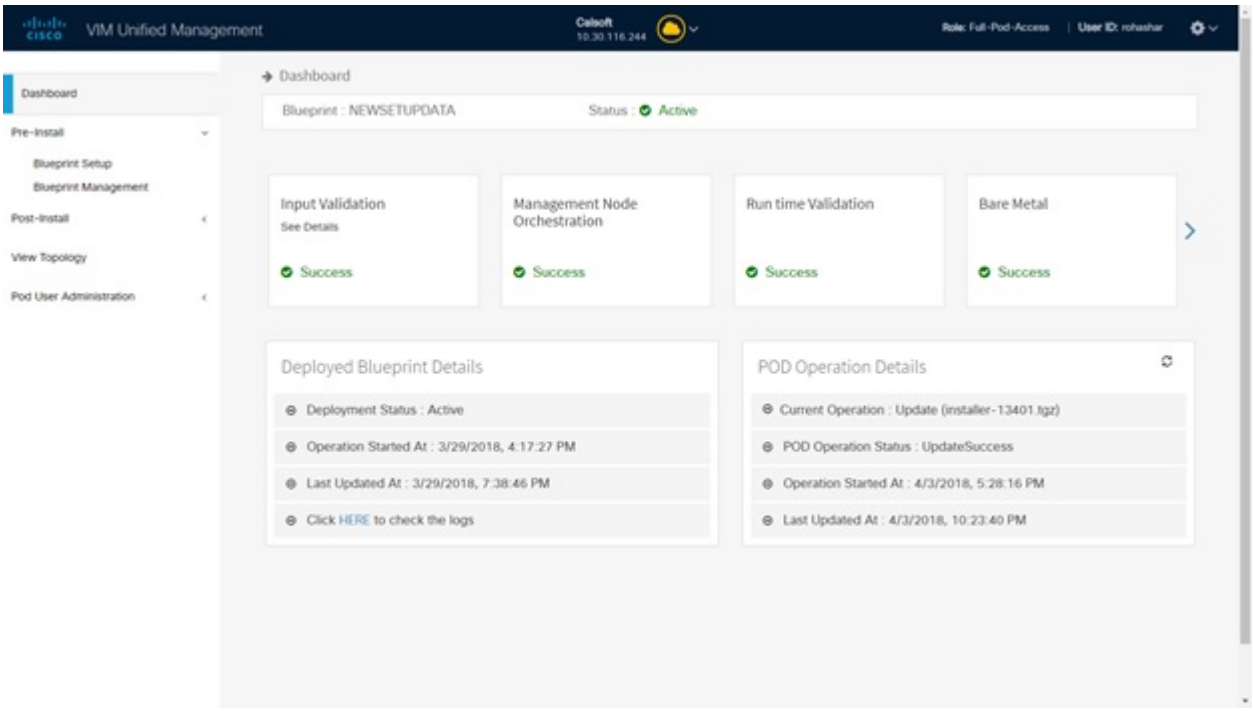
The VIM UM has an UI admin, who has the privilege to manage the UI offering. The Insight UI admin, has the rights to add the right users as Pod administrators. Post bootstrap, the URL for the UI will be: https://br_api:9000.

The following topics helps you to install and configure Cisco Virtual Infrastructure Manager with VIM Insight:


- Unified Management Dashboard, on page 1
- Pods, on page 2
- Pod Administrator, on page 4
- Unified Management (UM) Administrator, on page 4
- Registering New Pod to Insight , on page 5
- Configuring OpenStack Installation, on page 6
- Post Installation Features for Active Blueprint, on page 41


# Unified Management Dashboard

When you login as UM admin, you will be redirected to the UM admin Dashboard.




The UM dashboard displays the following information about the pods it is currently managing:

**Pod Status**

- Active - Number of Pods which has health status OK (Example: Mgmt Node health of the pod is good).
- Inactive - Number of Pods whose health status is not good (Example:. Mgmt Node health of the pod is not good).
- Total number of Pods - Number of Pods registered in the system.

**Pod Users**

- Total – Total number of users registered who are associated with at-least one Pod.
- Registered – Number of users who have completed the registration process and are associated with at-least one Pod.
- Active – Number of Online users who are associated with at-least one Pod.

You can see the list of Pod with its Pod name, description, IP address, location, Pod status along with the Total users and Active users of each pod. You can search for a Pod using Name, IP and location in the search option.

If you click **Get health of current nodes icon (spin)** it does the health check of the Pod.

# Pods

Pods allows you to check the health status (indicated through green and red dot) of the pod respectively.

To fetch the latest health status, click **Refresh** which is at the upper right corner.

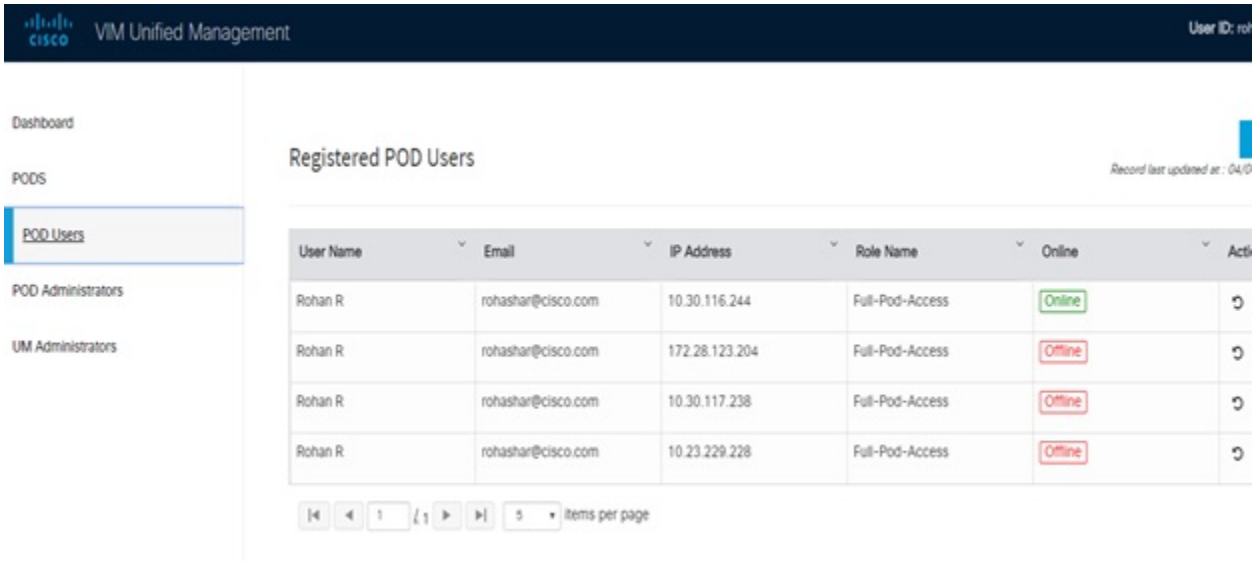
- Green dot – Pod is reachable and health is good.
- Red dot – Pod is not reachable.

# Pod Users

The Pod Users page, gives you the details associated the pod, status (Online or Offline) and their Roles.

UM admin has the right to manage all Pod users in the system. The user with UM admin access can manage the following actions:

- Revoke User's permission from a specific Pod.
- Delete User from the system.




# Revoking User

UM admin revokes the user's permission from a Pod by clicking **(undo)** icon. If the user is the only user with a Full-Pod-Access role for that particular Pod, then the revoke operation is not permitted. In this case, another user is granted with a Full-Pod-Access role for that Pod and then proceeds with revoking the old user.

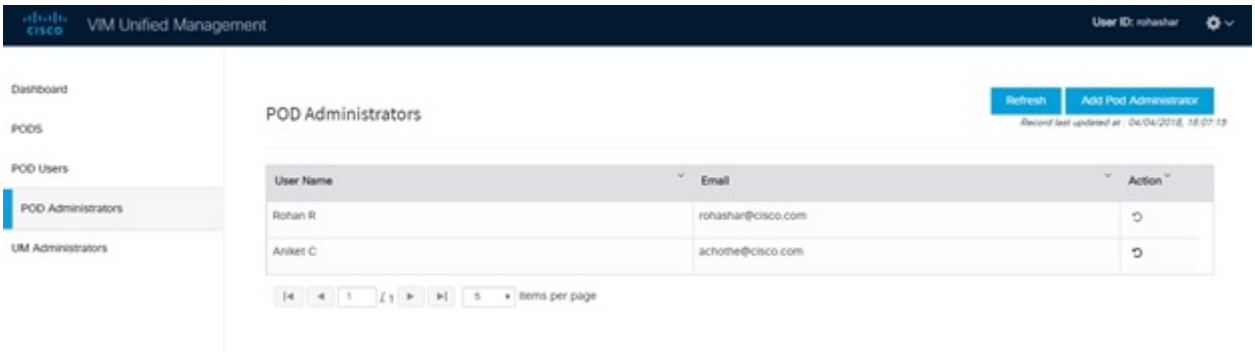
**Note** If the user is revoked from the last associated Pod, then the user is deleted from the system.

# Deleting Users

UM admin can delete any user from the system by clicking **X** from an Action column. The delete operation is not permitted if the user has Full-Pod-Access. In, such case another user is granted with *Full-Pod-Access* role for that Pod and then proceed with deleting the old user. UM admin must revoke respective permission first and then proceed further.

# Pod Administrator

Pod admins are the users who has the permission to register new Pods in the system. UM admin can add any number of Pod admins in the system.




## Adding Pod Admin

**Step 1** Log in as **UI Admin** and navigate to POD Administrator page.

**Step 2** Click **Add Pod Administrator** .

**Step 3** Enter the Email ID of the user.

- If email is already registered, then Username gets populated automatically.
- If not registered, an email is sent to the user email ID.

