

Using the vCloud Hybrid Service vSphere Client Plug-in

vCloud Hybrid Service vSphere Client Plug-In 1.0.2

vCloud Hybrid Service vSphere Client Plug-In 1.0.1

vCloud Hybrid Service vSphere Client Plug-In 1.0.0

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Using the vCloud Hybrid Service vSphere Client Plug-in

Using the vCloud Hybrid Service vSphere Client Plug-in provides information about installing and using the vCloud[®] Hybrid Service[™] vSphere[®] Client Plug-in to use and manage vCloud[®] Hybrid Service[™] resources in VMware vSphere[®] Web Client 5.5 or later. It describes how to install the plug-in in vSphere Web Client, configure it to use your vCloud Hybrid Service account, and create and manage workloads in vCloud Hybrid Service using the plug-in.

This document covers the following versions of the vCloud Hybrid Service plug-in.

- Version 1.0.1 and later

Version 1.0.1 and later versions are available for vSphere Web Client 5.5 Update 1 and later. These are installed with the vCloud Hybrid Service Plug-in Installer that is available by default in the vSphere Web Client Home page.

- Version 1.0.0

Version 1.0.0 is available for download on My VMware and can only be installed in vSphere Web Client 5.5.

Intended Audience

This information is intended for system administrators who want to use and manage their vCloud Hybrid Service resources in vSphere Web Client. The information is written for experienced system administrators who are familiar with virtual machine technology and data center operations, and with vSphere and vCloud Hybrid Service.

Related Documentation

- [VMware vCloud Hybrid Service documentation](#)
- [VMware vSphere 5.5 documentation](#)

System Requirements

You need vSphere Web Client 5.5 or later and a Web browser to use the vCloud Hybrid Service plug-in. Any system requirements for the vSphere Web Client also apply to the plug-in.

Table 1-1. Requirements for the Plug-in

Requirement	Notes
vSphere Web Client 5.5 or later	<p>5.5 In vSphere Web Client 5.5, you can only install vCloud Hybrid Service plug-in 1.0.0, which is available for download on My VMware.</p> <p>5.5 Update 1 and later In vSphere Web Client 5.5 Update 1 and later, you can install vCloud Hybrid Service plug-in 1.0.1 or later versions, using the installer available in the vSphere Web Client.</p>
A Web browser	<p>The plug-in has the same browser requirements as the vSphere Web Client, except for the differences listed below. See vSphere Web Client Software Requirements for information.</p> <p>NOTE Internet Explorer 8 is not supported.</p>
Any other requirements for vSphere Web Client	See vSphere Web Client Software Requirements for information.

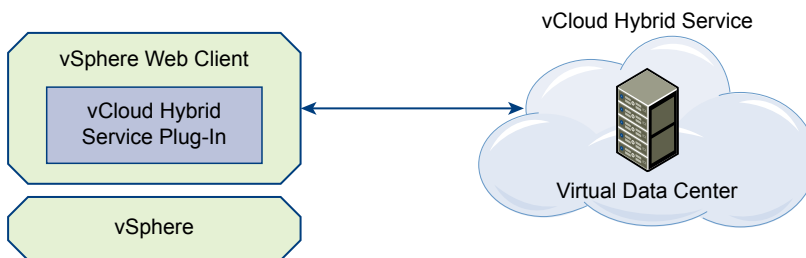
Table 1-1. Requirements for the Plug-in (Continued)

Requirement	Notes
Internet connectivity for the vCenter Server	Networking must be set up for the vCenter Server underlying the vSphere Web Client in such a way that it can connect to the Internet. This is required for installing or upgrading the plug-in, for registering your vCloud Hybrid Service account with it, and for using the plug-in.
Accounts:	
<ul style="list-style-type: none"> ■ A vCloud Hybrid Service account with an administrator user role 	<p>You have the same privileges in the plug-in that you have in the vCloud Hybrid Service portal. Privileges are associated with your user name. Different levels of privileges are needed for different tasks.</p>
	<p>As the plug-in is intended for administrators, you must have one of the administrator user roles: Account Administrator, Virtual Infrastructure Administrator, Network Administrator, Read-Only Administrator, or Subscription Administrator. You cannot use the plug-in with an End User role.</p>
	<p>See the VMware vCloud Hybrid Service User Guide for more information about user roles and privileges in vCloud Hybrid Service.</p>
<ul style="list-style-type: none"> ■ A vCenter server account 	<p>To install the plug-in in vSphere Web Client 5.5, you need an administrator role or any user role that includes Extension privileges.</p>
	<p>To install or upgrade the plug-in in vSphere Web Client 5.5 Update 1 or later, you need vCenter server Single Sign-on administrator privileges.</p>
	<p>To use the plug-in, you can have any user role.</p>

About the vCloud Hybrid Service vSphere Client Plug-in

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The vCloud Hybrid Service plug-in lets you view and manage your vCloud Hybrid Service resources in the vSphere Web Client. It provides another user interface for vCloud Hybrid Service, one that lets you manage your public cloud resources from an on-premise application.



After you install the plug-in and register your vCloud Hybrid Service account with it, you can view all your Dedicated Cloud and Virtual Private Cloud instances from all regions. You can browse each cloud instance and manage its inventory of virtual data centers, virtual machines, gateways, networks, and templates. You can create new virtual data centers (in Dedicated Cloud instances), and manage gateways and networks. You can create new virtual machines from the templates in your vCloud Hybrid Service catalogs, connect them to networks, and manage them from the plug-in.

With the vCloud Hybrid Service plug-in installed in the vSphere Web Client, you also get a single pane of glass to manage both your on-premise data center and your public, vCloud Hybrid Service resources.

NOTE As the plug-in is intended for administrators to manage their vCloud Hybrid Service resources, it requires you to have an administrator user role in vCloud Hybrid Service. The plug-in cannot be used by users with an End User role.

Key Features

Key features of the vCloud Hybrid Service plug-in include the following.

- The ability to set up your entire vCloud Hybrid Service environment, in the same way that you set it up in the vCloud Hybrid Service portal after you purchase resources.

NOTE In the 1.0 release, some commands are not available in the plug-in. See [Chapter 3, “Differences Between the vCloud Hybrid Service Plug-in and Portal,”](#) on page 11 for more information.

- Synchronization between the vCloud Hybrid Service plug-in and portal

A notification service ensures that the plug-in and the portal are always synchronized. Any changes you make in the portal (with the same user name) are reflected in the plug-in. Similarly, any changes you make in the plug-in are reflected in the portal.

- Integrated task management

Tasks for commands that you perform in the vCloud Hybrid Service portal (with the same user name) appear in the **Tasks** panel in the vSphere Web Client along with tasks that you perform in the plug-in.

- Access to the vCloud Hybrid Service portal

From the plug-in, you can use the **Manage in vCloud Hybrid Service Portal** link to access the vCloud Hybrid Service portal. You can log in to the portal to perform tasks that are unavailable in the plug-in.

- Single sign-on to vCloud Director

From the plug-in, you can use the **Manage in vCloud Director UI** link to access the vCloud Director instance underlying your cloud instance. You can use vCloud Director to perform advanced administrative tasks.

Differences Between the vCloud Hybrid Service Plug-in and Portal

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In the 1.0 release, some tasks that are available in the vCloud Hybrid Service portal are not available in the plug-in. You must perform these tasks in the portal.

Table 3-1. Differences between the Plug-in and Portal

Tasks that are unavailable in plug-in	Notes
Creating or editing user roles	
Adding users to a virtual data center	
Creating additional networks	Virtual data centers have a gateway network (also referred to as a routed network) and an isolated network by default. To create additional networks, use the portal.
Configuring gateway and network services such as firewall and NAT	
Setting backup services for virtual machines	
Viewing by region	In the plug-in, you can view the list of cloud instances to see the region to which each instance belongs.
Selecting storage profiles	Storage profiles are not listed in the plug-in. Templates are always deployed with the default storage profile.

NOTE As new features are added to vCloud Hybrid Service, there might be additional vCloud Hybrid Service features that are not available in the plug-in.

Installing the vCloud Hybrid Service Plug-in

4

To use the vCloud Hybrid Service plug-in in vSphere Web Client, you need to install the plug-in and register your vCloud Hybrid Service account with it. You also need to download the SSL certificate of the vCloud Hybrid Service portal and import it into the trusted keystore of the vSphere Web Client.

You must set up networking for your environment in such a way that the vCenter Server underlying the vSphere Web Client can connect to the Internet. This is required for installing, upgrading, or using the plug-in.

You can install the vCloud Hybrid Service plug-in in vSphere Web Client 5.5 or in vSphere Web Client 5.5 Update 1.

- In vSphere Web Client 5.5, you can only install version 1.0.0 of the plug-in. This version is available on My VMware for you to download. See [“Installing the vCloud Hybrid Service Plug-in in vSphere Web Client 5.5,”](#) on page 13 for information.
- In vSphere Web Client 5.5 Update 1 or later, you can install version 1.0.1 and later versions of the plug-in. See [“Installing the vCloud Hybrid Service Plug-in in vSphere Web Client 5.5 Update 1 or Later,”](#) on page 18 for information.

NOTE Except for the differences in the installation and upgrade process, vCloud Hybrid Service plug-in 1.0.1 has the same functionality as vCloud Hybrid Service plug-in 1.0.0.

This chapter includes the following topics:

- [“Installing the vCloud Hybrid Service Plug-in in vSphere Web Client 5.5,”](#) on page 13
- [“Installing the vCloud Hybrid Service Plug-in in vSphere Web Client 5.5 Update 1 or Later,”](#) on page 18

Installing the vCloud Hybrid Service Plug-in in vSphere Web Client 5.5

To use the vCloud Hybrid Service plug-in in vSphere Web Client 5.5, you need to install the plug-in and register your vCloud Hybrid Service account with it.

You also need to download the SSL certificate of the vCloud Hybrid Service portal and import it into the trusted keystore of the vSphere Web Client.

NOTE You can only install version 1.0.0 of the plug-in in vSphere Web Client 5.5. Later versions of the plug-in are only available in vSphere Web Client 5.5 Update 1 or later. Note that the installation process is different for vSphere Web Client 5.5 Update 1. See [“Installing the vCloud Hybrid Service Plug-in in vSphere Web Client 5.5 Update 1 or Later,”](#) on page 18 for more information.

Add Certificate to vSphere Web Client Trusted Keystore

As part of the installation process, you must add the SSL certificate of the vCloud Hybrid Service site, <https://vchs.vmware.com>, to the trusted keystore of the vSphere Web Client. The certificate is required for the plug-in to connect to the notification service, which provides task information to the plug-in.

Procedure

- 1 Go to <https://vchs.vmware.com> and download the site's certificate from the Web browser.

Save the certificate with the name `vchs.cer`.

NOTE Ensure that you select the **Base-64 encoded x.509** option while exporting the certificate.

Option	Description
Firefox	<ul style="list-style-type: none"> ■ Click the lock icon in the URL field, then click More information. ■ In the Security tab, click View Certificate. ■ In the Details tab, click Export. ■ Save the file with the name vchs.cer and the type X.509 Certificate (PEM).
Internet Explorer	<ul style="list-style-type: none"> ■ Click the lock icon in the URL field, then click View certificates. ■ In the Details tab, click Copy to File and follow the wizard to export the certificate. ■ Select Base-64 encoded X.509 (.CER) as the format and name the file vchs.cer.
Chrome	<ul style="list-style-type: none"> ■ Click the lock icon in the URL field. ■ In the Connection tab, click Certificate information. ■ In the Details tab, click Copy to File and follow the wizard to export the certificate. ■ Select the Base-64 encoded X.509 (.CER) format and name the file vchs.cer.

- 2 Add the certificate to the trusted keystore of the vSphere Web Client.

