

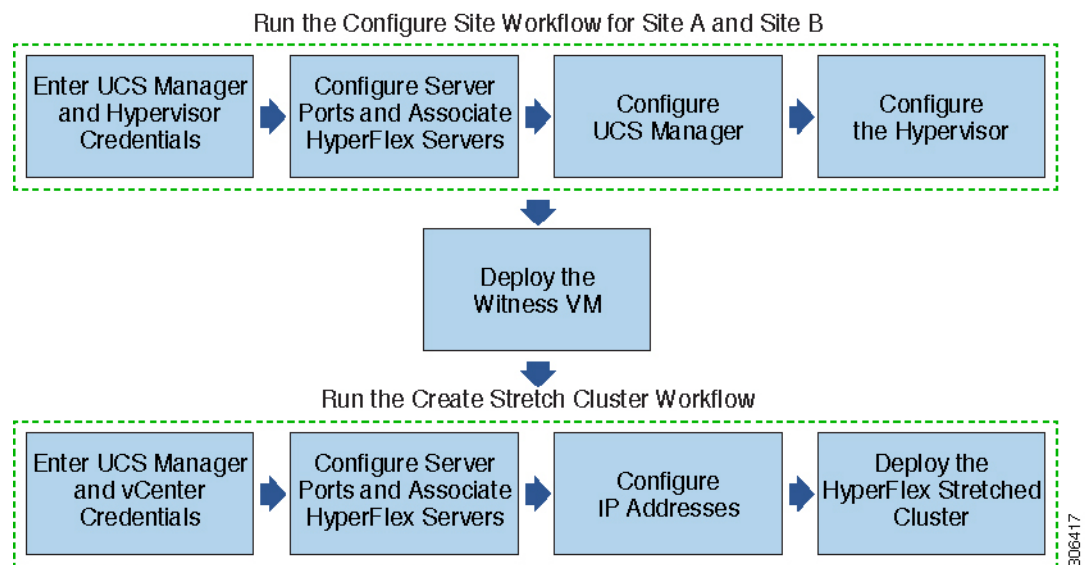


# Installation

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## Installation Overview

The following installation workflow summarizes the steps that are involved in creating a Stretched Cluster, using the HX Data Platform Installer.



Follow this workflow during installation:

Step	Description	Reference
Create the Stretched Cluster sites—Run the Configure Site workflow for Site A and Site B.	Log in to the HX Data Platform Installer. Enter UCS Manager credentials and Hypervisor credentials for both the sites.	<a href="#">Enter Credentials, on page 3</a>
	Configure the server ports and associate HyperFlex servers.	<a href="#">Associate HyperFlex Servers, on page 5</a>
	Configure VLAN, MAC Pool, 'hx-ext-mgmt' IP Pool for Out-of-Band CIMC, inband CIMC, iSCSi Storage, and FC Storage.	<a href="#">Configure UCS Manager, on page 6</a>
	Configure the Hypervisor.	<a href="#">Configure Hypervisor, on page 9</a>
Download and deploy the Witness VM.	<b>Note</b> A witness VM is mandatory in a HyperFlex Stretched Cluster environment.	<a href="#">Deploying the Witness Node</a>
Create your HyperFlex Stretched Cluster—Run the Create Stretch Cluster workflow.	Enter UCS Manager Credentials for Site A and Site B, and vCenter credentials.	<a href="#">Enter Credentials, on page 11</a>
	Configure the server ports and associate HyperFlex servers.	<a href="#">Associate HyperFlex Servers, on page 13</a>
	Configure IP addresses.	<a href="#">Configure IP Addresses, on page 14</a>
	Deploy the HyperFlex Stretched Cluster.	<a href="#">Deploy a HyperFlex Stretched Cluster, on page 15</a>

## Create the Stretched Cluster Sites

### Before you begin

- Complete the prerequisites. Refer to the [Preinstallation Checklist](#) for more details.
- Download and deploy the Witness VM for each cluster.

Use the following procedure to install and configure a Cisco HyperFlex Stretched Cluster using the Cisco HX Data Platform Installer.

**Step 1** Log in to the Cisco HX Data Platform Installer.

**Step 2** On the **Workflow** page, from the **Create Cluster** drop-down list, select **Stretch Cluster**. Click **Continue**.