**Step 4** Navigate to https://br_api :9000.

**Step 5** Enter the Email ID and the Password of the Pod Admin and click **Login as Pod User**, it redirects to the landing page. Now the Pod admin can register a new Pod.

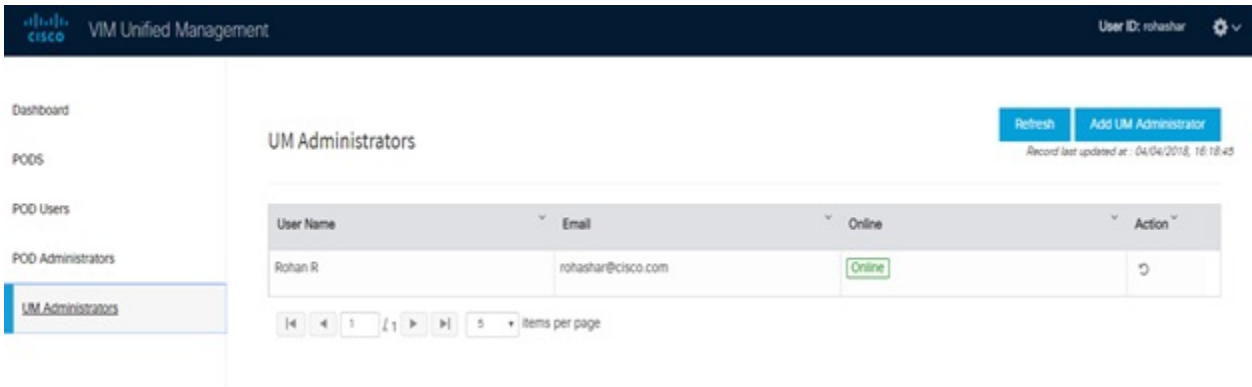
## Revoking Pod Admin

UM admin can revoke Pod admin's permission anytime. To revoke Pod admin permission for the user, click **undo** icon.

**Note** You cannot revoke self permission.

# Unified Management (UM) Administrator

UM admins have the access to the UM profile. Only a UM admin can add another UM admin in the system. There should be at least one UM admin in the system.




# Adding UM Admin

To add a UM admin perform the following steps.

**Step 1** Log in as **UI Admin** and navigate to UM Administrator page.

**Step 2** Click **Add UM Administrator**.

**Step 3** Enter the Email ID of the user.

- If email is already registered then Username gets populated automatically.
- If not registered, an email is sent to the user Email ID.

**Step 4** Navigate to https://br_api: 9000.

**Step 5** Enter the Email ID and the Password of the UM Admin and click **Log in as UM admin** it will redirect to UM dashboard.

# Revoking UM Admin

UM admin can revoke another UM admin's permission. To revoke UM Admin permission for any user, click **undo** icon.

**Note** You cannot revoke a self's permission. You can revoke a user if the user is not associated with any pod. After, revoking the user is deleted from the system.

# Registering New Pod to Insight

Following are the steps that are required for UI Admin to register a Pod Admin:

### Before you begin

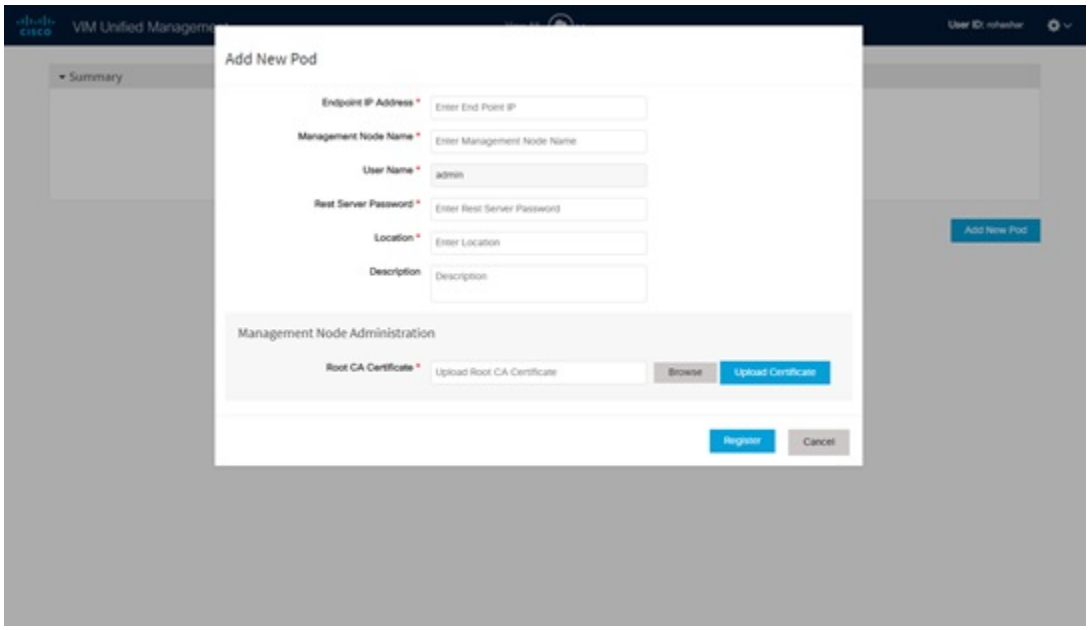
UI Admin has to register a Pod Admin to allow the user to access a pod.

**Step 1** Log in as **UM Administrator**, you will be redirected to UM Admin section.

**Step 2** Navigate to Pod Administrator and click **Add Pod Admin**.

**Step 3** Enter the Email ID and the Password of the Pod Admin and click **Login as Pod User,** it will redirect to landing page.

**Step 4** Click **Add New Pod** to register a Pod. Add New Pod popup window appears on the screen.




**Step 5** Enter the Add New Pod field values, and click **Browse** to browse the Root CA certificate and **Upload** it.

**Step 6** Click **Register** to start the Pod registration process starts.

The newly created Pod appears on the Landing Page.

# Configuring OpenStack Installation

### Before you begin

You need to create a Blueprint (B or C Series) to initiate OpenStack Installation through the VIM.

**Step 1** In the **Navigation** pane, choose **Pre-Install** > **Blueprint Setup**.

**Step 2** To create a **B Series Blueprint**:

1. On the **Blueprint Initial Setup** page of the Cisco VIM Insight , complete the following fields:

| Name | Description |
|---|---|
| **Blueprint Name** field | Enter blueprint configuration name. |

| Name | Description |
|---|---|
| **Platform Type** drop-down list | Choose one of the following platform types:<br>• B-Series (By default) choose B series for this section.<br>• C-Series |
| **Tenant Network** drop-down list | Choose one of the following tenant network types:<br>• Linuxbridge/VXLAN<br>• OVS/VLAN |
| **Pod Type** drop-down list | Choose one of the following pod types:<br>• Fullon(By Default)<br>• Micro<br>• UMHC<br>**Note** UMHC pod type is only supported for OVS/VLAN tenant type.<br>**Note** Pod type micro is supported for OVS/VLAN, ACI/VLAN,VPP/VLAN. |
| **Ceph Mode** drop-down list | Choose one of the following Ceph types:<br>• Dedicated<br>• Central (By Default) - Not supported in Production |
| **Optional Features and Services** Checkbox | Swiftstack, LDAP, Syslog Export Settings, Install Mode, TorSwitch Information, TLS, Nfvmon, Pod Name, VMTP, Nfvbench, Auto Backup, Heat, Keystone v3, Enable Esc Priv.<br>If any one is selected, the corresponding section is visible in various Blueprint sections.<br>By default all features are disabled except Auto Backup. |
| **Import Existing YAML file** | Click **Browse** button to import the existing yaml file.<br>If you have an existing B Series YAML file you can use this feature to upload the file.<br>Insight will automatically fill in the fields and if any mandatory field is missed then it will be highlight it in the respective section. |

2. Click **Physical Setup** to navigate to the **Registry Setup configuration** page. Fill in the following details for Registry Setup:

| Name | Description |
|---|---|
| **Registry User Name** text field | User-Name for Registry **(Mandatory)**. |
| **Registry Password** text field | Password for Registry **(Mandatory)**. |
| **Registry Email** text field | Email ID for Registry **(Mandatory)**. |

Once all mandatory fields are filled the **Validation Check Registry Page** will show a Green Tick.