- On Windows, use the following command.

```
"C:\Program Files\Java\jre7\bin\keytool.exe" -alias vchs -v -keystore "C:\Program Files\VMware\Infrastructure\vSphereWebClient\server\configuration\keystore" -storepass changeit -import -file path_to_file\vchs.cer
```

- On Linux, use the following command.

```
/usr/java/jre-vmware/bin/keytool -alias vchs -v -keystore /usr/lib/vmware-vmware-client/server/configuration/keystore -storepass changeit -import -file path_to_file/vchs.cer
```

Make a note of the alias name you use to import the certificate. You will need this name when you run the installation script.

What to do next

Install the plug-in.

Install the vCloud Hybrid Service Plug-in in vSphere 5.5

Use the `vchsPluginInstall` script to install the vCloud Hybrid Service plug-in. The installation script downloads the plug-in from the download page on my.vmware.com and installs it. You may need to provide proxy server settings if you go through a proxy server to access the site. Alternatively, you can choose to download the plug-in and specify its location when you run the script.

NOTE Use the option to download the plug-in yourself, instead of letting the script download it as the download URL cannot be determined.

Prerequisites

Ensure the following.

- You have access to the machine in which your vSphere Web Client and vCenter server instance are installed.
- You have a vCenter server account with an administrator role or any role that includes Extension privileges.
- You have permissions to execute script files that are needed to restart the vSphere Web Client server. These script files are in the `server/bin` directory of the vSphere Web Client root directory. For example, you would need permissions to the `/usr/lib/vmware-vsphere-client/server/bin` directory.
- Java is specified in the `PATH` environment variable.
- You have imported the SSL certificate of vCloud Hybrid Service into the trusted keystore of the vSphere Web Client. See [“Add Certificate to vSphere Web Client Trusted Keystore,”](#) on page 14.

Procedure

- 1 Go to the [vCloud Hybrid Service vSphere Client Plug-in Download page](#).
- 2 Log in with your My VMware account.
- 3 Download the `vchspgugin-installer-1.0.0_GA.zip` file.
- 4 Log in to the machine in which your vSphere Web Client and vCenter server instance are installed and do the following.
 - a Create a new directory, for example, `/opt/vmware/scripts/vchspguginscript`.
 - b Copy and unzip the `vchspgugin-installer-1.0.0_GA.zip` file in the new directory.
 - c Ensure that the directory that contains the script has execute permissions.
- 5 (Optional) If you want to download the plug-in instead of letting the installation script download it, do the following.
 - a Go to the [vCloud Hybrid Service vSphere Client Plug-in Download page](#).
 - b Download the `vchspgugin-1459641.zip` file and copy it to a new directory, for example, `/opt/vmware/vchspgugin`.
- 6 Navigate to the `bin` directory that contains the installation script, for example, `/opt/vmware/scripts/vchspguginscript/bin`, and run the script.
 - On Linux, run `sh vchsPluginInstall.sh`.
 - On Windows, run `vchsPluginInstall.bat`.
- 7 Follow the script prompts.
 - a Type **yes** to accept the EULA.
 - b Type **1** to install the plug-in.

- c At the Enter the vCenter server URL prompt, type the vCenter server URL in the format `https://vCenterIPAddressOrFQDN`. For example, `https://10.10.10.10`.
- d Specify a user name and password for the vCenter server.
- e At the Enter the installation directory of the vSphere Web Client prompt, type the path to the vSphere Web Client installation directory.
 On Linux, the path is typically `/usr/lib/vmware-vmware-client`.
 On Windows, the path is typically `C:\Program Files\VMware\Infrastructure\vsphereWebClient`.
- f At the Have you downloaded the plugin already? prompt, type **yes** or **no**.
 - If you specified **no**, provide the following information.
 - 1 Type the path to a directory in which to download and unzip the plug-in. Ensure that the directory does not contain any other files or directories.
 - 2 Type the URL from which to download the plug-in.
 - 3 At the Is proxy required to download the plugin prompt, type **yes** if you need to go through a proxy server to access the URL, otherwise type **no**.
 - 4 Specify the proxy server information, if required. If the proxy server requires authentication, specify the user name and password.
 - If you specified **yes**, type the full path to the plug-in zip file that you downloaded.
- g At the Have you imported the certificate prompt, type **yes** if you have imported the SSL certificate of vCloud Hybrid Service into the trusted keystore of the vSphere Web Client, otherwise type **no**.

NOTE If you do not import the certificate now, you must do so before you use the plug-in, otherwise task information will not be available in the plug-in.

- h If you specified **yes**, type the alias name that you used to import the certificate.
- i Type **yes** to restart the vSphere Web Client.

The installation script restarts the vSphere Web Client server to add the vCloud Hybrid Service plug-in to the vSphere Web Client.


Example: Installing the Plug-in

```
Accept EULA [Yes/No]: yes
Select Option [1 - Register Plugin, 2 - Unregister Plugin]: 1
Enter vCenter server URL [e.g. https://vCenter IP or FQDN]: https://10.10.10.10
Enter Username: admin
Enter Password: *****
Enter the installation directory of the vSphere Web Client [e.g.
/usr/lib/vmware-vmware-client]: /usr/lib/vmware-vmware-client
Have you downloaded the plugin already? [Yes/No]: yes
Enter the fully qualified path to the plugin zip
file: /opt/vmware/vchsplugin/vchsplugin-1459641.zip
Before you use the plugin, download the SSL certificate of the vCloud
Hybrid Service (https://vchs.vmware.com) and import it into the trusted
keystore of the vSphere Web Client.
Have you imported the certificate [yes/no]: yes
Enter alias under which certificate was imported: vchs
You need to restart the vSphere Web Client. Restart now? yes
```



```
Stopping vSphere Web Client....
vSphere Web Client stopped.
Starting vSphere Web Client....
Server restart initiated successfully. Please wait till it starts.
```

What to do next

Wait until the server finishes restarting. Then log in to the vSphere Web Client to verify that the vCloud Hybrid Service plug-in icon () appears in the Home page.

If you have not imported the SSL certificate of the vCloud Hybrid Service into the trusted keystore of the vSphere Web Client, import it before using the plug-in. See [“Add Certificate to vSphere Web Client Trusted Keystore,”](#) on page 14.

Next, register your vCloud Hybrid Service account with the plug-in.

Register Your vCloud Hybrid Service Account


After you install the vCloud Hybrid Service plug-in, register your vCloud Hybrid Service account with the plug-in to manage your vCloud Hybrid Service cloud resources in the vSphere Web Client.

Prerequisites

- You have the user name and password for your vCloud Hybrid Service account. You must have an administrator user role. You cannot use the plug-in with an End User role.

NOTE In the plug-in, the privileges associated with a user name are identical to the privileges associated with that user name in vCloud Hybrid Service.

Procedure

- 1 In the Home page of the vSphere Web Client, under **Inventories**, click the **vCloud Hybrid Service** icon ()
- 2 Click the **Summary** tab.
- 3 Click **Register vCloud Hybrid Service account**.
- 4 In the Register vCHS Account dialog box, complete the following information.

Option	Description
vCHS Server	The URL of the vCloud Hybrid Service server: https://vchs.vmware.com
User Name	Your user name for the vCloud Hybrid Service. Specify your full email address, for example, user@company.com.
Password	Your password for the vCloud Hybrid Service.
Proxy Settings	If your vSphere installation goes through a proxy server to access the Internet, click Proxy Settings , complete the following information, and click OK . <ul style="list-style-type: none"> ■ The IP address of the proxy server and the port on which it runs. ■ The user name and password for the proxy server, if it requires authentication.

- 5 Click **OK**.


All cloud instances associated with your vCloud Hybrid Service account are displayed. You can view all your Dedicated Cloud and Virtual Private Cloud instances.

Request a vCloud Hybrid Service Account

To use the vCloud Hybrid Service plug-in in the vSphere Web Client, you need a vCloud Hybrid Service account. If you have installed the plug-in and you do not have an account yet, you can request an account from the plug-in.

NOTE This link is not available in the 1.0 release.


Procedure

- 1 Log in to the vSphere Web Client.
- 2 In the Home page, under **Inventories**, click the **vCloud Hybrid Service** icon ().
- 3 In the **Summary** tab, select **Request account** from the **Actions** menu.
- 4 Follow the instructions on the page to obtain an account.


What to do next

After you create an account, register it with the vCloud Hybrid Service plug-in. See [“Register Your vCloud Hybrid Service Account,”](#) on page 17 for information.

Installing the vCloud Hybrid Service Plug-in in vSphere Web Client 5.5 Update 1 or Later

You use the vCloud Hybrid Service Plug-in Installer to install the vCloud Hybrid Service plug-in in vSphere Web Client 5.5 Update 1 or later. The installer () is available by default in the vSphere Web Client Home page, under **Inventories**.

The installer connects to My VMware using the credentials that you provide, downloads the vCloud Hybrid Service plug-in, and installs it in vSphere Web Client. The installer always installs the latest version of the plug-in.

Once you install the plug-in, the plug-in icon () appears in the Home page of the vSphere Web Client.

The vCloud Hybrid Service installer also enables you to upgrade the vCloud Hybrid Service plug-in. Information about the current version installed and any updates available is displayed in the Getting Started page of the plug-in. You can click the **Install latest update** link to update the plug-in to the latest version.

To install or upgrade the plug-in, you must use an account with vCenter Server Single Sign-on administrator privileges, such as administrator@vsphere.local. Having vCenter Server Single Sign-on administrator privileges is different from having an administrator role for a vCenter Server. See the [VMware vSphere 5.5 Documentation Center](#) for more information.

To install, upgrade, or use the plug-in, you must also ensure that the vCenter Server can connect to the Internet.

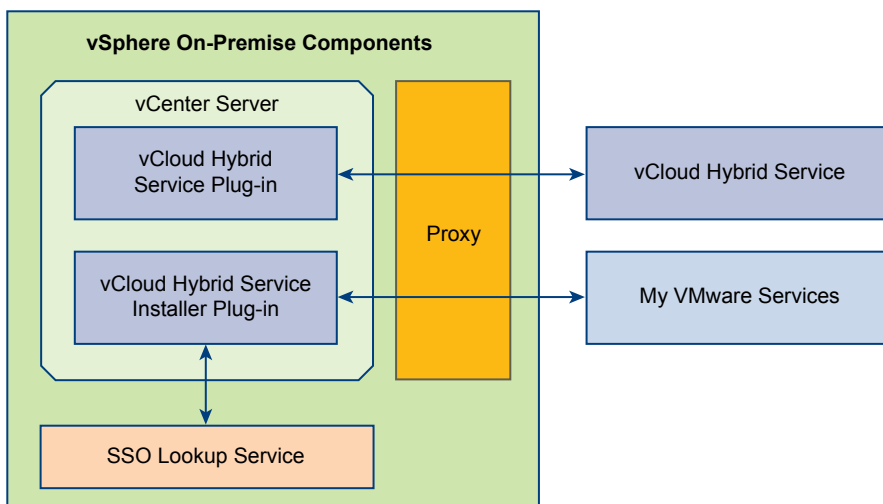
NOTE If you installed vCloud Hybrid Service plug-in 1.0.0 in vSphere Web Client 5.5 and then upgraded vSphere Web Client 5.5 to 5.5 Update 1, the plug-in will continue to appear after the upgrade. However, version 1.0.0 of the plug-in is incompatible with vSphere Web Client 5.5 Update 1 and later. In this case, you must first uninstall the 1.0.0 version of the plug-in from vSphere Web Client using the script provided with the 1.0.0 version, and then install the current version of the plug-in using the vCloud Hybrid Service Plug-in Installer that is available in vSphere Web Client 5.5 Update 1 and later. See [Chapter 17, “Uninstalling vCloud Hybrid Service Plug-in 1.0.0,”](#) on page 67 for more information.

