Post Installation

Post Installation Tasks Summary

After successful cluster configuration, perform the following addition post installation tasks to ensure that the cluster is ready to serve VMs.

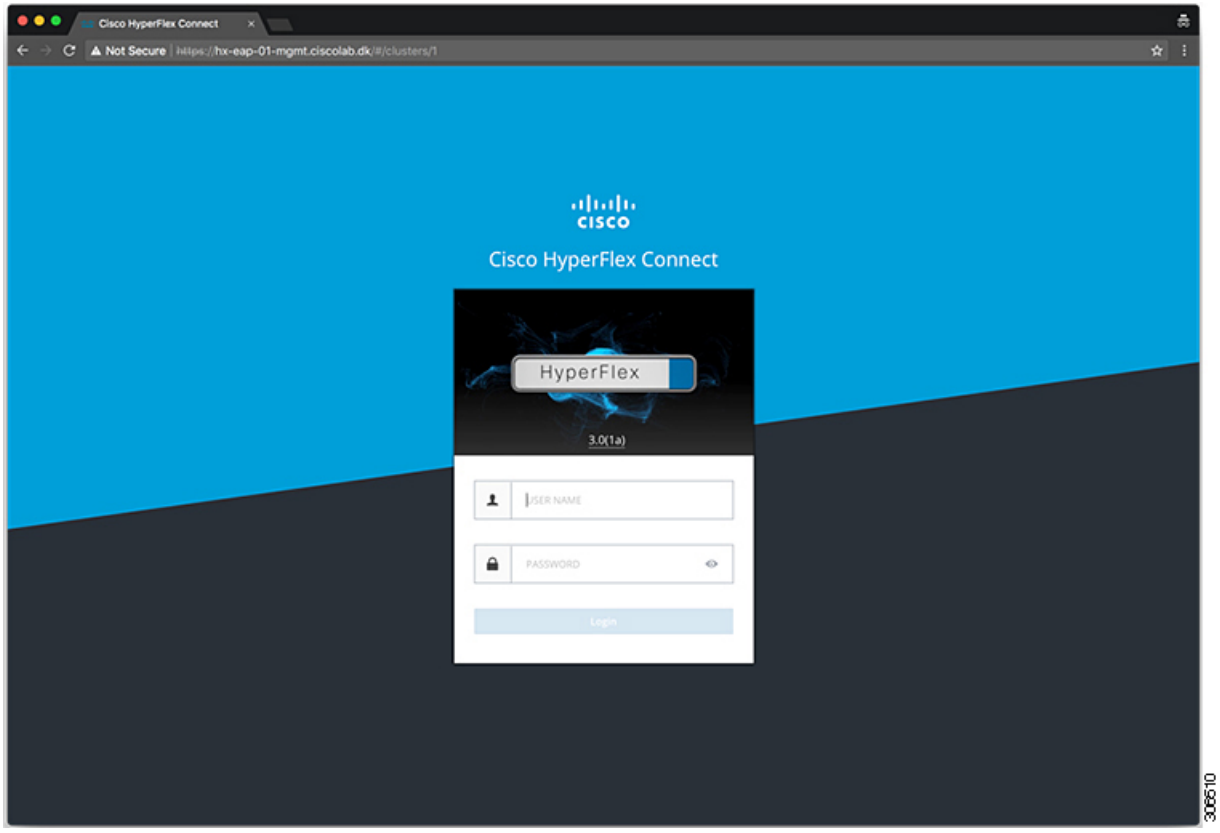
Task	Reference
Create the First Datastore	Create the First Datastore, on page 1
Assign a static IP address for Live Migration and VM Network	Configuring a Static IP Address for Live Migration and VM Network, on page 3
(Optional) Constrained Delegation	(Optional) Post Installation Constrained Delegation, on page 4
Configure Local Default Paths	Configure Local Default Paths, on page 5
Configure File Share Witness	Configuring a File Share Witness, on page 6
Checking the Windows Version on the Hyper-V Host	Checking the Windows Version on the Hyper-V Host, on page 11
Validate Failover Cluster Manager	Validate Failover Cluster Manager, on page 11
Deploying VMs on a Hyper-V cluster	Deploying VMs on a Hyper-V cluster, on page 13
Configuring HyperFlex Share to SCVMM	Configuring HyperFlex Share to SCVMM, on page 19
Re-enabling Windows Defender	Re-enabling Windows Defender, on page 21

Create the First Datastore

Before you begin using the cluster, you must create a datastore. The datastore can be created in HX Connect UI.

Procedure

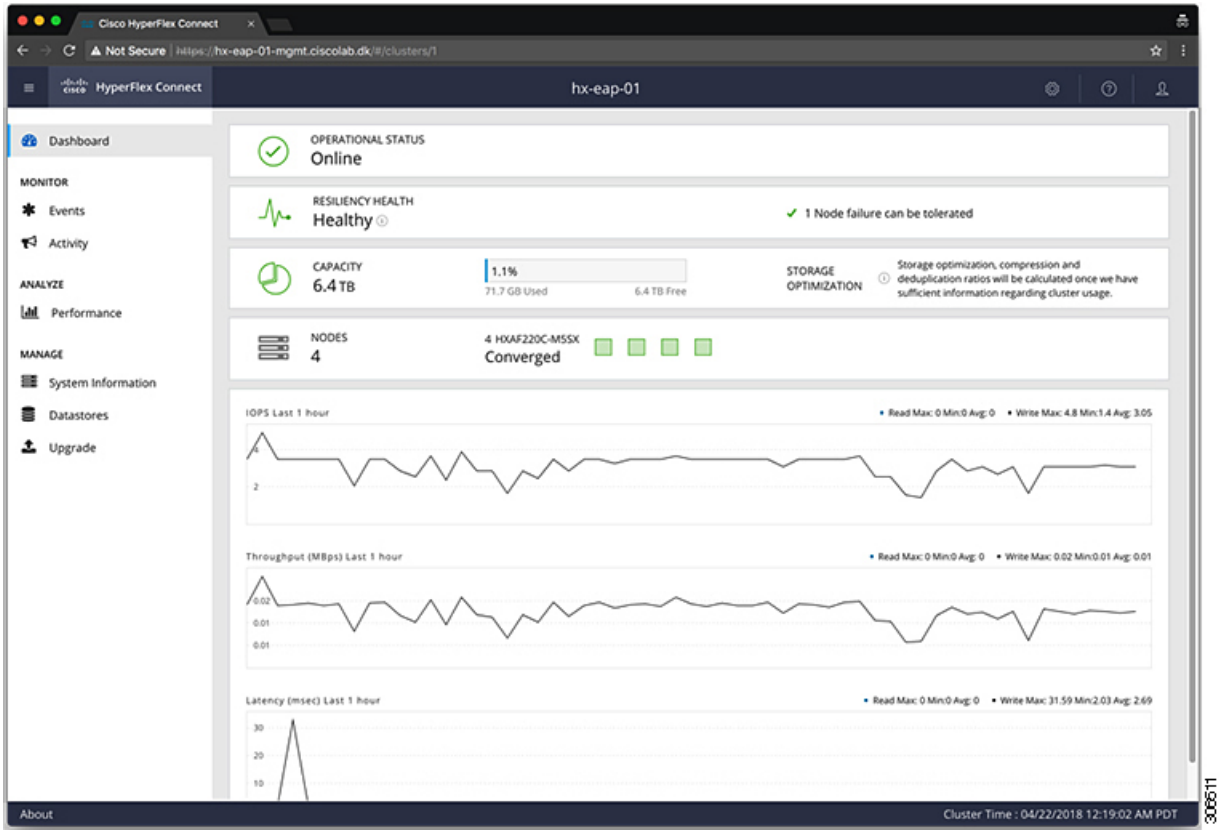
Step 1 Launch HX Connect UI from a browser of your choice from *https://Cluster_IP/* or *https://FQDN*.



Step 2 Log in with the following credentials:

- **Username—hxadmin**
- **Password**—Use the password set during cluster installation.

Step 3 In the Navigation pane, select **Datastores**.



Step 4 In the Work pane, click **Create Datastore**.

Step 5 In the **Create Datastore** dialog box, complete the following fields:

Field	Description
Datastore Name	Enter a name for the datastore. Cisco recommends that you use all lower case characters for the datastore name.
Size	Select the size for the datastore.
Block Size	Select the block size for the datastore.

Note Cisco recommends 8K block size and as few datastores as possible to ensure the best performance.

Configuring a Static IP Address for Live Migration and VM Network

Log in to each Hyper-V node and execute the following commands in Power Shell to assign a static IP address for Live Migration and VM Network.