3. Click **UCSM Common Tab** and complete the following fields:

| Name | Description |
|---|---|
| **User name** disabled field | By default value is Admin. |
| **Password** text field | Enter Password for UCSM Common **(Mandatory)**. |
| **UCSM IP** text field | Enter IP Address for UCSM Common(Mandatory). |
| **Resource Prefix** text field | Enter the resource prefix**(Mandatory)**. |
| **QOS Policy Type** drop-down | Choose one of the following types:<br>• NFVI (Default)<br>• Media |
| **Max VF Count** text field | Select the Max VF Count.<br><1-54> Maximum VF count 54, default is 20.<br>If VF performance is enabled we recommend you to keep MAX_VF_COUNT to 20 else may fail on some VICs like 1240. |
| **Enable VF Performance** optional checkbox | Default is false. Set to true to apply adaptor policy at VF level. |
| **Enable Prov FI PIN** optional checkbox | Default is false. |
| **MRAID-CARD** optional checkbox | Enables JBOD mode to be set on disks. Applicable only if you have RAID controller configured on Storage C240 Rack servers. |
| **Enable UCSM Plugin** optional checkbox | Visible when Tenant Network type is OVS/VLAN |
| **Enable QoS Policy** optional checkbox | Visible only when UCSM Plugin is enabled. If UCSM Plugin is disabled then this option is set to False. |
| **Enable QOS for Port Profile** optional checkbox | Visible only when UCSM Plugin is enabled. |
| **SRIOV Multi VLAN Trunk** optional grid | Visible when UCSM Plugin is enabled. Enter the values for network and vlans ranges. Grid can handle all CRUD operations like Add, Delete, Edit and, Multiple Delete. |

4. Click **Networking** to advance to the networking section of the Blueprint:

| Name | Description |
|---|---|
| **Domain Name** field | Enter the domain name **(Mandatory)**. |
| **HTTP Proxy Server** field | If your configuration uses an HTTP proxy server, enter the IP address of the server. |
| **HTTPS Proxy Server** field | If your configuration uses an HTTPS proxy server, enter the IP address of the server. |
| **IP Tables on Management Pods** | Specifies the list of IP Address with Mask. |
| **NTP Server** | Enter a maximum of four and minimum of one IPv4 and /or IPv6 addresses in the table. |
| **Domain Name Server** | Enter a maximum of three and minimum of one IPv4 and/or IPv6 addresses. |

| Name | Description |
| --- | --- |
| Network table | |

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td></td><td>Network table is pre-populated with segments. To add Networks you can either clear all the table using Delete All or click Edit icon for each segment and fill in the details.<br><br>You can add, edit, or delete network information in the table:<br><br>• Click + to enter new entries (networks) to the table.<br><br>• Specify the following fields in the Edit Entry to Networks dialog box.<br><br>
<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>VLAN field</td><td>Enter the VLAN ID.<br><br>For Segment - Provider, the VLAN ID value is always "none".</td></tr>
<tr><td>Segment drop-down list</td><td>You can select any one segment from the dropdown list.<br><br>• API<br><br>• Management/Provision<br><br>• Tenant<br><br>• CIMC<br><br>• Storage<br><br>• External<br><br>• Provider (optional)<br><br>Note Some segments do not need some of the values listed in the preceding points.</td></tr>
<tr><td>Subnet field</td><td>Enter the IPv4 address for the subnet.</td></tr>
<tr><td>IPv6 Subnet field</td><td>Enter IPv6 address. This field will be available only for Management provision and API.</td></tr>
<tr><td>Gateway field</td><td>Enter the IPv4 address for</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td></td><td>
<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td></td><td>the Gateway.</td></tr>
<tr><td>IPv6 Gateway field</td><td>Enter IPv6 gateway. This field will only available only for Management provision and API network.</td></tr>
<tr><td>Pool field</td><td>Enter the pool information in the required format, for example: 10.30.1.1 or 10.30.1.1 to 10.30.1.12</td></tr>
<tr><td>IPv6 Pool field</td><td>Enter the pool information in the required format, for example: 10.1.1.5-10.1.1.10,10.2.1.5-10.2.1.10<br>This field is only available for the Mgmt/Provision.</td></tr>
</table>
Click Save.
</td></tr>
</table>

5. On the **Servers and Roles** page of the Cisco VIM Suite wizard, you will see a pre-populated table filled with Roles: Control, Compute and Block Storage (Only if CEPH Dedicated is selected in Blueprint Initial Setup.

| Name | Description |
|---|---|
| **Server User Name** field | Enter the username of the server. |
| **Disable Hyperthreading** | Default value is false. You can set it as true or false. |

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Cobbler</td><td>Enter the Cobbler details in the following fields:
<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Cobbler Timeout field</td><td>The default value is 45 min.<br>This is an optional parameter. Timeout is displayed in minutes, and its value ranges from 30 to 120.</td></tr>
<tr><td>Block Storage Kickstart field</td><td>Kickstart file for Storage Node.</td></tr>
<tr><td>Admin Password Hash field</td><td>Enter the Admin Password. Password should be Alphanumeric. Password should contain minimum 8 characters and maximum of 32 characters.</td></tr>
<tr><td>Cobbler Username field</td><td>Enter the cobbler username to access the cobbler server.</td></tr>
<tr><td>Control Kickstart field</td><td>Kickstart file for Control Node.</td></tr>
<tr><td>Compute Kickstart field</td><td>Kickstart file for Compute Node.</td></tr>
<tr><td>Cobbler Admin Username field</td><td>Enter the admin username of the Cobbler.</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Add Entry to Servers and Roles</td><td>Click Edit or + to add a new server and role to the table.
<table>
<tr><td>Server Name</td><td>Enter a server name</td></tr>
<tr><td>Server Type drop-down list</td><td>Choose Blade or Rack from the drop-down list.</td></tr>
<tr><td>Rack ID</td><td>The Rack ID for the server.</td></tr>
<tr><td>Chassis ID</td><td>Enter a Chassis ID.</td></tr>
<tr><td>If Rack is chosen, the Rack Unit ID field is displayed.</td><td>Enter a Rack Unit ID.</td></tr>
<tr><td>If Blade is chosen, the Blade ID field is displayed.</td><td>Enter a Blade ID.</td></tr>
<tr><td>Select the Role from the drop-down list.</td><td>If Server type is Blade then select Control and Compute. If server is Rack then select Block Storage.</td></tr>
<tr><td>Management IP</td><td>It is an optional field but if provided for one server then it is mandatory to provide details for other Servers as well.</td></tr>
<tr><td>Management IPv6</td><td>Enter the Management IPv6 Address.</td></tr>
</table>
Click Save.</td></tr>
</table>

6. Click **ToR Switch** checkbox in **Blueprint Initial Setup** to enable the **TOR SWITCH** configuration page. It is an **Optional** section in Blueprint Setup but once all the fields are filled it is a part of the Blueprint.

| Name | Description |
|---|---|
| **Configure ToR** optional checkbox. | Enabling this checkbox, changes the configure ToR section from false to true. |

<table>
<tr><th>Name</th><th colspan="2">Description</th></tr>
<tr><td>ToR Switch Information mandatory table.</td><td colspan="2">Click (+) to add information for ToR Switch.<table><tr><th>Name</th><th>Description</th></tr><tr><td>Hostname</td><td>ToR switch hostname.</td></tr><tr><td>Username</td><td>ToR switch username.</td></tr><tr><td>Password</td><td>Tor switch password.</td></tr><tr><td>SSH IP</td><td>ToR switch SSH IP Address.</td></tr><tr><td>SSN Num</td><td>ToR switch ssn num.</td></tr><tr><td>VPC Peer Keepalive</td><td>Peer Management IP. You do not define if there is no peer.</td></tr><tr><td>VPC Domain</td><td>Do not define if peer is absent.</td></tr><tr><td>VPC Peer Port Info</td><td>Interface for vpc peer ports.</td></tr><tr><td>BR Management Port Info</td><td>Management interface of management node.</td></tr><tr><td>BR Management PO Info</td><td>Port channel number for management interface of management node.</td></tr></table>ClickSave.</td></tr>
<tr><td>On clicking save button, Add ToR Info Connected to Fabric field will be visible.</td><td>Port Channel field.</td><td>Enter the Port Channel input.</td></tr>
<tr><td></td><td>Switch Name field.</td><td>Enter the Port number.</td></tr>
</table>

7. Click **OpenStack Setup** tab to advance to the OpenStack Setup Configuration page.
8. On the **OpenStack Setup** page of the Cisco VIM Insight wizard, complete the following fields:

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>HA Proxy</td><td>Fill in the following details:<table>
<tr><td>External VIP Address field</td><td>Enter IP address of External VIP.</td></tr>
<tr><td>External VIP Address IPv6 field</td><td>Enter IPv6 address of External VIP.</td></tr>
<tr><td>Virtual Router ID field</td><td>Enter the Router ID for HA.</td></tr>
<tr><td>Internal VIP Address IPv6 field</td><td>Enter IPv6 address of Internal IP.</td></tr>
<tr><td>Internal VIP Address field</td><td>Enter IP address of Internal VIP.</td></tr>
</table></td></tr>
<tr><td>Keystone</td><td>Pre-populated field values. This option would always be true.<table>
<tr><td>Admin Username field</td><td>admin</td></tr>
<tr><td>Admin Tenant Name field</td><td>admin</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>LDAP (Only if Keystonev3 is enabled)<br>Note This option is only available with Keystone v3</td><td>This is available only when Keystone v3 and LDAP both are enabled under Optional Features and Services in Blueprint Initial Setup.
<table>
<tr><td>Domain Name field</td><td>Enter name for Domain name.</td></tr>
<tr><td>Object Class for Users field</td><td>Enter a string as input.</td></tr>
<tr><td>Object Class for Groupsfield</td><td>Enter a string.</td></tr>
<tr><td>Domain Name Tree for Users field</td><td>Enter a string.</td></tr>
<tr><td>Domain Name Tree for Groups field</td><td>Enter a string.</td></tr>
<tr><td>Suffix for Domain Name field</td><td>Enter a string.</td></tr>
<tr><td>URL field</td><td>Enter a URL with ending port number.</td></tr>
<tr><td>Domain Name of bind user field</td><td>Enter a string.</td></tr>
<tr><td>Password field</td><td>Enter Password as string format.</td></tr>
<tr><td>User Filter field</td><td>Enter filter name as string.</td></tr>
<tr><td>User ID Attribute field</td><td>Enter a string.</td></tr>
<tr><td>User Name Attribute field</td><td>Enter a string.</td></tr>
<tr><td>User Mail Attribute field</td><td>Enter a string.</td></tr>
<tr><td>Group Name Attribute field</td><td>Enter a string.</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Neutron</td><td>Neutron fields would change on the basis of Tenant Network Type Selection from Blueprint Initial Setup. Following are the options available for Neutron for OVS/VLAN:
<table>
<tr><td>Tenant Network Type field</td><td>Auto Filled based on the Tenant Network Type selected in the Blueprint Initial Setup page.</td></tr>
<tr><td>Mechanism Drivers field</td><td>Auto Filled based on the Tenant Network Type selected in Blueprint Initial Setup page.</td></tr>
<tr><td>NFV Hosts field</td><td>Auto filled with the Compute you added in Server and Roles.<br>If you select All in this section NFV_HOSTS: ALL will be added to the Blueprint or you can select one particular compute. For Eg:<br>NFV_HOSTS: compute-server-1, compute-server-2.</td></tr>
<tr><td>Tenant VLAN Ranges field</td><td>List of ranges separated by comma form start:end.</td></tr>
<tr><td>Provider VLAN Ranges field</td><td>List of ranges separated by comma form start:end.</td></tr>
<tr><td>VM Hugh Page Size (available for NFV_HOSTS option) field</td><td>2M or 1G</td></tr>
<tr><td>Enable Jumbo Frames field</td><td>Enable the checkbox</td></tr>
</table>
For Tenant Network Type Linux Bridge everything remains the same but Tenant VLAN Ranges will be removed.</td></tr>
<tr><td>CEPH</td><td>Ceph has two pre-populated fields<ul><li>CEPH Mode : By default Dedicated.</li><li>NOVA Boot from: Drop Down selection. You can choose Ceph or local.</li></ul></td></tr>
<tr><td>GLANCE</td><td>By default populated for CEPH Dedicated with Store Backend value as CEPH.</td></tr>
</table>