- 1 [About vCloud Hybrid Service Plug-in Components](#) on page 19
Beginning with the 1.0.1 release, the vCloud Hybrid Service plug-in has two components, the vCloud Hybrid Service plug-in installer and the vCloud Hybrid Service plug-in. The installer appears in the vSphere Web Client by default and enables you to install, and upgrade, the vCloud Hybrid Service plug-in. The installer downloads the vCloud Hybrid Service plug-in from My VMware and installs it in the vSphere Web Client.
- 2 [Specify Proxy Settings for Downloading the vCloud Hybrid Service Plug-in](#) on page 20
The vCloud Hybrid Service Plug-in Installer downloads the vCloud Hybrid Service plug-in from My VMware at <https://my.vmware.com>. If the vSphere Web Client needs to go through a proxy server to access the site, you must specify proxy settings in the `webclient.properties` file of the vSphere Web Client before you use the installer.
- 3 [Install the vCloud Hybrid Service Plug-in in vSphere 5.5 U1 or Later](#) on page 21
Use the vCloud Hybrid Service Plug-in Installer to install the vCloud Hybrid Service plug-in in vSphere Web Client 5.5 U1 or later.
- 4 [Add Certificate to vSphere Web Client Trusted Keystore](#) on page 23
As part of the installation process, you must add the SSL certificate of the vCloud Hybrid Service site, <https://vchs.vmware.com>, to the trusted keystore of the vSphere Web Client. The certificate is required for the plug-in to connect to the notification service, which provides task information to the plug-in.
- 5 [Register Your vCloud Hybrid Service Account](#) on page 24
After you install the vCloud Hybrid Service plug-in, register your vCloud Hybrid Service account with the plug-in to manage your vCloud Hybrid Service cloud resources in the vSphere Web Client.

About vCloud Hybrid Service Plug-in Components

Beginning with the 1.0.1 release, the vCloud Hybrid Service plug-in has two components, the vCloud Hybrid Service plug-in installer and the vCloud Hybrid Service plug-in. The installer appears in the vSphere Web Client by default and enables you to install, and upgrade, the vCloud Hybrid Service plug-in. The installer downloads the vCloud Hybrid Service plug-in from My VMware and installs it in the vSphere Web Client.

These components interact with other on-premise vSphere components, My VMware, and vCloud Hybrid Service as shown below. Networking must be set up in a way that the vCenter Server can connect to the Internet. This is required for the installer to connect to My VMware services for installation and upgrade, and for the vCloud Hybrid Service plug-in to connect to vCloud Hybrid Service.



The following credentials are required for authentication between components.

Table 4-1. Authentication Between Components

Components	Authentication
Between the vCloud Hybrid Service installer and the SSO Lookup Service	SSO administrator credentials
Between the vCloud Hybrid Service installer and My VMware services	My VMware credentials
Between the vCloud Hybrid Service plug-in and vCloud Hybrid Service	vCloud Hybrid Service credentials

NOTE This information applies to vCloud Hybrid Service Plug-in 1.0.1 and later, installed in vSphere Web Client 5.5 Update 1 and later.

Specify Proxy Settings for Downloading the vCloud Hybrid Service Plug-in

The vCloud Hybrid Service Plug-in Installer downloads the vCloud Hybrid Service plug-in from My VMware at <https://my.vmware.com>. If the vSphere Web Client needs to go through a proxy server to access the site, you must specify proxy settings in the `webclient.properties` file of the vSphere Web Client before you use the installer.

NOTE This information applies only for installing vCloud Hybrid Service plug-in 1.0.1 or later in vSphere Web Client 5.5 Update 1 or later.

Procedure

- 1 In the computer in which the vSphere Web Client is installed, locate the `webclient.properties` file.
 - On Windows, the file is in the `C:\ProgramData\VMware\vsphere Web Client` directory.

NOTE The location of the `VMware` directory might vary based on the Windows version. Look for the `VMware` directory in the `Application Data` or `Program Data` folder.

- On Linux, the file is in the `/var/lib/vmware/vsphere-client` directory.
- 2 Edit the file to add the following proxy properties.

```
proxyHost = proxy server hostname
proxyPort = proxy server port
proxyUser = user name for proxy server (if required)
proxyPassword = password for proxy server (if required)
```

- 3 Restart the vSphere Web Client service.
 - On Linux, use these commands.


```
service vsphere-client stop
service vsphere-client status
service vsphere-client start
```
 - On Windows, use these commands.


```
sc stop vspherewebclientsvc
sc query vspherewebclientsvc
sc start vspherewebclientsvc
```

Example: Proxy Properties in webclient.properties File

```
proxyHost = 100.0.0.1
proxyPort = 1080
proxyUser = test
proxyPassword = *****
```

What to do next

[“Install the vCloud Hybrid Service Plug-in in vSphere 5.5 U1 or Later,”](#) on page 21

Install the vCloud Hybrid Service Plug-in in vSphere 5.5 U1 or Later

Use the vCloud Hybrid Service Plug-in Installer to install the vCloud Hybrid Service plug-in in vSphere Web Client 5.5 U1 or later.

If there are any errors during installation, error messages appear in a yellow message bar at the top of the Getting Started page. You can also check the log files for information. See [Chapter 16, “Viewing Log Files,”](#) on page 65 for information.

NOTE If you installed vCloud Hybrid Service plug-in 1.0.0 in vSphere Web Client 5.5 and then upgraded vSphere Web Client 5.5 to 5.5 U1, the plug-in will continue to appear after the upgrade. However, version 1.0.0 of the plug-in is incompatible with vSphere Web Client 5.5 U1 and later. In this case, you must first uninstall the 1.0.0 version of the plug-in from vSphere Web Client using the script provided with the 1.0.0 version, and then install the current version of the plug-in using the vCloud Hybrid Service Plug-in Installer that is available in vSphere Web Client 5.5 U1 and later. See [Chapter 17, “Uninstalling vCloud Hybrid Service Plug-in 1.0.0,”](#) on page 67 for more information.

Prerequisites

- A My VMware account.

The installer uses your credentials to log in to My VMware and download the plug-in.

- A vCenter Server account with Single Sign-on administrator privileges, such as administrator@vsphere.local.

NOTE If you use Active Directory to manage users, ensure that you do the following for the user account that you will use to install or upgrade the plug-in.

- a Add the Active Directory user as a member of an Active Directory group.
- b Add that Active Directory group as a member of the Administrators@vsphere.local group.

This is required to obtain the correct privileges for installing or upgrading the plug-in.


- Internet connectivity from the vCenter Server.

Networking must be set up for the vCenter Server in such a way that it can connect to the Internet. The vCloud Hybrid Service plug-in installer needs to connect to the My VMware REST API endpoints to download the plug-in. See [““Installation failed” Error,”](#) on page 71 for troubleshooting information.

- If you need to go through a proxy server to reach My VMware, you need to set proxy settings for the vSphere Web Client. See [“Specify Proxy Settings for Downloading the vCloud Hybrid Service Plug-in,”](#) on page 20.

Procedure

- 1 Log in to vSphere Web Client 5.5 U1 with vCenter Server Single Sign-on administrator privileges, for example, as administrator@vsphere.local.

- 2 In the Home page, under **Inventories**, click the **vCloud Hybrid Service Installer** icon ().
The vCloud Hybrid Service Getting Started page appears.

NOTE If version 1.0.0 of the plug-in was previously installed, an error message appears in the yellow message bar at the top of the page. You must uninstall the 1.0.0 version before you can proceed. See [Chapter 17, "Uninstalling vCloud Hybrid Service Plug-in 1.0.0,"](#) on page 67.


- 3 In the vCloud Hybrid Service Getting Started page, click the **Install vCloud Hybrid Service plug-in** link under **Basic Tasks**.
- 4 In the Install vCloud Hybrid Service Plug-in dialog box, do the following.
 - a Type your user name and password for My VMware.
 - b Check the box to accept the vCloud Hybrid Service Plug-in Terms and Conditions.
 - c Click **Install**.

When the download is complete, the following message appears in the message bar at the top of the Getting Started page: Log out and log back in to complete the installation.

NOTE If you get an `Installation failed. Try installing again. error`, verify that the vCenter Server can connect to the Internet. See [""Installation failed" Error,"](#) on page 71 for troubleshooting information.

- 5 Log out of the vSphere Web Client and log in again. You can now log in with any user role.

The vCloud Hybrid Service plug-in icon () appears in the Home page, under **Inventories**.

- 6 Click the vCloud Hybrid Service plug-in icon () to use the plug-in.

What to do next

Download the SSL certificate of the vCloud Hybrid Service portal and add it to the trusted keystore of the vSphere Web Client. Then register your vCloud Hybrid Service account with the vSphere Web Client.

Add Certificate to vSphere Web Client Trusted Keystore

As part of the installation process, you must add the SSL certificate of the vCloud Hybrid Service site, <https://vchs.vmware.com>, to the trusted keystore of the vSphere Web Client. The certificate is required for the plug-in to connect to the notification service, which provides task information to the plug-in.

Procedure

- 1 Go to <https://vchs.vmware.com> and download the site's certificate from the Web browser.

Save the certificate with the name `vchs.cer`.

NOTE Ensure that you select the **Base-64 encoded x.509** option while exporting the certificate.

Option	Description
Firefox	<ul style="list-style-type: none"> ■ Click the lock icon in the URL field, then click More information. ■ In the Security tab, click View Certificate. ■ In the Details tab, click Export. ■ Save the file with the name vchs.cer and the type X.509 Certificate (PEM).
Internet Explorer	<ul style="list-style-type: none"> ■ Click the lock icon in the URL field, then click View certificates. ■ In the Details tab, click Copy to File and follow the wizard to export the certificate. ■ Select Base-64 encoded X.509 (.CER) as the format and name the file vchs.cer.
Chrome	<ul style="list-style-type: none"> ■ Click the lock icon in the URL field. ■ In the Connection tab, click Certificate information. ■ In the Details tab, click Copy to File and follow the wizard to export the certificate. ■ Select the Base-64 encoded X.509 (.CER) format and name the file vchs.cer.

- 2 Add the certificate to the trusted keystore of the vSphere Web Client.

- On Windows, use the following command.

```
"C:\Program Files\Java\jre7\bin\keytool.exe" -alias vchs -v -keystore "C:\Program Files\VMware\Infrastructure\vSphereWebClient\server\configuration\keystore" -storepass changeit -import -file path_to_file\vchs.cer
```

- On Linux, use the following command.

```
/usr/java/jre-vmware/bin/keytool -alias vchs -v -keystore /usr/lib/vmware-vsphere-client/server/configuration/keystore -storepass changeit -import -file path_to_file/vchs.cer
```

What to do next

Register your vCloud Hybrid Service account with the plug-in.

Register Your vCloud Hybrid Service Account


After you install the vCloud Hybrid Service plug-in, register your vCloud Hybrid Service account with the plug-in to manage your vCloud Hybrid Service cloud resources in the vSphere Web Client.

Prerequisites

- You have the user name and password for your vCloud Hybrid Service account. You must have an administrator user role. You cannot use the plug-in with an End User role.

NOTE In the plug-in, the privileges associated with a user name are identical to the privileges associated with that user name in vCloud Hybrid Service.

Procedure

- 1 In the Home page of the vSphere Web Client, under **Inventories**, click the **vCloud Hybrid Service** icon ().
- 2 Click the **Summary** tab.
- 3 Click **Register vCloud Hybrid Service account**.
- 4 In the Register vCHS Account dialog box, complete the following information.

Option	Description
vCHS Server	The URL of the vCloud Hybrid Service server: https://vchs.vmware.com
User Name	Your user name for the vCloud Hybrid Service. Specify your full email address, for example, user@company.com.
Password	Your password for the vCloud Hybrid Service.
Proxy Settings	If your vSphere installation goes through a proxy server to access the Internet, click Proxy Settings , complete the following information, and click OK . <ul style="list-style-type: none"> ■ The IP address of the proxy server and the port on which it runs. ■ The user name and password for the proxy server, if it requires authentication.

- 5 Click **OK**.

All cloud instances associated with your vCloud Hybrid Service account are displayed. You can view all your Dedicated Cloud and Virtual Private Cloud instances.

Upgrading the vCloud Hybrid Service Plug-in

5

Whenever an update is available for the vCloud Hybrid Service plug-in, it is displayed in the Getting Started page, under **Basic Tasks**. You can see the version that is currently installed, whether it is up-to-date, and whether an update is available for you to download. You always upgrade to the latest version of the plug-in.

