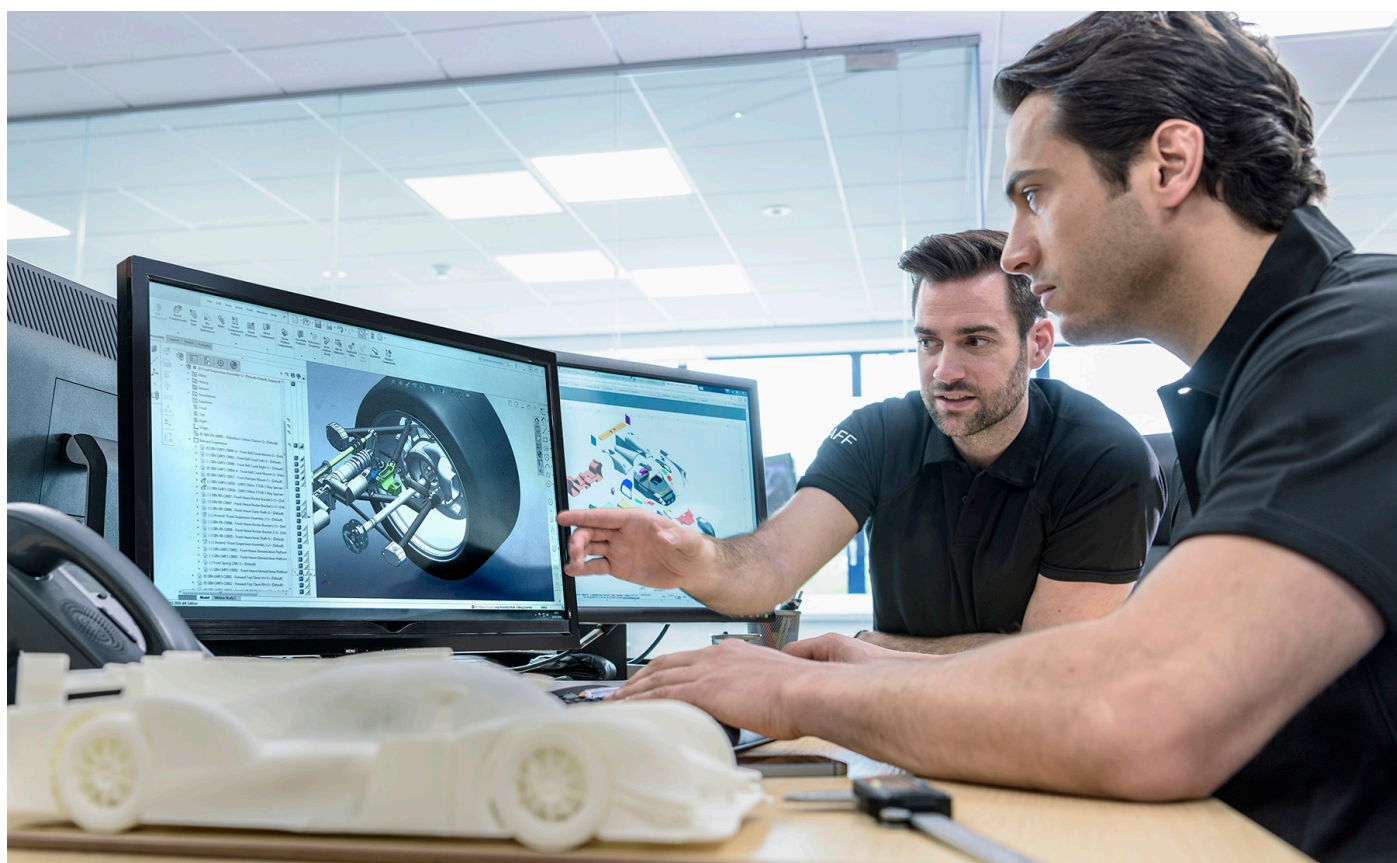




AUTOMATION FOR HPE SIMPLIVITY AND CITRIX CLOUD V1.1



CONTENTS

Introduction.....	3
Release notes.....	3
Requirements	3
Citrix Cloud requirements.....	3
VM template requirements	3
Versions.....	4
VMware vSphere.....	4
VMware vSphere—Citrix Cloud Connector plugin (FLEX).....	4
Prerequisites	4
Installation prerequisites.....	4
How to use.....	6
Configure/Plugin	7
Deconfigure/Plugout.....	8
Log file path	9
VMware vSphere 6.7 HTML5—Citrix Cloud Connector plugin	9
How to register/integrate plugin for VMware vCenter Server	9
Prerequisites	13
How to use.....	13
Configure/Plugin	14
Deconfigure/Plugout.....	16
Log file path	17
Glossary	17
Resources.....	17



INTRODUCTION

Citrix Cloud Connector acts as an interface between the Citrix Cloud and resource location. This helps in managing the hosts and virtual desktops from the cloud by removing the need for complex solutions and networking. Each resource location is recommended to have more than one Cloud Connector to provide high availability (HA). However, it is laborious to configure or deconfigure Cloud Connector whenever a resource location is created or deleted.

This document is a step-by-step guide to automate the installation of Cloud Connectors using **SimpliVity Citrix Plugin** by deploying virtual machines (VMs), adding them to Active Directory (AD), downloading Citrix Cloud Connector and installing it.

Target audience: Software architects, solution engineers, and end users using hyperconverged infrastructure for virtual desktops. It is recommended to have a brief understanding of [HPE SimpliVity](#) and Citrix Cloud.

Document purpose: The purpose of this document is to provide a step-by-step process to use HPE SimpliVity and Citrix Cloud Connector for VMware vSphere®.

RELEASE NOTES

This is the first version of HPE SimpliVity plugin for Citrix Cloud, which installs and configures Citrix Cloud Connector. Major aspects of the plugin that are covered in this release are:

- Proxy implementation is a preview feature (beta) in version 1.0
- Secure SSL/HTTPS enabled on HPE OmniStack Virtual Controller (OVC) IP address to connect using REST APIs
- DHCP server and static IP is supported for assignment of IPs to Cloud Connector VMs
- VM template is tested on Windows 2016 Operating System

REQUIREMENTS

In order to use this plugin, there are a few prerequisites that need to be configured prior to running this.

Citrix Cloud requirements

To access and manage Citrix Cloud remotely, client ID and key should be created. The key is used along with the organization to deploy the Cloud Connector in a resource location.

Refer to the following link on how to create client ID and key docs.citrix.com/en-us/citrix-cloud/citrix-cloud-management/identity-accessmanagement.html.

If the given resource location is not present, this application creates a new location in the Citrix customer organization and tags Cloud Connector to the new resource location. For the existing resource location, the Cloud Connector is automatically tagged to it.

VM template requirements

Following requirements should be taken care while generating VM template for Cloud Connector installation:

1. It is recommended to use Windows Server 2016 to create a template that is used for connecting Citrix Cloud and resource location.
2. Windows remote management feature should be enabled to access the VMs from SimpliVity Citrix plugin.
3. The template should not join the AD domain. The plugin creates the VM and joins to AD.
4. VMware Tools™ should be installed in it.
5. Users can use static IP to assign to the VM(s) created by plugin.
6. IP address of VM(s) created by the plugin can also be assigned from the DHCP server. Ensure the correct network is chosen for DHCP access.