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>CINDER</td><td>By default Populated for CEPH Dedicated with Volume Driver value as CEPH.</td></tr>
<tr><td>VMTP<br>VMTP optional section will only be visible once VMTP is selected from Blueprint Initial Setup.</td><td>Check one of the check boxes to specify a VMTP network:<br>• Provider Network<br>• External Network<br>For the Provider Network complete the following:
<table>
<tr><td>Network Name field</td><td>Enter the name for the external network.</td></tr>
<tr><td>Subnet field</td><td>Enter the Subnet for Provider Network.</td></tr>
<tr><td>Network IP Start field</td><td>Enter the starting floating IPv4 address.</td></tr>
<tr><td>Network IP End field</td><td>Enter the ending floating IPv4 address.</td></tr>
<tr><td>Network Gatewayfield</td><td>Enter the IPv4 address for the Gateway.</td></tr>
<tr><td>DNS Server field</td><td>Enter the DNS server IPv4 address.</td></tr>
<tr><td>Segmentation ID field</td><td>Enter the segmentation ID.</td></tr>
</table>
For External Network fill in the following details:
<table>
<tr><td>Network Name field</td><td>Enter the name for the external network.</td></tr>
<tr><td>Subnet field</td><td>Enter the Subnet for External Network.</td></tr>
<tr><td>Network IP Start field</td><td>Enter the starting floating IPv4 address.</td></tr>
<tr><td>Network IP End field</td><td>Enter the ending floating IPv4 address.</td></tr>
<tr><td>Network Gateway field</td><td>Enter the IPv4 address for the Gateway.</td></tr>
<tr><td>DNS Server field</td><td>Enter the DNS server IPv4 address.</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>TLS This optional section will only be visible once TLS is selected from Blueprint Initial Setup Page.</td><td>TLS has two options:<ul><li>External LB VIP FQDN - -Text field.</li><li>External LB VIP TLS True/False. By default this option is false.</li></ul></td></tr>
<tr><td>Under the OpenStack setup tab, Vim_admins tab will be visible only when Vim_admins is selected from the Optional Features & Services under the Blueprint Initial setup tab</td><td>Following are the field descriptions for VIM Admins:<ul><li>User Name - Text field.</li><li>Password -Password field. Admin hash password should always start with $6.</li></ul></td></tr>
<tr><td>SwiftStack optional section will be visible once SwiftStack is selected from Blueprint Initial Setup Page. SwiftStack is only supported with KeyStonev2 . If you select Keystonev3, swiftstack will not be available for configuration.</td><td>Following are the options that needs to be filled for SwiftStack:<table>
<tr><td>Cluster End Point field</td><td>IP address of PAC (proxy-account-container) endpoint.</td></tr>
<tr><td>Admin User field</td><td>Admin user for swift to authenticate in keystone.</td></tr>
<tr><td>Admin Tenant field</td><td>The service tenant corresponding to the Account-Container used by Swiftstack.</td></tr>
<tr><td>Reseller Prefix field</td><td>Reseller_prefix as configured for Keysone Auth,AuthToken support in Swiftstack E.g KEY_</td></tr>
<tr><td>Admin Password field</td><td>swiftstack_admin_password</td></tr>
<tr><td>Protocol</td><td>http or https</td></tr>
</table></td></tr>
</table>

9. If **Syslog Export** or **NFVBENCH** is selected in **Blueprint Initial Setup** Page, the **Services Setup** page will be enabled for the user to view. Following are the options under **Services Setup** Tab:

| Name | Description |
|---|---|
| **Syslog Export** | Following are the options for Syslog Settings:<br>**Remote Host** — Enter Syslog IP address.<br>**Protocol** — Only UDP is supported.<br>**Facility** — Defaults to local5.<br>**Severity** — Defaults to debug.<br>**Clients** — Defaults to ELK.<br>**Port** — Defaults to 514 but can be modified by the User. |
| **NFVBENCH** | **NFVBENCH enable checkbox** which by default is **false**.<br>Add ToR information connected to switch:<br>• Select a TOR Switch and enter the Switch name.<br>• Enter the port number. For example:eth1/5. VTEP VLANS (mandatory and needed only for VXLAN): Enter 2 different VLANs for VLAN1 and VLAN2<br>• NIC Ports: INT1 and INT2 optional input. Enter the 2 port numbers of the 4-port 10G Intel NIC at the management node used for NFVBench. |
| **ENABLE_ESC_PRIV** | Enable the checkbox to set it as True. By default it is **False**. |

**Step 3** To create a **C Series Blueprint**:

1. On the **Blueprint Initial Setup** page of the Cisco VIM Insight, complete the following fields:

| Name | Description |
|---|---|
| **Blueprint Name** field. | Enter the name for the blueprint configuration. |
| **Platform Type** drop-down list | Choose one of the following platform types:<br>• B-Series (By default)<br>• C-Series ( Select C Series) |

| Name | Description |
|---|---|
| **Tenant Network** drop-down list | Choose one of the following tenant network types:<br>• Linux Bridge/VXLAN<br>• OVS/VLAN<br>• VTS/VLAN<br>• VPP/VLAN<br>• ACI/VLAN<br>**Note** when VTS/VLAN or ACI/VLAN is selected then respective tabs are available on Blueprint setup. |
| **Pod Type** drop-down list | Choose one of the following pod type :<br>• Fullon(By Default)<br>• Micro<br>• UMHC<br>**Note** UMHC pod type is only supported for OVS/VLAN tenant type.<br>**Note** Pod type micro is supported for OVS/VLAN, ACI/VLAN,VPP/VLAN. |
| **Ceph Mode** drop-down list | Choose one of the following Ceph types:<br>• Dedicated (By Default)<br>• Central. Central is not supported in Production |
| **Optional and Services Features** checkbox | Swiftstack, LDAP, Syslog Export Settings, Install Mode, TorSwitch Information, TLS, NFVMON, Pod Name, VMTP, NFVBench, Autbackup, Heat, Keystone v3, Enable Esc Priv.<br>If any one is selected, the corresponding section is visible in various Blueprint sections.<br>By default all features are disabled except Auto Backup. |
| **Import Existing YAML file** | If you have an existing C Series YAML file you can use this feature to upload the file.<br>Insight will automatically fill in the fields and any missed mandatory field will be highlighted in the respective section. |

2. Click **Physical Setup** to advance to the **Registry Setup** configuration page. Fill in the following details for Registry Setup:

| Name | Description |
|---|---|

| | |
|---|---|
| **Registry User Name** text field | User-Name for Registry **(Mandatory)**. |
| **Registry Password** text field | Password for Registry **(Mandatory)**. |
| **Registry Email** text field | Email ID for Registry **(Mandatory)**. |

Once all the mandatory fields are filled the **Validation Check Registry Page** will be changed to a Green Tick.