- Step 3** On the **Credentials** page, enter UCS Manager and Hypervisor credentials. See [Enter Credentials, on page 3](#) for more details.
- Step 4** On the **Server Selection** page, configure the server ports and associate HyperFlex servers. See [Associate HyperFlex Servers, on page 5](#) for more details.
- Step 5** On the **UCSM Configuration** page, configure VLAN, MAC Pool, 'hx-ext-mgmt' IP Pool for Out-of-Band CIMC, iSCSi Storage, and FC Storage. See [Configure UCS Manager, on page 6](#) for more details.
- Step 6** On the **Hypervisor Configuration** page, configure the subnet mask, gateway, and complete the hypervisor settings. See [Configure Hypervisor, on page 9](#) for more details.
- Step 7** Click **Configure Site** to begin cluster creation. The **Progress** page displays the progress of various configuration tasks.

**Caution** Do not skip validation warnings.  
See the **Warnings** section for more details.

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### What to do next

Using the HX Data Platform Installer, proceed to create your HyperFlex stretch cluster. See [Create Your HyperFlex Stretched Cluster, on page 10](#) for more details.

## Enter Credentials

Enter UCS Manager credentials and hypervisor credentials for both the sites across the Stretched Cluster.

### Before you begin

- Complete the installation prerequisites. Refer to the [Preinstallation Checklist](#) for more details.
- Download and deploy the Witness VM.

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- Step 1** Log in to the HX Data Platform Installer with root user credentials. For first time log in, you will be prompted to change the default password set in the factory.
- a) In a browser, enter the URL for the VM where HX Data Platform Installer was installed.
  - b) Enter the following login credentials.
    - Username: **root**
    - Password: **Cisco123**
  - c) Read the EULA, select the **I accept the terms and conditions** checkbox, and click **Login**.

- Step 2** In the **Change factory default password** screen, complete the following fields, and click **Change Password & Login**.

Field	Description
New password	Enter a new hypervisor password.
Re-enter new password	Re-enter the new hypervisor password.

- Step 3** On the **Workflow** page, from the **Create Cluster** drop-down list, select **Stretch Cluster**. Click **Continue**.

**Step 4** On the **Credentials** page, select **Configure Site**.

To perform cluster creation, you can import a *JSON configuration* file with the required configuration data. The following two steps are optional if importing a JSON file, otherwise you can input data into the required fields manually.

**Note** For a first-time installation, contact your Cisco representative to procure the factory preinstallation JSON file.

- a. Click **Select a file** and choose your *JSON file* to load the configuration. Select **Use Configuration**.
- b. An **Overwrite Imported Values** dialog box displays if your imported values for Cisco UCS Manager are different. Select **Use Discovered Values**.

**Step 5** Enter the following credentials for UCS Manager:**UCS Manager Credentials for this site**

Field	Description
<b>UCS Manager Host Name</b> field	Enter the UCS Manager FQDN or IP address. For example, <i>10.193.211.120</i> .
<b>UCS Manager User Name</b> field	Enter the administrative level username. For example, <i>&lt;admin&gt;</i> .
<b>Password</b> field	Enter the administrative level password. For example, <i>&lt;root&gt;</i> .
<b>Site Name</b> field	Specify a unique site name.

**Step 6** Enter the following credentials for the Hypervisor:**Hypervisor Credentials**

Field	Description
<b>Admin User Name</b> field	Enter the administrative username. For example, <i>&lt;admin&gt;</i> username. The username is <b>root</b> for factory nodes.
<b>The hypervisor on this node uses the factory default password</b> check box	Select the check box, if you are changing the factory default password for the hypervisor.  To enter the current hypervisor password, uncheck this check box. You can now enter the hypervisor password in the <b>Enter current hypervisor password</b> field.
<b>New Password</b>	Create a new password for the hypervisor.  <b>Important</b> You are required to change the factory default password.
<b>Confirm New Password</b>	Reenter the new password for the hypervisor.

**Step 7** Click **Continue** to begin associating HyperFlex Servers. See [Associate HyperFlex Servers, on page 5](#).

## Associate HyperFlex Servers

On the **Server Selection** page, the **Configuration** pane on the right displays a detailed list of the **Credentials** used. The **Server Selection** page displays a list of unassociated HX servers under the **Unassociated** tab, and the list of discovered servers under the **Associated** tab.

