OpenSDS NGC User Guide V1.0.0

About This Document

Purpose

This document introduces the preparations, procedures, and common operations during installation of VMware Next Generation Client Plug-in (NGC plug-in for short).

NOTE

1. The NGC plug-in only adapts to VMware vSphere Web Client in English by default. Other languages are not supported.

2. The illustrations used in this document are taken from vCenter vSphere 6.0 if not specified.

Contents

1 Introduction

OpenSDS VMware Next Generation Client (NGC) plug-in is a kind of storage platform management plug-in that is developed for the VMware vSphere Web Client and used to manage storage platform and resources on the vSphere Web Client.

The NGC plug-in has the following functions:

- Managing storage platforms

  You can view information about storage platforms on the vSphere Web Client equipped with NGC plug-in. In addition, you can add or delete a storage platform based on actual requirements.
- Creating a datastore/volume and mapping it to one or multiple hosts

  If the vSphere Web Client needs to use storage resources of a block storage or file system, you can create a volume or a datastore that corresponds to a volume to obtain storage resources and map the volume or datastore to one or multiple hosts.

2 Installation of the NGC Plug-In

2.1 Installation Planning

User Planning

Contact a storage administrator to prepare parameter values for subsequent operations in accordance with the following figure:

NE	Operation	Item	Value
vCenter server	Registering the NGC plug-in	**vCenter server IP address** IP address of a vCenter server where the NGC plug-in is to be registered	Actual IP address of the vCenter server
		vCenter server user name and password Authentication account and password of a vCenter server where the NGC plug-in is to be registered.	Actual user name and password
vSphere Web Client	Logging in to the vSphere Web Client	**IP address** vCenter server IP address	Actual IP address
		User name and password Authentication account and password of a vCenter server	Actual user name and password
	Adding a storage platform	**Storage** platform **IP address and port number** IP address and port number of a storage platform that is to be added	Actual IP address and port number
		User name and password Authentication account and password of a storage platform that is to be added	Actual user name and password

2.2 Supported Operating Environment

Operating Environment

The following table lists the requirements for the NGC plug-in operating environment.

Category	Version
VMware vSphere Component	ESXi, vCenter Server and vSphere Web Client: 6.0, 6.5, and 6.7 **NOTE** To get the details of the compatibility, please refer to the compatibility mapping table of the corresponding plug-in version.
Disk Capacity	The available space of the disk where operating system resides must be at least 1 GB.

Category	Version
	The free disk space of NGC plug-in installation directory must be more than 5 GB.
Operating System	• Windows Server 2008 SP2 32-bit • Windows Server 2008 R2 • Windows Server 2012 Standard Languages of operating system that the NGC plug-in supports are Chinese and English. Other languages are not supported.
Browser compatibility	• Internet Explorer 10 and later • Firefox 30 and later • Chrome 35 and later

2.3 Installing the NGC Plug-In

Prerequisites

- The operating system has been installed. The server network has been configured.
- The vCenter server has been deployed.
- The NGC plug-in package has been obtained according to the operating system
- The installation must be performed on a trusted network; otherwise, security risks may occur.

Context

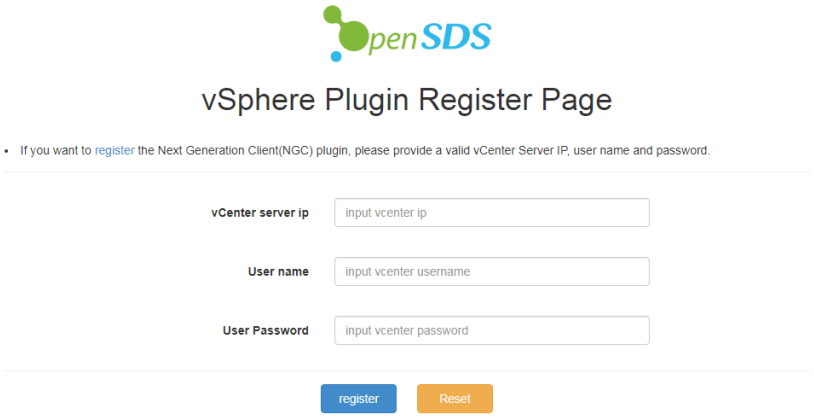
The NGC plug-in must be deployed on an independent server or virtual machine.

Procedure

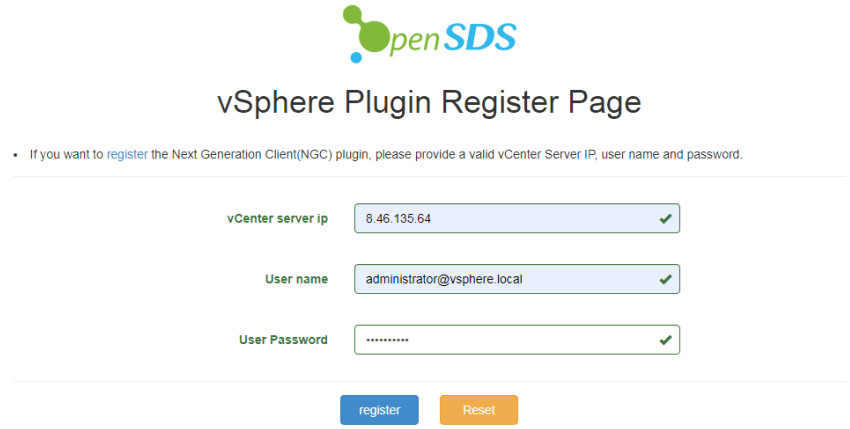
Step 1 Copy the NGC plug-in installation package to a directory on the Windows operating system, such as **D:**, and decompress the installation package.

Step 2 Go to the directory where the NGC plug-in installation package is decompressed, and double-click the run.bat file in bin\ folder.

Step 3 Open the Chrome, (**https://localhost:8088/homePage or http://localhost:8080/homePage**, and the login page is displayed.



Step 4 Fill in vCenter IP、User Name and Password and click the register button in this page.



Step 5 It will jump to the registration success page.

Step 6 After registration, you must log in to the corresponding vCenter server and restart the vSphere Web Client service for the registration to take effect.

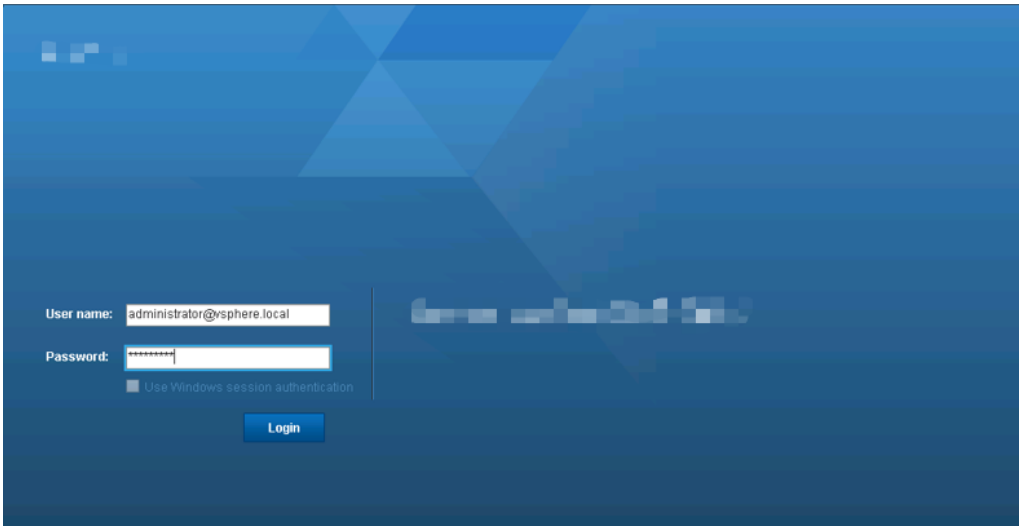
3 Common Operations

3.1 Logging In to the vSphere Web Client

Step 1 Open a browser and enter **https://***{vCenter Server IP}* in the address box to access the login page of the VMware vSphere Web Client.

Where, *{vCenter Server IP}* indicates the IP address of the vCenter server.

Step 2 Click **Log in to vSphere Web Client**, enter the user name and password of the vCenter server, and click **Login**.



After you are logged in, the vSphere Client operation page is displayed.

----End

3.2 Checking the Prerequisites

Before running the NGC plug-in, configure physical management links between the storage array and VMware ESXi to ensure the connectivity of physical links. For details, see VMware configuration guide.