VERSIONS

VMware vSphere

Citrix Cloud Connector installation on HPE SimpliVity using VMware vSphere plugin (Flex plugin) is tested on the following versions:

Product	Component	Version
HPE SimpliVity	HPE OmniStack	3.7
	API Version	1.8
VMware vSphere	Client	Windows 2016
	Build	Version 6.5.0, Build 4944578

Citrix Cloud Connector installation on HPE SimpliVity using VMware vSphere HTML based plugin is tested on the following versions:

Product	Component	Version
HPE SimpliVity	HPE OmniStack	4.0
	API version	1.14
VMware vSphere	Client	Windows 2016
	Build	Version 6.7.0

Flex and HTML plugin support matrix:

Product	Flex	HTML
vCenter installed on Windows	Yes	Yes
VMware vCenter Server® Appliance™ (VCSA)	No	Yes
vSphere	6.5	6.7

VMWARE VSPHERE—CITRIX CLOUD CONNECTOR PLUGIN (FLEX)

Prerequisites

1. This plugin supports VMware vSphere 6.5 Flex
2. Configuration file (input file) needs to be placed under “C:\Users\Public” path
3. One should create a VM template with external network connectivity.
4. Install the VMware® PowerCLI module on VMware vCenter if it's not installed. Use `Install-Module -Name VMware.PowerCLI` PowerShell command to install.
5. Ignore the PowerCLI configuration invalid certification action for all the users; use `Set-PowerCLIConfiguration -InvalidCertificateAction Ignore -Scope AllUsers` command to ignore.

Installation prerequisites

1. JRE (>1.6 version) has to be installed
2. Create new login credentials for the VMware portal and download **vsphere-client-sdk-6.5.04602587**
3. To register/unregister the plugin follow the instruction from:

Getting_Started_with_HTML_Client_SDK pdf file that can be found under documents folder of the vSphere-client SDK (**vsphere-client-sdk-6.5.04602587/vsphere-client-sdk/html-client-sdk/docs**).

VMware vSphere 6.5 Flex: How to register/integrate plugin for VMware vCenter Server®

The SDK includes a tool to help you register your plugin as a vCenter Server extension, which is available in **vsphere-client-sdk6.5.0/vsphere-client-sdk/html-client-sdk/tools/vCenter plugin registration/prebuilt**.

The same tool can be used to register, unregister, and check whether the plugin is registered or not.



To register plugin

- `extension-registration.bat -url vCenterIP/sdk -username {username} -password {password} -action registerPlugin -key com.vmware.simplivity.citrixplugin -version 1.0.0 -name simplivitycitrixplugin -show true -pluginUrl location/com.vmware.simplivity.citrixplugin-1.0.0.zip -serverThumbprint {serverthumbprint_value}`
- Go to services, restart **VMware vCenter Configuration Services** and wait for the Services to come up.

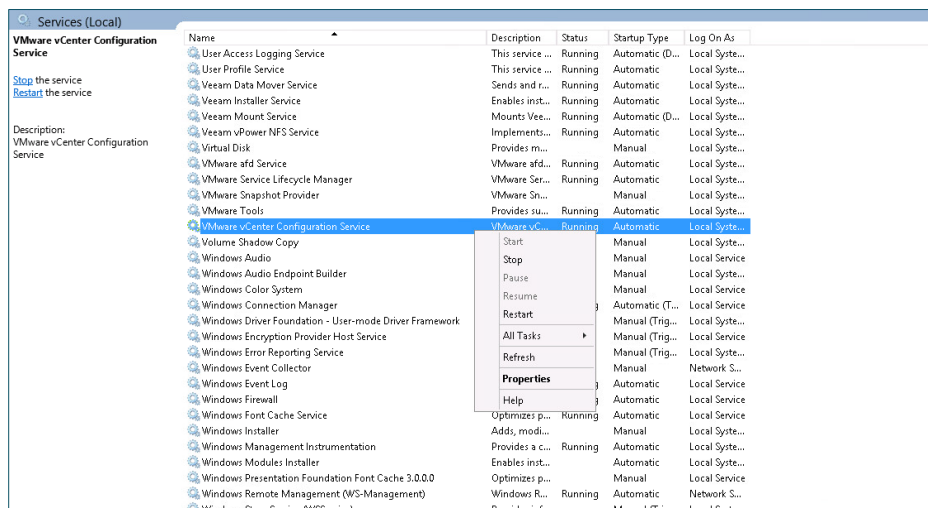


FIGURE 1. Restarting the vCenter services

NOTE

1. The server thumbprint should be taken from the HTTPS web server machine where the package is kept. Refer [vmware.com/support/vcm/ doc/help/vcm-57/Content/Virt/Virt_GS_vSphere_Task_SSLTprint.htm](https://www.vmware.com/support/vcm/doc/help/vcm-57/Content/Virt/Virt_GS_vSphere_Task_SSLTprint.htm) for the procedure to obtain server thumbprint.
2. Using an HTTP plugin URL instead of HTTPS is allowed for development but not recommended for production. It is not secure and requires the flag **allowHttp=true** in **vSphere Client's webclient.properties**.

To check if the plugin is registered

```
extension-registration.bat -url vCenterIP/sdk -username {username} -password {password} -action isPluginRegistered -key com.vmware.simplivity.citrixplugin
```

To unregister the plugin

- `extension-registration.bat -url vCenterIP/sdk -username {username} -password {password} -action unregisterPlugin -key com.vmware.simplivity.citrixplugin`
- Delete the HPE SimpliVity and Citrix plugin folder in vCenter before restarting the services:

C:\Programdata\VMware\vCenterServer\cfg\vSphere-ui\vc-packages\vSphere-client-serenity

NOTES

- You can review all vCenter extensions with the MOB interface at `vCenterIP/mob/?moid=extensionmanager` by replacing the vCenter IP with your vCenter IP Address or hostname
- To update your plugin extension information, you must first unregister it. If you try to register the same plugin twice, you will get the error: A specified parameter was not correct: extension key
- For more information, refer to the **Getting_Started_with_HTML_Client_SDK** document present in documents folder of vSphere client SDK (6.5) [[vsphere-client-sdk-6.5.04602587/vsphere-client-sdk/html-client-sdk/docs](https://www.vmware.com/support/whitepapers/vsphere-client-sdk/html-client-sdk/docs/)].

How to use

Go to the home page, click on the **SimpliVity Citrix** plugin icon.

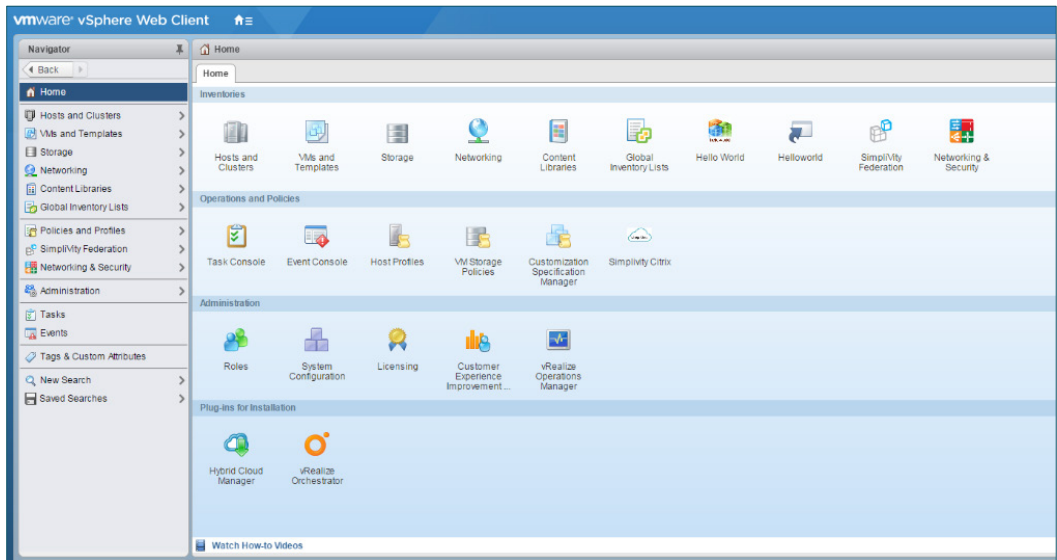


FIGURE 2. SimpliVity Citrix Plugin

Main page

When the plugin is clicked, it navigates to the main page.