Field	Description
<b>Locator LED</b> column	Turn on to locate a server.
<b>Server Name</b> column	Name that is assigned to the server.
<b>Status</b> column	<ul style="list-style-type: none"><li>• Inaccessible</li><li>• Ok</li></ul>
<b>Model</b> column	Displays the server model.
<b>Serial</b> column	Displays the serial number of the server.
<b>Service Profile</b> column [Only for Associated Servers]	Service profile that is assigned to the server.
<b>Actions</b> drop-down list	<ul style="list-style-type: none"><li>• <b>Launch KVM Console</b>—Choose this option to launch the KVM Console directly from the HX Data Platform Installer.</li><li>• <b>Disassociate Server</b>—Choose this option to remove a service profile from that server.</li></ul>

### Before you begin

Ensure that you completed entering UCS Manager, vCenter, and Hypervisor credentials on the **Credentials** page. See [Enter Credentials, on page 3](#).

**Step 1** Click the **Configure Server Ports** button to discover any new HX nodes. In the **Configure Server Ports** dialog box, list all ports to be configured as server ports. Click **Configure**.

**Note** Typically, the server ports are configured in Cisco UCS Manager before you start the configuration.

**Step 2** Select the servers under the **Unassociated** tab to include in the HyperFlex cluster.

If HX servers do not appear in this list, check Cisco UCS Manager and ensure that they have been discovered.

**Note** If there are no unassociated servers, the following error message is displayed:

No unassociated servers found. Login to UCS Manager and ensure server ports are enabled.

**Step 3** Click **Continue** to configure UCS Manager. See [Configure UCS Manager, on page 6](#).

## Configure UCS Manager

On the **UCSM Configuration** page, you can configure VLAN, MAC Pool, 'hx-ext-mgmt' IP Pool for Out-of-Band CIMC, iSCSi Storage, and FC Storage.

### Before you begin

Associate servers on the HyperFlex cluster. See [Associate HyperFlex Servers, on page 5](#).

**Step 1** In the **VLAN Configuration** section, complete the following fields:

**Note** Use separate subnet and VLANs for each of the following networks.

Field	Description
<b>VLAN for Hypervisor and HyperFlex management</b>	
<b>VLAN Name</b> field	hx-inband-mgmt
<b>VLAN ID</b> field	Default—3091
<b>VLAN for HyperFlex storage traffic</b>	
<b>VLAN Name</b> field	hx-storage-data
<b>VLAN ID</b> field	Default—3092
<b>VLAN for VM vMotion</b>	
<b>VLAN Name</b> field	hx-vmotion
<b>VLAN ID</b> field	Default—3093
<b>VLAN for VM Network</b>	
<b>VLAN Name</b> field	vm-network
<b>VLAN ID(s)</b> field	Default—3094 A comma-separated list of guest VLANs.

**Step 2** In the **MAC Pool** section, configure the **MAC Pool Prefix** by adding in two more hex characters (0-F).

**Note** Select a prefix that is not used with any other MAC address pool across all UCS domains.

Example:  
00:25:B5:A0.

**Step 3** In the **'hx-ext-mgmt' IP Pool for Out-of-Band CIMC** section, complete the following fields:

Field	Description
<b>IP Blocks</b> field	The range of IP addresses designated for the HyperFlex nodes. The IP addresses can be a comma-separated list of values for the guest VLANs.  For example, <i>10.193.211.124-127, 10.193.211.158-163</i> .
<b>Subnet Mask</b> field	Set the subnet to the appropriate level to limit and control IP addresses.  For example, <i>255.255.0.0</i> .
<b>Gateway</b> field	Enter the IP address.  For example, <i>10.193.0.1</i> .

**Step 4** If you want to add external storage, configure **iSCSI Storage** by completing the following fields:

Field	Description
<b>Enable iSCSI Storage</b> check box	Select to configure iSCSI storage.
<b>VLAN A Name</b> field	Name of the VLAN associated with the iSCSI vNIC, on the primary fabric interconnect (FI-A).
<b>VLAN A ID</b> field	ID of the VLAN associated with the iSCSI vNIC, on the primary fabric interconnect (FI-A).
<b>VLAN B Name</b> field	Name of the VLAN associated with the iSCSI vNIC, on the subordinate fabric interconnect (FI-B).
<b>VLAN B ID</b> field	ID of the VLAN associated with the iSCSI vNIC, on the subordinate fabric interconnect (FI-A).

**Step 5** If you want to add external storage, configure **FC Storage** by completing the following fields:

Field	Description
<b>Enable FC Storage</b> check box	Select to enable FC Storage.
<b>WWxN Pool</b> field	A WWN pool that contains both WW node names and WW port names. For each fabric interconnect, a WWxN pool is created for WWPn and WWNN.
<b>VSAN A Name</b> field	The name of the VSAN for the primary fabric interconnect (FI-A).  Default— <i>hx-ext-storage-fc-a</i> .