To check the iSCSI connectivity, perform the following steps:

Step 1 Log in to the ESXi server and run iSCSI Session command esxcli iscsi session connection liston the server to check the iSCSI sessions that have been established on the host. If the service IP address of the storage platform is in an active session and the value of **State** is **logged_in**, the iSCSI connection has been established.

```
[root@esxi2103:~] esxcli iscsi session connection list
vmhba34,iqn.2006-08 oceanstor:210048435a588052::20600:129.115.199.30,00023d000002,0
   Adapter: vmhba34
   Target: iqn.2006-08.com:210048435a588052::20600:129.115.199.30
   ISID: 00023d000002
   CID: 0
   DataDigest: NONE
   HeaderDigest: NONE
   IFMarker: false
   IFMarkerInterval: 0
   MaxRecvDataSegmentLength: 131072
   MaxTransmitDataSegmentLength: 131072
   OFMarker: false
   OFMarkerInterval: 0
   ConnectionAddress: 129.115.199.30
   RemoteAddress: 129.115.199.30
   LocalAddress: 129.115.168.2
   SessionCreateTime: 06/29/18 02:43:00
   ConnectionCreateTime: 06/29/18 02:43:00
   ConnectionStartTime: 06/29/18 02:43:00
   State: logged_in
```

3.3 Managing Storage

Prerequisites

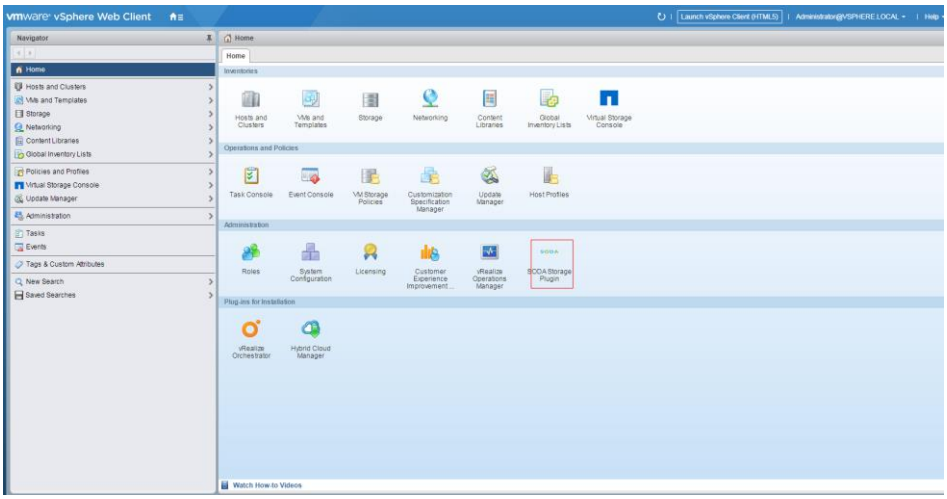
- You have logged in to the vSphere Web Client. For details, see section 3.1 Logging In to the vSphere Web Client.
- The IP address, port, user name and password of the storage platform have been obtained.

Adding a Storage platform

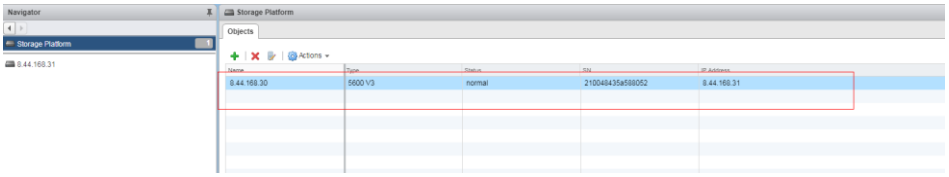
A storage can be added by the following operations.

Step 1 Go to the **Storage Platform** page.

1. Click **Home** in the navigation tree on the left.
   The **Home** page is displayed.
2. In the **Administration** area, click.

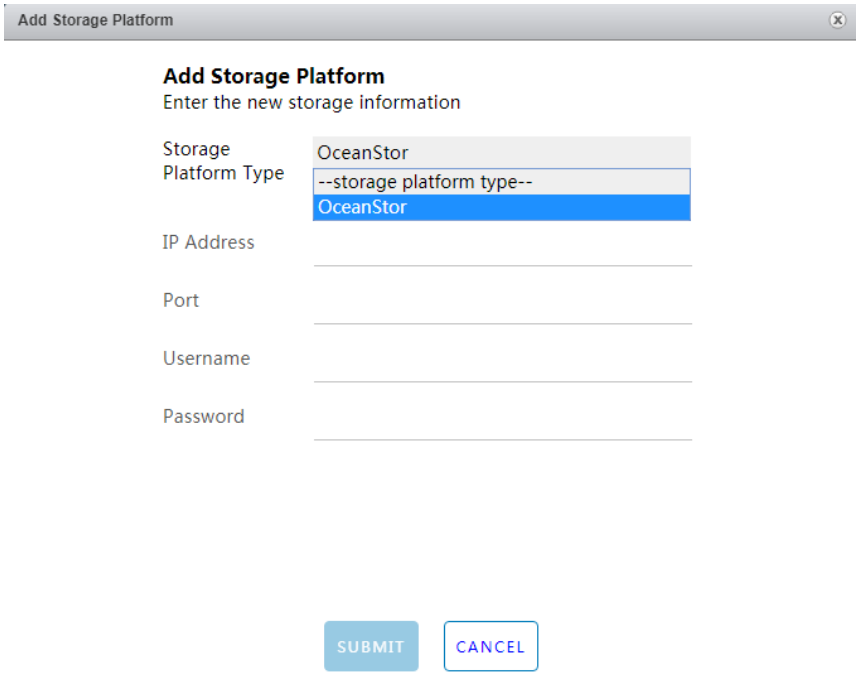


The **Storage** platform page is displayed.

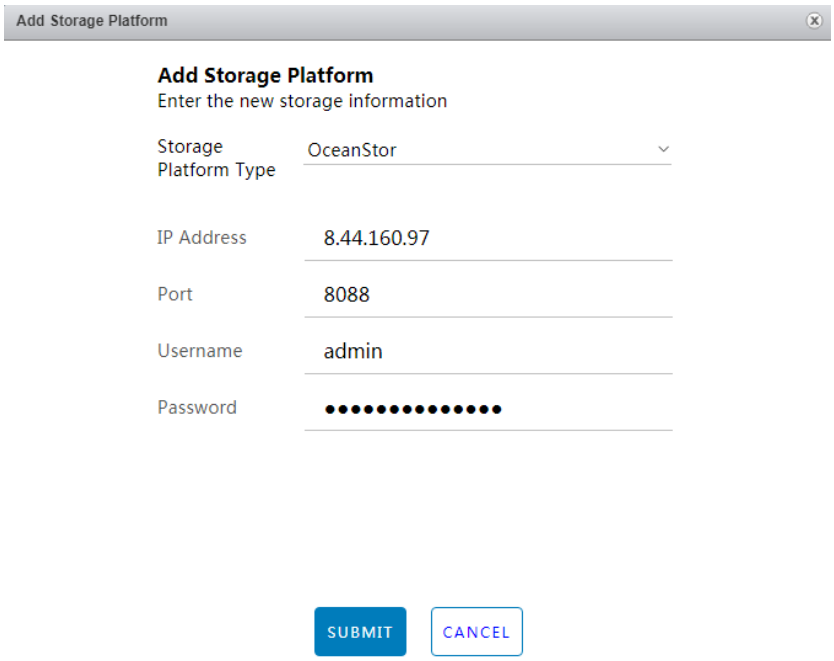


Step 2 Add a storage platform.

1. Click  .
   The **Add Storage Platform** dialog box is displayed.
2. Select a storage type.



– Select a **Storage Platform**, enter information in **IP Address**, **Port**, **Username**, and **Password**.



3. Click **Submit** to add thes storage.

Deleting a Storage

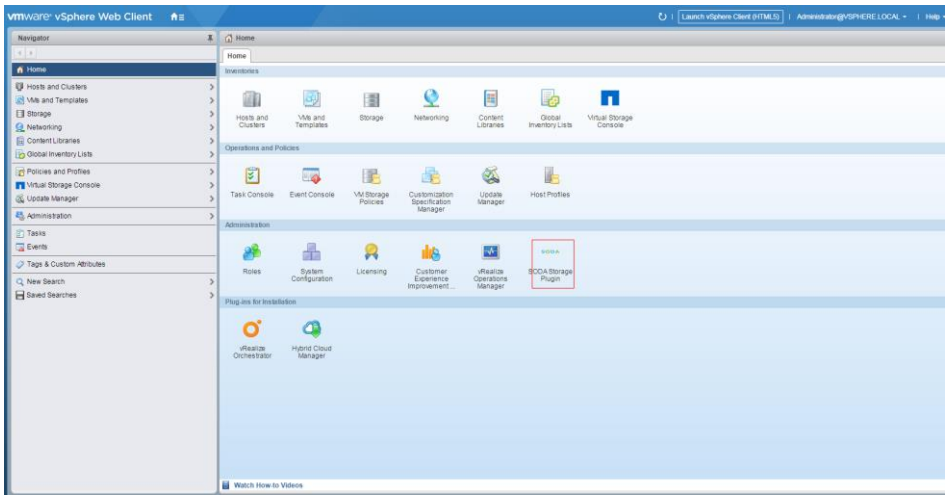
After a storage platform is deleted from NGC plug-in, the vSphere Web Client cannot manage the storage platform any more.