If the data center requires a proxy to connect to the internet, a proxy option must be enabled to access Citrix Cloud, download and install Citrix Cloud Connector at a resource location.

Skip this section, if the environment does not require any proxy to connect to the internet.

NOTE

Proxy information is a beta feature in v1.0.

Provide the OVC information, which are mandatory.

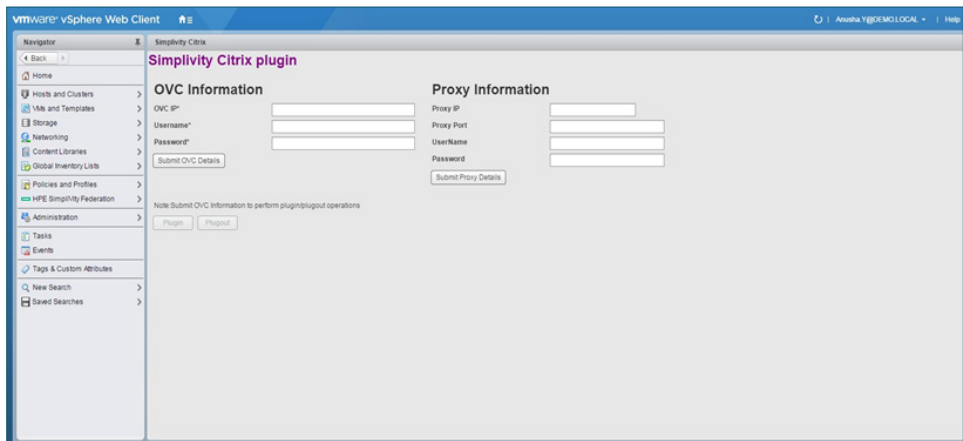


FIGURE 3. Main page of SimpliVity Citrix plugin



After providing the OVC information, the **Plugin** and **Plugout** buttons will be enabled.

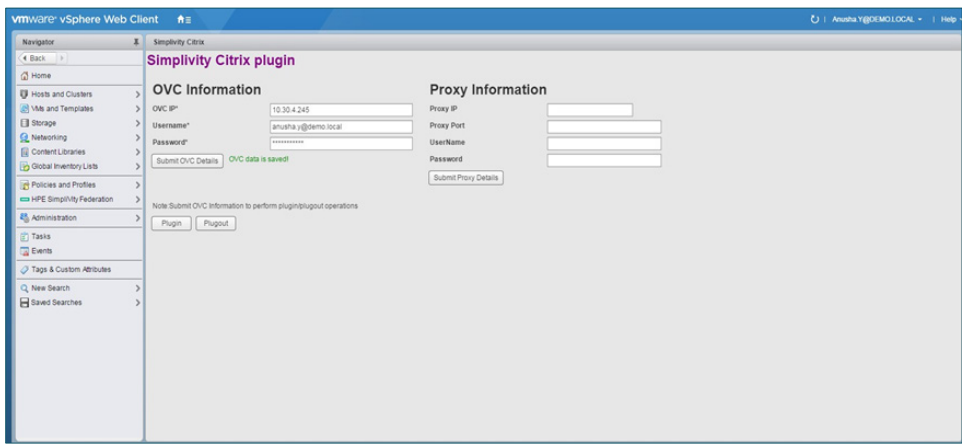


FIGURE 4. Proxy information

Click on Plugin.

Configure/Plugin

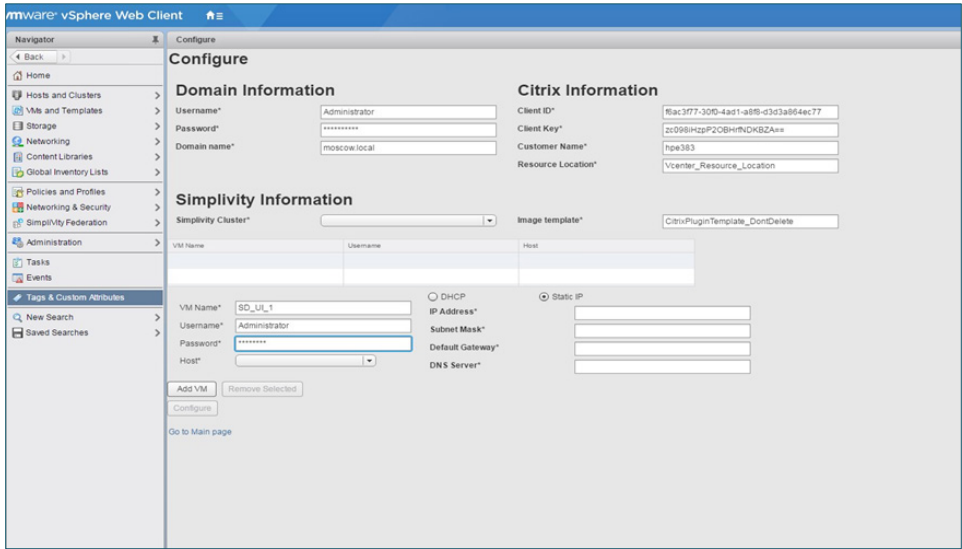


FIGURE 5. Configuration information screen

- 1. Provide the necessary details such as Domain Information, Citrix Information, and SimpliVity Information.
- 2. Add the VM details to configure.

NOTE
Template's user name and password, and VM's user name and password have to be the same.

- 3. Select the host where you want to create the VM.
- 4. If static IP is selected, make sure that the IP entered is free.
- 5. Once you provide the entire information click on **Configure**.



The Cloud Connector VMs are visible under the Resource Location of the Citrix Cloud portal once the configuration is complete.



FIGURE 6. Citrix Cloud Connectors

Deconfigure/Plugout

From the main page, click on the **Plugout** link to navigate to the Deconfigure page.

- 1. The page lists all the VMs, which were created using this plugin; select the VM that you want to deconfigure.
- 2. Provide user name and password for the VM.
- 3. Provide password for the domain under the Domain Information.
- 4. Once the VM is selected click on Deconfigure.

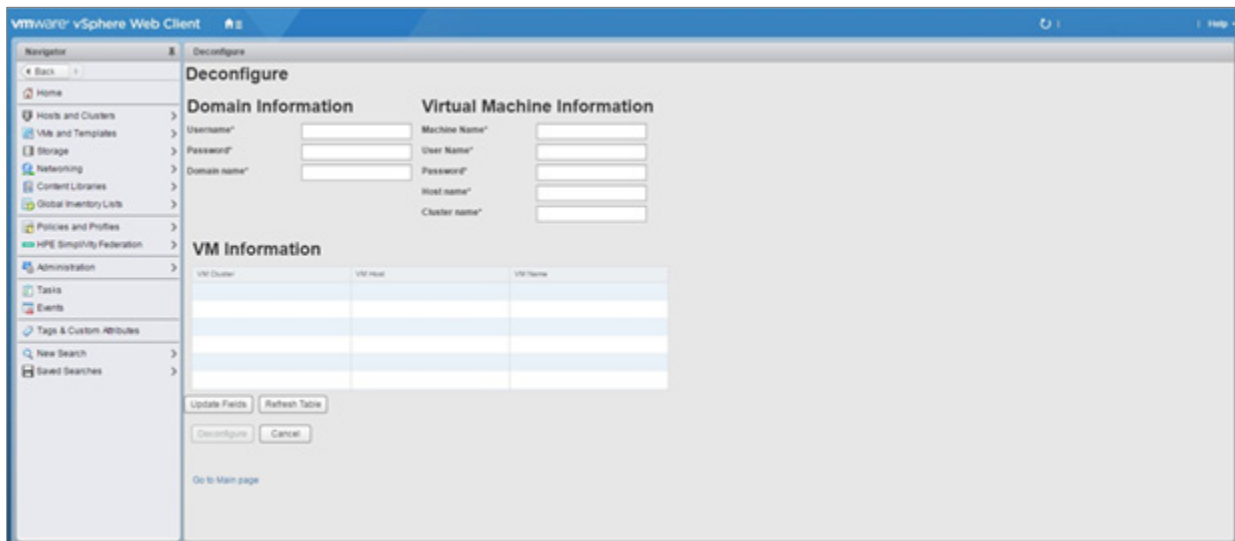


FIGURE 7. Deconfiguration

After successful deconfiguration, the selected VM is removed from the Citrix Cloud Resource Location.