#	Command	Purpose
1	`New-NetIPAddress -ifAlias "vSwitch-hx-livemigration" -IPAddress 192.168.73.21 -PrefixLength 24`	Assigns a static IP address to the Live Migration network.
2	`New-NetIPAddress -ifAlias "vswitch-hx-vm-network" -IPAddress 192.168.74.21 -PrefixLength 24`	Assigns a static IP address to the VM network.

(Optional) Post Installation Constrained Delegation

Attention This step must be performed only if Constrained Delegation was not configured during initial installation. It is recommended that you perform this procedure using the HX Installer and not as part of post-installation.

Constrained Delegation gives granular control over inpersonation. When the remote management requests are made to the Hyper-V hosts, it needs to make those requests to the storage on behalf of the caller. This is allowed if that host is trusted for delegation for the CIFS service principal of HX Storage.

Constrained Delegation requires that the option for the security setting **User Account Control: Behavior of the elevation prompt for Administrators in Admin Approval Mode** is set to **Elevate without Prompting**. This will prevent the global AD policy from overriding policy on HX OU.

Perform the following procedure *on each Hyper-V host in the HX Cluster* to configure using **Windows Active Directory Users and Computers**.

Procedure

Step 1 Click **Start**, click **Administrative Tools**, and then click **Active Directory Users and Computers**.

Step 2 Expand domain, and then expand the Computers folder.

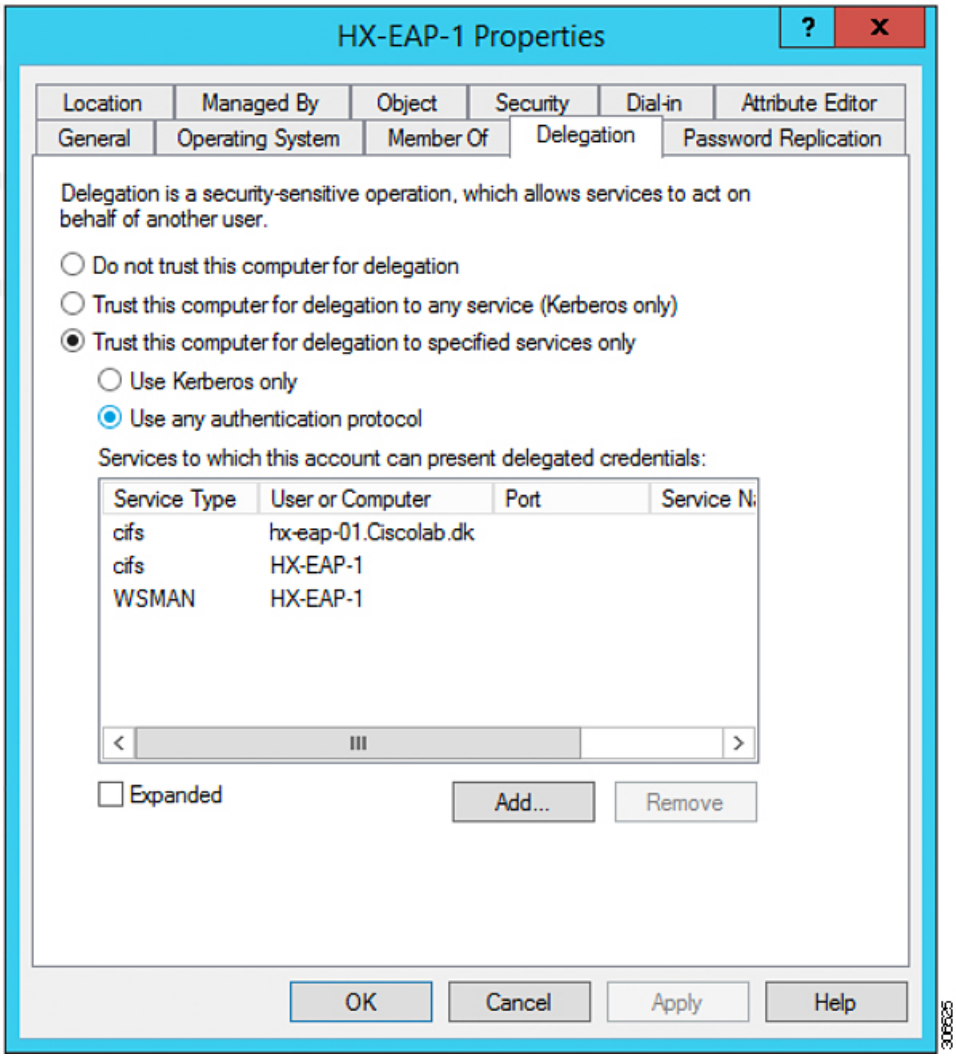
Step 3 In the right pane, right-click on the computer name (for example, HX-Properties), and then click **Properties**.

Step 4 Click on the **Delegation** tab.

Step 5 Select **Trust this computer for delegation to specified services only**.

Step 6 Ensure that **Use any authentication protocol** is selected.

Step 7 Click **Add**. In the **Add Services** dialog box, click **Users or Computers**, and then browse or type the name of the Service Type (such as CIFS). Click OK. The following illustration can be used as an example.



Step 8 Repeat these steps for all nodes.

Configure Local Default Paths

Configure the default local path for the VMs to ensure that they will be on the HX cluster datastore.

Run the following commands in PowerShell:

```
$Creds = Get-Credential -Message "User Credentials" -UserName <<current logon username>>
$hosts = ("hostname1","hostname2","hostname3","hostname4")
Invoke-Command -ComputerName $hosts -Credential $Creds -ScriptBlock {Set-VMHost
-VirtualHardDiskPath
"\\HX-EAP-01.ciscolab.dk\DS1_8K" -VirtualMachinePath "\\HX-EAP-01.ciscolab.dk\DS1_8K"}
```

Note Remember to change the variables to suit your environment.

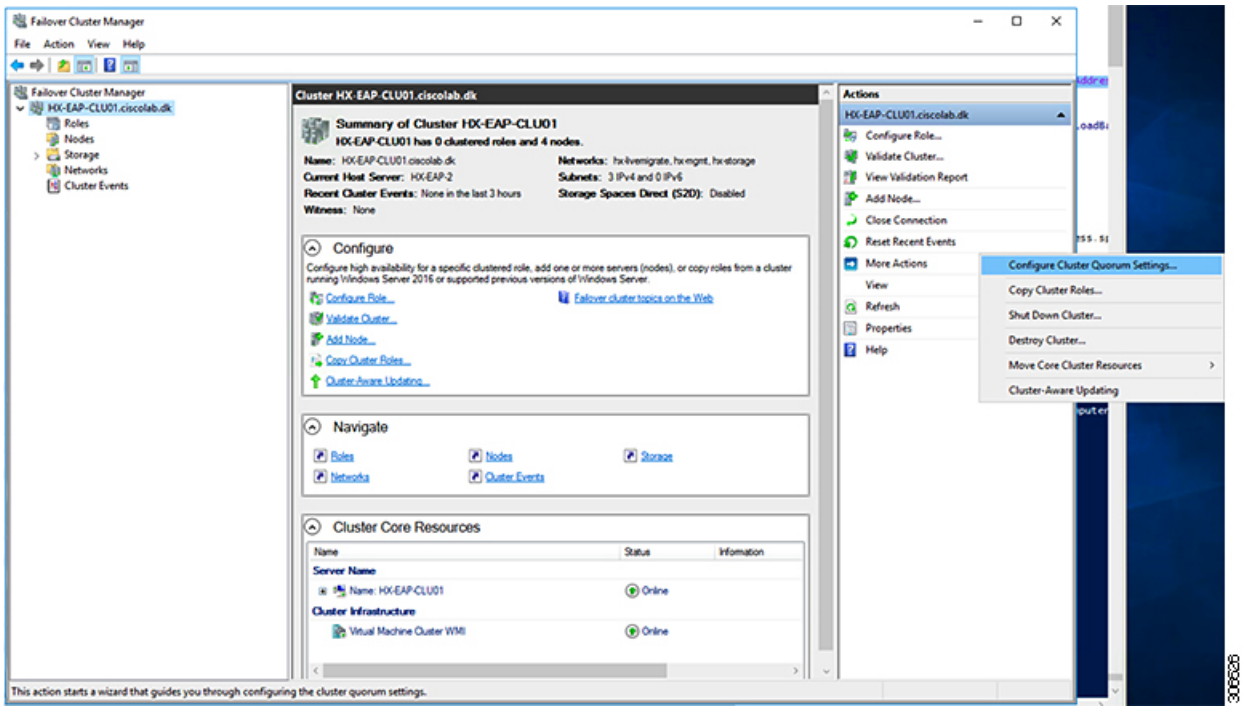
Configuring a File Share Witness

As a Microsoft best practice, ensure that you configure a Quorum witness datastore. Use the following procedure to configure a File Share Witness using **Failover Cluster Manager** (FCM).