Step 1 Go to the Storage platform page.

1. Click **Home** in the navigation tree on the left.

The **Home** page is displayed.

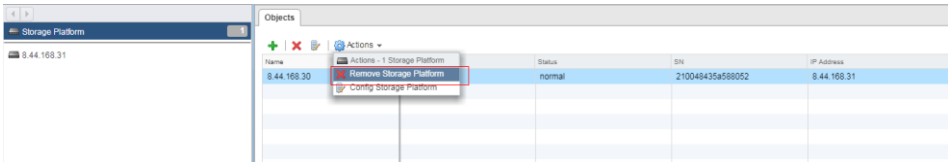
2. In the **Administration** area, click plugin button.



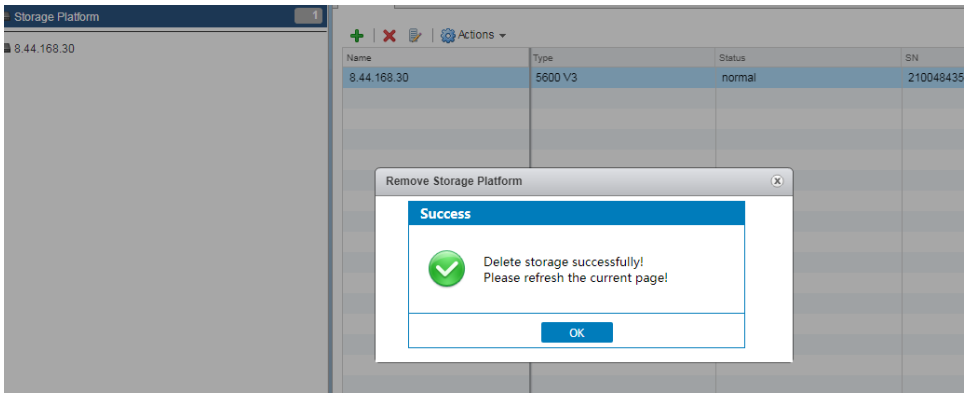
The Storage platform page is displayed.

Step 2 Delete the storage platform.

1. Right-click the storage array to be deleted and select **Remove Storage Platform** in the shortcut menu.



2. In the **Remove Storage Platform** dialog box that is displayed, click **Yes**.
3. After the **Success** dialog box is displayed, click **OK** and refresh the current page as prompted.



----End

Modifying Storage Information

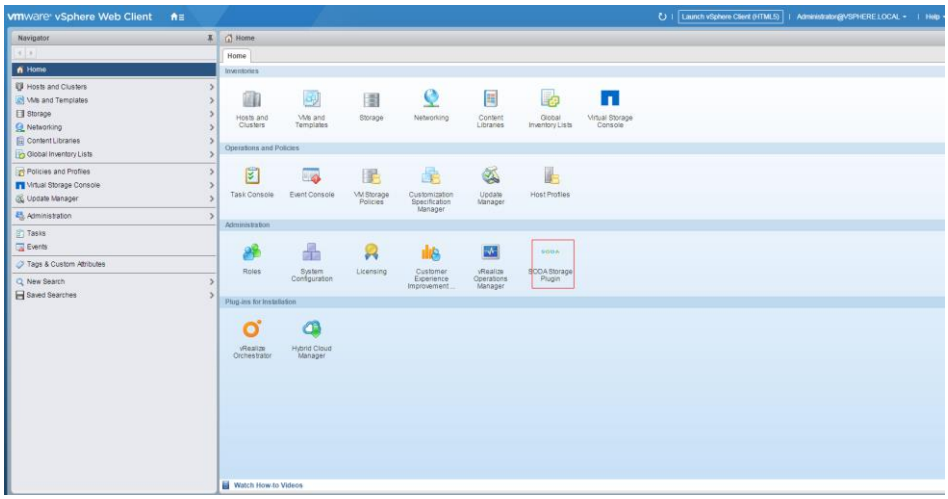
This operation enables you to relogin the storage platform.

Step 1 Go to the **Storage Platform** page.

1. Click **Home** in the navigation tree on the left.

The **Home** page is displayed.

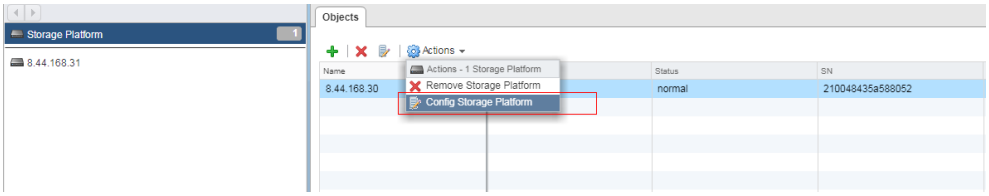
2. In the **Administration** area, click plugin button.



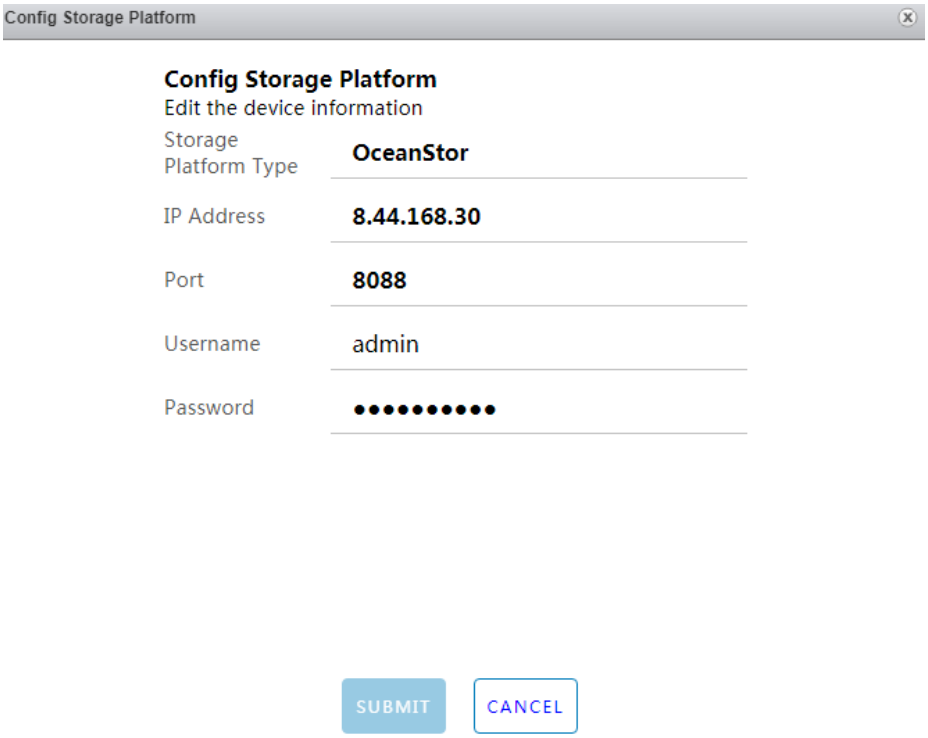
The **Storage platform** page is displayed.

Step 2 Modify the storage platform.

1. Right-click the storage array to be modified and select **Config Storage Platforms** in the shortcut menu.



2. On the **Config Storage Platform** page, enter the new password.



3 Click **Submit** to update thes storage.

3.4 Viewing Storage Information

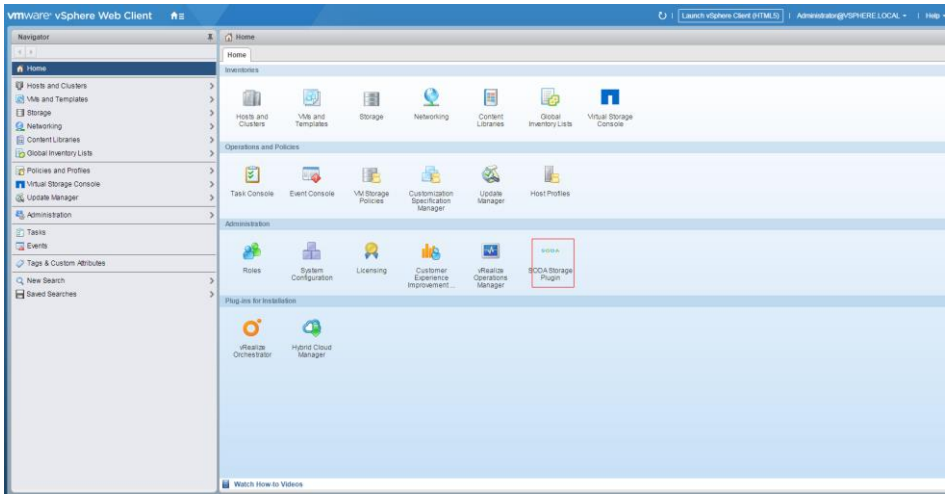
Prerequisites

- You have logged in to the vSphere Web Client.
- The storage platform has been added successfully.