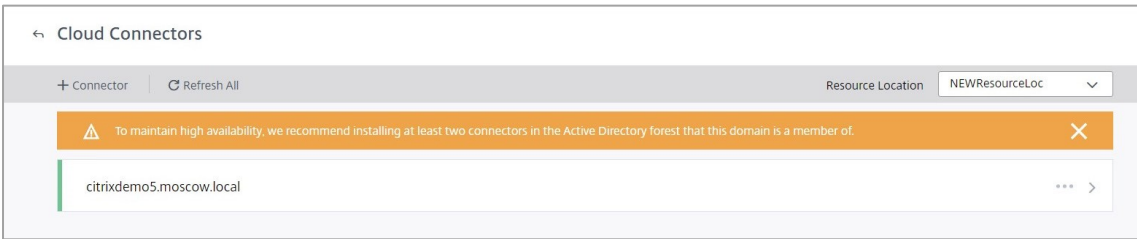


FIGURE 8. Successful deconfiguration



Log file path

C:\ProgramData\VMware\VCenterServer\logs\vsphere-client\logs\CitrixPluginLog.log

For server logs:

C:\ProgramData\VMware\VCenterServer\logs\vsphere-client\logs\vsphere_client_virgo.log

VMWARE VSPHERE 6.7 HTML5—CITRIX CLOUD CONNECTOR PLUGIN**How to register/integrate plugin for VMware vCenter Server**

This plugin can be installed using an executable jar named `HPExtensionInstaller.jar`, which can be found in the installer folder of GitHub repo.

Prerequisites to run the installer:

- JRE must be installed (JDK 1.8 or further)
- The installation package comes with an encrypted JSON file named `ExtensionInfo.json`. Both the executable jar and JSON file needs to be copied to a directory, for which the user has read, write, and execute permission.

Steps to start the installer:

- Double click on the executable jar.
- If it doesn't work, open the command prompt and navigate to the directory, where the JSON and executable jar is copied, and execute the following command.

```
java -jar HPExtensionInstaller.jar
```

Steps to register:

- Fill the vCenter Server name or IP, Username, Password, vCenter installation Type, and choose the Installer .zip package.

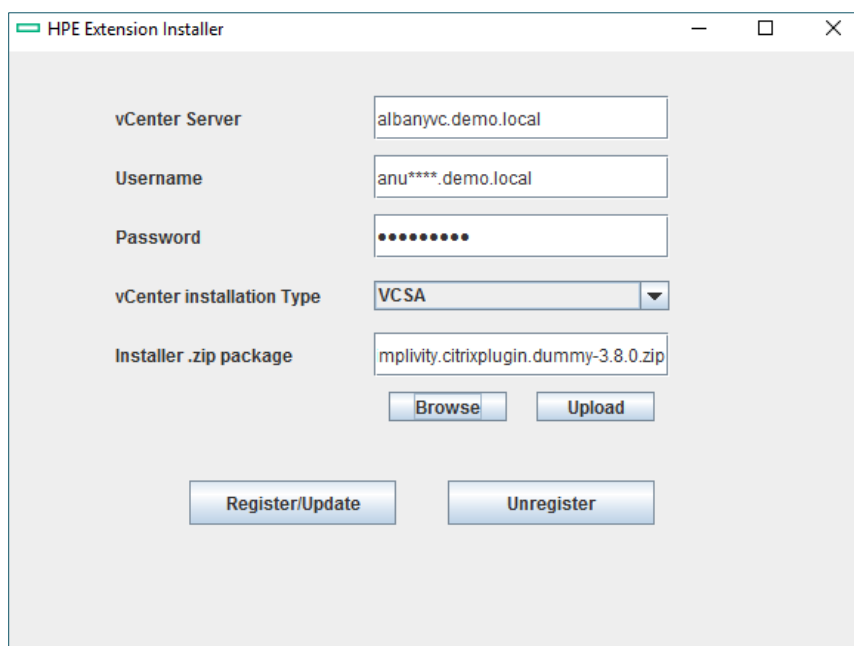


FIGURE 9. HPE Extension Installer UI



- Click on upload, when then a popup window appears asking for the root password of the vCenter. Provide the password.

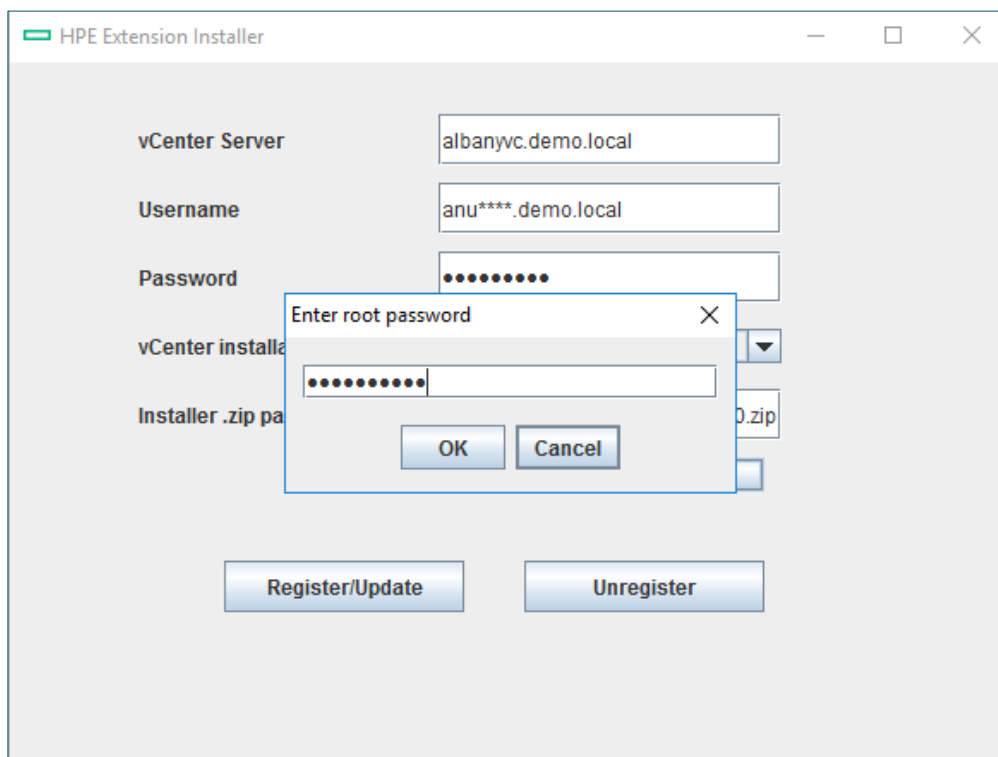


FIGURE 10. Providing root password of vCenter

- Once the upload is done, a popup will appear stating the confirmation message.