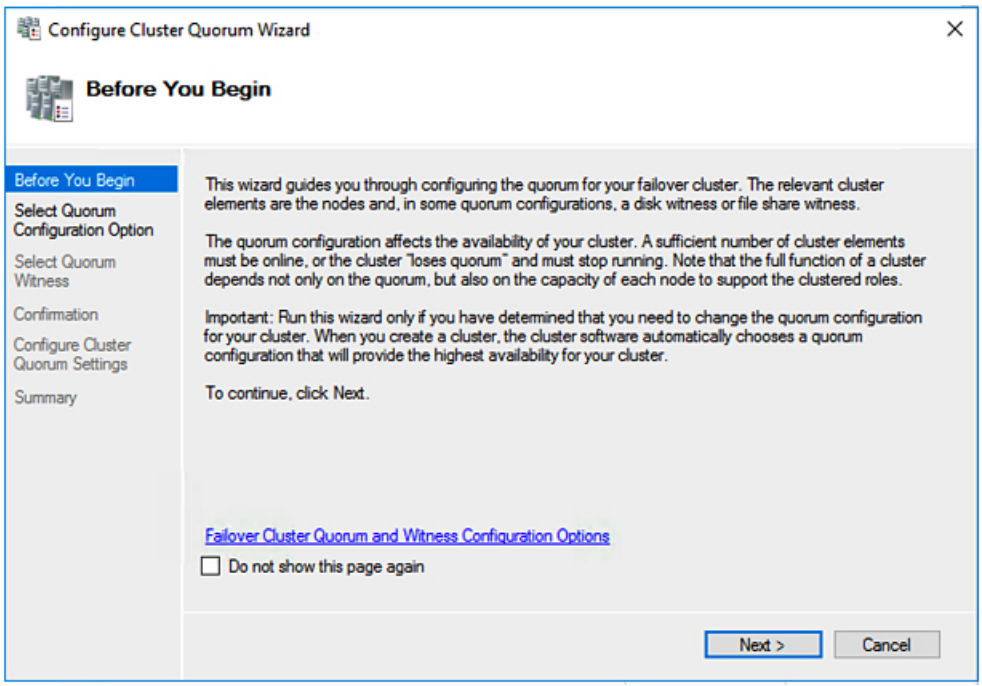
Procedure

Step 1 Launch FCM.

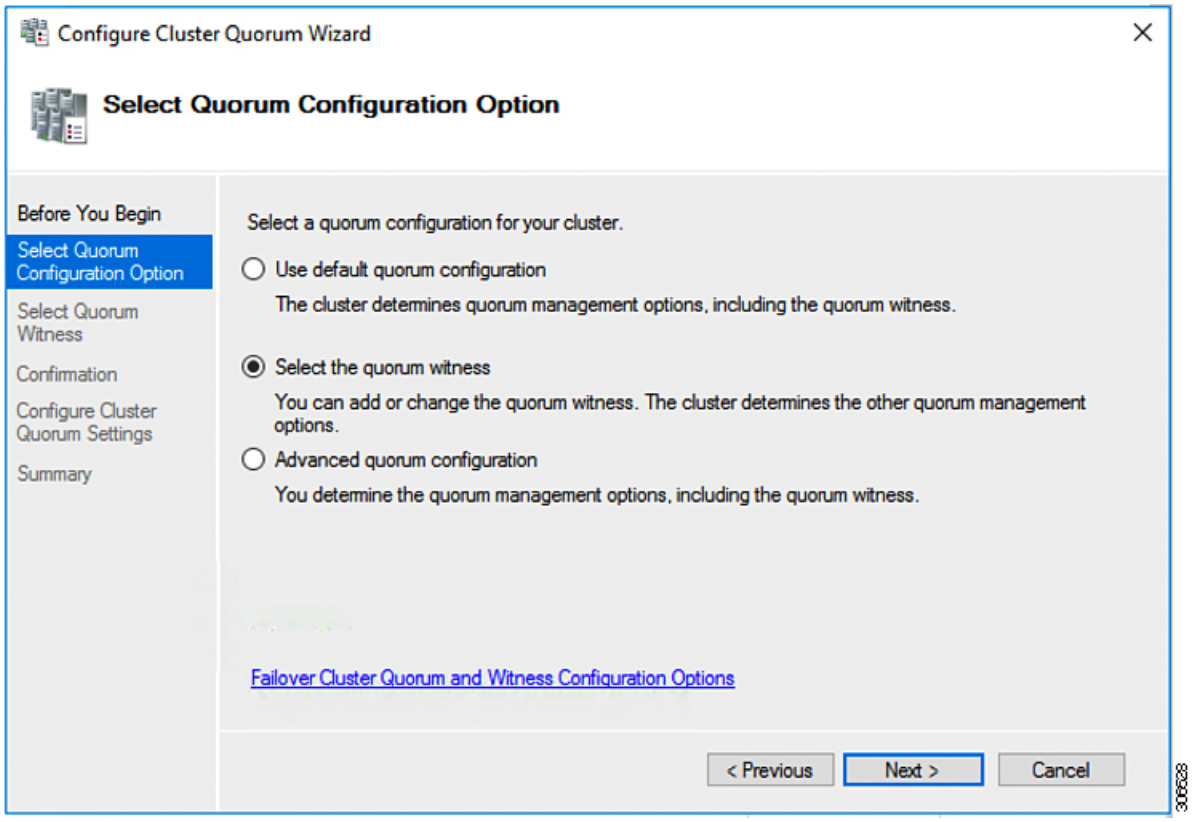
Step 2 In the navigation pane, select your cluster. Then, in the **Actions** pane, select **More Actions** > **Configure Cluster Quorum Settings...**.



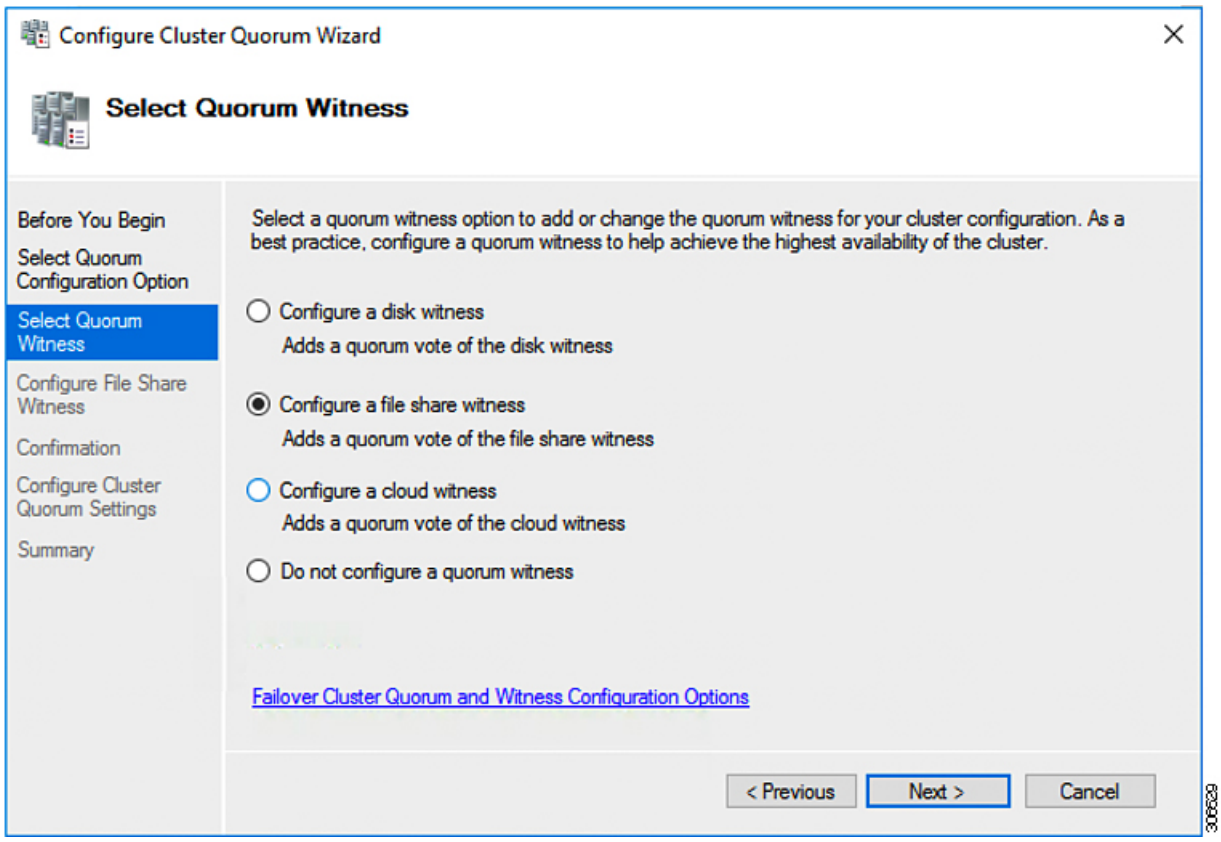
Step 3 The **Configure Cluster Quorum** wizard is launched. Click **Next**.