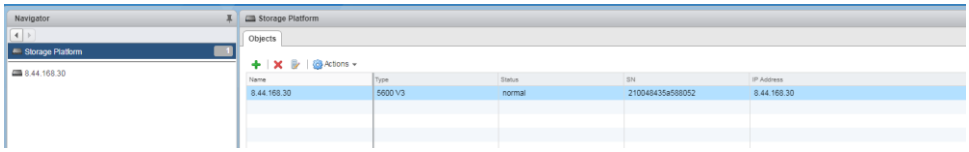
View System Information

Step 1 Go to the **System Information** page.

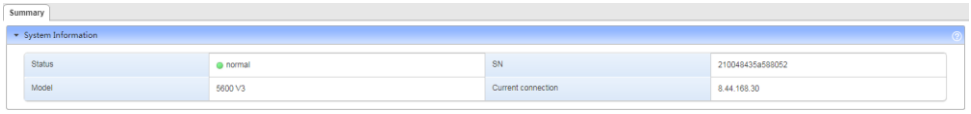
1. Click **Home** in the navigation tree on the left.
   The **Home** page is displayed.
2. In **Administration**, click plugin button.



   The **Storage Platforms** page is displayed.
3. In the navigation tree on the left, choose the storage platform that you want to view.



   The details about the storage platform are displayed.



Step 2 Click **Summary** tab to view the basic information and capacity information of the storage platform. For details, see Table 3-1.

Table 3-1 System information

Parameter	Description	Value
Status	Running status of a storage.	[Example] Normal
SN	Serial number of a storage platform.	[Example] 2102350BSJ10EC000001
Model	Storage model.	[Example] 5500_V3
Current connection	IP Address of a storage.	[Example] 172.22.0.16

----End

3.4.2 Creating a VMFS Datastore or Creating and Mapping a VOLUME

Prerequisites

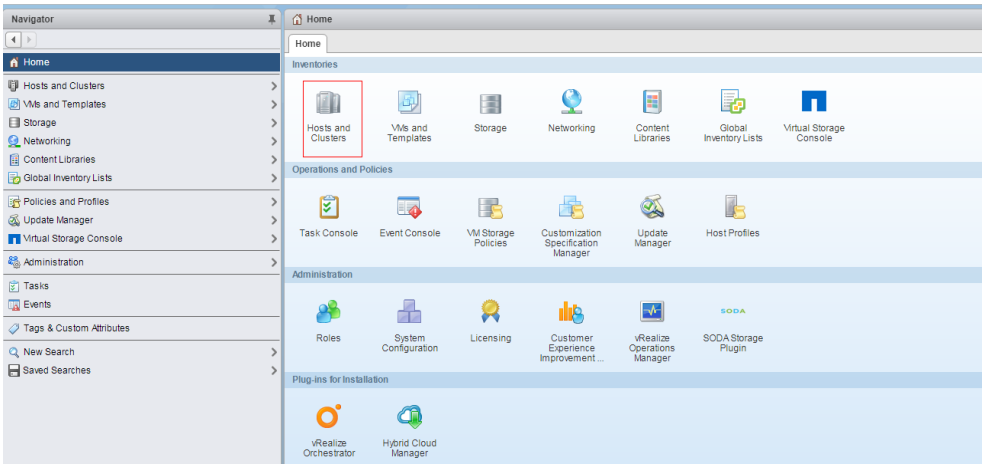
You have logged in to the vSphere Web Client.

Procedure for Creating a Datastore

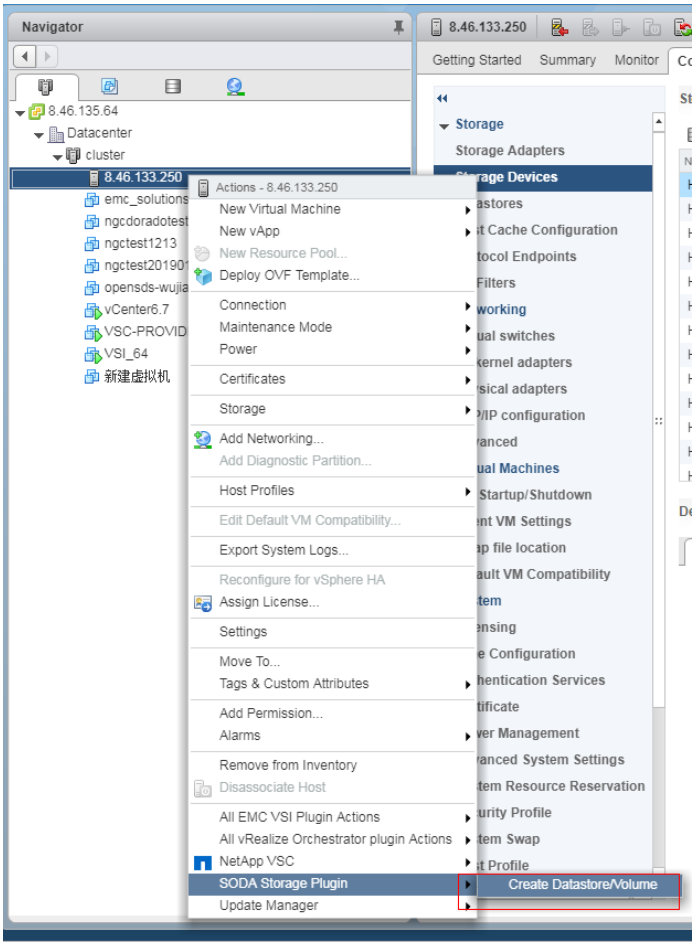
Step 1 Click **Home** in the navigation tree on the left.

The **Home** page is displayed.

Step 2 In the **Inventories** area, click **Hosts and Clusters**.

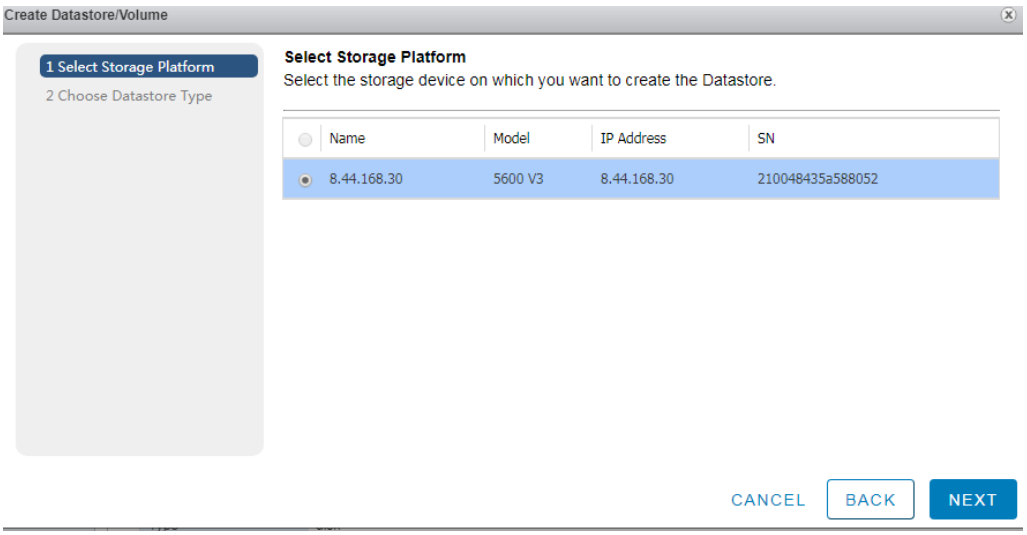


Step 3 In the navigation tree on the left, select the host on which a datastore or VOLUME is to be created. Right-click the host, and choose **SODA Storage Plugin > Create Datastore/ Volume** from the shortcut menu.