Field	Description
<b>VSAN A ID</b> field	<p>The unique identifier assigned to the network for the primary fabric interconnect (FI-A).</p> <p><b>Caution</b> Do not enter VSAN IDs that are currently used on the UCS or HyperFlex system. If you enter an existing VSAN ID in the installer which utilizes UCS zoning, zoning will be disabled in your existing environment for that VSAN ID.</p>
<b>VSAN B Name</b> field	<p>The name of the VSAN for the subordinate fabric interconnect (FI-B).</p> <p>Default—<code>hx-ext-storage-fc-b</code>.</p>
<b>VSAN B ID</b> field	<p>The unique identifier assigned to the network for the subordinate fabric interconnect (FI-B).</p> <p><b>Caution</b> Do not enter VSAN IDs that are currently used on the UCS or HyperFlex system. If you enter an existing VSAN ID in the installer which utilizes UCS zoning, zoning will be disabled in your existing environment for that VSAN ID.</p>

**Step 6** In the **Advanced** section, do the following:

Field	Description
<b>UCS Server Firmware Version</b> drop-down list	<p>Select the UCS server firmware version to associate with the HX servers from the drop-down list. The UCS firmware version must match the UCSM version. See the latest <a href="#">Cisco HX Data Platform Release Notes</a> for more details.</p> <p>For example, <code>3.2(1d)</code>.</p>
<b>HyperFlex Cluster Name</b> field	<p>Specify a user-defined name. The HyperFlex cluster name is applied to a group of HX Servers in a given cluster. The HyperFlex cluster name adds a label to service profiles for easier identification.</p>
<b>Org Name</b> field	<p>Specify a unique <i>Org Name</i> to ensure isolation of the HyperFlex environment from the rest of the UCS domain.</p>

**Step 7** Click **Continue** to configure the Hypervisor. See [Configure Hypervisor, on page 9](#).



## Configure Hypervisor



**Note** Review the VLAN, MAC pool, and IP address pool information on the **Hypervisor Configuration** page, in the **Configuration** pane. These VLAN IDs may be changed by your environment. By default, the HX Data Platform Installer sets the VLANs as non-native. Configure the upstream switches to accommodate the non-native VLANs by appropriately applying a trunk configuration.



**Attention** You can skip configuring Hypervisor in case of a reinstall, if ESXi networking has been completed.

### Before you begin

Configure VLAN, MAC Pool, and 'hx-ext-mgmt' IP Pool for Out-of-Band CIMC. If you are adding external storage, configure iSCSI Storage and FC Storage. Select the UCS Server Firmware Version and assign a name for the HyperFlex Stretched Cluster. See [Configure UCS Manager, on page 6](#).

### Step 1

In the **Configure Common Hypervisor Settings** section, complete the following fields:

Field	Description
Subnet Mask field	Set the subnet mask to the appropriate level to limit and control IP addresses. For example, <i>255.255.0.0</i> .
Gateway field	IP address of gateway. For example, <i>10.193.0.1</i> .
DNS Server(s) field	IP address for the DNS Server.  <b>Note</b> <ul style="list-style-type: none"> <li>• If you do not have a DNS server, do not enter a hostname in any of the fields on the <b>Cluster Configuration</b> page of the HX Data Platform Installer. Use only static IP addresses and hostnames for all ESXi hosts.</li> <li>• If you are providing more than one DNS server, check carefully to ensure that both DNS servers are correctly entered, separated by a comma.</li> </ul>

### Step 2

On the **Hypervisor Settings** section, select **Make IP Addresses and Hostnames Sequential** to make the IP addresses sequential. Complete the following fields:

**Note** You can rearrange the servers using drag and drop.

Field	Description
Name column	Name assigned to the server.
Locator LED column	Turn on to locate a server.
Serial column	Displays the serial number of the server.
Static IP Address column	Input static IP addresses and hostnames for all ESXi hosts.
Hostname column	Do not leave the hostname fields empty.

**Step 3** Click **Configure Site** to begin cluster creation. The **Progress** page displays the progress of various configuration tasks.

**Caution** Do not skip validation warnings.  
See the **Warnings** section for more details.

#### What to do next

Run the Create Stretch Cluster workflow from the HX Data Platform Installer to create your HyperFlex Stretched Cluster. See [Create Your HyperFlex Stretched Cluster, on page 10](#) for more details.