3. Click **CIMC Common Tab** and complete the following fields:

| Name | Description |
|---|---|
| **User Name** disabled field | By default value is Admin. |
| **Password** text field | Enter Password for UCSM Common **(Mandatory)**. |

4. Click Networking to advance to the networking section of the Blueprint.

| Name | Description |
|---|---|
| **Domain Name** field | Enter the domain name. **(Mandatory)** |
| **HTTP Proxy Server** field | If your configuration uses an HTTP proxy server, enter the IP address of the server. |
| **HTTPS Proxy Server** field | If your configuration uses an HTTPS proxy server, enter the IP address of the server. |
| **IP Tables on Management Pods** | Specifies the list of IP Address with Mask. |
| **NTP Servers** field | Enter a maximum of four and minimum of one IPv4 and/or IPv6 addresses in the table. |
| **Domain Name Servers** field | Enter a maximum of three and minimum of one IPv4 and/or IPV6 addresses. |

| Name | Description |
| --- | --- |
| **Networks** table | |

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td></td><td>Network table is pre-populated with Segments. To add Networks you can either clear all the table with Delete all or click edit icon for each segment and fill in the details.<br><br>You can add, edit, or delete network information in the table.<br><br>• Click Add (+) to add new entries (networks) to the table.<br><br>• Specify the following fields in the Edit Entry to Networks dialog:<br><br>
<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>VLAN field</td><td>Enter the VLAN ID.<br><br>For Segment - Provider, the VLAN ID value is 'none'.</td></tr>
<tr><td>Segment drop-down list</td><td>When you add/edit new segment then following segments types are available in the form of dropdown list and you can select only one.<br><br>• API<br><br>• Management/provision<br><br>• Tenant<br><br>• Storage<br><br>• External<br><br>• Provider<br><br>• ACIINFRA<br><br>Note Aciinfra segment is available only when ACI/VLAN tenant type is selected) Depending upon the segment some of the entries below are not needed. Please refer to the example file in</td></tr>
</table>
</td></tr>
</table>

| Name | Description | |
|---|---|---|
| | | openstack-configs dir for details. |
| | **Subnet** field | Enter the IPv4 address for the subnet. |
| | **IPv6 Subnet** field | Enter IPv6 Address. This field will be available only for Management provision and API |
| | **Gateway** field | Enter the IPv4 address for the Gateway. |
| | **Gateway IPv6** field | Enter the IPv6 address for the gateway. This will support for API and management provision. |
| | **Pool** field | Enter the pool information in the required format, for example: 10.1.1.5-10.1.1.10,10.2.1.5-10.2.1.10<br>This field is available only for the Mgmt/Provision, Storage, and Tenant segments. |
| | **IPv6 Pool** field | Enter the pool information in the required format. For example: 10.1.1.5-10.1.1.10,10.2.1.5-10.2.1.10 |
| | Click **Save**. | |

5. On the **Servers and Roles** page of the Cisco VIM Suite wizard, a pre-populated table filled with Roles : Control, Compute and Block Storage (Only if CEPH Dedicated is selected in Blueprint Initial Setup is available.

| Name | Description |
|---|---|
| **Server User Name** field | Enter the username of the Server. |
| **Disable Hyperthreading** | Default value is false. You can set it as true or false. |

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Cobbler</td><td>Enter the Cobbler details in the following fields:
<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Cobbler Timeout field</td><td>The default value is 45 min.<br>This is an optional parameter. Timeout is displayed in minutes, and its value ranges from 30 to 120.</td></tr>
<tr><td>Block Storage Kickstart field</td><td>Kickstart file for Storage Node.</td></tr>
<tr><td>Admin Password Hash field</td><td>Enter the Admin Password. Password should be Alphanumeric. Password should contain minimum 8 characters and maximum of 32 characters.</td></tr>
<tr><td>Cobbler Username field</td><td>Enter the cobbler username to access the cobbler server.</td></tr>
<tr><td>Control Kickstart field</td><td>Kickstart file for Control Node.</td></tr>
<tr><td>Compute Kickstart field</td><td>Kickstart file for Compute Node.</td></tr>
<tr><td>Cobbler Admin Username field</td><td>Enter the admin username of the Cobbler.</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Add Entry to Servers and Roles<br>Note when Pod type micro is selected then all the three servers will be associated with control, compute and block storage role.<br><br>For Example:<br>Roles<br>• Block Storage<br>• -Server 1<br>• -Server 2<br>• -Server 3<br>• Control<br>• -Server 1<br>• -Server 2<br>• -Server 3<br>• Compute<br>• -Server 1<br>• -Server 2<br>• -Server 3<br><br>Note When Pod type UMHC is selected then auto ToR configuration is not supported and the ToR info at server and roles level is not allowed to be entered.</td><td>Click Edit or + to add a new server and role to the table.<br><table><tr><td>Server Name</td><td>Entry a friendly name.</td></tr><tr><td>Rack ID field</td><td>The rack ID for the server.</td></tr><tr><td>VIC Slot field</td><td>Enter a VIC Slot.</td></tr><tr><td>CIMC IP field</td><td>Enter a IP address.</td></tr><tr><td>CIMC Username field</td><td>Enter a Username.</td></tr><tr><td>CIMC Password field</td><td>Enter a Password for CIMC.</td></tr><tr><td>Select the Role from the drop down list</td><td>Choose Control or Compute or Block Storage from the drop-down list.</td></tr><tr><td>Management IP</td><td>It is an optional field but if provided for one Server then it is mandatory to provide it for other Servers as well.</td></tr><tr><td>Management IPv6</td><td>Routable and valid IPv6 address. It is an optional field but if provided for one server then it is mandatory for all other servers as well.</td></tr></table></td></tr>
<tr><td>Click Save or Add .</td><td>On clicking Save or Add all information related to Servers and Roles gets saved.</td></tr>
<tr><td>If Configure ToR checkbox is Truewith at-least one switch detail, these fields will be displayed for each server and this is similar to DP Tor: Port Channel and Switch Name (Mandatory if Configure ToR is true)</td><td>• Port Channel field<br>• Switch Name field<br>• Switch Port Info field</td><td>• Enter the port channel input.<br>• Enter the switch name.<br>• Enter the switch port information.</td></tr>
</table>

| Name | Description | |
|---|---|---|
| DP ToR (Only for Control and Compute) : Mandatory if Intel NIC and Configure TOR is True. | • **Port Channel** field<br>• **Switch Name** field<br>• **Switch Port Info** field | • Enter the port channel input.<br>• Enter the switch name.<br>• Enter the switch port information. |
| **SRIOV TOR INFO** (Only for Compute Nodes). It is mandatory in server and roles if Intel NIC and Configure TOR is True. **Switch Name (Mandatory if Configure ToR is true).** This field appears only when Intel NIC support is true, as Auto TOR config is not supported in VIC_NIC combo | • **Switch Name** field<br>• **Switch Port Info** field | • Enter the switch name.<br>• Enter the switch port information. |
| **Intel SRIOV VFS** (valid for Intel NIC testbeds) and can be integer. | For SRIOV support for Intel NIC. By Default, SRIOV support is disabled. To enable, define a value in the range # * 1-32 when INTEL_NIC_SUPPORT is set True (X710 Max VFs = 32) # * 1-63 when CISCO_VIC_INTEL_SRIOV is set True (X520 Max VFs = 63) | |
| INTEL_SRIOV_PHYS_PORTS (valid for Intel NIC test beds) and can be of value 2 or 4 (default is 2) | In some cases the # of Physical SRIOV port needed is 4; to meet that requirement, define the following: # this is optional, if nothing is defined code will assume it to be 2; the only 2 integer values this parameter # takes is 2 or 4 and is true when INTEL_NIC_SUPPORT is True and INTEL_SRIOV_VFS is valid | |
| Click **Save or Add** . | If all mandatory fields are filled click **Save or Add** to add information on Servers and Roles. | |
| Disable Hyperthreading | Default value is false. You can set it as true or false. | |
| Click **Save** | | |

**Note** Maximum two ToR info needs to be configured for each connection type on each node (control, compute and block_storage node).

**Note** If pod type UMHC is selected then CISCO_VIC_INTEL_SRIOV is enabled to be TRUE.

**Note** For Tenant type **ACI/VLAN,** port channel for each ToR port will not be available in servers and roles, as APIC will automatically assign port-channel numbers.

6. Click **ToR Switch** checkbox in **Blueprint Initial Setup** to enable the **TOR SWITCH** configuration page. It is an **Optional** section in Blueprint Setup but once all the fields are filled in then it will become a part of the Blueprint.

| Name | Description |
|---|---|
| **Configure ToR** optional checkbox.<br>**Note** If **UMHC** is selected as podtype, configure TOR is not allowed. | Enabling this checkbox, changes the configure ToR section from false to true.<br>**Note** Configure tor is true then ToR switch info maps in servers |

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>ToR Switch Information mandatory table if you want to enter ToR information.</td><td>Click (+) to add information for ToR Switch.<table><tr><th>Name</th><th>Description</th></tr><tr><td>Name</td><td>ToR switch name.</td></tr><tr><td>Username</td><td>ToR switch username.</td></tr><tr><td>Password</td><td>ToR switch password.</td></tr><tr><td>SSH IP</td><td>ToR switch SSH IP.</td></tr><tr><td>SSN Num</td><td>ToR switch ssn num.</td></tr><tr><td>VPC Peer Keepalive</td><td>Peer Management IP. You cannot define if there is no peer.</td></tr><tr><td>VPC Domain</td><td>Cannot define if there is no peer.</td></tr><tr><td>VPC Peer Port Info</td><td>Interface for vpc peer ports.</td></tr><tr><td>VPC Peer VLAN Info</td><td>VLAN ids for vpc peer ports (optional).</td></tr><tr><td>BR Management Port Info</td><td>Management interface of build node.</td></tr><tr><td>BR Management PO Info</td><td>Port channel number for management interface of build node.</td></tr><tr><td>BR Management VLAN info</td><td>VLAN id for management interface of build node (access).</td></tr></table></td></tr>
<tr><td colspan="2">Click Save.</td></tr>
</table>

**Note** When tenant type ACI/VLAN is selected, the TOR switch information table differs and is mandatory.

| Name | Description |
|---|---|
| **Configure ToR** optional checkbox.<br>**Note** If **UMHC** is selected as podtype, configure TOR is not allowed. | Enabling this checkbox, changes the configure ToR section from false to true.<br>**Note** Configure tor is true then ToR switch info maps in servers |