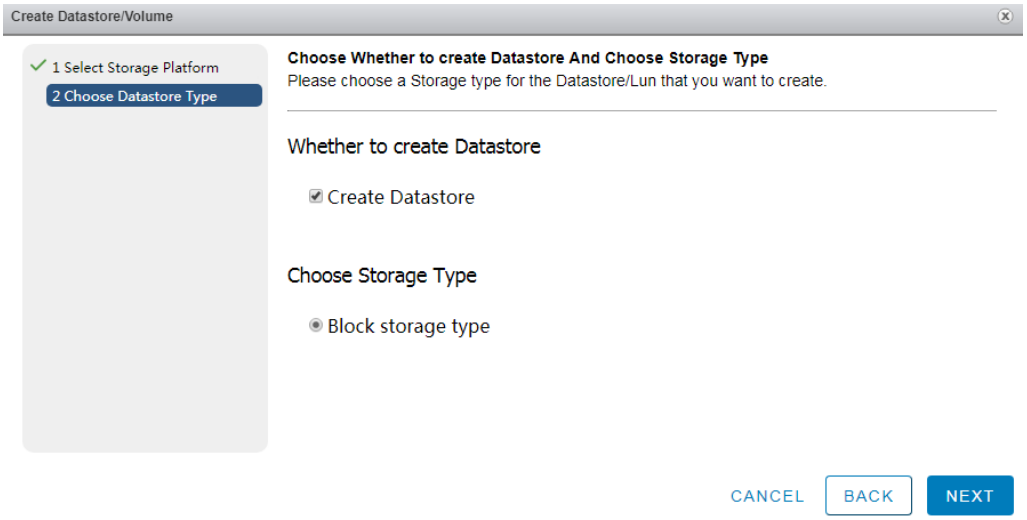


The **Create Datastore/ Volume** dialog box is displayed**.**

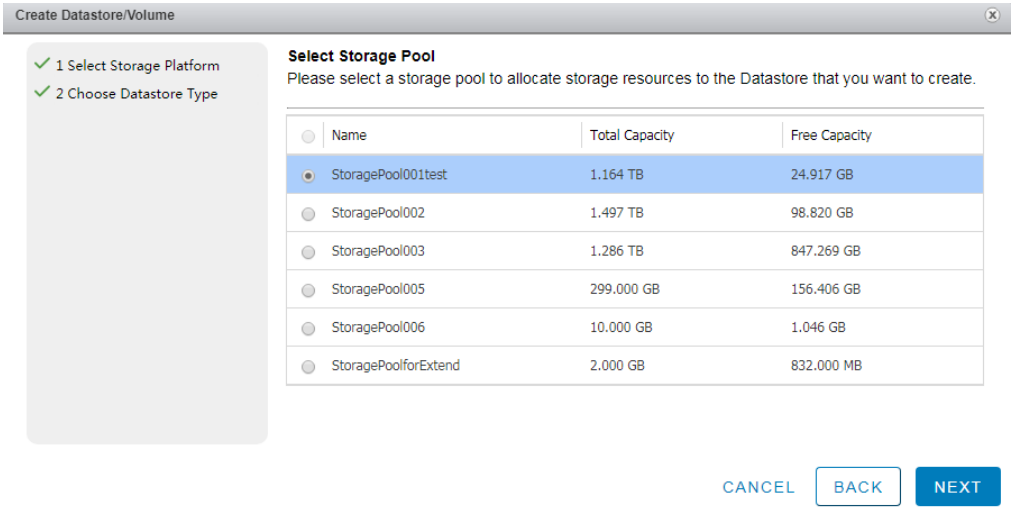
Step 4 Select the storage on which the datastore is to be created, and click **NEXT**.



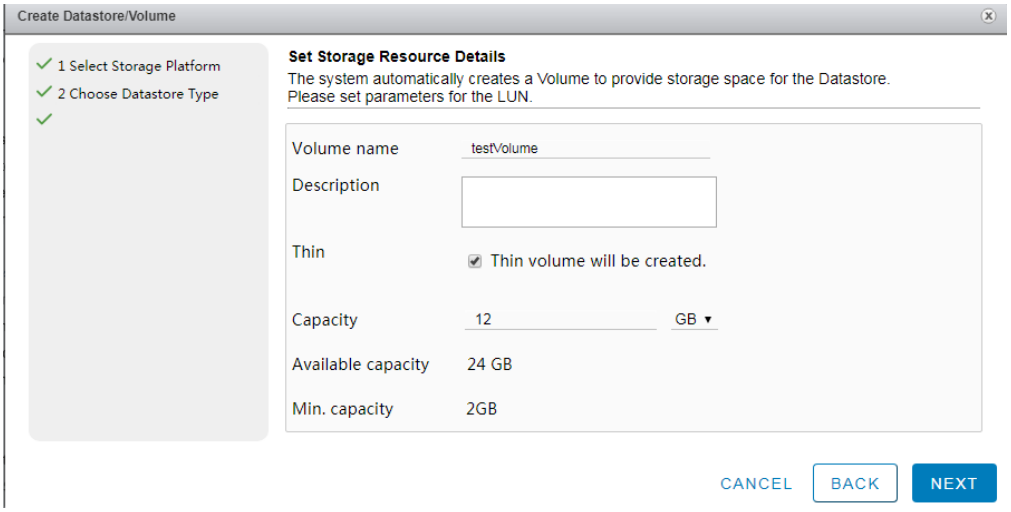
Step 5 Select **Create Datastore**, set the datastore type to **Block storage type**, and click **NEXT**.



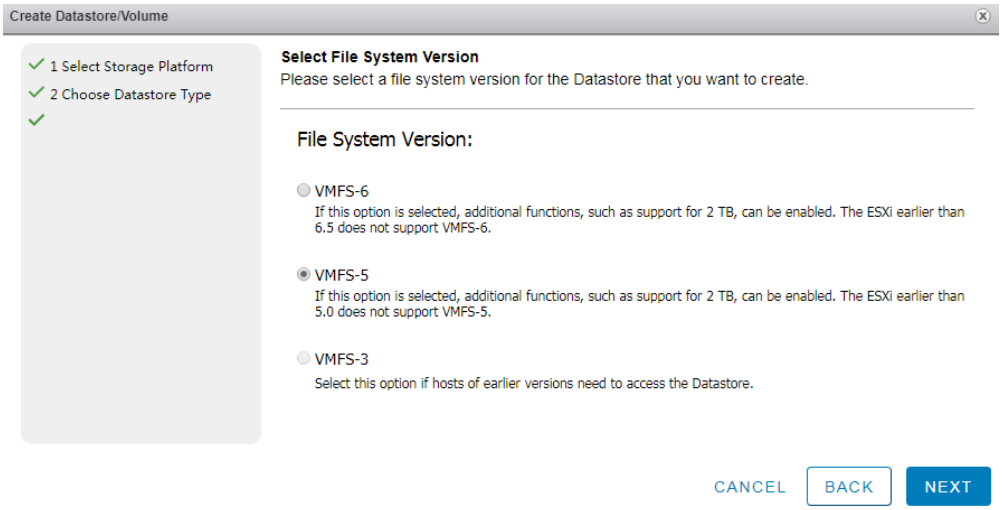
Step 6 Select a storage pool and click **NEXT**.



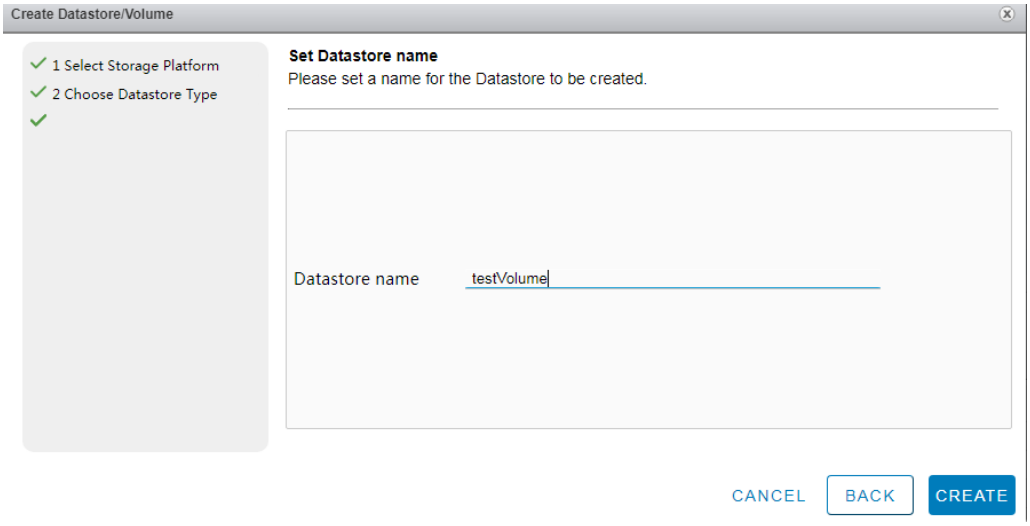
Step 7 Set parameters for the VOLUME and click **NEXT**.