Only the latest update available is displayed. Even if you miss an update, you can only upgrade to the latest version. For example, if you have version 1.0.1 installed, when version 1.2 is available, it will be listed on the Getting Started page. Regardless of whether you install version 1.2, when version 1.3 is available, only version 1.3 will be listed and available for upgrade.

NOTE You cannot upgrade from version 1.0.0. Upgrade is only available for versions 1.0.1 and later that are installed in vSphere Web Client 5.5 Upgrade 1 or later.

Prerequisites

- A My VMware account.

The installer requires your credentials to log in to My VMware and download the latest update of the plug-in.

- A vCenter Server account with Single Sign-on administrator privileges.

NOTE If you use Active Directory to manage users, ensure that you do the following for the user account that you will use to install or upgrade the plug-in.


- a Add the Active Directory user as a member of an Active Directory group.
- b Add that Active Directory group as a member of the Administrators@vsphere.local group.

This is required to obtain the correct privileges for installing or upgrading the plug-in.

- Internet connectivity from the vCenter Server.

Networking must be set up for the vCenter Server in such a way that it can connect to the Internet. The vCloud Hybrid Service plug-in installer needs to connect to the My VMware REST API endpoints to download the plug-in. For more information, see [“About vCloud Hybrid Service Plug-in Components,”](#) on page 19 and [““Installation failed” Error,”](#) on page 71.


Procedure

- 1 Log in to vSphere Web Client with vCenter Server Single Sign-on administrator privileges, for example, as administrator@vsphere.local.
- 2 In the Home page, under **Inventories**, click the vCloud Hybrid Service icon ().
- 3 In the vCloud Hybrid Service Getting Started page, under **Basic Tasks**, click **Install latest update**.

- 4 In the Install vCloud Hybrid Service Plug-in dialog box, do the following.
 - a Type your user name and password for My VMware.
 - b Check the box to accept the vCloud Hybrid Service Plug-in Terms and Conditions.
 - c Click **Install**.

When the download is complete, the following message appears in the message bar at the top of the page: Log out and log back in to complete the installation.

NOTE If you get an `Installation failed. Try installing again. error`, verify that the vCenter Server can connect to the Internet. See [""Installation failed" Error,"](#) on page 71 for troubleshooting information.

- 5 Log out of the vSphere Web Client and log in again. You can now log in with any user role.
- 6 In the Home page, under **Inventories**, click the vCloud Hybrid Service plug-in icon ().
- 7 Click the **Summary** tab and register your vCloud Hybrid Service account with the updated plug-in.

User Roles in the vCloud Hybrid Service Plug-in

6

User roles and privileges in the vCloud Hybrid Service plug-in are identical to those in the vCloud Hybrid Service portal. Users can have different privileges based upon their roles. As the plug-in is intended for administrators, only users with an administrator role (Account Administrator, Virtual Infrastructure Administrator, Network Administrator, Read-Only Administrator or Subscription Administrator) can use the plug-in. Users with an End User role cannot use the plug-in.

Use the portal for all user management tasks such as creating users, assigning them roles, and adding users to virtual data centers.

See the following for more information.

- To access the portal, see [“Manage a Cloud Instance in the vCloud Hybrid Service Portal,”](#) on page 35.
- To create users in the portal, see the [VMware vCloud Hybrid Service User's Guide](#).

Accessing the vCloud Hybrid Service Plug-in


7

After you install the vCloud Hybrid Service plug-in, it appears as an icon in the Home page of the vSphere Web Client, in the Inventories section. It also appears in the navigation pane on the left.

Prerequisites

- You have a user name and password for the vSphere Web Client.
- The vCloud Hybrid Service plug-in is installed in the vSphere Web Client.

Procedure

- 1 Using a browser, log in to the vSphere Web Client.
- 2 In the Home page, under **Inventories**, click the **vCloud Hybrid Service** icon ().
The vCloud Hybrid Service Home page appears.

What to do next

If this is the first time that you are using the vCloud Hybrid Service plug-in, click the **Register vCloud Hybrid Service account** link to register your account with the plug-in, or click **Request account** to create a new account.

Logging in As a Different User

After you register your vCloud Hybrid Service account with the plug-in, if you need to change users, you can log in as a different user. For example, if you logged in with a read-only administrator user role and you want to perform network administration tasks, you can change to a network administrator user.

In the plug-in, the privileges associated with a user name are identical to the privileges associated with that user name in vCloud Hybrid Service.

Procedure

- 1 Navigate to the vCloud Hybrid Service Home page.
You can view the user name, email address, and vCloud Hybrid Service URL that you are currently using.
- 2 In the **Actions** menu, click **Sign in as a different user**.
You are logged out.
- 3 Click **Register vCloud Hybrid Service account** and log in as a different user.
See [“Register Your vCloud Hybrid Service Account,”](#) on page 17 for information.

Managing vCloud Hybrid Service Cloud Instances

9

You can view and manage all your vCloud Hybrid Service cloud instances in the vCloud Hybrid Service plug-in. All Dedicated Cloud and Virtual Private Cloud instances appear in the inventory lists.


This chapter includes the following topics:

- [“View All Your Cloud Instances,”](#) on page 33
- [“View a Cloud Instance,”](#) on page 34
- [“Manage a Cloud Instance in the vCloud Hybrid Service Portal,”](#) on page 35
- [“Manage a Cloud Instance in vCloud Director,”](#) on page 35

View All Your Cloud Instances


In the vCloud Hybrid Service plug-in, you can view a list of all your vCloud Hybrid Service Dedicated Cloud and Virtual Private Cloud instances. You can view details about each instance, such as its available resources and the region in which it is based. You can also customize the list to display a subset of the information.

Procedure

- 1 In the vSphere Web Client Home page, under Inventories, click the **vCloud Hybrid Service** icon ().
- 2 In the vCloud Hybrid Service Home page, select **Cloud Instances** in the navigation pane on the left.

All cloud instances associated with your vCloud Hybrid Service account are displayed. You can view information about each instance. You can view the cloud instance name, its type, the geographic region in which it is based, and its available resources, including the number of available public IP addresses.

- 3 (optional) Customize your view of the cloud instance table.

Option	Description
To filter cloud instances	In the Filter field at the top-right of the table, type a name or partial name. All columns of cloud instances are searched for a match. To customize the filter, click the drop-down menu in the Filter field and select the columns you want to search.
To clear all filters	Click the  icon next to the Filter field at the top-right of the table. All cloud instances are displayed.
To hide or display columns	<ol style="list-style-type: none"> Click the drop-down menu in the Filter field at the top-right of the table and click Select Columns. Select or deselect columns. Click OK.

View a Cloud Instance

You can view a Dedicated Cloud or Virtual Private Cloud instance to see summary information about the cloud and browse its inventory.

Summary information includes the geographic region to which the cloud belongs, the number of available IP addresses, and the amount of used and free resources. You can also follow the links to manage the cloud instance in either the vCloud Hybrid Service portal or in vCloud Director.

You can browse the cloud instance to see all its virtual data centers, virtual machines, templates, gateways, and networks. Detailed information is available at each level. For example, for virtual data centers, you can view the resource consumption, the virtual machine quota, whether the data center is locked or unlocked, and the objects it contains. For a virtual machine, you can view information such as its power state, the vApp and the virtual data center to which it belongs, its guest operating system, and its network settings.

Procedure

- 1 In the vCloud Hybrid Service Home page in the vSphere Web Client, select **Cloud Instances** in the navigation pane on the left.

All cloud instances associated with your vCloud Hybrid Service account are displayed. You can narrow the results by using the Filter field.

- 2 Double-click the cloud instance you want to view.
- 3 Browse the cloud inventory or view summary details about the cloud instance.

Option	Description
To see the cloud summary	Click the Summary tab.
To see all virtual data centers in the cloud instance	Click the Related Objects tab, and click the Virtual Datacenters tab.
To see all virtual machines in the cloud instance	Click the Related Objects tab, and click the Virtual Machines tab.
To see all virtual machines in a virtual data center	<ol style="list-style-type: none"> Click the Related Objects tab, and click the Virtual Datacenters tab. Double-click a virtual data center. In the Related Objects tab, click the Virtual Machines tab.

Option	Description
To see all templates in a virtual data center	a Click the Related Objects tab, and click the Virtual Datacenters tab.
	b Double-click a virtual data center.
	c In the Related Objects tab, click the Templates tab.
To see all gateways in a virtual data center	a Click the Related Objects tab, and click the Virtual Datacenters tab.
	b Double-click a virtual data center.
	c In the Related Objects tab, click the Gateways tab.

You can narrow the results by using the Filter field. You can also customize your view by selecting or deselecting the columns to display.

Manage a Cloud Instance in the vCloud Hybrid Service Portal

From the vCloud Hybrid Service plug-in, you can go directly to the vCloud Hybrid Service portal to manage a cloud instance in the portal.

Procedure

- 1 In the vCloud Hybrid Service Home page, select **Cloud Instances** in the navigation pane on the left.
- 2 Select a cloud instance.
- 3 In the **Summary** tab, select **Manage in vCHS Portal** from the **Actions** menu.

Manage a Cloud Instance in vCloud Director

From the vCloud Hybrid Service plug-in, you can go directly to the vCloud Director UI to manage a cloud instance in vCloud Director.

Procedure

- 1 In the vCloud Hybrid Service Home page, select **Cloud Instances** in the navigation pane on the left.
- 2 Select a cloud instance.
- 3 In the **Summary** tab, click **Manage in vCloud Director UI** in the **Actions** menu.

Creating and Managing Virtual Data Centers

10

A virtual data center is a logical construct that provides compute, network, and storage resources. Virtual data centers provide an environment where you can create, store, and operate virtual machines. Virtual data centers also provide storage for virtual media.

In Dedicated Cloud instances, you must create a virtual data center before you can use the resources you have purchased. Virtual Private Cloud instances include a virtual data center by default.

This chapter includes the following topics:

- [“Create a New Virtual Data Center,”](#) on page 37
- [“View All Virtual Data Centers in a Cloud Instance,”](#) on page 38
- [“View a Virtual Data Center,”](#) on page 39
- [“Edit Virtual Data Center Settings,”](#) on page 39
- [“Lock or Unlock a Virtual Data Center,”](#) on page 40
- [“Set Virtual Machine Quota,”](#) on page 40
- [“Change Resource Allocation for a Virtual Data Center,”](#) on page 40
- [“Delete a Virtual Data Center,”](#) on page 41

Create a New Virtual Data Center

In Dedicated Cloud instances, you must create a virtual data center before you can use the infrastructure resources you have purchased. You can group your resources into one or more virtual data centers, depending upon your requirements. For example, you can create one virtual data center for your entire company or you can create different virtual data centers for different departments, project teams, or geographic sites.

When you create a virtual data center, it is set up with compute, storage, and network resources. If you allocate one or more public IP addresses to the virtual data center while creating it, a gateway and a gateway network are also created, in addition to an isolated network. See [Chapter 11, “Creating and Managing Gateways and Networks,”](#) on page 43 for more information.


All administrator users of your company are given access to the new virtual data center by default, and can create and manage virtual machines in it. To provide access to end users, you must use the vCloud Hybrid Service portal to create users, assign them roles, and add them to the virtual data center.

NOTE It may take a few minutes for the virtual data center to be created.

Prerequisites

- Verify that there are resources available in the Dedicated Cloud instance in which you want to create the new virtual data center.
- You have virtual infrastructure administrator privileges in vCloud Hybrid Service.

Procedure

- 1 In the vCloud Hybrid Service plug-in Home page, click **Cloud Instances** in the left pane.
- 2 Select the Dedicated Cloud instance in which you want to create the new virtual data center.
- 3 Click the **Related Objects** tab, and click the **Virtual Datacenters** tab.
- 4 Click the **Add** icon () at the top of the table.

- 5 Type a name for the virtual data center and select the cloud instance in which to create it.

You can view available CPU, memory, and storage resources for each cloud instance. You can also view the number of unused public IP addresses in each instance.