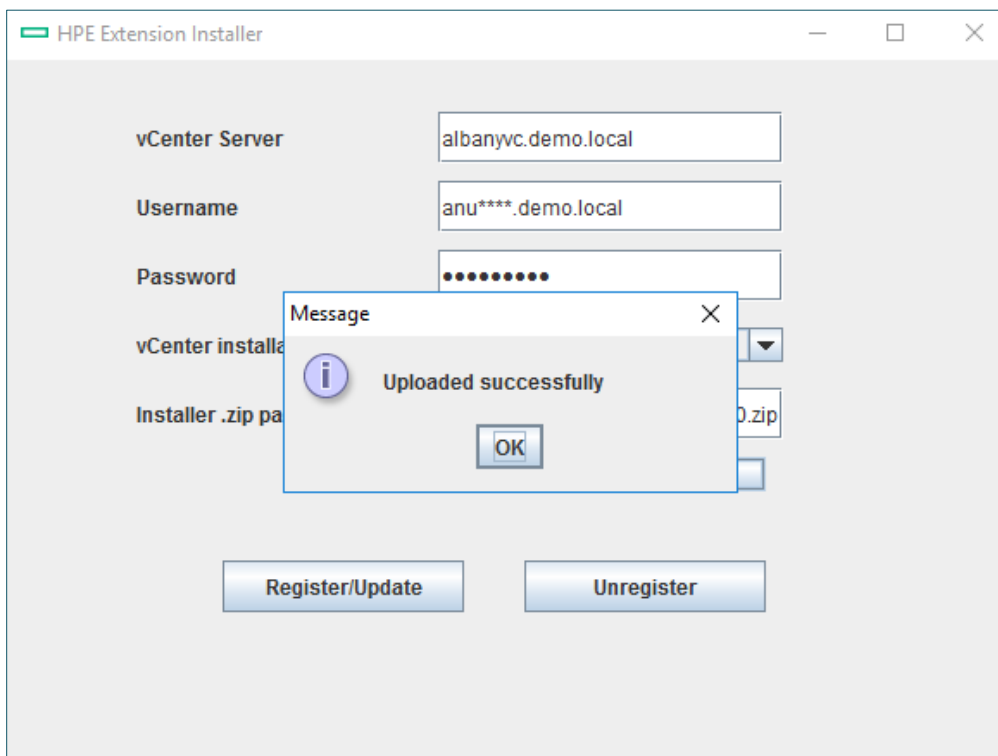


FIGURE 11. Message received after uploading the zip file



- Once the upload is successful, click on the Register/Update button.

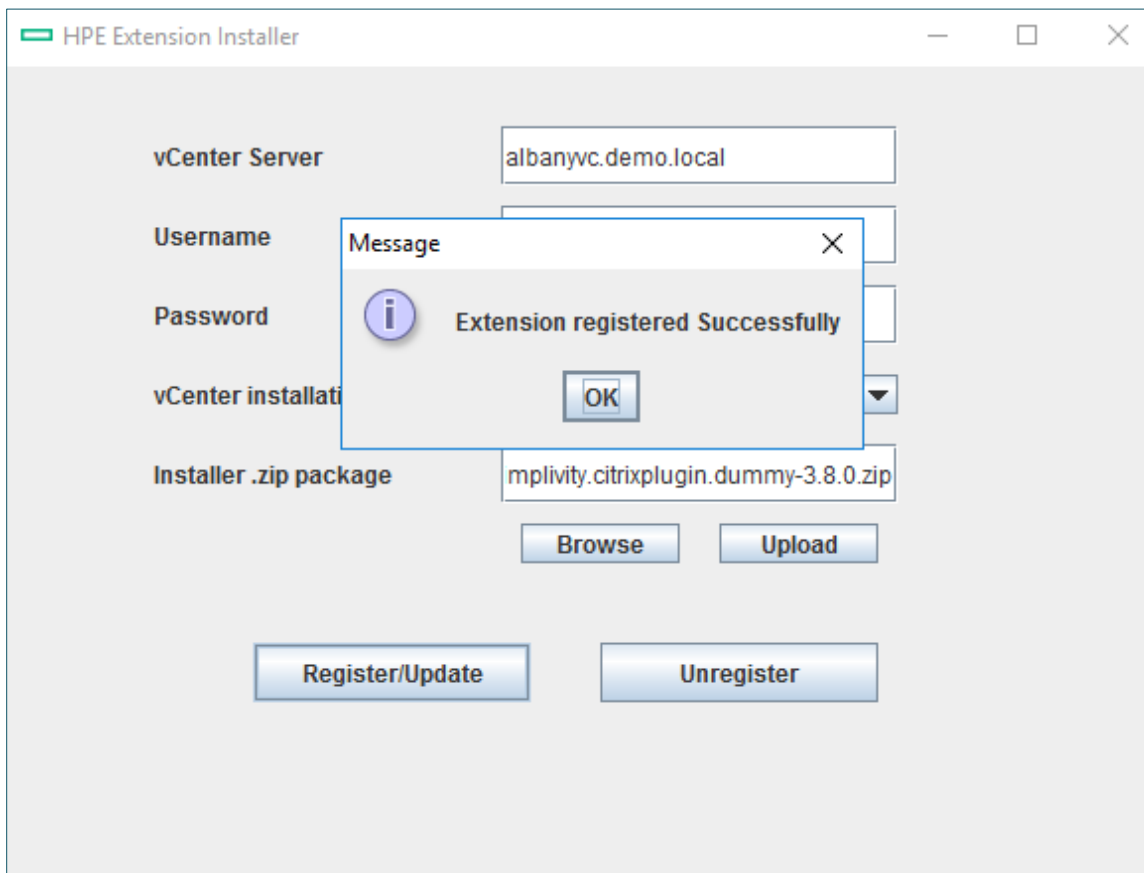


FIGURE 12. Message received post extension registration

- Once the registration is completed, wait for 5 to 10 minutes, and log in to VMware vSphere® Web Client. The plugin will be installed and you can see the plugin in shortcuts.