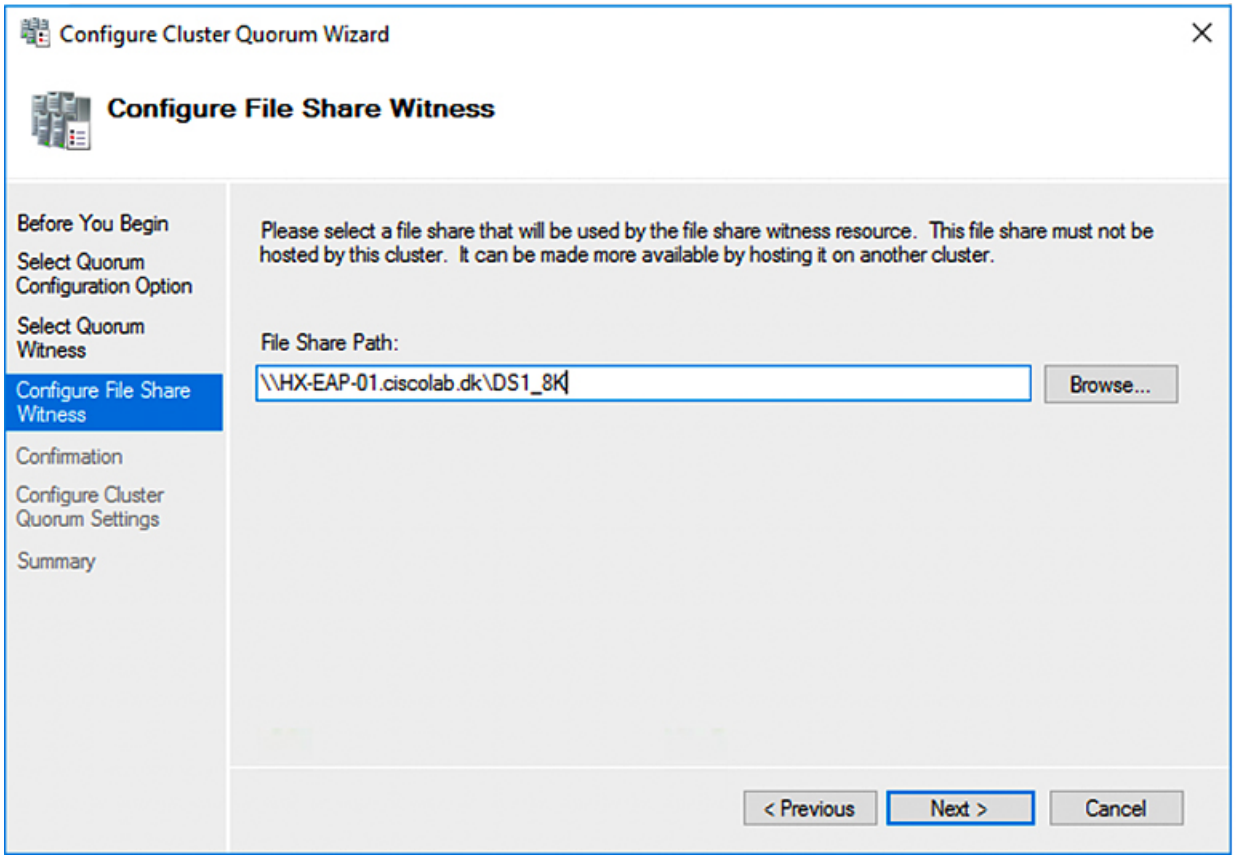
Step 4 In the **Select Quorum Configuration Option** screen, choose **Select the quorum witness**. Click **Next**.



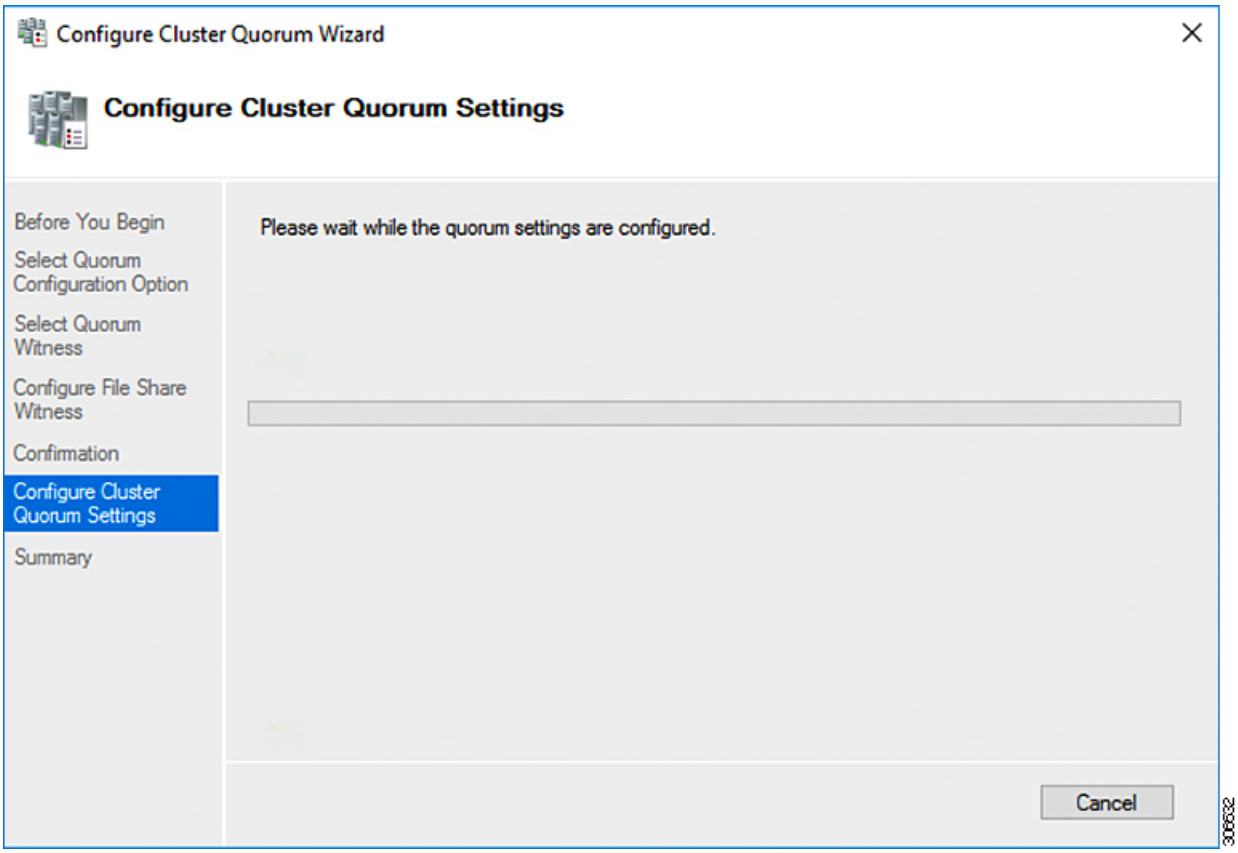
Step 5 In the **Select Quorum Witness** screen, choose **Configure a file share witness**. Click **Next**.



Step 6 In the **Configure File Share Witness** screen, specify the path to the File Share. Click **Next**.



Step 7 In the **Confirmation** screen, click **Next**.