- 6 Select the resources for the virtual data center.
 - To allocate some of the available resources in the cloud instance to the new virtual data center, select **Use some of the resources to create virtual data center**.
 - To allocate all the available resources in the cloud instance to the new virtual data center, select **Use all of the resources to create virtual data center**.

If you allocate all the available resources, you will not be able to create more virtual data centers in the cloud instance, until you add more resources or adjust the resource allocation across your cloud instances.

- 7 Click **Next**.
- 8 If you chose to use some of the resources, make your selections, and click **Next**.

You can do one of the following.

- Select a **Small**, **Medium**, or **Large** configuration and then adjust the default settings according to your needs.

You can only select a configuration for which you have available resources.
- Specify resources individually in the **CPU**, **Storage**, **Memory**, and **Public IPs** fields.

NOTE Allocate public IP addresses to the virtual data center only if you want to create virtual machines that need access to the Internet. If you allocate public IP addresses, they are reserved for the virtual data center.

- 9 Review your selections in the **Ready to Complete** page, and click **Finish**.

What to do next

Create virtual machines in the virtual data center and connect them to a network.

View All Virtual Data Centers in a Cloud Instance

You can view a list of all the virtual data centers in a cloud instance. You can view details such as resource allocation and consumption to determine where to create virtual machines, whether you need to change the resource allocation or VM Quota of a virtual data center, or whether you need to create new virtual data centers.

NOTE You can create new virtual data centers in a Dedicated Cloud instance only.

Procedure

- 1 In the vCloud Hybrid Service plug-in Home page in the vSphere Web Client, click **Cloud Instances** in the left pane.
- 2 Select a cloud instance.
- 3 In the **Related Objects** tab, click the **Virtual Datacenters** tab.

All virtual datacenters in the cloud instance are displayed. For each virtual data center, you can view the allocated and available virtual CPU, storage, and memory resources.

You can customize your view of the object table by setting filters and selecting the columns to display.

- 4 To view specific information about a virtual data center or browse its inventory, double-click the virtual data center.

View a Virtual Data Center

You can view a virtual data center's inventory, resource summary, and settings such as the VM quota.

Procedure

- 1 In the vCloud Hybrid Service plug-in Home page, click **Cloud Instances** in the left pane.
- 2 Select the cloud instance that contains the virtual data center.
- 3 In the **Related Objects** tab, click the **Virtual Data Center** tab.
- 4 Double-click a virtual data center and view its details.
 - Click the **Summary** tab to view the following information.
 - The name and description of the virtual data center.
 - Whether the virtual data center is locked or unlocked.
 - The VM quota that has been set.
 - The amount of used and free CPU, memory, and storage resources.
 - The actions that are available for the virtual data center.
 - Click the **Related Objects** tab to view the virtual data center inventory, including the virtual machines, templates, and gateways it contains.


Edit Virtual Data Center Settings

You can edit a virtual data center to change its name, description and resource allocation. You can also set a limit on the number of virtual machines that can be created in the data center.

Prerequisites

You have virtual infrastructure administrator privileges in vCloud Hybrid Service.

Procedure

- 1 In the vCloud Hybrid Service plug-in Home page, click **Cloud Instances** in the left pane.
- 2 Select the cloud instance that contains the virtual data center you want to edit.
- 3 In the **Related Objects** tab, click the **Virtual Datacenters** tab.
- 4 Select the virtual data center and click the **Edit** icon () at the top of the table.
- 5 Edit the name, description, resource allocation, and virtual machine quota, and click **Save**.

Lock or Unlock a Virtual Data Center

You can lock a virtual data center to suspend its resource consumption. When a virtual data center is locked, none of its users can create new virtual machines or power on virtual machines.

You can lock virtual data centers in a Dedicated Cloud instance only.

Prerequisites

You have virtual infrastructure administrator privileges in vCloud Hybrid Service.

Procedure

- 1 In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane, and select the cloud instance that contains the virtual data center.
- 2 In the **Related Objects** tab, click the **Virtual Data Centers** tab, and double-click the virtual data center that you want to lock.
- 3 In the **Summary** tab, select **Lock** or **Unlock** from the **Actions** menu.

Set Virtual Machine Quota

The virtual machine quota for a virtual data center is the maximum number of virtual machines that can be created in a virtual data center. By default, there is no limit on the number of virtual machines you can create and you are constrained only by the amount of resources allocated to the virtual data center.

Prerequisites

You have virtual infrastructure administrator privileges in vCloud Hybrid Service.

Procedure

- 1 In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane, and select the cloud instance that contains the virtual data center.
- 2 In the **Related Objects** tab, click the **Virtual Data Centers** tab.
- 3 Right-click the virtual data center that you want to edit and select **Edit Virtual Machine Quota** from the pop-up menu.
- 4 Specify the maximum number of virtual machines for the virtual data center, and click **OK**.

Change Resource Allocation for a Virtual Data Center

You can change the amount of resources that are allocated to a virtual data center. Specifically, you can change the CPU, memory, and storage resources. You can increase the allocation only if additional resources are available in the cloud instance.

Prerequisites

You have virtual infrastructure administrator privileges in vCloud Hybrid Service.

Procedure

- 1 In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane, and select the cloud instance that contains the virtual data center.
- 2 In the **Related Objects** tab, click the **Virtual Data Centers** tab.
- 3 Right-click the virtual data center you want to edit and select **Edit Settings**.

- 4 Change the resource allocation and click **OK**.

You can view the resources available in the cloud instance that are not yet allocated to any virtual data center.


Delete a Virtual Data Center

You can delete a virtual data center in a Dedicated Cloud instance. When you delete a virtual data center, all its virtual machines, and any snapshots associated with them, are deleted. The resources allocated to the virtual data center are freed.

Prerequisites

You have virtual infrastructure administrator privileges.

Procedure

- 1 In the vCloud Hybrid Service plug-in Home page, click **Cloud Instances** in the left pane and double-click the cloud instance that contains the virtual data center you want to delete.
- 2 In the **Related Objects** tab, click the **Virtual Datacenters** tab.
- 3 Select the virtual data center and click the **Delete** icon () at the top of the table.
- 4 Click **Yes** to confirm.

Creating and Managing Gateways and Networks

11

A gateway connects a virtual data center to the Internet. It provides networking services such as firewall, NAT, load balancing, and IPSEC VPN to the virtual machines and networks connected to it.

In the vCloud Hybrid Service, virtual data centers have two types of networks, isolated networks and gateway networks. Gateway networks, also referred to as routed networks, are connected to a gateway. Isolated networks are isolated within the virtual data center and are not connected to a gateway.

You connect virtual machines to networks to enable them to communicate with each other. If the virtual machines need to connect to the Internet, or need networking services, connect them to a gateway network.

Gateways and Networks in Dedicated Cloud Instances

In Dedicated Cloud instances, when you create a new virtual data center and allocate a public IP address to it, a gateway, a gateway network, and an isolated network are also created. A private IP pool is assigned to each network.

If you do not allocate a public IP address to the virtual data center while creating it, only an isolated network is created. In this case, you can create a gateway later. Gateway networks are always created with gateways.

You can also create additional gateways for virtual datacenters in Dedicated Cloud instances.

Gateways and Networks in Virtual Private Cloud Instances

In the Virtual Private Cloud service, a gateway, a gateway network, and an isolated network are already created for you. Public IP addresses assigned to you are linked to the gateway. A private IP pool is assigned to each network.

Networking Services

You cannot set up or manage networking services such as firewall, NAT, load balancing, and IPSEC VPN from the vCloud Hybrid Service plug-in. Use the vCloud Hybrid Service portal to set up these services. See the [vCloud Hybrid Service User's Guide](#) for more information.

This chapter includes the following topics:

- [“View Gateways in a Virtual Data Center,”](#) on page 44
- [“Create a Gateway,”](#) on page 44
- [“Edit Gateway Settings,”](#) on page 45
- [“Delete a Gateway,”](#) on page 45
- [“View Networks in a Virtual Data Center,”](#) on page 46

- [“Edit Network Assignments for a Virtual Machine,”](#) on page 46

View Gateways in a Virtual Data Center

You can view the gateways in a virtual data center. For each gateway, you can view the gateway IP address, configuration and High Availability settings, the number of networks connected to it, and the number of used and free public IP addresses in the virtual data center.

Procedure

- 1 In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane.
- 2 Select the cloud instance that contains the virtual data center.
- 3 Click the **Related Objects** tab, and click the **Virtual Data Centers** tab.
- 4 Double-click the virtual data center and click the **Gateways** tab.

Create a Gateway

When you create a new virtual data center in a Dedicated Cloud instance, and you allocate at least one public IP address to it, a gateway is created automatically for the virtual data center. If you created a virtual data center without allocating any IP addresses to it, or if you need additional gateways, you can add gateways.

You can add gateways to virtual data centers in Dedicated Cloud instances only. You cannot add gateways to Virtual Private Cloud instances, which are pre-configured with one gateway.


When you create a gateway, a gateway network is also created and connected to the gateway.

By default, gateways are created with a compact configuration and have High Availability enabled.

Prerequisites

You have network administrator privileges in vCloud Hybrid Service.

Procedure

- 1 Display the virtual data center in which you want to add a gateway.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane and select the cloud instance that contains the virtual data center.
 - b Click the **Related Objects** tab, and click the **Virtual Data Centers** tab.
 - c Double-click the virtual data center.
- 2 Click the **Gateways** tab and click the **Add** icon ().
- 3 In the **Add Gateway** dialog box, type a name and description for the gateway.
- 4 Specify the number of public IP addresses that you want to allocate to the gateway.

You must allocate at least one public IP address, which will be used for the gateway IP.
- 5 Click **OK**.

The gateway is created and appears in the list of gateways. You can click on the gateway to view details such as the gateway IP address.


Edit Gateway Settings

You can edit only the name and description of a gateway.

Prerequisites

You have network administrator privileges in vCloud Hybrid Service.

Procedure

- 1 Display the virtual data center that contains the gateway that you want to edit.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane, and select the cloud instance that contains the virtual data center.
 - b Click the **Related Objects** tab, and click the **Virtual Data Centers** tab.
 - c Double-click the virtual data center that contains the gateway.
- 2 Select the gateway and click the **Edit Gateway** icon () at the top of the table.
- 3 Edit the name and description, and click **OK**.

Delete a Gateway


You can delete gateways from virtual data centers. When you delete a gateway, all gateway networks associated with it are deleted. Network services such as NAT rules, firewall settings, and load balancing settings are also deleted.

You can delete gateways from virtual data centers in a Dedicated Cloud instance only. You cannot delete the gateway in a Virtual Private Cloud instance.

Prerequisites

You have network administrator privileges.

Procedure

- 1 Display the virtual data center that contains the gateway that you want to edit.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane, and select the cloud instance that contains the virtual data center.
 - b Click the **Related Objects** tab, and click the **Virtual Data Centers** tab.
 - c Double-click the virtual data center that contains the gateway.
- 2 Select the gateway that you want to delete and click the **Delete Gateway** icon () at the top of the table.

What to do next

If any virtual machines were connected to any of the deleted gateway's networks, connect them to other networks.

View Networks in a Virtual Data Center

You can view a list of the networks in a virtual data center. For each network, you can view details such as its type, private IP address range, and the number of virtual machines connected to it. For gateway networks, you can also view information about the gateway to which the network is connected, such as the default gateway IP address.

You cannot create additional networks in the vCloud Hybrid Service plug-in. If you need additional networks, create them in the vCloud Hybrid Service portal. See the [VMware vCloud Hybrid Service User's Guide](#) for information.

Procedure

- 1 Display the virtual data center whose networks you want to view.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane, and select the cloud instance that contains the virtual data center.
 - b Click the **Related Objects** tab, and click the **Virtual Data Centers** tab.
 - c Double-click the virtual data center that contains the gateway.
- 2 In the **Related Objects** tab, click the **Gateways** tab, and double-click a gateway.
- 3 Click the **Related Objects** tab to view the networks.
- 4 Double-click a network to view its details.