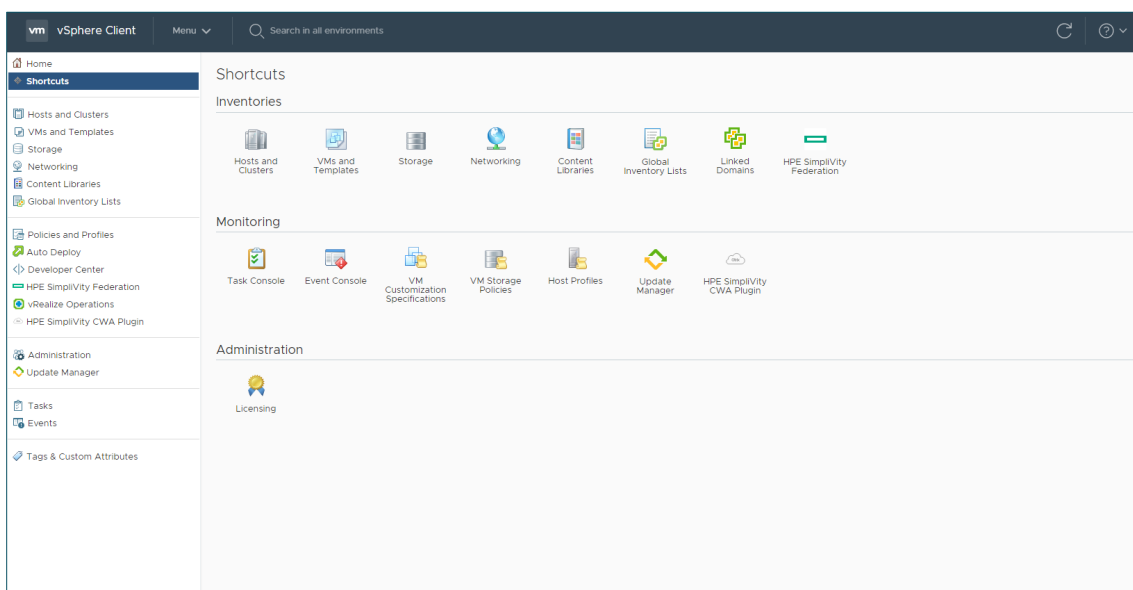
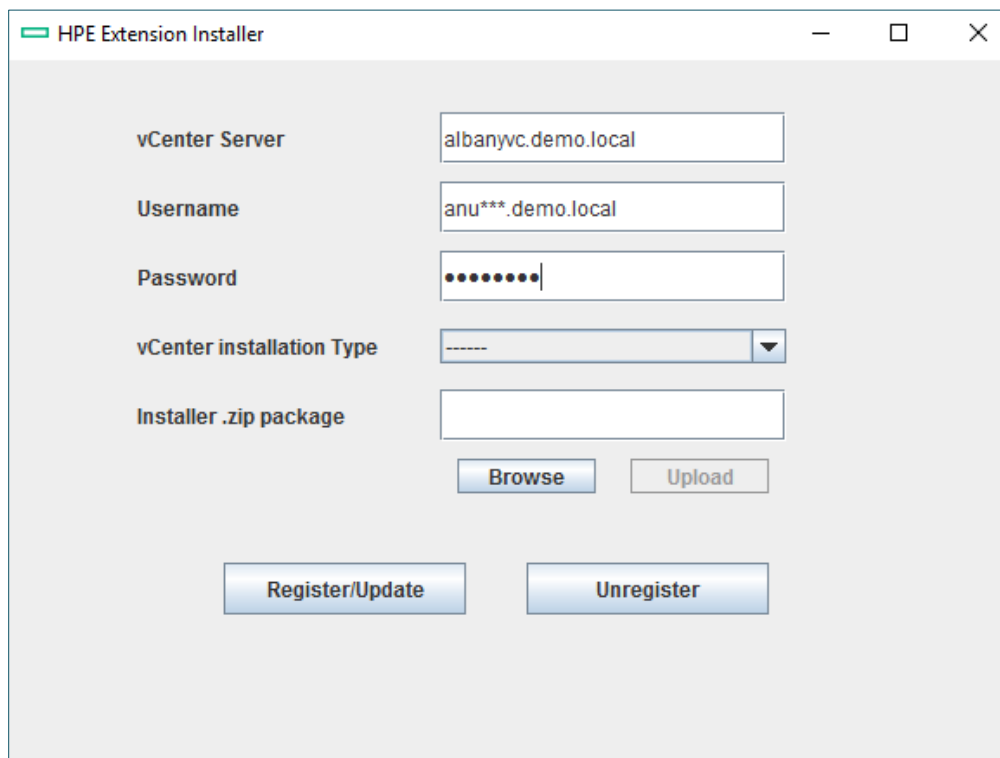


FIGURE 13. HPE SimpliVity CWA plugin on vSphere Client Shortcuts page



To unregister:

- Fill the vCenter Server name or IP, Username, and Password and click on Unregister.

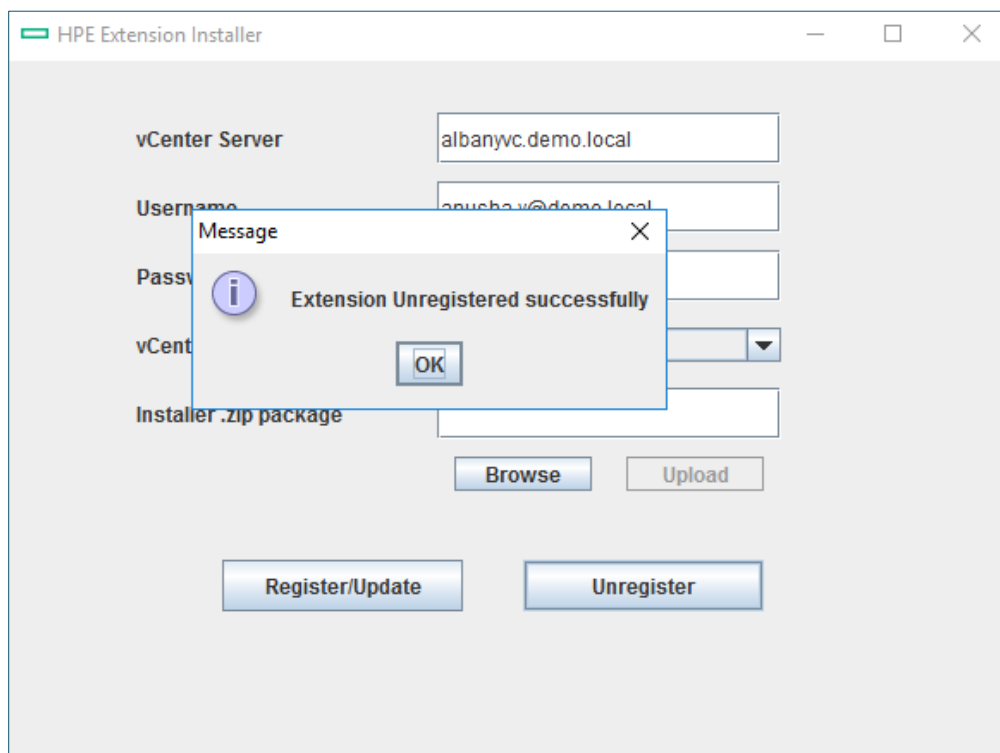


The screenshot shows the 'HPE Extension Installer' window. It contains the following fields and buttons:

- vCenter Server:** Text box containing 'albanyvc.demo.local'.
- Username:** Text box containing 'anu***.demo.local'.
- Password:** Password field with masked characters '*****'.
- vCenter installation Type:** Dropdown menu with a downward arrow.
- Installer .zip package:** Text box with 'Browse' and 'Upload' buttons below it.
- Buttons:** 'Register/Update' and 'Unregister' buttons at the bottom.

FIGURE 14. Details given for unregistering the plugin

The confirmation message will be displayed once the plugin is unregistered.



The screenshot shows the 'HPE Extension Installer' window with a confirmation message overlay. The message box is titled 'Message' and contains the text 'Extension Unregistered successfully' with an 'OK' button. The background fields and buttons are the same as in Figure 14.

FIGURE 15. Message displayed after successfully unregistering the plugin



Prerequisites

For VCSA:

- Create a Windows VM with OpenSSH installed and running, since this plugin needs PowerShell scripts execution and these PowerShell scripts needs to be run on Windows machine.
- Unzip the **SimpliVityCitrixScripts.zip** file in the dev folder of Github repo and copy the folder in C drive of remote Windows VM where OpenSSH is installed. After unzipping, all the PowerShell scripts should be inside C:\SimpliVityCitrix folder.
- To auto-populate the details in the Configure page, copy the **citrixPlugin.cfg** file available in dev folder, where details can be filled up and placed in **/var/log/vmware/vsphere-ui/logs** directory of vCenter machine.
- OpenSSH must be up and running on the remote Windows VM, to use this plugin.
- Install the VMware PowerCLI module in PowerShell on remote Windows VM if it's not installed. Use `Install-Module -Name VMware.PowerCLI` command to install.
- Ignore the PowerCLI configuration invalid certification action for all the users on remote Windows VM; use `Set-PowerCLIConfiguration -InvalidCertificateAction Ignore -Scope AllUsers` command to ignore.