## Create Your HyperFlex Stretched Cluster

#### Before you begin

- Complete the prerequisites. Refer to the [Preinstallation Checklist](#) for more details.
- Ensure that you run the *Configure Site* workflow for both sites.
- Download and deploy the Witness VM.

Use the following procedure to create a Cisco HyperFlex Stretched Cluster using the Cisco HX Data Platform Installer.

- Step 1** Log in to the Cisco HX Data Platform Installer.
- Step 2** On the **Workflow** page, from the **Create Cluster** drop-down list, select **Stretch Cluster**. Click **Continue**.
- Step 3** On the **Credentials** page, select **Create Stretch Cluster**. Enter UCS Manager credentials for site 1 and site 2. Enter vCenter credentials. Click **Continue**. See [Enter Credentials, on page 11](#) for more details.
- Step 4** On the **Server Selection** page, configure the server ports and associate HyperFlex servers. See [Associate HyperFlex Servers, on page 13](#) for more details.
- Step 5** On the **IP Addresses** page, configure the IP addresses to be applied to the storage cluster. See [Configure IP Addresses, on page 14](#) for more details.
- Step 6** On the **Cluster Configuration** page, configure and deploy the HyperFlex stretched cluster. See [Deploy a HyperFlex Stretched Cluster, on page 15](#) for more details.

- Step 7** Click **Start** to begin deploying the stretched cluster. The **Progress** page displays the progress of the various configuration tasks.

### What to do next

Click **Launch HyperFlex Connect** to manage your HyperFlex Stretched Cluster.

## Enter Credentials

Enter UCS manager credentials for site 1 and site 2, and enter credentials for the vCenter.

### Before you begin

- Complete the prerequisites. Refer to the [Preinstallation Checklist](#) for more details.
- Download and deploy the Witness VM.
- Complete configuring the HyperFlex Stretched Cluster. See [Create the Stretched Cluster Sites, on page 2](#) for more details.

- Step 1** Log in to the Cisco HX Data Platform Installer.
- In your web browser, enter the IP address or the node name for the HX Data Platform Installer VM. Click **Accept** or **Continue** to bypass any SSL certificate errors. On the Cisco HX Data Platform Installer login page, verify the HX Data Platform Installer **Build ID** in the lower right corner of the login screen.
  - In the login page, enter the following credentials:
 

**Username:** `root`

**Password (Default):** `Cisco123`

**Important** Systems ship with a default password of `Cisco123` that must be changed during installation. You cannot continue installation unless you specify a new user supplied password.
  - Read the EULA, check the **I accept the terms and conditions** check box, and click **Login**.

- Step 2** On the **Workflow** page, from the **Create Cluster** drop-down list, select **Stretch Cluster**. Click **Continue**.

- Step 3** On the **Credentials** page, select **Create Stretch Cluster**.

- Step 4** Enter the following UCS Manager credentials for Site 1 and Site 2.

To perform cluster creation, you can import a *JSON configuration* file with the required configuration data. The following two steps are optional if importing a JSON file, otherwise you can input data into the required fields manually.

- Note** For a first-time installation, contact your Cisco representative to procure the factory preinstallation JSON file.
- Click **Select a file** and choose your *JSON file* to load the configuration. Select **Use Configuration**.
  - An **Overwrite Imported Values** dialog box displays if your imported values for Cisco UCS Manager are different. Select **Use Discovered Values**.

### UCS Manager Credentials for Site 1

Field	Description
UCS Manager Hostname field	UCS Manager FQDN or IP address for site 1. For example, <i>10.193.211.120</i> .
User Name field	Enter the administrative level username. For example, <i>&lt;admin&gt;</i> username.
Password field	Enter the administrative level password. Enter the <i>&lt;root&gt;</i> password.
Site Name field	Specify a unique site name.
Org Name field	Specify a unique org name, to ensure isolation of the HyperFlex environment from the rest of the UCS domain.

#### UCS Manager Credentials for Site 2

Field	Description
UCS Manager Host Name field	Enter the UCS Manager FQDN or IP address for site 2. For example, <i>10.193.211.120</i> .
User Name field	Enter the administrative level username. For example, <i>&lt;admin&gt;</i> username.
Password field	Enter the administrative level password. Enter the <i>&lt;root&gt;</i> password.
Site Name field	Specify a unique site name.
Org Name field	Specify a unique org name. This ensures isolation of the HyperFlex environment from the rest of the UCS domain.