Edit Network Assignments for a Virtual Machine

You can edit the network assignment of a virtual machine to connect it to a network, change its network, or connect it to additional networks. You must power off the virtual machine before you can edit its network assignment.

All the networks in the virtual data center are listed. Virtual data centers have isolated and gateway networks. To get connectivity to the Internet and to use networking services such as NAT or firewall, connect the virtual machine to a gateway network.

When you connect the virtual machine to a network, it is assigned an IP address from the network's predefined private IP address pool.

Prerequisites

The virtual machine is powered off.

You have virtual infrastructure administrator privileges or end user privileges.

Procedure

- 1 Display the virtual machine.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.
 - b In the **Related Objects** tab, click the **Virtual Machines** tab.

All virtual machines in the cloud instance are displayed.

You can customize your view by setting filters and hiding or selecting columns.
 - c Double-click the virtual machine.

The virtual machine details appear. Under **VM Networks**, you can view the networks to which the virtual machine is currently connected.

- 2 If the virtual machine is powered on, power it off by selecting **Power Off** from the **Actions** menu.
- 3 Under **VM Networks**, click **Edit Network Settings**.
- 4 Select the networks to which you want to connect the virtual machine, and click **OK**.
- 5 Power on the virtual machine by selecting **Power On** from the **Actions** menu.

Creating and Managing Virtual Machines

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You can create and manage virtual machines in vCloud Hybrid Service from the plug-in. You can create virtual machines from templates, power them on or off, and perform administrative tasks such as setting network assignments, accessing the console, and creating snapshots.

You need end user privileges or virtual infrastructure administrator privileges to create and manage virtual machines.

NOTE You can only create virtual machines from templates. To create a virtual machine without a template, create it in vCloud Director.

This chapter includes the following topics:

- [“View All Virtual Machines in a Cloud Instance,”](#) on page 49
- [“View All Virtual Machines in a Virtual Data Center,”](#) on page 50
- [“Create a Virtual Machine from a Template,”](#) on page 50
- [“Power On, Power Off, or Suspend a Virtual Machine,”](#) on page 51
- [“Reset a Virtual Machine,”](#) on page 52
- [“Delete a Virtual Machine,”](#) on page 52
- [“View Virtual Machine Settings,”](#) on page 52
- [“Edit Virtual Machine Settings,”](#) on page 53
- [“Edit Network Assignments for a Virtual Machine,”](#) on page 54
- [“Open Virtual Machine Console,”](#) on page 54
- [“Create a Snapshot of a Virtual Machine,”](#) on page 55
- [“Revert a Virtual Machine to a Snapshot,”](#) on page 55
- [“Delete a Snapshot,”](#) on page 56

View All Virtual Machines in a Cloud Instance

You can view a consolidated list of all virtual machines in a cloud instance, from all virtual data centers in the cloud instance. You can see details such as the power state, guest operating system, and the vApp and virtual data center to which each virtual machine belongs.

You can customize your view of the object table by setting filters and selecting the columns to display. For example, to display only the virtual machines that have a specific operating system such as Microsoft Windows, type `Microsoft Windows`, or a partial string, in the **Filter** field.

You can also perform actions on the virtual machines from here.

Procedure

- 1 In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane.
- 2 Select a cloud instance.
- 3 In the **Related Objects** tab, click the **Virtual Machines** tab.

View All Virtual Machines in a Virtual Data Center

You can view a list of all virtual machines in a virtual data center. You can see details such as a virtual machine's power state, guest operating system, and the vApp to which it belongs. You can also perform actions on virtual machines from here.

You can customize your view of the object table by setting filters and selecting the columns to display. For example, to display only the virtual machines that have a specific operating system such as Microsoft Windows, type "Microsoft Windows", or a partial string, in the **Filter** field.

Procedure

- 1 Display the virtual data center.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane, and select the cloud instance that contains the virtual data center.
 - b Click the **Related Objects** tab, and click the **Virtual Data Centers** tab.
 - c Double-click the virtual data center.
- 2 In the **Related Objects** tab, click the **Virtual Machines** tab.

Create a Virtual Machine from a Template

You create a virtual machine by deploying a template. You can deploy any of the templates that you have in the vCloud Hybrid Service, including operating system templates provided by VMware and custom templates that you have added.

You can connect the virtual machine to one or more networks while creating it. When you connect it to a network, the virtual machine is assigned an IP address from the network's predefined private IP address pool. To get connectivity to the Internet and to use networking services such as NAT or firewall, connect the virtual machine to a gateway network.

Guest customization is enabled for the virtual machine. VMware Tools is also installed by default in the virtual machine.

NOTE In the vCloud Hybrid Service plug-in, you cannot create virtual machines without using a template. To create a virtual machine from scratch, use the vCloud Director UI.

Prerequisites

You have a virtual data center in which to create the virtual machine. Virtual Private Cloud instances have a virtual data center by default. In Dedicated Cloud instances, you must create virtual data centers. See ["Create a New Virtual Data Center,"](#) on page 37 for information.

You have virtual infrastructure administrator or end user privileges.

Procedure

- 1 Display the virtual data center in which you want to create the virtual machine.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane, and select the cloud instance that contains the virtual data center.
 - b In the **Related Objects** tab, click the **Virtual Data Centers** tab.
 - c Double-click the virtual data center.
- 2 In the **Summary** tab, select **Create new virtual machine from template** from the **Actions** menu.
- 3 Type a name for the virtual machine.
- 4 Verify that you want to create the virtual machine in the selected virtual data center, or select a different one, and click **Next**.

You can view the resources available in each virtual data center.

- 5 Select the template from which to deploy the virtual machine.

All templates available to you in vCloud Hybrid Service, including OS templates provided by VMware and any custom templates you have added, are listed. You can see the specifications of each template.
- 6 Click **Next**.
- 7 Customize the number of vCPUs, the amount of memory, and the amount of storage for the virtual machine, and click **Next**.

You can also add additional hard drives.

- 8 Select the network to which to connect the virtual machine, and click **Next**.

All networks in the virtual data center, isolated networks and gateway networks, are listed. To get connectivity to the Internet and to use networking services such as NAT, firewall, or load balancing, connect the virtual machine to a gateway network.

You can connect a virtual machine to more than one network.

If you do not select a network, you can assign one later.
- 9 In the Ready to complete page, review your selections and click **Finish**.

What to do next

The virtual machine is created and appears in the **Virtual Machines** tab in the **Related Objects** tab. To view or edit the new virtual machine's settings, double-click it.

Power On, Power Off, or Suspend a Virtual Machine

You can power on, power off, or suspend virtual machines. You cannot power on a virtual machine if the virtual data center that contains it is locked.

Procedure

- 1 In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.
- 2 In the **Related Objects** tab, click the **Virtual Machines** tab.

All virtual machines in the cloud instance are displayed. You can view the power state of the virtual machines. You can also see the virtual data center to which each virtual machine belongs.

You can customize your view by setting filters and hiding or selecting columns.
- 3 Right-click the virtual machine and select **Power On**, **Power Off**, or **Suspend** from the pop-up menu.

Reset a Virtual Machine

You can reset a virtual machine. Resetting a virtual machine is equivalent to resetting a physical computer. It shuts down the running OS of the virtual machine. You should be aware that the OS may not shut down gracefully.

Procedure

- 1 In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.

- 2 In the **Related Objects** tab, click the **Virtual Machines** tab.

All virtual machines in the cloud instance are displayed. You can view the power state of the virtual machines. You can also see the virtual data center to which each virtual machine belongs.

You can customize your view by setting filters and hiding or selecting columns.

- 3 Right-click the virtual machine and select **Reset** from the pop-up menu.

Delete a Virtual Machine

You can delete virtual machines. When you delete a virtual machine, any snapshots associated with it are also deleted.

Prerequisites

A virtual machine must be powered off before it can be deleted.

Procedure

- 1 In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.

- 2 In the **Related Objects** tab, click the **Virtual Machines** tab.

All virtual machines in the cloud instance are displayed.

You can customize your view by setting filters and hiding or selecting columns.

- 3 If the virtual machine is powered on, right-click it and select **Power Off** from the pop-up menu.

- 4 Right-click the virtual machine and select **Delete** from the pop-up menu.

View Virtual Machine Settings

You can view details about a virtual machine, such as its guest operating system, guest OS settings, capacity, networks, and IP address.

Procedure

- 1 Display the virtual machine.

- a In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.

- b In the **Related Objects** tab, click the **Virtual Machines** tab.

All virtual machines in the cloud instance are displayed.

You can customize your view by setting filters and hiding or selecting columns.

- c Double-click the virtual machine.

- 2 View information about the virtual machine.

Option	Description
State	Indicates whether the virtual machine is powered on, powered off, or suspended
Operating System	The guest operating system of the virtual machine
Guest OS Customization	Indicates whether guest customization is enabled or disabled on the virtual machine
Guest OS Password	The default guest OS password that is created when you create the virtual machine. You can change the password from vCloud Director.
VMware Tools	Indicates whether VMware Tools is installed on the virtual machine. When you create a virtual machine in vCloud Hybrid Service, VMware Tools is installed by default.
VM Settings	The number of vCPUs and the amount of memory and storage allocated to the virtual machine.
VM Networks	The networks to which the virtual machine is connected, if any, the type of those networks, and the IP addresses of the virtual machine.

Edit Virtual Machine Settings

You can edit the settings of a virtual machine to change its name, description, owner, and the resources allocated to it.

Prerequisites

The virtual machine must be powered off.

Procedure

- 1 Display the virtual machine.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.
 - b In the **Related Objects** tab, click the **Virtual Machines** tab.

All virtual machines in the cloud instance are displayed.

You can customize your view by setting filters and hiding or selecting columns.
 - c Double-click the virtual machine.
- 2 If the virtual machine is powered on, select **Power Off** from the **Actions** menu to power it off.
- 3 Click **Edit Settings** under **VM Settings**.
- 4 Modify the settings.

Option	Description
Name	The name of the virtual machine.
Description	An optional description for the virtual machine.
Owner	The owner of the virtual machine. You should be aware that changing the owner of a virtual machine changes the owner of the vApp to which the virtual machine belongs. Therefore, the owner of all the virtual machines in the vApp changes.
vCPU	The number of virtual CPUs allocated to the virtual machine.
Memory	The amount of memory allocated to the virtual machine.
Storage	The amount of storage allocated to the virtual machine. You can add hard drives.

Edit Network Assignments for a Virtual Machine

You can edit the network assignment of a virtual machine to connect it to a network, change its network, or connect it to additional networks. You must power off the virtual machine before you can edit its network assignment.

All the networks in the virtual data center are listed. Virtual data centers have isolated and gateway networks. To get connectivity to the Internet and to use networking services such as NAT or firewall, connect the virtual machine to a gateway network.

When you connect the virtual machine to a network, it is assigned an IP address from the network's predefined private IP address pool.

Prerequisites

The virtual machine is powered off.

You have virtual infrastructure administrator privileges or end user privileges.

Procedure

- 1 Display the virtual machine.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.
 - b In the **Related Objects** tab, click the **Virtual Machines** tab.

All virtual machines in the cloud instance are displayed.

You can customize your view by setting filters and hiding or selecting columns.
 - c Double-click the virtual machine.

The virtual machine details appear. Under **VM Networks**, you can view the networks to which the virtual machine is currently connected.
- 2 If the virtual machine is powered on, power it off by selecting **Power Off** from the **Actions** menu.
- 3 Under **VM Networks**, click **Edit Network Settings**.
- 4 Select the networks to which you want to connect the virtual machine, and click **OK**.
- 5 Power on the virtual machine by selecting **Power On** from the **Actions** menu.

Open Virtual Machine Console

You can log in to the console of a virtual machine from the vCloud Hybrid Service plug-in.

Prerequisites

The virtual machine is powered on.

Procedure

- 1 Display the virtual machine.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.
 - b In the **Related Objects** tab, click the **Virtual Machines** tab.
All virtual machines in the cloud instance are displayed.
You can customize your view by setting filters and hiding or selecting columns.
 - c Double-click the virtual machine.
The virtual machine details appear.
- 2 If the virtual machine is powered off, power it on by selecting **Power On** from the **Actions** menu.
- 3 Click **Launch Console**.
- 4 Log in to the console.