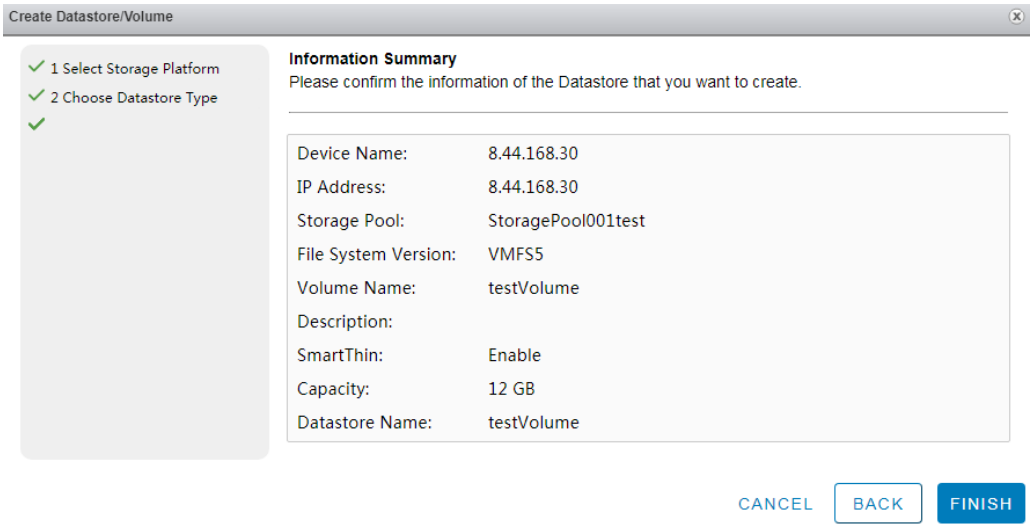
Step 8 Select a file system version for the datastore to be created, and click **NEXT**.



Step 9 Set a name for the datastore to be created, and click **CREATE**.



Step 10 Confirm the information of the datastore to be created, and click **FINISH**. And then confirm the createing result informations in VMware Tasks.

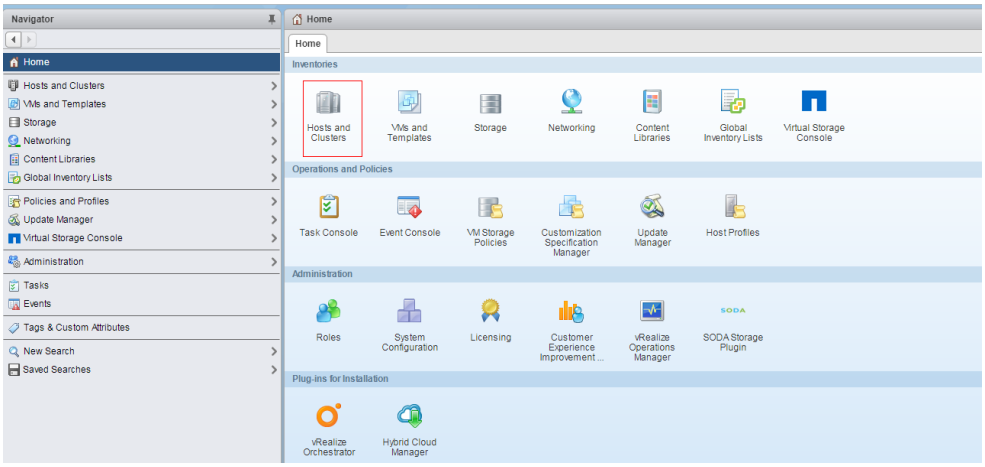


Procedure for Creating and Mapping a VOLUME

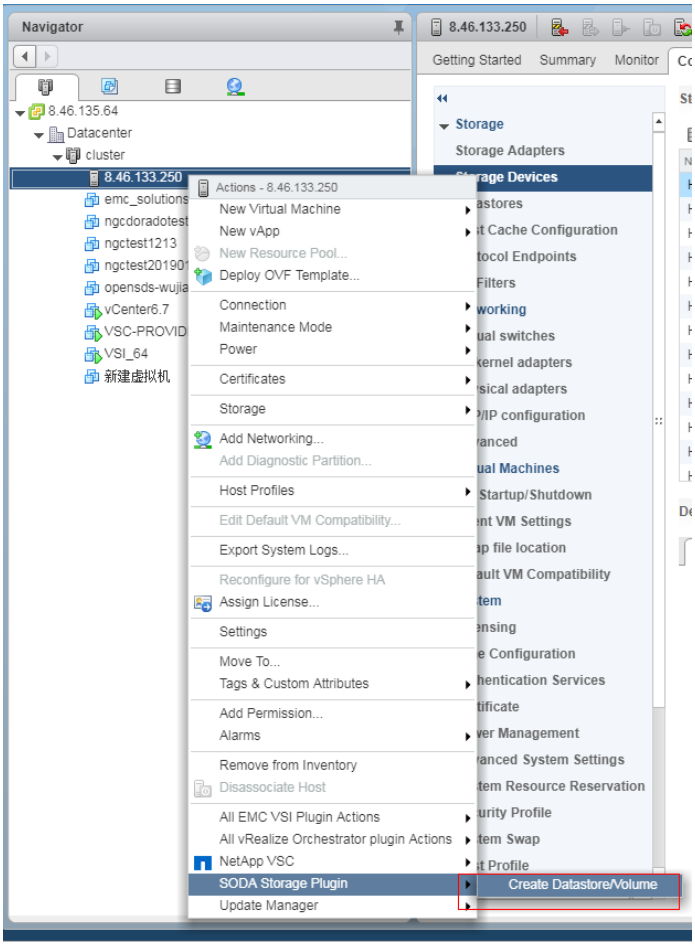
Step 1 Click **Home** in the navigation tree on the left.

The **Home** page is displayed.

Step 2 In the **Inventories** area, click **Hosts and Clusters**.

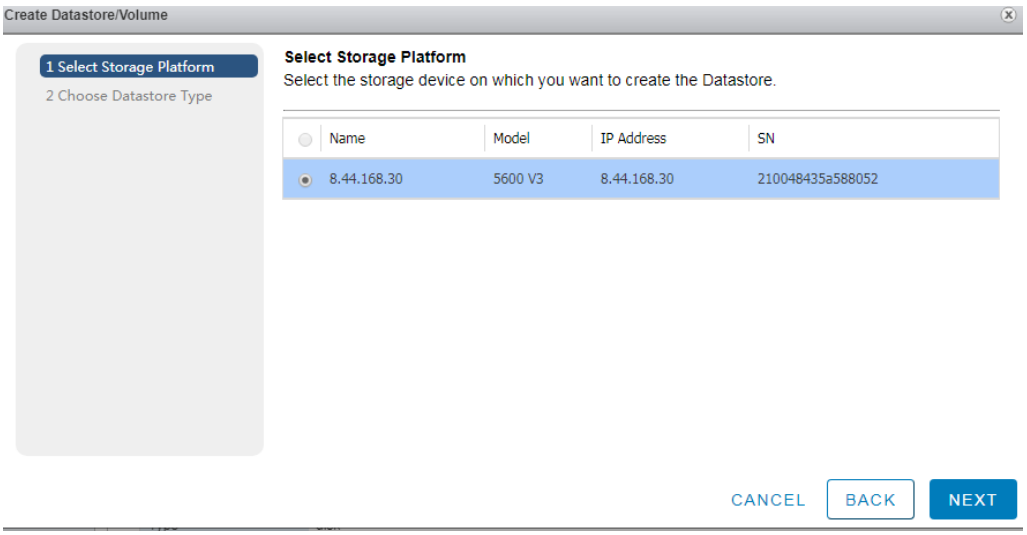


Step 3 In the navigation tree on the left, right-click the host for which you want to create a VOLUME, and choose **SODA Storage Plugin** > **Create Datastore/Volume** from the shortcut menu.

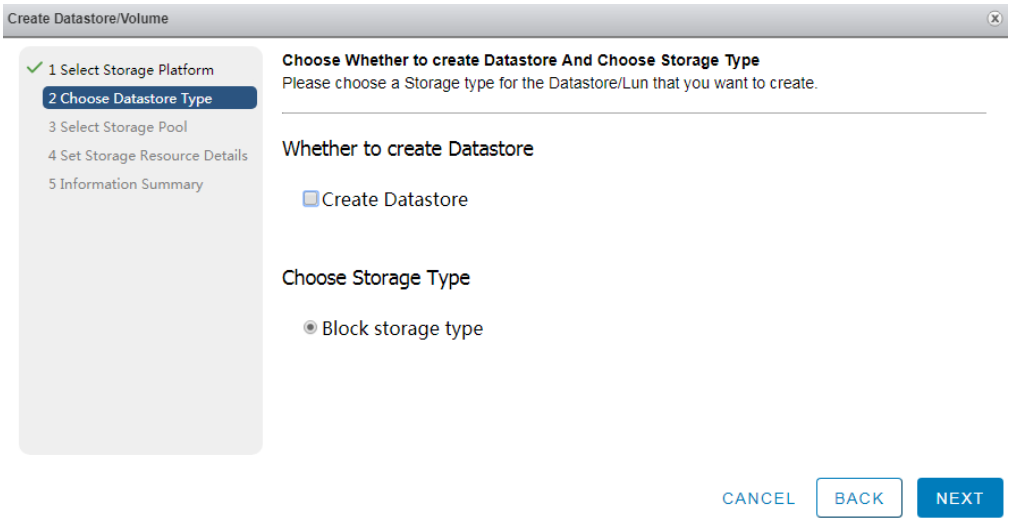


The **Create Datastore/Volume** window is displayed.