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>ToR Switch Information mandatory table if you want to enter ToR information.</td><td>Click (+) to add information for ToR Switch.
<table>
<tr><td>Name</td><td>Description</td></tr>
<tr><td>Name</td><td>ToR switch name.</td></tr>
<tr><td>Username</td><td>ToR switch username.</td></tr>
<tr><td>Password</td><td>ToR switch password.</td></tr>
<tr><td>SSH IP</td><td>ToR switch SSH IP.</td></tr>
<tr><td>SSN Num</td><td>ToR switch ssn num.</td></tr>
<tr><td>VPC Peer Keepalive</td><td>Peer Management IP. You cannot define if there is no peer.</td></tr>
<tr><td>VPC Domain</td><td>Cannot define if there is no peer.</td></tr>
<tr><td>VPC Peer Port Info</td><td>Interface for vpc peer ports.</td></tr>
<tr><td>VPC Peer VLAN Info</td><td>VLAN ids for vpc peer ports (optional).</td></tr>
<tr><td>BR Management Port Info</td><td>Management interface of build node.</td></tr>
<tr><td>BR Management PO Info</td><td>Port channel number for management interface of build node.</td></tr>
<tr><td>BR Management VLAN info</td><td>VLAN id for management interface of build node (access).</td></tr>
</table></td></tr>
<tr><td colspan="2">Click Save.</td></tr>
</table>

**Note** When the Tenant type ACI/VLAN is selected, the ToR switch information table differs and is mandatory.

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Configure ToR</td><td>Is not checked, as by default ACI will configure the ToRs
<table>
<tr><td>Host Name</td><td>ToR switch name.</td></tr>
<tr><td>VPC Peer keep alive</td><td>Enter Peer must be exist pair.</td></tr>
<tr><td>VPC Domain</td><td>Enter an integer.</td></tr>
<tr><td>BR management port info</td><td>Enter BR management port info eg. Eth1/19 ,atleast one pair to be exist.</td></tr>
<tr><td>Enter Node ID</td><td>Entered integer must be unique.</td></tr>
</table></td></tr>
</table>

**Note** If TOR_TYPE is selected as NCS-5500, the TOR switch information table differs and is mandatory.

| Name | Description |
|---|---|
| **Configure ToR** optional checkbox<br>**Note** If **NSC-5500** is selected as TOR_TYPE, configure TOR is set as mandatory. | Enabling this checkbox, changes the configure ToR section from false to true.<br>**Note** Configure TOR is true then ToR switchinfo maps in servers. |

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>If you want to enter Fretta details fill in the NCS-5500 Information table.</td><td>Click (+) to add information for Fretta Switch.
<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Name</td><td>Enter the NCS-5500 hostname.</td></tr>
<tr><td>User Name</td><td>Enter the NCS-5500 username.</td></tr>
<tr><td>Password</td><td>Enter the NCS-5500 password.</td></tr>
<tr><td>SSH IP</td><td>Enter the NCS-5500 ssh IP Address.</td></tr>
<tr><td>VPC Peer Link</td><td>Peer management IP.</td></tr>
<tr><td>BR Management PO Info</td><td>Port channel number for management interface of build node.</td></tr>
<tr><td>BR Management VLAN info</td><td>VLAN id for management interface of build node (access).</td></tr>
<tr><td>VPC Peer Port Info</td><td>Interface for vpc peer ports.</td></tr>
<tr><td>VPC Peer Port Address</td><td>Address for ISIS exchange.</td></tr>
<tr><td>ISIS Loopback Interface address</td><td>ISIS loopack IP Address.</td></tr>
<tr><td>ISIS net entity title</td><td>Enter a String.</td></tr>
<tr><td>ISIS prefix SID</td><td>Integer between 16000 to 1048575.</td></tr>
</table></td></tr>
</table>

When TOR-TYPE selected as NCS-5500 and 2 NCS-5500 are configured it is mandatory to configure MULTI_SEGMENT_ROUTING_INFO

| Name | Description |
|---|---|
| **BGP AS Number** field | Integer between 1 to 65535. |
| **ISIS Area Tag**field | A valid string. |
| **Loopback Interface name**field | Loopback Interface name. |
| **API bundle ID**field | Integer between 1 to 65535. |

| Name | Description |
|---|---|
| **API bridge domain** field | String (Optional, only needed when br_api of mgmt node is also going through NCS-5500; this item and api_bundle_id are mutually exclusive). |
| **EXT bridge domain** field | A valid string (user pre-provisions physical, bundle interface, sub-interface and external BD for external uplink and provides external BD info setup_data). |

7. Click **OpenStack Setup** Tab to advance to the **OpenStack Setup** Configuration page.
8. On the **OpenStack Setup** Configuration page of the Cisco VIM Insight wizard, complete the following fields:

| Name | Description | |
|---|---|---|
| **HA Proxy** | Fill in the following details: | |
| | **External VIP Address** field | Enter IP address of External VIP. |
| | **External VIP Address IPv6** field | Enter IPv6 address of External VIP. |
| | **Virtual Router ID** field | Enter the Router ID for HA. |
| | **Internal VIP Address IPv6** field | Enter IPv6 address of Internal IP. |
| | **Internal VIP Address** field | Enter IP address of Internal VIP. |
| **Keystone** | Mandatory fields are pre-populated. | |
| | **Admin User Name** | admin. |
| | **Admin Tenant Name** | admin. |

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>LDAP</td><td>LDAP enable checkbox which by default is false, if LDAP is enabled on keystone.
<table>
<tr><td>Domain Name field</td><td>Enter name for Domain name.</td></tr>
<tr><td>Object Class for Users field</td><td>Enter a string as input.</td></tr>
<tr><td>Object Class for Groupsfield</td><td>Enter a string.</td></tr>
<tr><td>Domain Name Tree for Users field</td><td>Enter a string.</td></tr>
<tr><td>Domain Name Tree for Groups field</td><td>Enter a string.</td></tr>
<tr><td>Suffix for Domain Name field</td><td>Enter a string.</td></tr>
<tr><td>URL field</td><td>Enter a URL with ending port number.</td></tr>
<tr><td>Domain Name of Bind User field</td><td>Enter a string.</td></tr>
<tr><td>Password field</td><td>Enter Password as string format.</td></tr>
<tr><td>User Filter field</td><td>Enter filter name as string.</td></tr>
<tr><td>User ID Attribute field</td><td>Enter a string.</td></tr>
<tr><td>User Name Attribute field</td><td>Enter a string.</td></tr>
<tr><td>User Mail Attribute field</td><td>Enter a string.</td></tr>
<tr><td>Group Name Attribute field</td><td>Enter a string.</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Neutron</td><td>Neutron fields would change on the basis of Tenant Network Type Selection from Blueprint Initial Setup. Following are the options available for Neutron for OVS/VLAN:
<table>
<tr><td>Tenant Network Type field</td><td>Auto Filled based on the Tenant Network Type selected in the Blueprint Initial Setup page.</td></tr>
<tr><td>Mechanism Drivers field</td><td>Auto Filled based on the Tenant Network Type selected in Blueprint Initial Setup page.</td></tr>
<tr><td>NFV Hosts field</td><td>Auto filled with the Compute you added in Server and Roles.<br>If you select All in this section NFV_HOSTS: ALL will be added to the Blueprint or you can select one particular compute. For Eg:<br>NFV_HOSTS: compute-server-1, compute-server-2.</td></tr>
<tr><td>Tenant VLAN Ranges field</td><td>List of ranges separated by comma form start:end.</td></tr>
<tr><td>Provider VLAN Ranges field</td><td>List of ranges separated by comma form start:end.</td></tr>
<tr><td>VM Hugh Page Size (available for NFV_HOSTS option) field</td><td>2M or 1G</td></tr>
<tr><td>Enable Jumbo Frames field</td><td>Enable the checkbox</td></tr>
</table>
For Tenant Network Type Linux Bridge everything remains the same but Tenant VLAN Ranges will be removed.</td></tr>
<tr><td>CEPH</td><td>Ceph has two pre-populated fields:<ul><li>CEPH Mode : By default Dedicated.</li><li>NOVA Boot: From drop down selection you can choose Ceph or local.</li></ul></td></tr>
<tr><td>GLANCE</td><td>By default Populated for CEPH Dedicated with Store Backend value as CEPH.</td></tr>
<tr><td>CINDER</td><td>By default Populated for CEPH Dedicated with Volume Driver value as CEPH.</td></tr>
</table>

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>VMTP optional section, this will be visible only if VMTP is selected from Blueprint Initial Setup. For VTS tenant type Provider network is only supported.</td><td>Check one of the check boxes to specify a VMTP network:<br>• Provider Network<br>• External Network<br><br>For the Provider Network complete the following:<br><table><tr><td>Network Name field</td><td>Enter the name for the external network.</td></tr><tr><td>Subnet field</td><td>Enter the Subnet for Provider Network.</td></tr><tr><td>Network IP Start field</td><td>Enter the starting floating IPv4 address.</td></tr><tr><td>Network IP End field</td><td>Enter the ending floating IPv4 address.</td></tr><tr><td>Network Gatewayfield</td><td>Enter the IPv4 address for the Gateway.</td></tr><tr><td>DNS Server field</td><td>Enter the DNS server IPv4 address.</td></tr><tr><td>Segmentation ID field</td><td>Enter the segmentation ID.</td></tr></table>For External Network fill in the following details:<br><table><tr><td>Network Name field</td><td>Enter the name for the external network.</td></tr><tr><td>IP Start field</td><td>Enter the starting floating IPv4 address.</td></tr><tr><td>IP End field</td><td>Enter the ending floating IPv4 address.</td></tr><tr><td>Gateway field</td><td>Enter the IPv4 address for the Gateway.</td></tr><tr><td>DNS Server field</td><td>Enter the DNS server IPv4 address.</td></tr><tr><td>Subnet field</td><td>Enter the Subnet for External Network.</td></tr></table></td></tr>
</table>