Create a Snapshot of a Virtual Machine

You can create a snapshot of a virtual machine. A snapshot saves the state of the virtual machine and allows you to revert the virtual machine to that state later.

You can have only one snapshot of a virtual machine at a time. When you create a snapshot, it overwrites the previous snapshot, if any.

Procedure

- 1 Display the virtual machine.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.
 - b In the **Related Objects** tab, click the **Virtual Machines** tab.
All virtual machines in the cloud instance are displayed.
You can customize your view by setting filters and hiding or selecting columns.
 - c Double-click the virtual machine.
- 2 From the **Actions** menu, select **Create Snapshot**.

Revert a Virtual Machine to a Snapshot

You can revert a virtual machine to a snapshot. This reverts the virtual machine to the state it was in when the snapshot was created.

Procedure

- 1 Display the virtual machine.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.
 - b In the **Related Objects** tab, click the **Virtual Machines** tab.
All virtual machines in the cloud instance are displayed.
You can customize your view by setting filters and hiding or selecting columns.
 - c Double-click the virtual machine.

- 2 From the **Actions** menu, select **Revert Snapshot**.

Delete a Snapshot

You can delete the snapshot that you created for a virtual machine. A snapshot saves the state of a virtual machine and allows you to revert the virtual machine to that state.

Procedure

- 1 Display the virtual machine.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** and double-click the cloud instance that contains the virtual machine.
 - b In the **Related Objects** tab, click the **Virtual Machines** tab.

All virtual machines in the cloud instance are displayed.

You can customize your view by setting filters and hiding or selecting columns.
 - c Double-click the virtual machine.
- 2 From the **Actions** menu, select **Delete Snapshot**.

Managing Templates

You use templates to create virtual machines in the vCloud Hybrid Service plug-in. VMware provides a few operating system templates. You can also add your own custom templates to vCloud Hybrid Service.

In the vCloud Hybrid Service portal, templates provided by VMware are in the catalog VMware Catalog and your custom templates are in the catalog My Catalog. In the vCloud Hybrid Service plug-in, both sets of templates appear in the **Templates** tab of a virtual data center.

You can add custom templates to vCloud Hybrid Service in two ways.

- Copy your custom templates from a vSphere or vCloud Director instance to vCloud Hybrid Service with vCloud Connector.

See [“Add Custom Templates to vCloud Hybrid Service Using vCloud Connector,”](#) on page 59 for more information.

- Import templates in vCloud Director.

Click the **Manage in vCloud Director UI** link in the **Summary** tab of your cloud instance to access vCloud Director. See the vCloud Director documentation for more information.

This chapter includes the following topics:

- [“View Templates,”](#) on page 57
- [“Create a Virtual Machine from a Template,”](#) on page 58
- [“Add Custom Templates to vCloud Hybrid Service Using vCloud Connector,”](#) on page 59

View Templates

You can view all the templates to which you have access in vCloud Hybrid Service. These include operating system templates provided by VMware as well as your custom templates. You use these templates to create virtual machines in vCloud Hybrid Service.

Procedure

- 1 Display the virtual data center.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane, and select the cloud instance that contains the virtual data center.
 - b Click the **Related Objects** tab, and click the **Virtual Data Centers** tab.
 - c Double-click the virtual data center.
- 2 In the **Related Objects** tab, click the **Templates** tab.

All templates are listed. Double-click a template to view its details.

Create a Virtual Machine from a Template

You create a virtual machine by deploying a template. You can deploy any of the templates that you have in the vCloud Hybrid Service, including operating system templates provided by VMware and custom templates that you have added.

You can connect the virtual machine to one or more networks while creating it. When you connect it to a network, the virtual machine is assigned an IP address from the network's predefined private IP address pool. To get connectivity to the Internet and to use networking services such as NAT or firewall, connect the virtual machine to a gateway network.

Guest customization is enabled for the virtual machine. VMware Tools is also installed by default in the virtual machine.

NOTE In the vCloud Hybrid Service plug-in, you cannot create virtual machines without using a template. To create a virtual machine from scratch, use the vCloud Director UI.

Prerequisites

You have a virtual data center in which to create the virtual machine. Virtual Private Cloud instances have a virtual data center by default. In Dedicated Cloud instances, you must create virtual data centers. See [“Create a New Virtual Data Center,”](#) on page 37 for information.

You have virtual infrastructure administrator or end user privileges.

Procedure

- 1 Display the virtual data center in which you want to create the virtual machine.
 - a In the vCloud Hybrid Service Home page, click **Cloud Instances** in the left pane, and select the cloud instance that contains the virtual data center.
 - b In the **Related Objects** tab, click the **Virtual Data Centers** tab.
 - c Double-click the virtual data center.
- 2 In the **Summary** tab, select **Create new virtual machine from template** from the **Actions** menu.
- 3 Type a name for the virtual machine.
- 4 Verify that you want to create the virtual machine in the selected virtual data center, or select a different one, and click **Next**.

You can view the resources available in each virtual data center.

- 5 Select the template from which to deploy the virtual machine.

All templates available to you in vCloud Hybrid Service, including OS templates provided by VMware and any custom templates you have added, are listed. You can see the specifications of each template.
- 6 Click **Next**.
- 7 Customize the number of vCPUs, the amount of memory, and the amount of storage for the virtual machine, and click **Next**.

You can also add additional hard drives.

- 8 Select the network to which to connect the virtual machine, and click **Next**.

All networks in the virtual data center, isolated networks and gateway networks, are listed. To get connectivity to the Internet and to use networking services such as NAT, firewall, or load balancing, connect the virtual machine to a gateway network.

You can connect a virtual machine to more than one network.

If you do not select a network, you can assign one later.

- 9 In the Ready to complete page, review your selections and click **Finish**.

What to do next

The virtual machine is created and appears in the **Virtual Machines** tab in the **Related Objects** tab. To view or edit the new virtual machine's settings, double-click it.

Add Custom Templates to vCloud Hybrid Service Using vCloud Connector

To add your custom templates to vCloud Hybrid Service, copy them from your on-premise vSphere or vCloud Director instance to vCloud Hybrid Service with vCloud Connector. You can then use your custom templates to create virtual machines in vCloud Hybrid Service.

Prerequisites

- Obtain the URL of the vCloud Connector multi-tenant node in vCloud Hybrid Service. The multi-tenant node is installed by VMware.
- In the vCloud Director instance underlying your vCloud Hybrid Service cloud instance, create a catalog to store the templates. If you have a Dedicated Cloud instance and you want to make the templates available to all virtual data centers in the instance, create a master catalog.

Procedure

- 1 Install a vCloud Connector server in your on-premise vSphere or vCloud Director instance.
- 2 Install a vCloud Connector node in every vSphere or vCloud Director instance from which you want to copy templates.
- 3 Register the nodes with the vCloud Connector server.
- 4 Register the vCloud Connector multi-tenant node in vCloud Hybrid Service with your vCloud Connector server.

For Dedicated Cloud instances, register the multi-tenant node multiple times, once for each virtual data center in the Dedicated Cloud instance. Each virtual data center appears as a separate cloud in vCloud Connector. Ensure that you at least add the virtual data center to which you want to copy templates.

For Virtual Private Cloud instances, you only need to register the multi-tenant node once.

- 5 Register the vCloud Connector user interface with a vSphere Client.
- 6 Start vCloud Connector in vSphere Client and add clouds to it.

All vSphere and vCloud Director instances to which you added nodes and that you registered with the vCloud Connector server appear in the list of clouds. The vCloud Hybrid Service virtual data centers also appear in the list of clouds.

- Add all vSphere and vCloud Director instances from which you want to copy templates.
 - Add the vCloud Hybrid Service virtual data centers to which you want to copy templates.
- 7 Copy templates from your vSphere or vCloud Director instances to your vCloud Hybrid Service virtual data center.

NOTE You must have created a catalog in the underlying vCloud Director instance that you can use as the destination catalog.

The templates that you copied appear in the **Templates** tab of your virtual data center in the vCloud Hybrid Service plug-in. All templates are copied as vApp templates. A virtual machine template from vSphere is copied as a vApp template containing one virtual machine.

Copying Data to vCloud Hybrid Service with vCloud Connector

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You can use vCloud Connector, an application that connects vSphere or vCloud Director based private or public clouds, to copy virtual machines, vApps, and templates from your vSphere or vCloud Director instances to the vCloud Hybrid Service.

Installing vCloud Connector requires multiple steps. High-level tasks are listed here. For complete installation instructions, see the [VMware vCloud Connector Documentation Center](#).

Prerequisites

Obtain the URL of the vCloud Connector multi-tenant node associated with your cloud instance in vCloud Hybrid Service. The multi-tenant node is installed by VMware.

Procedure

- 1 Install vCloud Connector on premise.
 - a Install a vCloud Connector server in your on-premise vSphere or vCloud Director instance.
 - b Install a vCloud Connector node in every vSphere or vCloud Director instance from which you want to copy data.
 - c Register the nodes with the vCloud Connector server.
 - d Register the vCloud Connector user interface with a vSphere Client.
- 2 Register the vCloud Connector multi-tenant node on vCloud Hybrid Service with your vCloud Connector server.

For Dedicated Cloud instances, register the multi-tenant node multiple times, once for each virtual data center in the Dedicated Cloud instance. Each virtual data center appears as a separate cloud in vCloud Connector.

For Virtual Private Cloud instances, you only need to register the multi-tenant node once.

- 3 Start vCloud Connector in vSphere Client and add clouds to it.

All vSphere and vCloud Director instances to which you added nodes and that you registered with the vCloud Connector server appear in the list of clouds. The vCloud Hybrid Service virtual data centers also appear in the list of clouds.

 - Add all vSphere and vCloud Director instances from which you want to copy data.
 - Add the vCloud Hybrid Service virtual data centers to which you want to copy data.
- 4 Copy data from your vSphere or vCloud Director instances to your vCloud Hybrid Service virtual data center.

Viewing Tasks

All commands that you use in the vCloud Hybrid Service plug-in are associated with a task. Tasks help you track the progress of a command and check whether the command was successful or whether it failed. Task details help you troubleshoot tasks.

You can view tasks in the **Recent Tasks** panel. Tasks are user based. All the tasks that you perform in either the plug-in or the vCloud Hybrid Service portal with your user name are displayed in the panel.

Procedure

- 1 View your tasks in the **Recent Tasks** panel on the right.
 - To view all tasks, click the **All** tab.
 - To view tasks that are currently running, click the **Running** tab.
 - To view failed tasks, click the **Failed** tab.
- 2 To view details of a task, click on it.

You can view details such as the start and finish time of a task, how long it was in the queue, who initiated it, and where the task was performed.

Uninstalling vCloud Hybrid Service Plug-in 1.0.0

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To uninstall vCloud Hybrid Service plug-in 1.0.0, use the `vchsPluginInstall` installation script that you used to install the plug-in. The script also has an uninstall option.

NOTE You cannot uninstall version 1.0.1 of the plug-in.

Prerequisites

Ensure the following.

- You have access to the machine in which your vSphere Web Client and vCenter server instance are installed.
- You have a vCenter server account with an administrator role or any role that has Extension privileges.
- You have permissions to execute script files that are needed to restart the vSphere Web Client server. These script files are in the `server/bin` directory of the vSphere Web Client root directory. For example, you would need permissions to the `/usr/lib/vmware-vsphere-client/server/bin` directory.
- Java is specified in the `PATH` environment variable.

Procedure

- 1 Log in to the machine in which your vSphere Web Client and vCenter server are installed.
- 2 Navigate to the `bin` directory that contains the installation script that you downloaded and unzipped. For example, `/opt/vmware/scripts/vchspluginscript/bin`.
- 3 Run the script.
 - On Linux, run `sh vchsPluginInstall.sh`.
 - On Windows, run `vchsPluginInstall.bat`.
- 4 Type `2` to select the uninstall option.
- 5 At the `Enter vCenter URL prompt`, type the URL of the vCenter server in which the plug-in is installed. Use the format `https://vCenterIPAddressOrFQDN`. For example, `https://10.10.10.10`.
- 6 Type the user name and password for the vCenter server.
- 7 At the `Enter installation directory of the vSphere Web Client`, type the path to the vSphere Web Client installation directory.