For Windows:

- To auto-populate, the details in the Configure page, **citrixPlugin.cfg** file can be filled up and placed in **C:\Users\Public** folder of vCenter machine.
- Unzip the **SimpliVityCitrixScripts.zip** file in dev folder and copy the folder in C:\Users\Public folder of Windows VM where VMWare vCenter is installed. After unzipping, all the PowerShell scripts should be inside C:\Users\Public\SimpliVityCitrix folder.
- Install the VMware® PowerCLI module on VMware vCenter if it's not installed. Use `Install-Module -Name VMware.PowerCLI` PowerShell command to install.
- Ignore the PowerCLI configuration invalid certification action for all the users; use `Set-PowerCLIConfiguration -InvalidCertificateAction Ignore -Scope AllUsers` command to ignore.

How to use

Navigate to Home > Shortcuts, click on the **HPE SimpliVity CWA Plugin** icon or navigate through Home > HPE SimpliVity CWA Plugin.

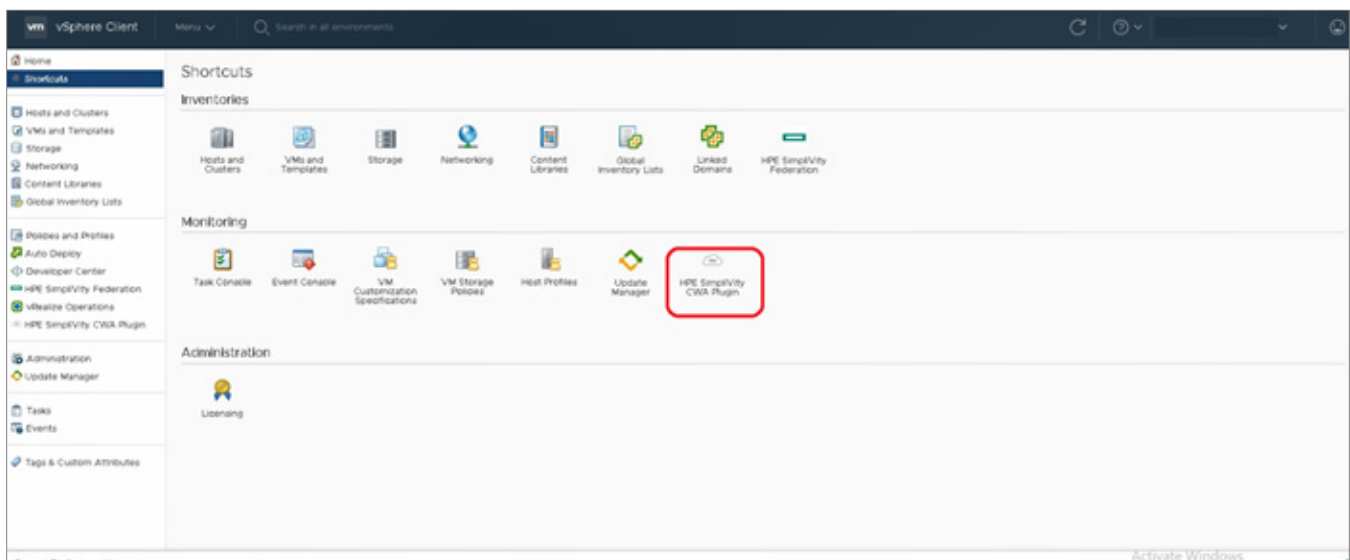


FIGURE 16. HPE SimpliVity CWA Plugin on vSphere Client Shortcuts page



Main page

When the plugin is clicked, it navigates to the main page.

If the vCenter is not deployed on Windows, then a new Windows VM with OpenSSH should be installed and running. These remote Windows VM credentials should be entered in the main page.

Select the desired platform. If the HPE SimpliVity platform is selected, provide the HPE OVC details as they are mandatory. If the HPE platform is selected, provide vCenter credentials, which are mandatory. If the VM is not deployed on Windows, provide the remote Windows VM details, which are mandatory, if the vCenter is deployed on Windows, these details can be ignored.

NOTE

For installing OpenSSH on Windows Server, refer [youtube.com/watch?v=PB2z-KxxYYc](https://www.youtube.com/watch?v=PB2z-KxxYYc).

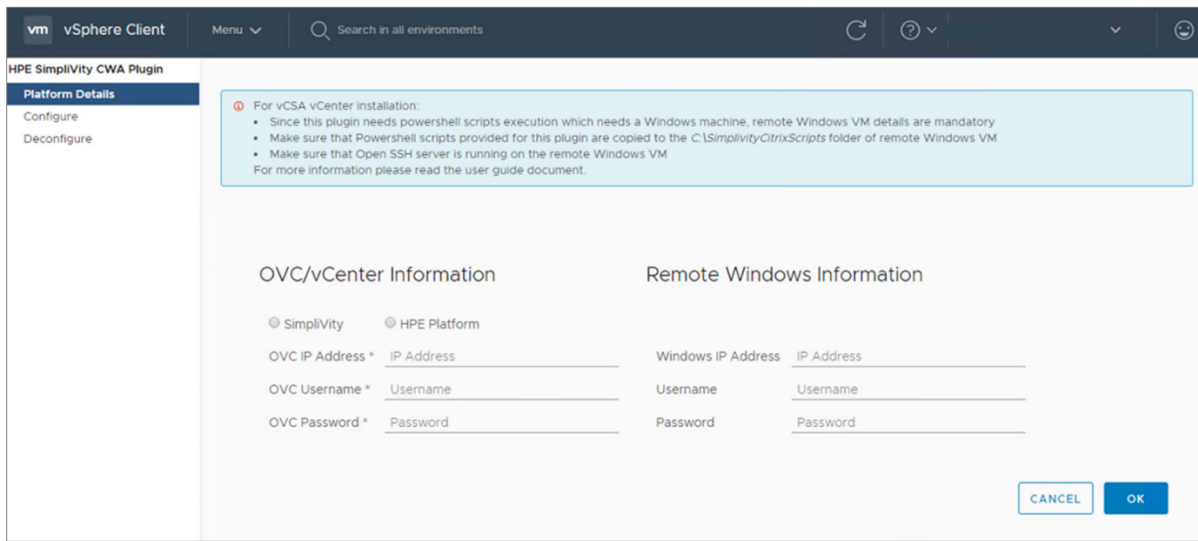


FIGURE 17. Platform details page

Once the details are provided, you can navigate to Configure or Deconfigure page.

Click on CONFIGURE.

Configure/Plugin

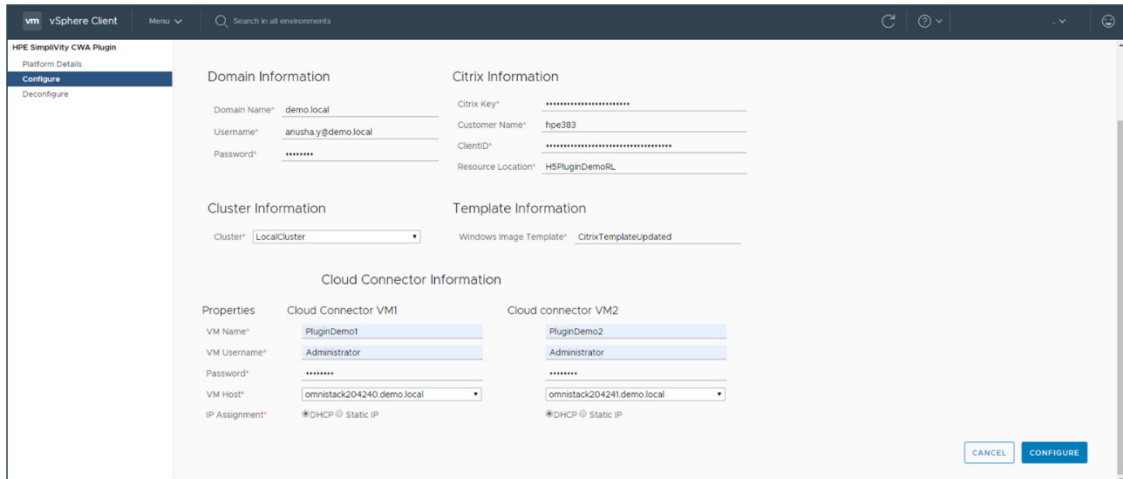


FIGURE 18. Configuration Page



1. Provide the necessary details such as Domain Information, Citrix Information, Cluster Information, and Template Information.
2. Add the VM details to configure.
3. Domain information, Citrix information and Template information can be auto-populated by filling the details in "**citrixPluginCfg.cfg**" file which can be found in dev folder of Github repo. The path, where this file must be placed post filling details is mentioned in this file itself.