<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>TLS optional section, this will be visible only if TLS is selected from Blueprint Initial Setup Page.</td><td>TLS has two options:<ul><li>External LB VIP FQDN - Text Field.</li><li>External LB VIP TLS - True/False. By default this option is false.</li></ul></td></tr>
<tr><td>SwiftStack optional section will be visible only if SwiftStack is selected from Blueprint Initial Setup Page. SwiftStack is only supported with KeyStonev2. If you select Keystonev3, swiftstack will not be available to configure.</td><td>Following are the options that needs to be filled for SwiftStack:<table>
<tr><td>Cluster End Point</td><td>IP address of PAC (proxy-account-container) endpoint.</td></tr>
<tr><td>Admin User</td><td>Admin user for swift to authenticate in keystone.</td></tr>
<tr><td>Admin Tenant</td><td>The service tenant corresponding to the Account-Container used by Swiftstack.</td></tr>
<tr><td>Reseller Prefix</td><td>Reseller_prefix as configured for Keysone Auth,AuthToken support in Swiftstack E.g KEY_</td></tr>
<tr><td>Admin Password</td><td>swiftstack_admin_password</td></tr>
<tr><td>Protocol</td><td>http or https</td></tr>
</table></td></tr>
</table>

**Note** When the Tenant type ACI/VLAN is selected then ACIINFO tab is available in blueprint setup.

**Note** When ACI/VLAN is selected then ToR switch from initial setup is mandatory.

| Name | Description |
|---|---|
| **APIC Hosts** field | Enter host input. Example: <ip1\|host1>:[port] . max of 3, min of 1, not 2; |
| **apic_username** field | Enter a string format. |
| **apic_password** filed | Enter Password. |
| **apic_system_id** field | Enter input as string. Max length 8. |
| **apic_resource_prefix** field | Enter string max length 6. |
| **apic_tep_address_ pool** field | Allowed only 10.0.0.0/16 |
| **multiclass_address_pool** field | Allowed only 225.0.0.0/15 |
| **apic_pod_id** field | Enter integer(1- 65535) |
| **apic_installer_tenant** field | Enter String, max length 32 |
| **apic_installer_vrf** field | Enter String, max length 32 |
| **api_l3out_network** field | Enter String, max length 32 |

**Note**

| Name | Description |
|---|---|
| **VTS Day0 (checkbox)** | True or false default is false. |
| **VTS User name** | Enter as string does not contain special characters. |
| **VTS Password** | Enter password |
| **VTS NCS IP** | Enter IP Address format. |
| **VTC SSH Username** | Enter a string |
| **VTC SHH Password** | Enter password |

When Tenant Type is VTS/VLAN then VTS tab is available in blueprint setup.

**Note** If vts day0 is enabled then SSH username and SSH password is mandatory.

If SSH_username is input present then SSH password is mandatory vice-versa

9. If **Syslog Export** or **NFVBENCH** is selected in **Blueprint Initial Setup** Page, then **Services Setup** page will be enabled for user to view. Following are the options under **Services Setup** Tab:

| Name | Description |
|---|---|
| **Syslog Export** | Following are the options for Syslog Settings:<br>**Remote Host** — Enter Syslog IP Address.<br>**Protocol** — Supports only UDP.<br>**Facility** — Defaults to local5.<br>**Severity** — Defaults to debug.<br>**Clients** — Defaults to ELK.<br>**Port** — Defaults to 514 but can be modified by the User. |
| **NFVBENCH** | **NFVBENCH enable checkbox** by default is**false**.<br>Add ToR information connect to Switch:<br>• Select a TOR Switch and enter the Switch name.<br>• Enter the port number. For Example: eth1/5 . VTEP VLANS (mandatory and needed only for VTS/VXLAN,): Enter 2 different VLANs for VLAN1 and VLAN2.<br>• NIC Ports: INT1 and INT2 optional input. Enter the 2 port numbers of the 4-port 10G Intel NIC at the management node used for NFVBench. |
| **ENABLE_ESC_PRIV** | Enable the checkbox to set it as True. By default it is **False**. |

**Step 4** Click **Offlinevalidation**, to initiate an offline validation of the Blueprint.

**Step 5** Blueprint can also be created using an **Upload functionality**:

- In Blueprint Initial Setup.
- Click **Browse** in the blueprint initial setup.
- Select the YAML file you want to upload.
- Click **Select** button.
- Clicking on load button in the Insight UI Application. All the fields present in the YAML file would be uploaded to the respective fields in UI.
- Enter the name of the Blueprint (Make sure you enter unique name while saving Blueprints. There would be no two Blueprints with same name.)
- Click **Offline Validation**.
- If all the mandatory fields in the UI are populated, then Offline Validation of the Blueprint will start else a pop up would be visible which will inform which section of Blueprint Creation has a missing information error.
- On Validation Success of Blueprint **Save Blueprint** button will be enabled with **Cancel** button
- A pop up will be generated asking to initiate the deployment with **Blueprint Name** and the stages you need to run.

On Validation Failure of Blueprint **Cancel** button will be enabled.

Once the **Offlinevalidation** is successful, **Save** option will be enabled which will redirect you to the Blueprint Management Page.

The wizard advances to the Blueprint Management page. On the Blueprint Management page you can select the recently added Inactive Blueprint and click **Install** button which is disabled by default.

A pop up will be generated asking to initiate the deployment with **Blueprint Name** and the stages you need to run.

By default all stages are selected but you can also do an incremented install.

In case of Incremented Install you should select stages in the order. For Example: If you select **Validation Stage** then the 2nd stage Management Node Orchestration will be enabled. You cannot skip stages and run a deployment.

Once you click **Proceed** the Cloud Deployment would be initiated and the progress can be viewed from "Dashboard".

**Note** Once the Blueprint is in **Active** State, the **Post-Install** features listed in Navigation Bar will changed to **Active** stage.

# Post Installation Features for Active Blueprint

This option is only available to a pod, which is successfully deployed. There are multiple sublinks available to manage the day-n operation of the pod. However, often Insight cross-launches the relevant services, through delegating the actual rendering to the individual services.

## Monitoring the Pod

Cisco VIM uses ELK (elasticsearch, logstash and Kibana) to monitor the OpenStack services, by cross-launching the Kibana dashboard.

To cross launch Kibana, complete the following instructions:

**Step 1** Login as **POD User.**

**Step 2** Naviagte to **POD.**

**Step 3** Navigate to **Post-install**

**Step 4** Click **Monitoring**
The **Authentication Required** browser pop up is displayed.

**Step 5** Enter the **username** as admin.

**Step 6** Enter the ELK_PASSWORD password obtained from /root/installer-<tagid>/openstack-configs/secrets.yaml in the management node.
Kibana is launched in an I-Frame

**Note** Click **Click here to view Kibana logs in new tab** link to view Kibana Logs in a new tab.

# Cross Launching Horizon

Horizon is the canonical implementation of Openstack's Dashboard, which provides a web based user interface to OpenStack services including Nova, Swift and, Keystone.

**Step 1** In the Navigation pane, click **Post-Install** > **Horizon**.

**Step 2** Click **Click here to view Horizon logs in new tab**.
You will be redirected to Horizon landing page in a new tab.

# NFVI Monitoring

NFVI monitoring is a Cross launch browser same as Horizon. NFVI monitoring link is available in the post install only if the setupdata has NFVI Monitoring configuration during the cloud deployment which basically pings the monitoring and checks status of **Collector VM1 Info** and **Collector VM2 Info**.

**Step 1** Login as **POD User.**

**Step 2** Naviagte to **POD.**

**Step 3** Navigate to **Post-install**

**Step 4** Click **Reconfigure**.

**Step 5** Click **NFVI Monitoring**

**Step 6** Click the link **Click here to view NFVI monitoring.**.

You will be redirected to NFVI monitoring page

# Run VMTP

VIM 2.0, provides an integrated data and control plan test tool (called VMTP).VMTP helps you to test the cloud at any given time.

Run VMTP is divided in two sections:

- **Results for Auto Run**: Auto run shows the results of VMTP which was run during the cloud deployment (Blueprint Installation).
- **Results for Manual Run**: To run VMTP on demand click **Run VMTP**.

**Note** If VMTP stage was skipped or not-run during Blueprint Installation, this section of POST Install gets disabled for the user.

# Run CloudPulse

In VIM, we provide an integrated tool, called Cloud Pulse, that periodically checks the cloud services endpoint. The results of these tests are reflected under the Cloud Pulse link. You can also run these API endpoint tests on demand, and fetch the result of these tests by refreshing the table.

Endpoints Tests:

1. cinder_endpoint
2. glace_endpoint
3. keystone_endpoint
4. nova_endpoint
5. neutron_endpoint
6. all_endpoint_tests

Operator Tests:

1. rabbitmq_check
2. galera_check
3. ceph_check
4. node_check
5. docker_check
6. all_operator_tests

# Run NFV Bench

One can **Run NFV Bench** for **B**and**C** series Pod, through Cisco VIM Insight. On a pod running with CVIM , click on the NFVbench link on the NAV-Menu.

You can run either fixed rate test or NDR/PDR test. As the settings and results for the test types differ, the options to run these tests are presented in two tabs, with its own settings and results .