On Linux, the path is typically `/usr/lib/vmware-vsphere-client`.

On Windows, the path is typically `C:\Program Files\VMware\Infrastructure\vsphereWebClient`.

The plug-in is uninstalled.
- 8 At the `You need to restart vSphere Web Client. Restart now? [Yes/No] prompt`, type **yes**.

Example: Uninstalling the Plug-in

```
vCHS Plugin Installer
Select Option [1 - Register Plugin, 2 - Unregister Plugin]: 2
Enter vCenter URL [e.g. https://vCenter IP or FQDN]: https://10.10.10.10
Enter Username: admin
Enter Password: *****
Enter root directory of the vSphere Web Client: /usr/lib/vmware-vmware-client
Removing plugin directory...
Plugin directory deleted successfully.
Removing ...
You need to restart vSphere Web Client. Restart now? [Yes/No] yes
Stopping vSphere Web Client...
vSphere Web Client stopped.
Starting vSphere Web Client...
Server restart initiated successfully. Please wait till the server
starts.
```

Examples

Some examples of how you can use the vCloud Hybrid Service plug-in are listed here.

This chapter includes the following topics:

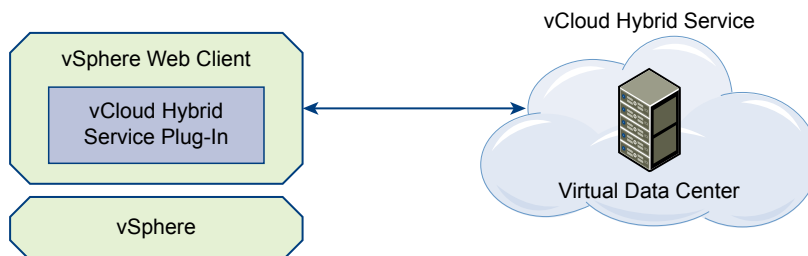
- [“Example: Increasing Capacity by Using a Public Cloud,”](#) on page 69
- [“Example: Running Test Workloads in a Public Cloud,”](#) on page 70

Example: Increasing Capacity by Using a Public Cloud

You are the administrator of a vSphere-based virtual data center. You are running out of capacity and you decide to get additional resources in the public cloud. However, you want to manage your public cloud workloads using the same user interface that you use to manage your on-premise workloads.

You purchase resources in vCloud Hybrid Service. Because you need to partition your public cloud resources into multiple virtual data centers for different departments in your company, you purchase resources in the Dedicated Cloud service. You then install the vCloud Hybrid Service plug-in in vSphere Web Client. This allows you to use the vSphere Web Client to manage both your on-premise data center and your vCloud Hybrid Service data centers.

Figure 18-1. Using the vCloud Hybrid Service Plug-in



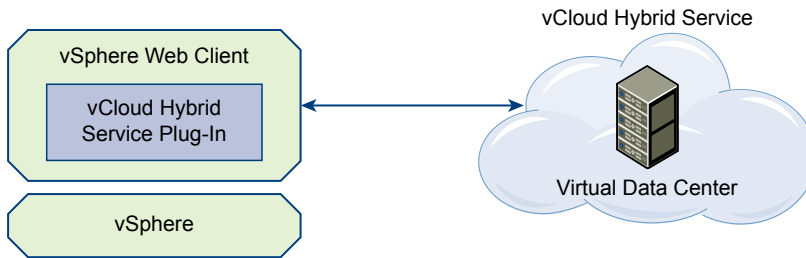
- 1 Get a vCloud Hybrid Service account and purchase resources in the Dedicated Cloud service.
- 2 Install the vCloud Hybrid Service plug-in in the vSphere Web Client.
- 3 Register your vCloud Hybrid Service account with the plug-in.
- 4 View your Dedicated Cloud instance in the plug-in.
- 5 Create a virtual data center.
- 6 Create virtual machines from templates and connect them to networks.
- 7 Manage the virtual machines on vCloud Hybrid Service from the vSphere Web Client.

Example: Running Test Workloads in a Public Cloud

You are the administrator of a vSphere-based virtual data center. You want to run test workloads for one of your engineering departments in a public cloud while keeping production workloads in your on-premise data center. However, you want to manage the test virtual machines from the same user interface that you use to manage your on-premise virtual machines.

You purchase resources in the vCloud Hybrid Service Virtual Private Cloud service. Then you install the vCloud Hybrid Service plug-in in vSphere Web Client. This allows you to use the vSphere Web Client to manage both your on-premise virtual machines and your test machines in vCloud Hybrid Service.

Figure 18-2. Using the vCloud Hybrid Service Plug-in



- 1 Get a vCloud Hybrid Service account and purchase resources in the Virtual Private Cloud service.
- 2 Install the vCloud Hybrid Service plug-in in the vSphere Web Client.
- 3 Register your vCloud Hybrid Service account with the plug-in.
- 4 View your Virtual Private Cloud instance in the plug-in.
- 5 Create virtual machines from templates and connect them to networks.
- 6 Manage your virtual machines in the vCloud Hybrid Service from the vSphere Web Client.

Use this information to troubleshoot problems with installing or using the vCloud Hybrid Service plug-in.

This chapter includes the following topics:

- [“Installation failed” Error,](#) on page 71
- [“Authentication failure” Error During Installation or Upgrade,](#) on page 73
- [“Multiple vSphere Web Client instances sharing the same SSO service,”](#) on page 73

"Installation failed" Error

You are unable to install or upgrade the vCloud Hybrid Service plug-in in vSphere Web Client 5.5 Update 1 or later.

Problem

In vSphere Web Client Update 1 or later, when you try to install or upgrade the plug-in, you get the error "Installation failed. Try installing again."

Cause

This problem occurs if your vCenter Server is unable to connect to the Internet or unable to connect to the My VMware REST API endpoints from which the vCloud Hybrid Service plug-in installer downloads the plug-in. Your vCenter Server must be set up in a way that it can connect to the Internet.

Solution

- 1 Verify that your vCenter Server can connect to the Internet.
- 2 Verify that the vCenter Server can reach the host `svcgw.vmware.com`.
For example: `ping svcgw.vmware.com`
- 3 Check the number of hops in the connection. Use any utility of your choice.
For example: `tracert svcgw.vmware.com`
- 4 Check if any firewalls are blocking the connection.
- 5 After resolving the above issues, try installing again.

- 6 If you still get an error, use any REST client to check if your vCenter Server can reach the My VMware REST API endpoints.

You should be able to reach the URL

<https://svcgw.vmware.com/prod/services/DownloadUrlService/lookupProduct>. The following request should get a similar response.

Request

```
<ProductsLookupRequest xmlns="productlookup.generic.com/types">
    <RequestId>1001</RequestId>
    <RequestTimeStamp>2002-05-30T09:00:00</RequestTimeStamp>
    <ProductVersion>5.5.0.0</ProductVersion>
    <ProductName>vcenter-server</ProductName>
    <CompatibleProductVersion></CompatibleProductVersion>
    <CompatibleProductName>hybrid-cloud-plugin-1</CompatibleProductName>
    <LastSyncDate>2002-05-29T09:00:00</LastSyncDate>
</ProductsLookupRequest>
```

Response

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<productLookupResponse
    xmlns="productlookup.generic.com/types">
    <ResponseId>1001</ResponseId>
    <ResponseTimeStamp>2014-05-04T22:47:54.189-07:00</ResponseTimeStamp>
    <ProductVersion>5.5.0.0</ProductVersion>
    <ProductName>vcenter-server</ProductName>
    <CompatibleProductsList>
        <CompatibleProduct>
            <filename>vchsplugin-1628768.zip</filename>
            <name>hybrid-cloud-plugin-1</name>
            <sha1Checksum>5a3c499f65985ebf07ba32d9928c0cda01a46a1b</sha1Checksum>
            <version>1.0.1.0</version>
        </CompatibleProduct>
```



```
</CompatibleProductsList>

</productLookupResponse>
```

"Authentication failure" Error During Installation or Upgrade

You are unable to install or upgrade the vCloud Hybrid Service plug-in and the log file displays an authentication error.

Problem

You are unable to install or upgrade the vCloud Hybrid Service plug-in in vSphere Web Client 5.5 Update 1 or later. The `vsphere_client_virgo.log` file displays the following error.

```
"WSC-BIZ-001 Authentication failure."
```

Cause

This error indicates that your user name and password could not be resolved by the My VMware service and can occur in the following cases.

- If you enter the wrong user name and password for My VMware.
- If there is a profile mismatch, that is, there is missing information in your My VMware account profile.
- There is a temporary problem with the My VMware service.

Solution

Check your My VMware account profile and ensure that you enter the correct user name and password for your account while installing the plug-in. If the problem is not resolved, try again later as there might be a temporary problem with the My VMware service.

Multiple vSphere Web Client instances sharing the same SSO service

When multiple vSphere Web Client instances share the same SSO service, if the plug-in is installed only on some of them, exceptions appear in the log file.

Problem

If you have multiple vSphere Web Client instances that share the same SSO service, if the vCloud Hybrid Service plug-in is installed in at least one of them but not in all of them, exceptions such as the following appear in the vSphere Web Client log file `vsphere_client_virgo.log`.

```
[ERROR] lookup-service-pool-11 70000058 100003 200001
com.vmware.vise.vim.lookup.impl.LookupServiceExtensionManager
Error unzipping file:///Users/user/vmw/serenity-client/server/work/tmp/vchs-
pckg2126733793255829687.zip
java.io.FileNotFoundException: \Users\user\vmw\serenity-client\server\work\tmp\vchs-
pckg2126733793255829687.zip
(The system cannot find the path specified) at java.io.FileInputStream.open(Native Method) at
java.io.FileInputStream.<init>(Unknown Source)
at java.io.FileInputStream.<init>(Unknown Source) at
sun.net.www.protocol.file.FileURLConnection.connect(Unknown Source)
at sun.net.www.protocol.file.FileURLConnection.getInputStream(Unknown Source) at
java.net.URL.openStream(Unknown Source) at
com.vmware.vise.vim.lookup.impl.LookupServiceExtensionManager.writePackageToFile(LookupServiceExt
ensionManager.java:384) at
com.vmware.vise.vim.lookup.impl.LookupServiceExtensionManager.downloadPackage(LookupServiceExtens
ionManager.java:333) at
```

```
com.vmware.vise.vim.lookup.impl.LookupServiceExtensionManager.downloadAndAddPackage(LookupServiceExtensionManager.java:294) at
com.vmware.vise.vim.lookup.impl.LookupServiceExtensionManager.access
$100(LookupServiceExtensionManager.java:55) at
com.vmware.vise.vim.lookup.impl.LookupServiceExtensionManager
$1.call(LookupServiceExtensionManager.java:250) at
com.vmware.vise.vim.lookup.impl.LookupServiceExtensionManager
$1.call(LookupServiceExtensionManager.java:247) at
java.util.concurrent.FutureTask.run(Unknown Source) at
java.util.concurrent.ThreadPoolExecutor.runWorker(Unknown Source) at
java.util.concurrent.ThreadPoolExecutor$Worker.run(Unknown Source) at
java.lang.Thread.run(Unknown Source)
```

This exception occurs when a user logs into a vSphere Web Client instance that does not have the plug-in installed.

Cause

When you install the plug-in in a vSphere Web Client instance, the plug-in installer downloads the plug-in file to the vSphere Web Client's local file system and registers it with the Lookup Service. The registration of one vSphere Web Client instance is seen by the other vSphere Web Client instances but the file is not found.

Solution

You can ignore this exception. If you install the vCloud Hybrid Service plug-in in all the vSphere Web Client instances, the exception will not appear. However, this is not required.

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