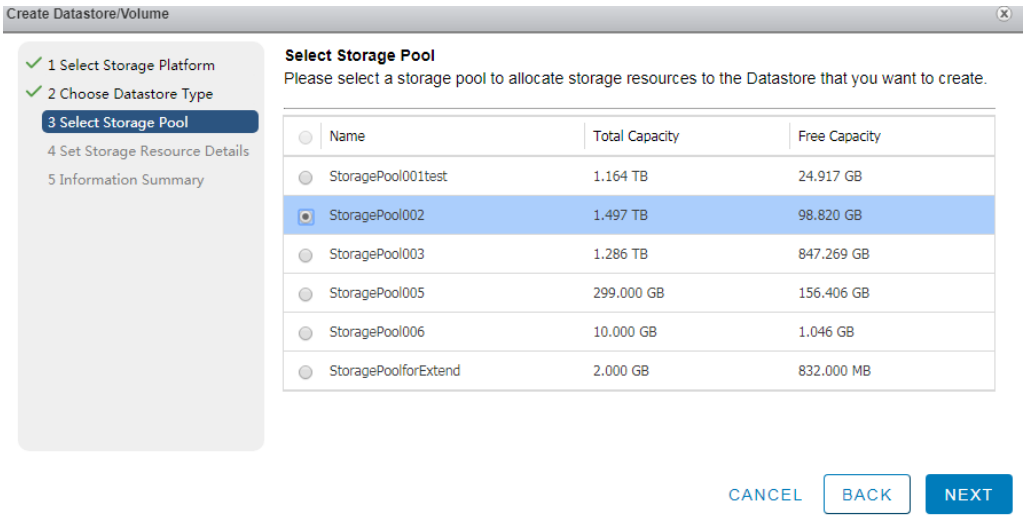
Step 4 Select the storage platform on which the VOLUME is to be created, and click **NEXT**.



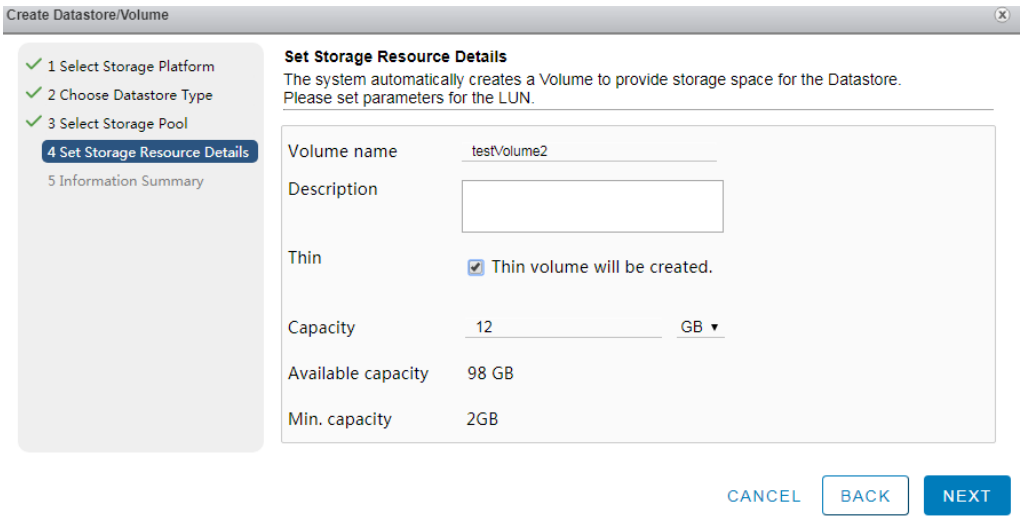
Step 5 Deselect **Create Datastore**, set the storage type to **Block storage type**, and click **NEXT**.



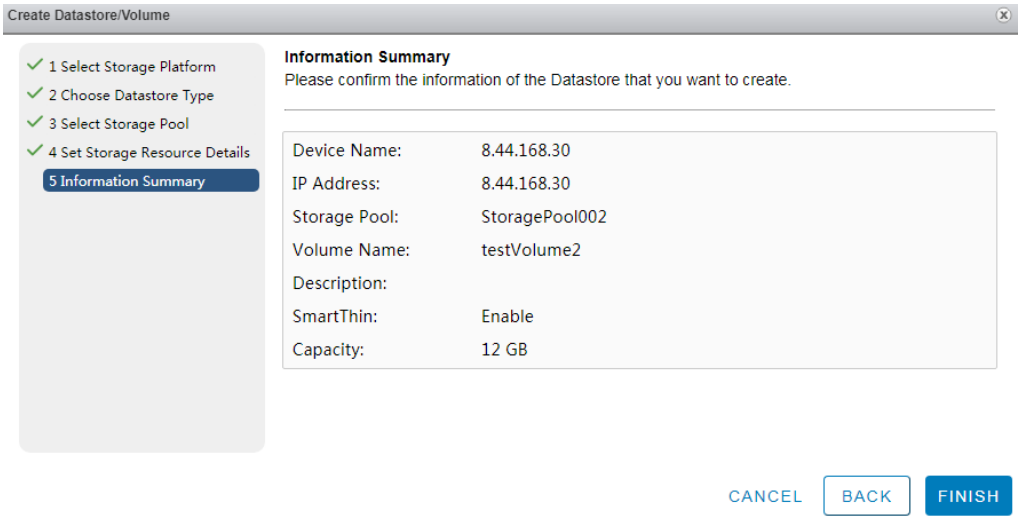
Step 6 Select a storage pool and click **NEXT**.



Step 7 Set parameters for the VOLUME and click **NEXT**.



Step 8 Confirm the information of the VOLUME to be created, and click **FINISH**.



----End

4 Maintenance Operations

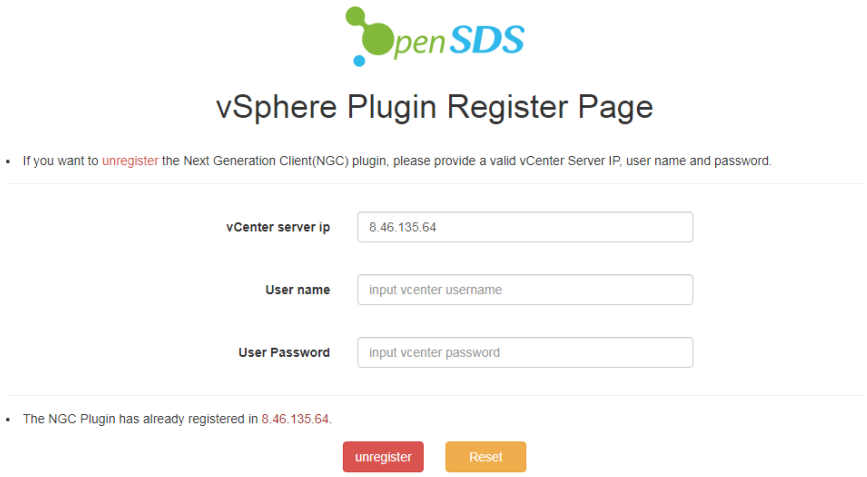
Basic Terms

Term	Meaning
vCenter Server	A VMware virtualization platform service. It provides a scalable and extensible platform that lays the foundation for virtualization management. vCenter Server centrally manages VMware vSphere environments to greatly improve the control on virtualization environments.
vSphere Client	An interface where vCenter Server and ESXi can be managed and downloaded.
vSphere Web Client	An interface where vCenter Server and ESXi can be managed using Web.