**NDR/PDR Test**

**Step 1** Log-in to **CISCO VIM Insight**.

**Step 2** In the Navigation pane, click **Post-Install** >**Run NFV Bench.**

**Step 3** Click on NDR/PDR test and complete the following fields

| Name | Description |
|---|---|
| Iteration Duration | Select duration from 10 to 60 sec. Default is 20 sec |
| **Frame Size** | Select the correct frame size to run |

| Name | Description |
|---|---|
| **Run NDR/PDR** test | Click on Run NDR/PDR test. Once NDR/PDR test is finished it will display each type of test with its own settings and results. |

## Fixed Rate Test

**Step 1** Log in as **POD User.**

**Step 2** Navigate to **POD.**

**Step 3** Navigate to **Postinstall.**

**Step 4** Click **Run NFV Bench**.

**Step 5** Click Fixed rate test and complete the following fields.

| Name | Description |
|---|---|
| **Rate** | Rate: Select right configuration pps or bps from drop down-list and enter values:<br>For pps: minimum: 2500pps; maximum: 14500000pps (=14.5Mpps); default: 1000000pps (=1Mpps)<br>For bps: minimum: 1400000bps; maximum: 10000000000bps (=10Gbps); default: 1000000000 (=1Gbps) |
| **Iteration Duration** | Select duration from 10-60Sec. Default is 20sec. |
| **Frame Size** | Select the right frame size(64,IMIX,1518) to run. |
| **Run Fixed Rate Test** | Click **Run Fixed Rate Test.** Once Fixed rate test is finished, it displays each type of test with its own settings and results. |

# POD Management

One of the key aspects of Cisco VIM is that it provides the ability for the admin to perform pod life-cycle management from a hardware and software perspective. Nodes of a given pod corrupts at times and VIM provides the ability to add, remove or replace nodes, based on the respective roles with some restrictions. Details of pod management will be listed in the admin guide, however as a summary the following operations are allowed on a running pod:

**Step 1** **Add or Remove Storage Nodes**: You can add one node at a time, given that we run Ceph as a distributed storage offering.

**Step 2** **Add or Remove Computes Nodes**: N-computes nodes can be replaced simultaneously; however at any given point, at least one compute node should be active.

**Step 3** **Replace Control Nodes**: We do not support double fault scenarios, replacement of one controller at a time is supported.

# System Update

As part of the lifecycle management of the cloud, VIM has the ability to bring in patches (bug fixes related to code, security, etc.), thereby providing the additional value of seamless cloud management from software perspective. Software update of the cloud is achieved by uploading a valid tar file following initiation of a System Update from the Insight as follows:

**Step 1** Login as **POD User.**

**Step 2** Naviagte to **POD.**

**Step 3** Navigate to **Post-install**

**Step 4** Click **System Update**.

**Step 5** Click **Openstack Password**

**Step 6** Click **Browse** button.

**Step 7** Select the valid tar file.

**Step 8** Click **Open** > **Upload and Update** .
Message stating System Update has been initiated will be displayed. Logs front-ended by hyperlink would be visible in the section below before Update Logs to help see the progress of the update. During the software update, all other pod management activities will be disabled. Post-update, normal cloud management will commence.

# Reconfiguring CIMC Password through Insight

Update the cimc_password in the CIMC-COMMON section, and/or the individual cimc_password for each server and then run the update password option.

To update a password, you need to follow the password rules:

- Must contain at least one lower case letter.
- Must contain at least one upper case letter.
- Must contain at least one digit between 0 to 9.
- One of these special characters !$#@%^-_+=*&
- Your password has to be 8 to 14 characters long.

### Before you begin

You must have a C-series pod up and running with Cisco VIM to reconfigure CIMC password.

**Note** Reconfigure CIMC password section would be disabled if the pod is in failed state as indicated by ciscovim install-status.

**Step 1** Login as **POD User.**

**Step 2** Naviagte to **POD.**

**Step 3** Navigate to **Post-install**

**Step 4** Click **Reconfigure**.

**Step 5** Click **Openstack Password**

| Name | Description |
|---|---|
| **CIMC_COMMON** old Password | **CIMC_COMMON** old password field cannot be edited. |
| **CIMC-COMMON** new Password | Enter new **CIMC-COMMON** password. Password should be alphanumeric according to the password rule. |
| Click **Update Password** | Old **CIMC-COMMON** password will be updated with new **CIMC-COMMON** password. |

# Reconfiguring OpenStack Password

Cisco VIM has been designed with security to accommodate users password policy.

There are two options to regenerate the Password:

1. **Regenerate all passwords**: Check the **Regenerate all passwords** checkbox and click **Set Password**. This automatically regenerates all passwords in alphanumeric format.
2. **Regenerate single or more password**: If you want to set a specific password for any service like Horizon's ADMIN_USER_PASSWORD you can add it by doing an inline edit. Double click field under Password and then enter the password which enables **Set Password**.

**Note** During the reconfiguration of password, all other pod management activities are disabled. Postupdate, normal cloud management commences.

# Reconfiguring OpenStack Services, TLS certs and ELK configurations

Cisco VIM supports the reconfiguration of OpenStack log level services, TLS certificates, and ELK configuration. Listed below are the steps to reconfigure the OpenStack and other services:

**Step 1** Login as **POD User.**

**Step 2** Naviagte to **POD.**

**Step 3** Navigate to **Post-install**

**Step 4** Click **Reconfigure OpenStack Config**.

**Step 5** Click on the specific item to be changed and updated; For TLS certificate it is the path to certificate location.

**Step 6** Enter **Set Config** and the process will commence.

During the reconfiguration process, all other pod management activities will be disabled. Post-update, normal cloud management will commence.

# Reconfiguring Optional Services

Cisco VIM offers optional services such as heat, migration to Keystone v3, NFVBench, NFVIMON and so on, that can be enabled as post-pod deployment. Optional services can be un-configured as post-deployment in Cisco VIM feature set. These services can be enabled in one-shot or selectively. Listed below are the steps to enable optional services:

**Step 1** Login as **POD User.**

**Step 2** Naviagte to **POD.**

**Step 3** Navigate to **Post-install**

**Step 4** Click **Reconfigure Optional Services**.

**Step 5** Choose the right service and update the fields with the right values.

**Step 6** Enter **Reconfigure** to commence the process.

During the reconfiguration process, all other pod management activities will be disabled. Post-update, normal cloud management will commence. Once reconfigure is initiated than optional feature would be updated in active blueprint. If reconfigure of Optional Services fail in the time of reconfigure process then it is advised to contact CiscoTAC to resolve the situation through CLI.

**Note** All reconfigure operation feature contains repeated deployment true or false.

- Repeated re-deployment true - Feature can be re-deployed again.
- Repeated re-deployment false- Deployment of feature allowed only once.

**Deployment Status :**

| Optional Features | Repeated re-deployment Options |
|---|---|
| **APICINFO** | True |
| **EXTERNAL_LB_VIP_FQDN** | False |
| **EXTERNAL_LB_VIP_TLS** | False |
| **INSTALL_MODE** | True |
| **LDAP** | True |
| **NETWORKING** | True |
| **NFVBENCH** | False |
| **NFVIMON** | False |

| Optional Features | Repeated re-deployment Options |
|---|---|
| **PODNAME** | False |
| **PROVIDER_VLAN_RANGES** | True |
| **SWIFTSTACK** | True |
| **SYSLOG_EXPORT_SETTINGS** | False |
| **TENANT_VLAN_RANGES** | True |
| **TORSWITCHINFO** | False |
| **VIM _ ADMINS** | True |
| **VMTP** | False |
| **VTS_PARAMETERS** | False |
| **AUTOBACKUP** | `<br>True |
| **Heat** | False |
| **Keystone v3** | False |
| **HTTP Proxy Server** | True |
| **HTTPS Proxy Server** | True |

# Pod User Administration

Cisco VIM Insight offers Users (Pod Admin(s) or Pod Users) to manage Users and roles associated with them.

## Managing Users

To add new User

**Step 1** Click **Login as POD User**.

**Step 2** Navigate to **POD User Administration**.

**Step 3** Click **Manage Users**.

**Step 4** Click **Add Users** to add a new user.

**Step 5** Complete the following fields in the **Add Users** page of the Cisco VIM Insight:

| Field Name | Field Description |
|---|---|
| **Email ID** | Enter the Email ID of the User. |

| Field Name | Field Description |
|---|---|
| **User Name** | Enter the User Name if the User is new. If the User is already registered to the Insight the User-Name gets auto-populated. |
| **Role** | Select the Role from the drop-down list. |

**Step 6** Click **Save**.

## Managing Roles

To create a new Role:

**Step 1** Click **Log in as POD User.**

**Step 2** Navigate to **Pod User Administration** and click **Manage Roles**. By default you will see a full-pod-access role in the table.

**Step 3** Click **Add Role** to create a new role.

**Step 4** Complete the following fields on the **Add Roles** page in Cisco VIM Insight:

| Field Name | Field Description |
|---|---|
| **Role** | Enter the name of the role. |
| **Description** | Enter the description of the role. |
| **Permission** | Check the **Permission** checkbox to select the permission. |

**Step 5** Click **Save**. Once, the Blueprint is in an Active state all the permissions are same for C-series and B-series Pods other than Reconfigure CIMC Password which is missing for B-series Pod.

**Note** Permissions are divided in the granular level where viewing *Dashboard* is the default role that is added while creating a role.

## Managing Root CA Certificate

You can update the CA Certificate during the registration of the POD. Once, logged in as POD User and if you have the permission to update the certificate you can view under POD User Administration>> Manage Root CA Certificate.

To update the Certificate:

**Step 1** Click **Login as POD User**

**Step 2** Navigate to **POD User Administration>>Manage Root CA certificate**.

**Step 3** Click **Browse** and select the certificate that you want to upload.

**Step 4** Click **Upload.**

- If the certificate is Invalid, and does not matches with the certificate on the management node located at (var/www/mercury/mercury-ca.crt) then Insight will revert the certificate which was working previously.
- If the Certificate is valid, Insight will run a management node health check and then update the certificate with the latest one.

**Note** The CA Certificate which is uploaded should be same as the one which is in the management node.