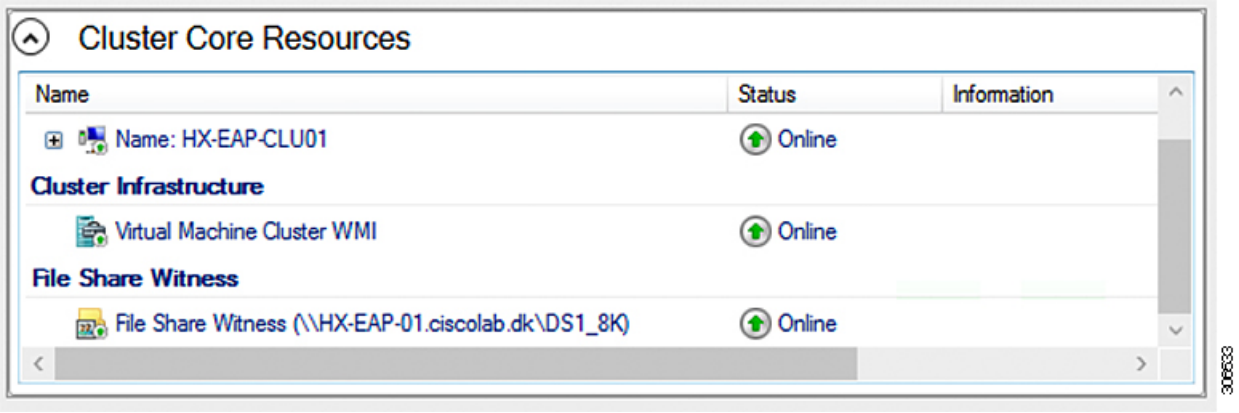
Step 8 In the **Summary** screen, click **Finish** to close the wizard.

Step 9 Alternatively, you can configure a file share witness using Windows PowerShell.

a) Open a Windows PowerShell console as an administrator.

b) Type **Set-ClusterQuorum -FileShareWitness <File Share Witness Path>**

c) You should now see the File Share Witness configured for your cluster. When you navigate to your File Share Witness share you will see a folder created for your cluster.



Checking the Windows Version on the Hyper-V Host

Follow the steps below to check the version of Windows installed.

Procedure

Step 1 Login to the Hyper-V server as an administrator or HX Service Administrator account.

Step 2 In Powershell, run the following command:

C:\Users\adminhyperflex> Get-ItemProperty 'HKLM:\SOFTWARE\Microsoft\Windows NT\CurrentVersion'

Step 3 Verify the installed Windows version in the result of the command output.

Following is a sample output if you have installed Windows Server 2016.

```
ProductName : Windows Server 2016 Datacenter
ReleaseId : 1607
SoftwareType : System
UBR : 447
```

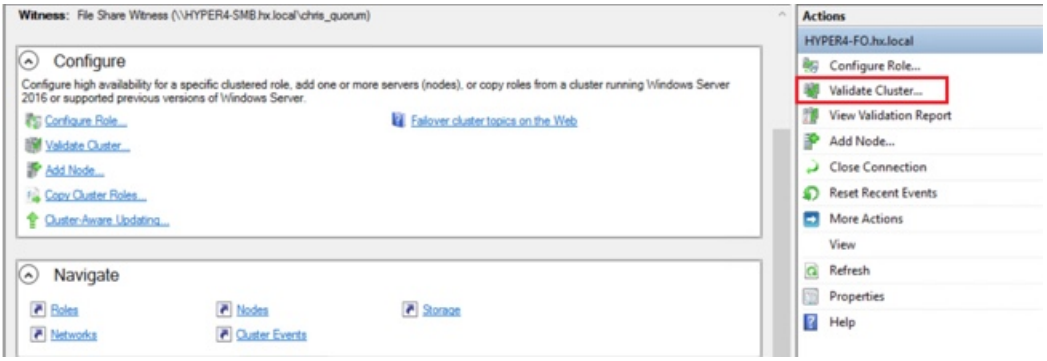
Step 4 In addition, verify the following:

- The UBR # should be greater than 1884. If not, upgrade the HyperV servers to the latest update. Refer to the *Microsoft Knowledge Base article: KB4467691*.
- If you are using a standalone HyperV manager outside HX nodes then, the Hyper-V management server should have a version UBR # greater than 1884. You must upgrade the Hyper-V management server if the version is 1884 or lower.

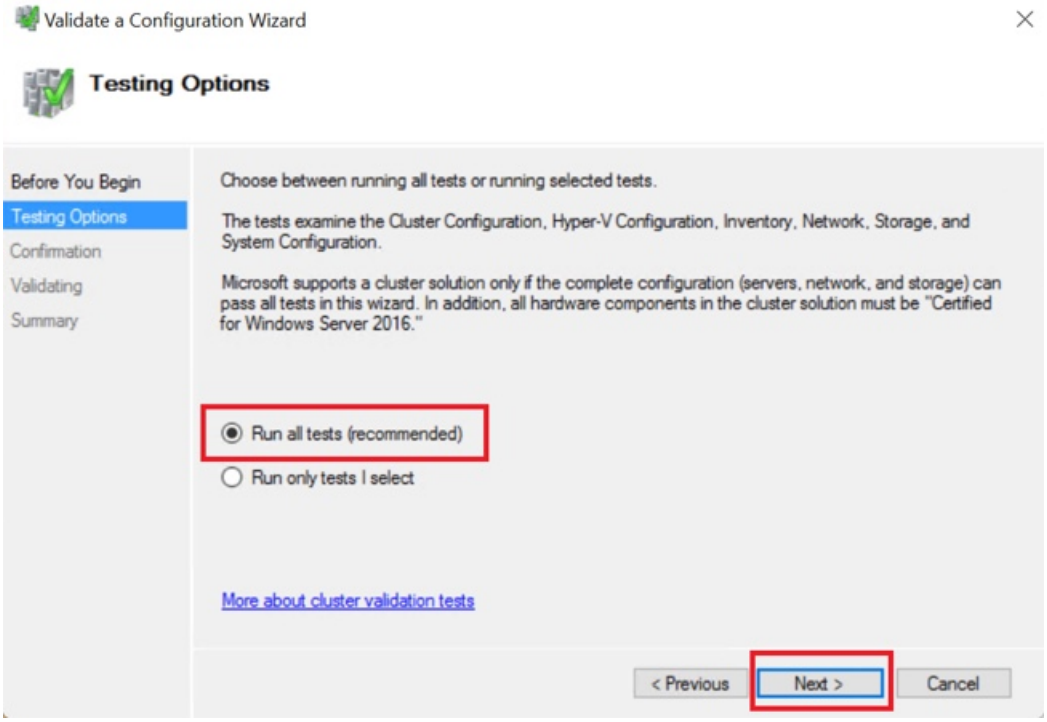
Validate Failover Cluster Manager

Procedure

Step 1 Open the Failover Cluster Manager Manager and click **Validate Cluster** and then click **Next**.

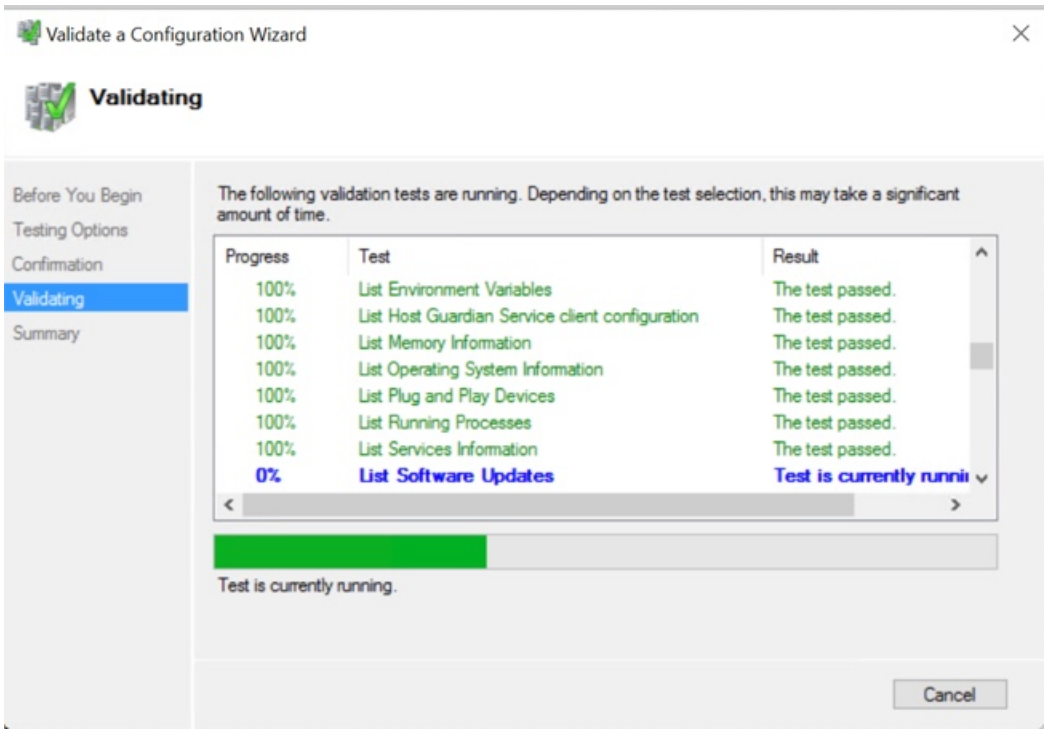


Step 2 Select **Run all tests (recommended)** and then click **Next**.