NOTE

Template's user name and password, and VM's user name and password have to be the same.

4. Select the host where you want to create the VM.
5. If static IP is selected, make sure that the IP entered is free.
6. Once you provide all the information, click on CONFIGURE.
7. You can monitor the Plugin execution by task in the Recent Tasks

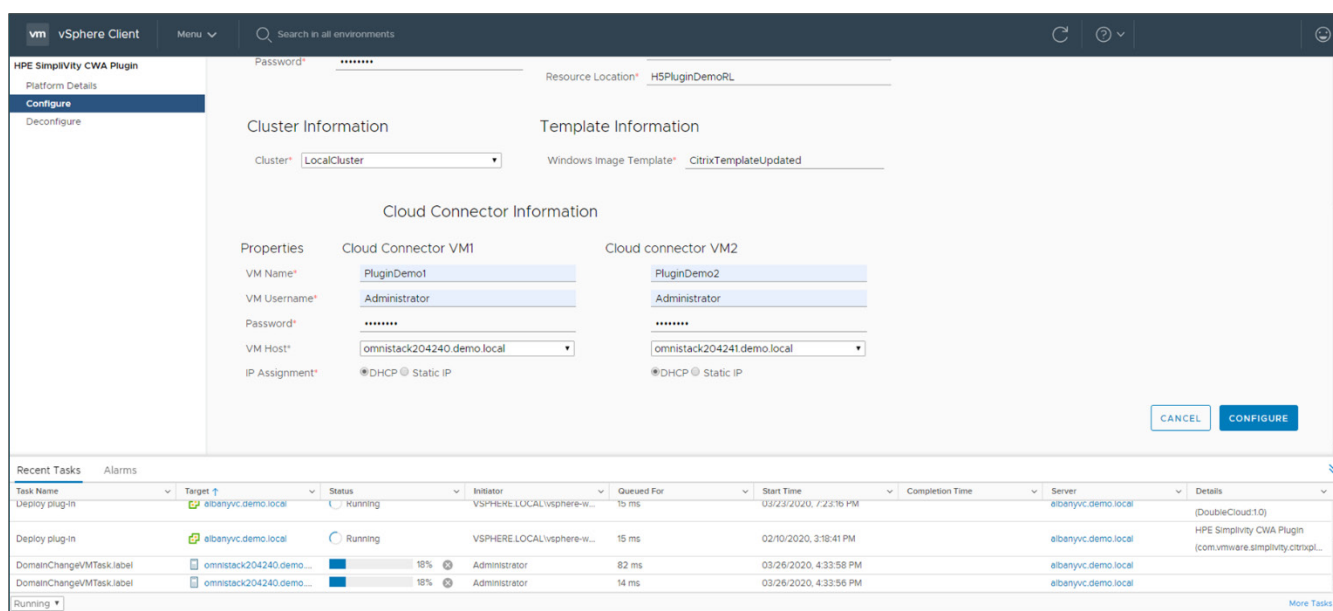


FIGURE 19. Configuration process monitored through Recent Tasks

The Cloud Connector VMs are visible under the Resource Location of the Citrix Cloud portal once the configuration is complete.

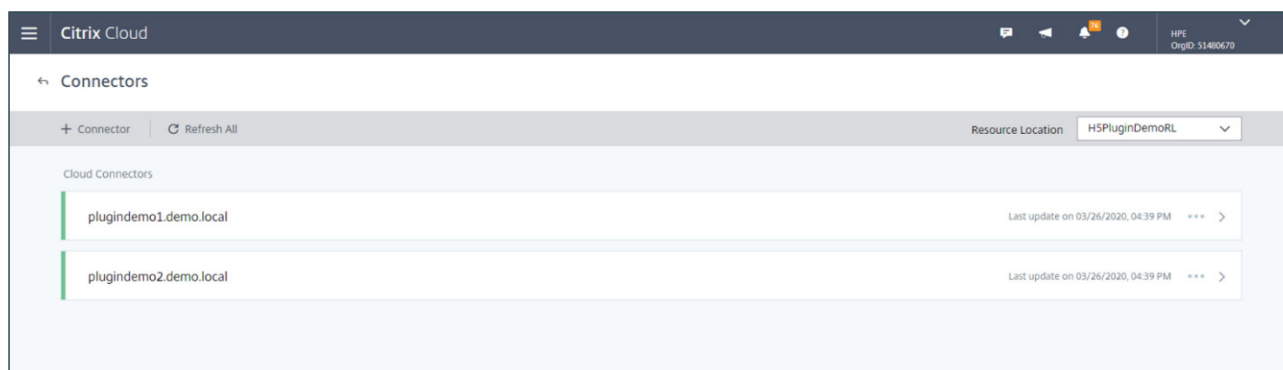


FIGURE 20. Citrix Cloud Connectors after configuration

Deconfigure/Plugout

From the main page, click on the Deconfigure.

1. The page lists all the VMs that were created using the plugin; select the VM that should be deconfigured, and click on UPDATE FIELDS. VM details will be populated.
2. Provide a password for the VM, which should be deconfigured.
3. Provide a password for the domain under the Domain Information.
4. Once the details are provided, click on DECONFIGURE.

Deconfigure

Note: Select the VM and click on Update Fields button and enter the password of domain and the VM

Domain Information
Domain Name* demo.local
Username* anusha.y@demo.local
Password*

VM Information
VM Name* PluginDemo1
Username* Administrator
Password*
Host name* omnistack204240.demo.local
Cluster name* LocalCluster

CANCEL DECONFIGURE

Select	Cluster	Host	VM
<input checked="" type="radio"/>	LocalCluster	omnistack204240.demo.lo	PluginDemo1
<input type="radio"/>	LocalCluster	omnistack204241.demo.lo	PluginDemo2

UPDATE FIELDS

FIGURE 21. Deconfiguration page

After a successful deconfiguration, the selected VM is removed from the Resource Location of Citrix Cloud.

Citrix Cloud

Connectors

+ Connector Refresh All Resource Location H5PluginDemoRL

Cloud Connectors

To maintain high availability, we recommend installing at least two connectors in the Active Directory forest that this domain is a member of.

plugindemo2.demo.local	Last update on February 27, 2020, 04:25 PM
------------------------	--

FIGURE 22. Citrix Cloud Connectors after deconfiguration

Solution guide

Log file path

Windows: C:\ProgramData\VMware\VCenterServer\logs\vsphere-client\logs\CitrixH5PluginLog.log

VCSA: /var/log/vmware/vsphere-ui/logs/CitrixH5PluginLog.log

For server logs:

Windows: C:\ProgramData\VMware\VCenterServer\logs\vsphere-client\logs\vsphere_client_virgo.log

VCSA: /var/log/vmware/vsphere-ui/logs/vsphere-client/logs/vsphere_client_virgo.log

GLOSSARY

HPE—Hewlett Packard Enterprise

OVC—OmniStack Virtual Controller

AD—Active Directory

VM—Virtual machine

RESOURCES

[HPE SimpliVity](#)

[HPE Storage](#)

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