**Step 5** Enter the following credentials for the vCenter.  
**vCenter Credentials**

Field	Description
<b>vCenter Server</b> field	<p>Enter the vCenter server FQDN or IP address.</p> <p>For example, <i>10.193.211.120</i>.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• vCenter Server input is optional if building a nested vCenter. See the Nested vCenter TechNote for more details. A vCenter server is required before the cluster can be made operational.</li> <li>• The vCenter address and credentials must have root level administrator permissions to the vCenter.</li> </ul>
<b>User Name</b> field	<p>Enter the administrative username.</p> <p>For example, <i>administrator@vsphere.local</i>.</p>
<b>Admin Password</b> field	<p>Enter the administrative level password.</p> <p>Enter the <i>&lt;root&gt;</i> password.</p>

**Step 6** Click **Continue** to begin associating HyperFlex servers. See [Associate HyperFlex Servers, on page 13](#).

## Associate HyperFlex Servers

On the **Server Selection** page, the **Configuration** pane on the right displays a detailed list of the **Credentials** used. The **Server Selection** page displays a list of unassociated HX servers under the **Unassociated** tab, and the list of discovered servers under the **Associated** tab.

Field	Description
<b>Locator LED</b> column	Turn on to locate a server.
<b>Server Name</b> column	Name that is assigned to the server.
<b>Status</b> column	<ul style="list-style-type: none"> <li>• Inaccessible—</li> <li>• Ok—</li> </ul>
<b>Model</b> column	Displays the server model.
<b>Serial</b> column	Displays the serial number of the server.
<b>Service Profile</b> column [Only for Associated Servers]	Service profile that is assigned to the server.

Field	Description
Actions column	<ul style="list-style-type: none"> <li>• <b>Launch KVM Console</b>—Choose this option to launch the KVM Console directly from the HX Data Platform Installer.</li> <li>• <b>Disassociate Server</b>—Choose this option to remove a service profile from that server.</li> </ul>

### Before you begin

Ensure that you completed entering UCS Manager, vCenter, and Hypervisor credentials on the **Credentials** page. See [Enter Credentials, on page 11](#).

**Step 1** Click the **Configure Server Ports** button to discover any new HX nodes. In the **Configure Server Ports** dialog box, list all ports to be configured as server ports. Click **Configure**.

**Note** Typically, the server ports are configured in Cisco UCS Manager before you start the configuration.

**Step 2** Select the servers under the **Unassociated** tab to include in the HyperFlex cluster.

If HX servers do not appear in this list, check Cisco UCS Manager and ensure that they have been discovered.

**Note** If there are no unassociated servers, the following error message is displayed:

No unassociated servers found. Login to UCS Manager and ensure server ports are enabled.

**Step 3** Click **Continue** to configure IP addresses. See [Configure IP Addresses, on page 14](#).

## Configure IP Addresses

### Before you begin

Associate servers on the HyperFlex cluster. See [Associate HyperFlex Servers, on page 13](#).

**Step 1** On the **IP Addresses** page, select **Make IP Addresses Sequential** to make the IP Addresses sequential.

**Step 2** When you enter IP addresses in the first row for Hypervisor, Storage Controller (Management) and Hypervisor, Storage Controller (Data) columns, the HX Data Platform Installer incrementally autofills the node information for the remaining nodes.

For each HX node, enter the Hypervisor and storage controller IP addresses. For the IP addresses, specify if the network belongs to the Data Network or the Management Network.

Field	Description
Management Hypervisor field	Enter the static IP address that handles the Hypervisor management network connection between the ESXi host and the storage cluster.

Field	Description
<b>Management Storage Controller</b> field	Enter the static IP address that handles the storage controller VM management network connection between the storage controller VM and the storage cluster.
<b>Data Hypervisor</b> field	Enter the static IP address that handles the Hypervisor data network connection between the ESXi host and the storage cluster.
<b>Data Storage Controller</b> field	Enter the static IP address that handles the storage controller VM data network connection between the storage controller VM and the storage cluster.

**Step 3**

The IP address provided here are applied to one node in the storage cluster. In the event the node becomes unavailable the affected IP address is moved to another node in the storage cluster. All nodes must have a port configured to accept these IP addresses.