After clicking **Next**, the validation procedure starts running.

Step 3 Verify that there are no validation failures. If there are any validation failures, click **View Report** and address any results that show **Failed**.



Deploying VMs on a Hyper-V cluster

Deploying VMs on a Hyper-V cluster is a multi-step process as described below:

- **Install Remote Server Administration Tools (RSAT) on the management station/host**—You must install administrator tools such as Hyper-V Manager and Failover Cluster Manager as features Server Manager. For more information see, Install RSAT tools on the Management Station or Host, on page 13.
- **Manage VMs**—Connecting to all the Hyper-V nodes in the HX cluster and creating new VMs can be accomplished using either Hyper-V Manager or Failover Cluster Manager. For more information see, Creating VMs using Hyper-V Manager, on page 18, Creating VMs using Failover Cluster Manager, on page 18, or Creating ReadyClone VMs.

Install RSAT tools on the Management Station or Host

To install RSAT, complete the following steps:

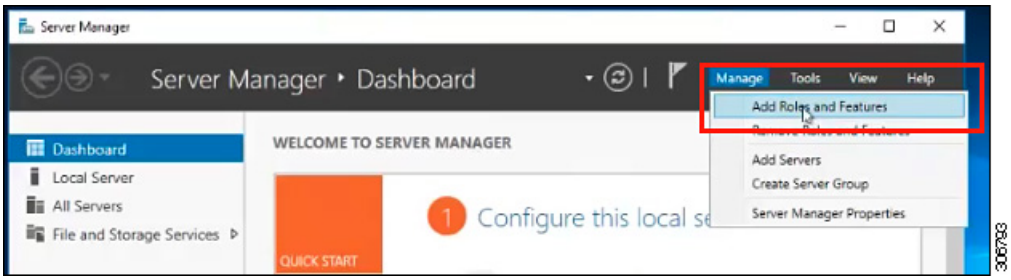
Before you begin

RSAT tool installation requires the following:

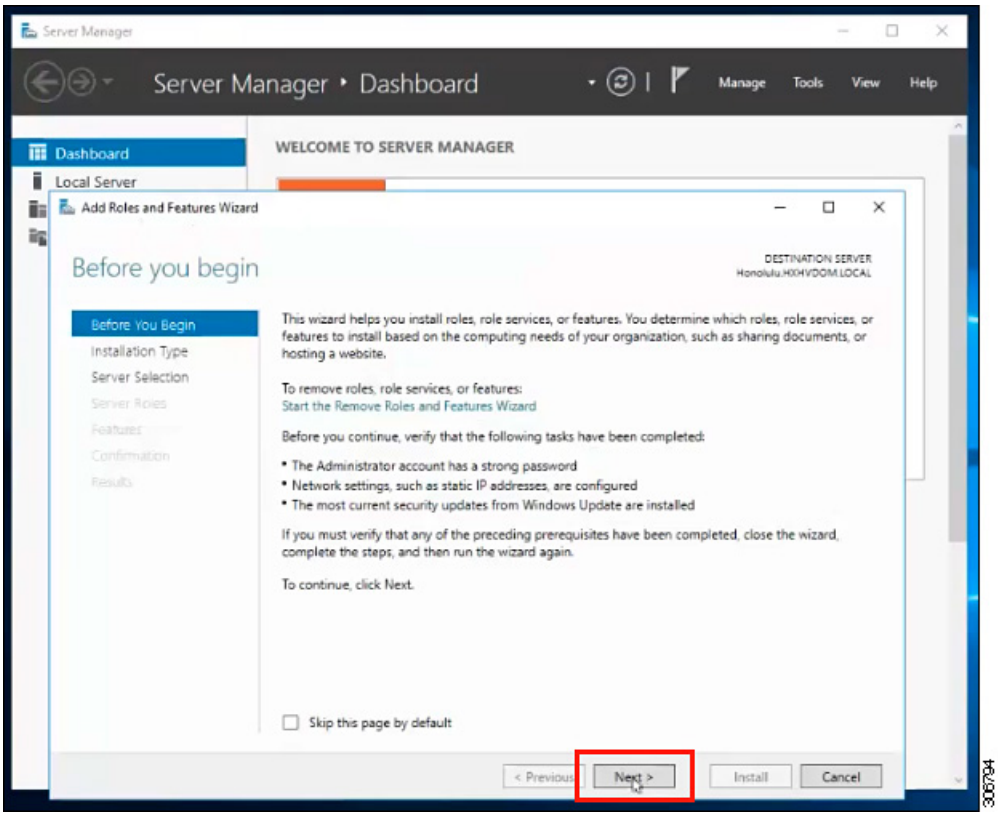
- A server from which you can install, manage, monitor the VMs on the Hyper-V HX cluster.
- Administrator tools such as Hyper-V Manager, FCM, PowerShell, SCVMM.

Procedure

Step 1 In Server Manager, click **Manage** and then select **Add Roles and Features**. The **Add Roles and Features** wizard appears.

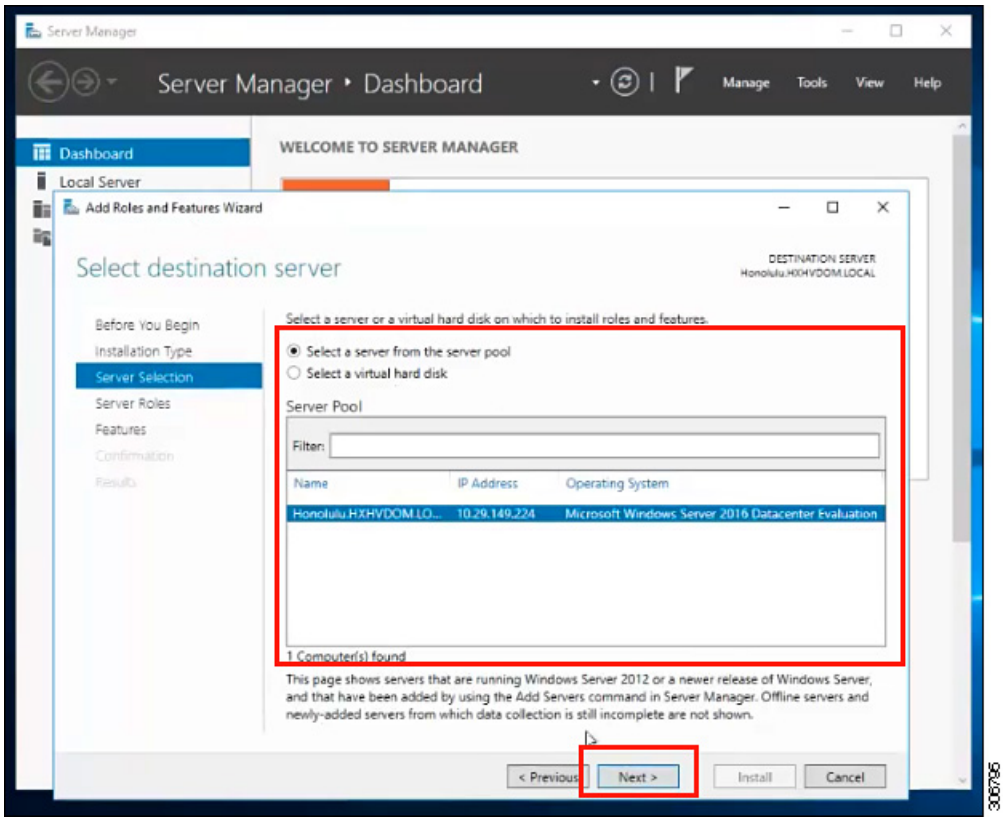


Step 2 In the **Before you begin** page, click **Next**.