Provide the following IP addresses:

Field	Description
<b>Management Cluster Data IP Address</b> field	Enter the management network IP address for the HX Data Platform storage cluster.
<b>Data Cluster IP Address</b> field	Enter the IP address of data network for the HX Data Platform storage cluster.
<b>Management Subnet Mask</b> field	Enter the subnet information for your VLAN and vSwitches. Provide the management network value. For example, 255.255.255.0.
<b>Data Subnet Mask</b> field	Provide the network value for the data network. For example, 255.255.255.0.
<b>Management Gateway</b> field	Provide the network value for your management network. For example, 10.193.0.1.
<b>Data Gateway</b> field	Provide the network value for your data network. For example, 10.193.0.1.
<b>Witness IP</b> field	Provide the IP address of the witness VM.

**Step 4**

Click **Continue** to deploy the HyperFlex stretched cluster. See [Deploy a HyperFlex Stretched Cluster, on page 15](#) for more details.

## Deploy a HyperFlex Stretched Cluster

On the **Cluster Configuration** page, for the Cisco HX Storage Cluster complete the following fields to begin deploying the HyperFlex cluster.

**Before you begin**

Ensure that you completed configuring IP addresses on the **IP Addresses** page. See [Configure IP Addresses, on page 14](#).

**Step 1** In the **Cisco HX Cluster** section, complete the following fields:

Field	Description
<b>Cluster Name</b> field	Specify a name for the HX Data Platform storage cluster.
<b>Replication Factor</b> drop-down list	Specify the number of redundant replicas of your data across the storage cluster. Set the replication factor to 4, for 2 copies in each site.

**Step 2** In the **Controller VM** section, create a new password for the Administrative User of the HyperFlex cluster.

A default administrator username and password is applied to the controller VMs. The VMs are installed on all converged and compute-only nodes.

- Important**
- You cannot change the name of the controller VM or the controller VM's datastore.
  - Use the same password for all controller VMs. The use of different passwords is not supported.
  - Provide a complex password that includes 1 uppercase character, 1 lowercase character, 1 digit, 1 special character, and a minimum of 10 characters in total.
  - You can provide a user-defined password for the controller VMs and for the HX cluster to be created. For password character and format limitations, see the section on Guidelines for HX Data Platform Special Characters in the *Cisco HX Data Platform Management Guide*.

**Step 3** In the **vCenter Configuration** section, complete the following fields:

Field	Description
<b>vCenter Datacenter Name</b> field	Enter the vCenter datacenter name for the Cisco HyperFlex cluster.
<b>vCenter Cluster Name</b> field	Enter the vCenter cluster name.

**Step 4** In the **System Services** section, complete the following fields:

Field	Description
<b>DNS Server(s)</b> field	Enter a comma-separated list of IP addresses of each DNS server.
<b>NTP Server(s)</b> field	<p>Enter a comma-separated list of IP addresses of each NTP server.</p> <p><b>Note</b> All hosts must use the same NTP server, for clock synchronization between services running on the storage controller VMs and ESXi hosts.</p>



Field	Description
DNS Domain Name field	Enter the DNS FQDN or IP address.
Time Zone drop-down list	Select the local time zone for the controller VM, to determine when to take scheduled snapshots. Scheduled native snapshot actions are based on this setting.

**Step 5** In the **Auto Support** section, select **Enable Connected Services** to enable Auto Support and Cisco Intersight management.

Field	Description
Enable Connected Services (Recommended) check box	Select to enable Auto Support and Cisco Intersight management. Log on to HX Connect to configure these services or selectively turn them <b>On</b> or <b>Off</b> .
Send service ticket notifications to field	Enter the email address where SR notifications should be sent when triggered by Auto Support.

**Step 6** In the **Advanced Networking** section, complete the following fields:

**Note** When repurposing existing hyperflex hardware for stretched cluster, the VM Network port group may not have configured with the correct vSwitch. You must manually configure the VM network on the correct vSwitch.

Field	Description
Management VLAN Tag - Site 1 field	Enter the correct VLAN ID if using trunk ports. Enter 0 if using access ports. <b>Note</b> Use the same Management VLAN Tag for site 1 and site 2.
Management VLAN Tag - Site 2 field	Enter the correct VLAN ID if using trunk ports. Enter 0 if using access ports. <b>Note</b> Use the same Management VLAN Tag for site 1 and site 2.
Management vSwitch field	Default is vswitch-hx-inband-mgmt. <b>Note</b> Do not modify the name of the vSwitch.
Data VLAN Tag - Site 1 field	Enter the correct VLAN ID if using trunk ports. Enter 0 if using access ports. <b>Note</b> Use the same Data VLAN Tag for site 1 and site 2.