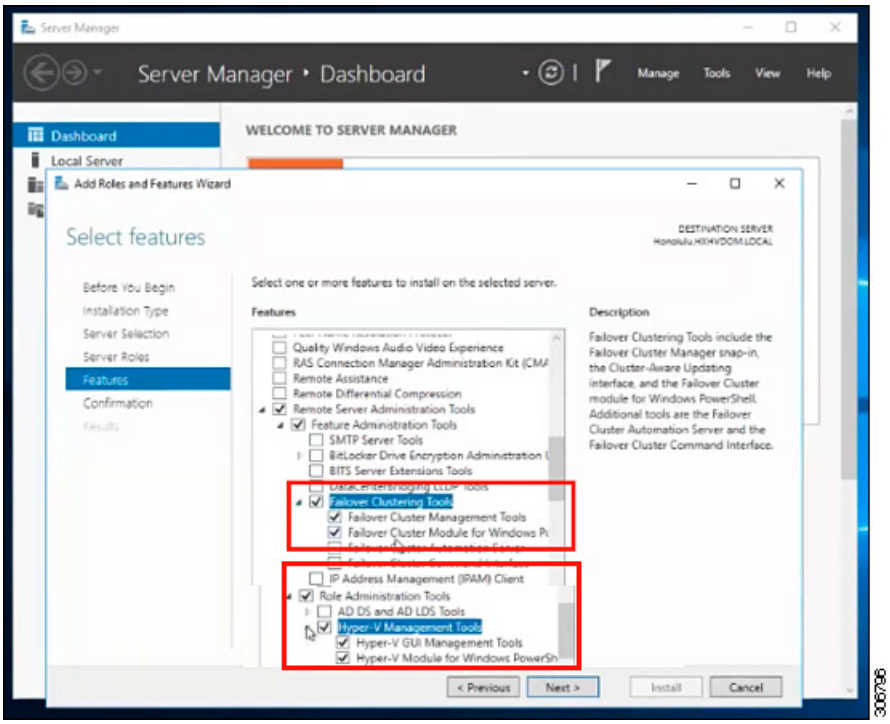
Step 3 In the **Select installation type** page, select **Role-based or feature-based installation**. Click **Next**.

Step 4 In the **Server Selection** page, select your server from the list. This server belongs to the same domain as the HX cluster. Click **Next**.



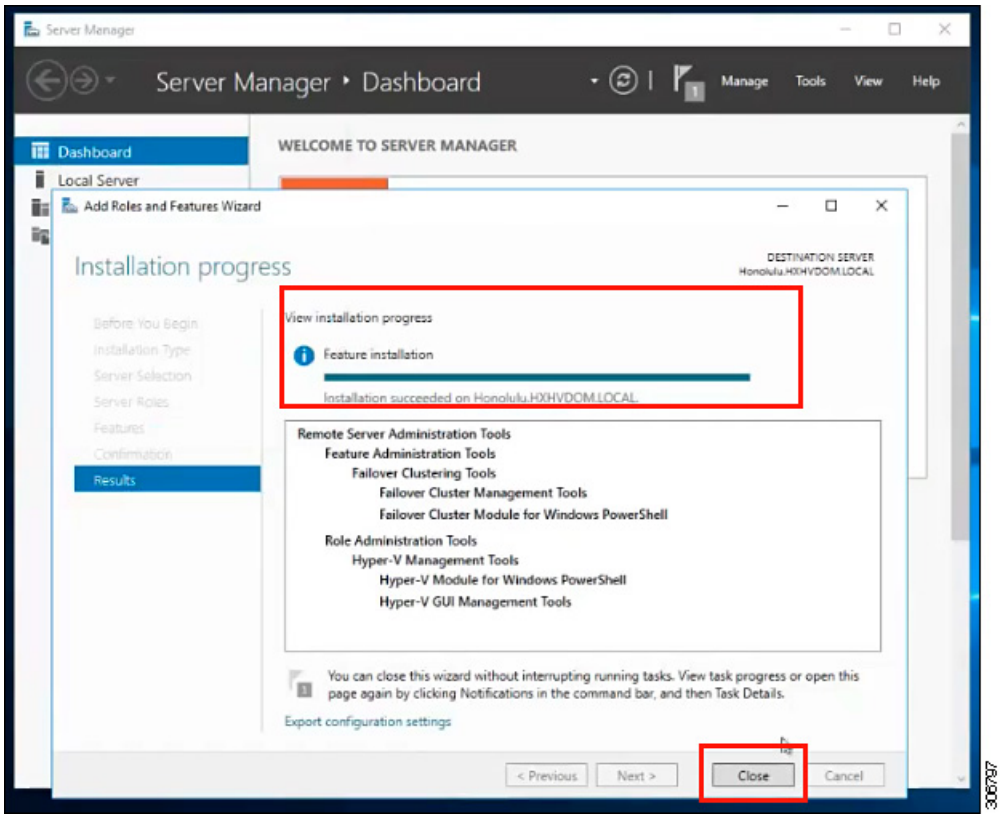
Step 5 In the **Select Roles** page, click **Next**.

Step 6 In the **Features** page, select **Remote Server Administration Tools** > **Feature Administration Tools** > **Failover Clustering Tools**, and **Role Administration Tools** > **Hyper-V Management Tools** > **Failover Clustering Tools**. Click **Next**.



Step 7 In the **Confirmation** page, click **Install**. Leave the **Restart the destination server if required** checkbox unchecked.

Step 8 The **Installation Progress** page displays installation progress. When installation completes, click **Close** to exit the wizard.



Managing VMs using Hyper-V Manager

Connecting to Hyper-V Nodes

Complete the following steps to connect to all the Hyper-V nodes in the Hyper-V HX Cluster.

Procedure

Step 1 Open the **Server Manager** dashboard and click **Tools**. Then, click **Hyper-V Manager**. The **Hyper-V Manager** console appears.

Step 2 In the left pane, select **Hyper-V Manager** and click **Connect to Server...**.

Step 3 In the **Select Computer** dialog box, select **Another computer** and type in the name of the Hyper-V node (for example, `HXHV1`) that belongs to the Hyper-V cluster. Click **OK**.

Step 4 Repeat all of the above steps for each node in the Hyper-V HX cluster.

Note For a fresh installation, the storage controller virtual machine (`StCtlVM`) in the only virtual machine that appears in **Virtual Machines** pane in the **Hyper-V Manager** console. Virtual machines appear in the list under this pane as they are added in each node. For more information on how to create VMs using Hyper-V Manager, see: Creating VMs using Hyper-V Manager, on page 18

Creating VMs using Hyper-V Manager

Complete the following steps to create VMs using Hyper-V Manager.

Procedure

Step 1 Open **Hyper-V Manager**.

Step 2 Select the Hyper-V server, and right click and select **New** > **Create a virtual machine**. The **Hyper-V Manager New Virtual Machine** wizard displays.

Step 3 In the **Before you Begin** page, click **Next**.

Step 4 In the **Specify Name and Location** page, enter a name for the virtual machine configuration file. The location for the virtual machine click **Next**.

Step 5 In the **Specify Generation** page, choose either **Generation 1** or **Generation 2**.

Step 6 In the **Assign Memory** page, set the start memory value 2048 MB. Click **Next**.

Step 7 In the **Configure Networking** page, select a network connection for the virtual machine to use from a list of existing virtual switches.

Step 8 In the **Connect Virtual Hard Disk** page, select **Create a Virtual Hard Disk** page, and enter the name, location and size for the virtual hard disk. Click **Next**.

Step 9 In the **Installation Options**, you can leave the default option **Install an operating system later** selected. Click **Next**.

Step 10 In the Summary page, verify that the list of options displayed are correct. Click **Finish**.

Step 11 In Hyper-V Manager, right-click the virtual machine and click **Connect**.

Step 12 In the **Virtual Machine Connection** window, select **Action** > **Start**.

Managing VMs using Failover Cluster Manager

Creating VMs using Failover Cluster Manager

Complete the following steps to connect to the Windows Failover cluster (installed along with the Hyper-V HX cluster) and create new VMs using Failover Cluster Manager.

Procedure

Step 1 In the **Failover Cluster Manager** console, under the **Actions** pane, click **Connect to Server...**

Step 2 In the **Select Cluster** dialog box, click **Browse** to navigate to the Hyper-V HX cluster. Click **OK**.

Step 3 In the left pane, click **Roles** > **Virtual Machines...** > **New Virtual Machines...**.

Step 4 In the **New Virtual Machine** dialog box, search and select the Hyper-V node where you wish to create new VMs. Click **OK**. The **New Virtual Machine** wizard appears.

Step 5 In the **Before You Begin** page, click **Next**.