Field	Description
Data VLAN Tag - Site 2 field	<p>Enter the correct VLAN ID if using trunk ports.</p> <p>Enter 0 if using access ports.</p> <p><b>Note</b> Use the same Data VLAN Tag for site 1 and site 2.</p>
Data vSwitch field	Default is vswitch-hx-storage-data.

**Step 7** In the **Advanced Configuration** section, do the following:

Field	Description
<p><b>Jumbo frames</b></p> <p>Enable Jumbo Frames check box</p>	<p>Check to set the MTU size for the storage data network on the host vSwitches and vNICs, and each storage controller VM.</p> <p>The default value is 9000.</p> <p><b>Note</b> At the time of installation, you can select the MTU size as either 1500 or 9000 bytes.</p> <p><b>Note</b> If you want to change the MTU size from 9000 to 1500 after installation, you must change the MTU size in Cisco UCS, Data vSwitch, VMkernel, and Controller VM Ethernet1 interface.</p>
<p><b>Disk Partitions</b></p> <p>Clean up Disk Partitions check box</p>	<p>Check to remove all existing data and partitions from all nodes added to the storage cluster for manually prepared servers. Select this option to delete existing data and partitions. You must backup any data that should be retained.</p> <p><b>Attention</b> Do not select this option for factory prepared systems. The disk partitions on factory prepared systems are properly configured.</p>
<p><b>Virtual Desktop (VDI)</b></p> <p>check box</p>	<p>Check for VDI only environments.</p> <p><b>Note</b> To change the VDI settings after the storage cluster is created, shutdown or move the resources, make changes, and restart the cluster.</p>

**Step 8** Click **Start** to begin deploying the HyperFlex stretched cluster. The **Progress** page displays the progress of various configuration tasks.

**Caution** Do not skip validation warnings.  
See the **Warnings** section for more details.

**What to do next**

- Some validation errors require you to go back and re-enter a parameter (for example, an invalid ESXi password, incorrect NTP server, bad SSO server, or other incorrect input). Click **Re-enter Values** to return to the **Cluster Configuration** page and resolve the issue.
- When complete, the HyperFlex servers are installed and configured. The deployed cluster status shows as **Online** and **Healthy**.
- Click **Launch HyperFlex Connect** to manage your HyperFlex stretched cluster.

# Configuring VMware vCenter High Availability Settings for Stretched Cluster

The HyperFlex Stretched Cluster works as designed using the default installation values. This section provides the recommended settings for configuring VMware vSphere high availability for Stretched Cluster during custom configuration.



**Note** Use the default value for the fields for which the settings are not captured in this section.

**Before you begin**

Create the HyperFlex Stretched Cluster sites.

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- Step 1** Log on to vCenter with the vSphere Web Client.
- Step 2** Select the Stretched cluster and click **Configure**.
- Step 3** Choose **Configure > vSphere Availability** and click **Edit**.
- Step 4** Check the **Turn on vSphere HA** check box.
- Step 5** Click **Failures and Responses**.
- Step 6** In the **Failure conditions and responses** screen, complete the following fields:
- **Enable Host Monitoring**—Check this check box to enable the host monitoring.
  - **Host Failure Response**—From the drop-down list, choose **Restart VMs**.
  - **Response for Host Isolation**—From the drop-down list, choose **Power off and Restart VMs**.
  - **Datastore with PDL**—From the drop-down list, choose **Power off and Restart VMs**.
  - **Datastore with APD**—From the drop-down list, choose **Power off and Restart VMs (conservative)**.
  - **VM Monitoring**—From the drop-down list, choose the required option for VM monitoring. By default, **Disabled** is displayed.
- Step 7** Click **Admission Control**. From the **Define host failover capacity by** drop-down list, choose **Cluster resource percentage** and check the **Override calculated failover capacity** check box. Change the set percentage of **CPU** and **Memory** to **50%**.

**Step 8** Click **Heartbeat Datastores**. In the **Heartbeat Datastores** screen, click the **Use datastores only from the specified list** radio button and choose the Hyperflex datastores.

**Step 9** Click **Advanced Options**, and add the following options:

Option	Value
das.usedefaultisolationaddress	False.
das.isolationaddress0	IP address of the eth0 interface of a storage controller on site A, IP address of the stretch cluster on complimentary site A, or virtual IP address of complimentary site A Fabric Interconnect (FI).
das.isolationaddress1	IP address of the eth0 interface of a storage controller on site B, IP address of the stretch cluster on complimentary site B, or virtual IP address of complimentary site B Fabric Interconnect (FI).

**Step 10** Click **OK**.

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