Step 6 In the **Specify Name and Location** page, choose a name for the VM, and specify the location or drive where the VM will be stored. Click **Next**.

Step 7 In the **Specify Generation** page, select the generation of virtual machine you want to use (Generation 1 or Generation 2) and click **Next**.

Step 8 In the **Assign Memory** page, enter the amount of memory that you want for the VM. Click **Next**.

Step 9 In the **Connect Virtual Hard Disk** page, enter the name, location and hard drive size. Click **Next**.

Step 10 In the **Installation Options** page, select the install location for the OS. Click **Next**.

Step 11 In the **Summary** page, review the options selected and click **Finish**.

Step 12 Right-click on the newly created VM, and click **Connect...**. In the **Virtual Machine Connection** window, click **Start**.

Note By default, the Failover Cluster Manager will assign a default name for the 4 networks created. It is recommended to rename these network names.

What to do next

To enable redirection of datastore access requests from outside the HX cluster boundary through the management path, add the following entry to the hosts file on the (remote) machine running Hyper-V manager, Failover Cluster Manager, or SCVMM Console. For example, edit `C:\Windows\System32\drivers\etc\hosts` and add:

```
cluster_mgmt_ip \\smb_namespace_name\datastore_name
```

```
10.10.10.100 \\hxcluster.company.com\ds1
```

Configuring HyperFlex Share to SCVMM

Before you begin

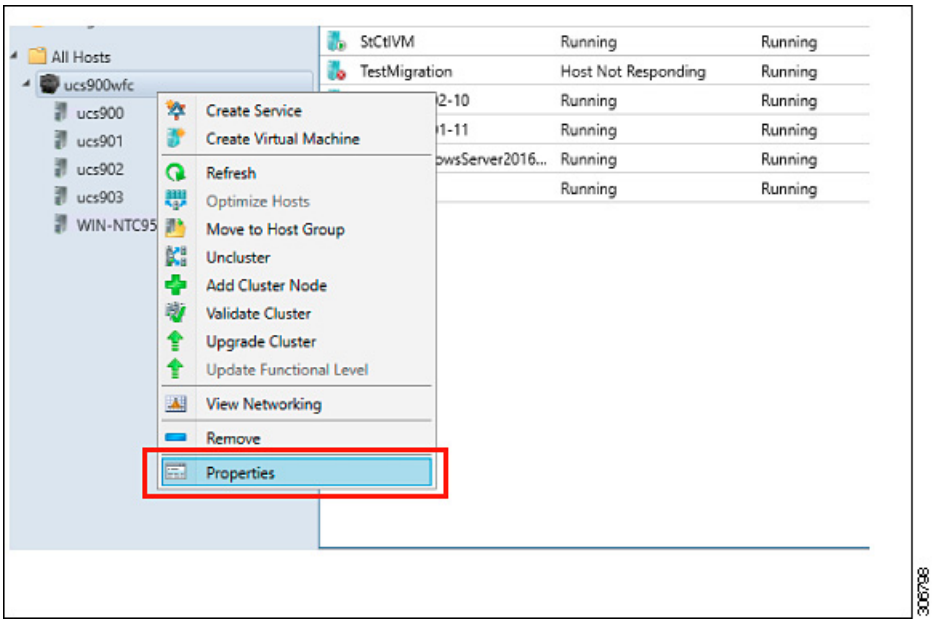
Edit the `/etc/hosts` file on the host running the VMM admin console to resolve the **smb** access point to the cluster management IP address of HyperFlex cluster. This IP address is typically used to launch Cisco HX Connect.

Procedure

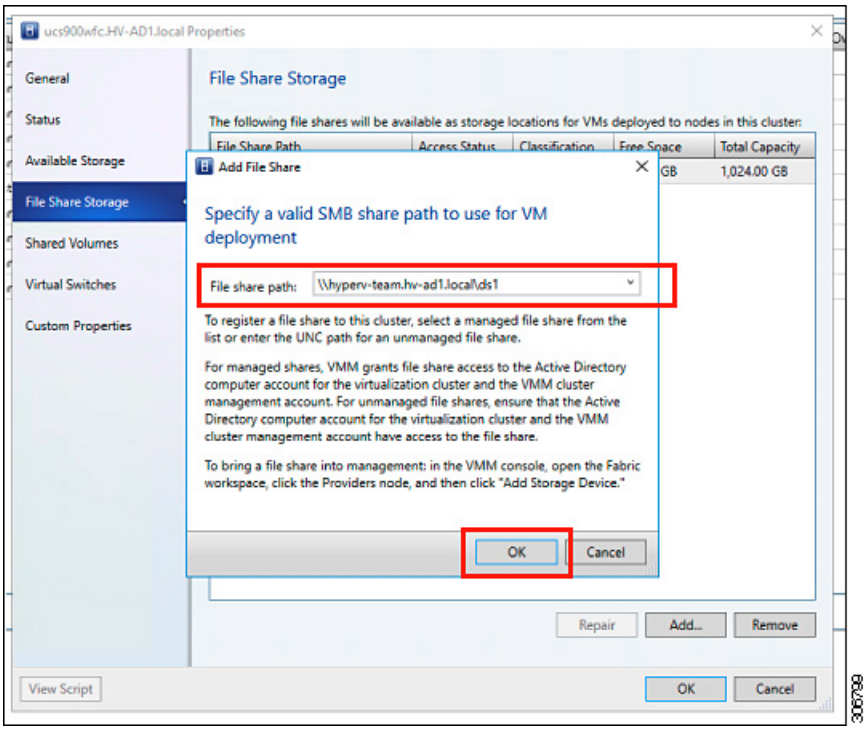
Step 1 Add the cluster to **System Center - Virtual Machine Manager (VMM)**.

Step 2 In the VMM console, go to **Fabric** > **Servers** > **All Hosts**.

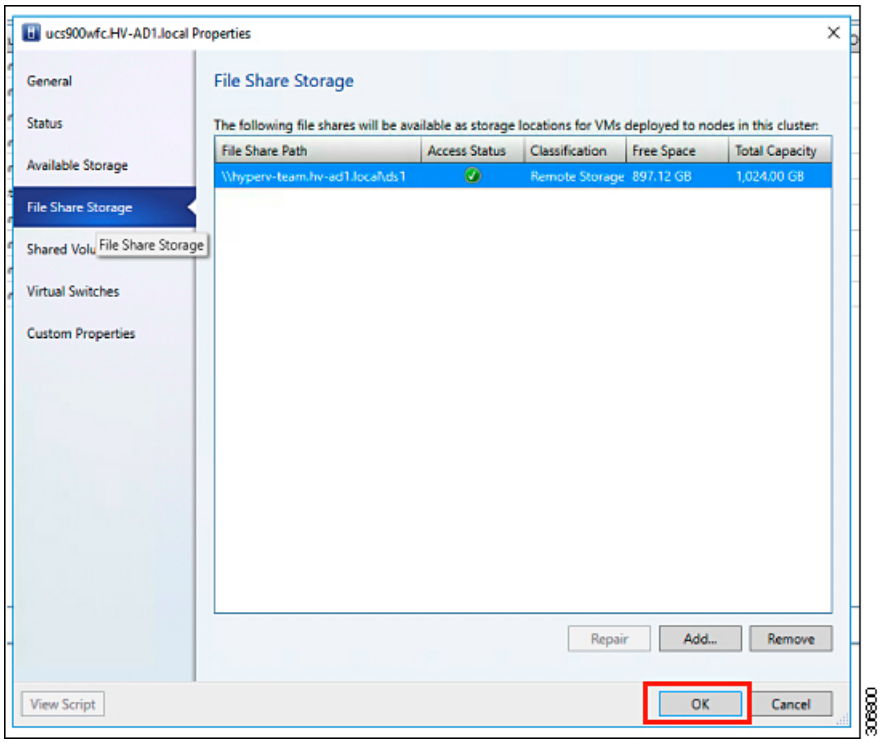
Step 3 Right-click on the cluster and select **Properties**.



Step 4 In the **Properties** window, right-click **File Share Storage** > **Add File Storage**.



Step 5 When mapping completes, the share is added as shown in the screenshot below.



Step 6 Click **OK** and exit VMM. The HyperFlex Share is now mapped and VMs can be created on this share using SCVMM.

Re-enabling Windows Defender

Run the following commands to re-enable Windows Defender.

Install Defender from PowerShell

```
Install-WindowsFeature -Name Windows-Defender
```

(Optional) Install Defender GUI from PowerShell

```
Install-WindowsFeature -Name Windows-Defender-GUI
```