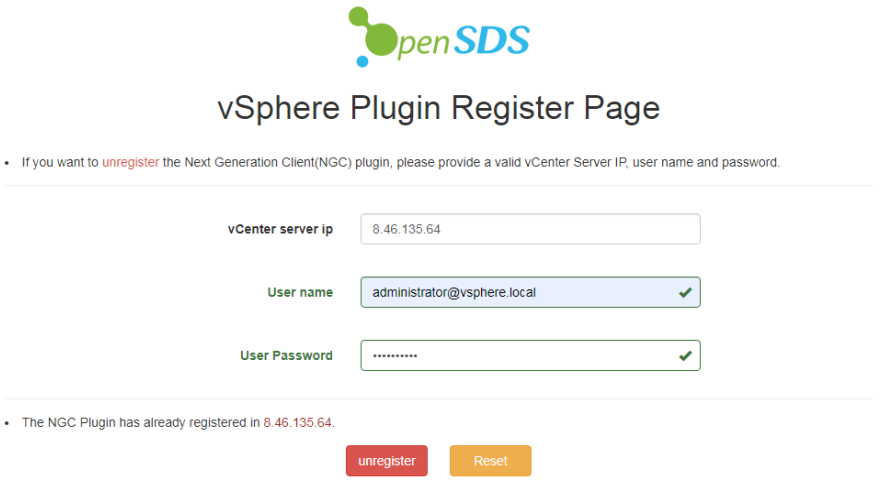
4.2 Deregistering the NGC Plug-In

If the NGC plug-in is no longer necessary, you can perform the following steps to deregister the NGC plug-in on the eSDK unified management portal:

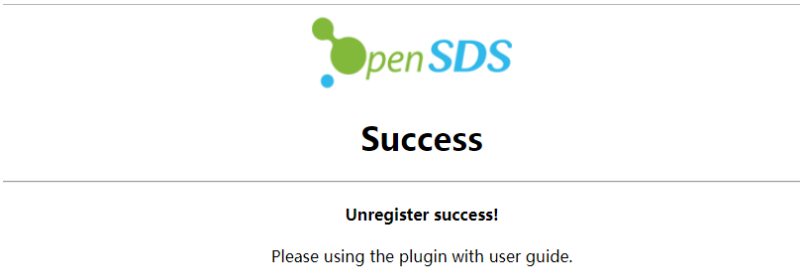
Step 1 Open the Chrome, (**https://localhost:8088/homePage** or **http://localhost:8080/homePage**, and the login page is displayed.



Step 2 Fill in **User Name**, **Password** and click **unregister** to deregister.



Step 3 . **Operation succeeded** is displayed.



----End

Follow-up Procedure

After deregistering the NGC plug-in from the eSDK unified management portal, you must log in to the corresponding vCenter server, delete the **org.opensds.vmware.ngc-*X.X.XX*** folder and the **deviceData.json** file, and then restart the VMware vSphere Web Client service for the deregistration to take effect. Otherwise, you can still see the NGC plug-in on the vSphere Web Client.

To restart the VMware vSphere Web Client service, see 4.3 Restarting the VMware vSphere Web Client Service.

The paths of the folder and file are determined by the operating system of the vCenter server.

- Windows:
  - **org.opensds.vmware.ngc-*X.X.XX*** finfolder: C:\ProgramData\VMware\vCenterServer\cfg\vsphere-client\vc-packages\vsphere-client-serenity
  - **deviceData.json**file: C:\Program Files\VMware\vCenter Server\WebClient\server

NOTE

If the Vmware vsphere version is 6.5, this file path is: C:\ProgramData\VMware\vCenterServer\runtime\vsphere-client\server

Pay attention that the ProgramData is a hidden folder in Windows.

- Linux:
  - **Remove the org.opensds.vmware.ngc-*X.X.XX*** folder in :/etc/vmware/vsphere-client/vc-packages/vsphere-client-serenity
  - **Remove the deviceData.json** file in : /usr/lib/vmware-vsphere-client/server/

4.3 Restarting the VMware vSphere Web Client Service

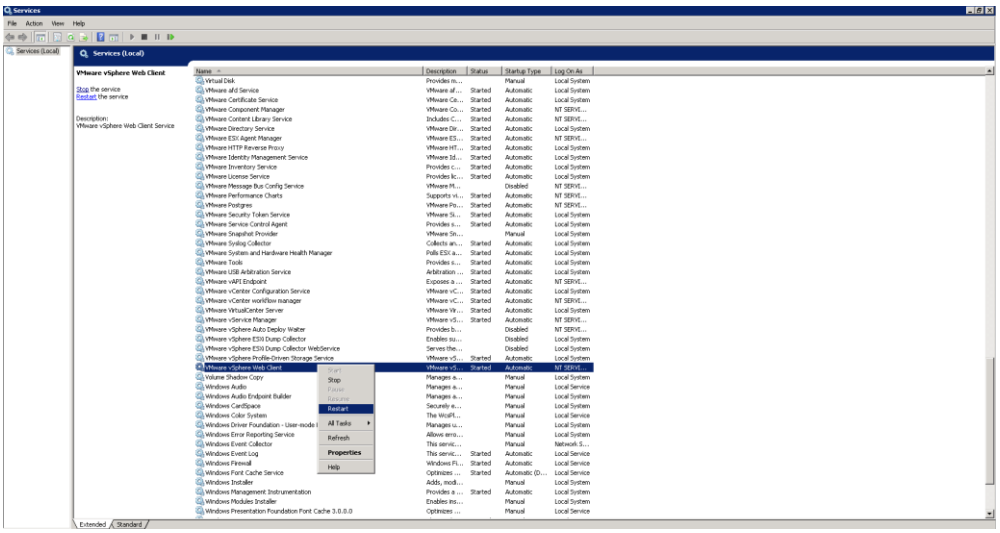
Restart the VMware vSphere Web Client service after you configure or uninstall the NGC plug-in. Otherwise, the configuration does not take effect, or the NGC plug-in cannot be uninstalled completely.

Procedure

If the server where the VMware vSphere Web Client service resides is a Windows server, the operations are as follows:

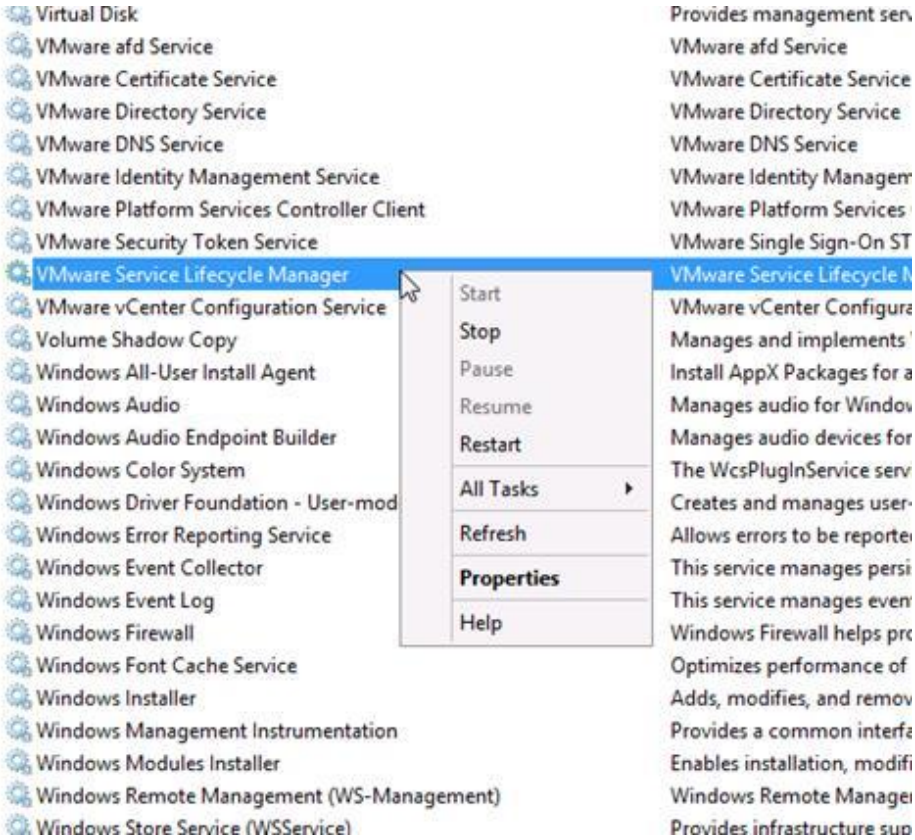
Step 1 Log in to the server where the VMware vSphere Web Client service resides.

Step 2 Choose **Start**, enter **Services** in the search box, and click the **Services** program in the search results. The **Services** dialog box is displayed.



Step 3 Right-click the VMware vSphere Web Client service and choose **Restart** from the shortcut menu.

Pay attention that if your VMware vsphere version is 6.5 or 6.7, please restart the service as below.



----End

If the server where the VMware vSphere Web Client service resides is a Linux server, the operations are as follows:

Step 1 Log in to the server where the VMware vSphere Web Client service resides.

Step 2 Run the following commands to restart the VMware vSphere Web Client service.

```
service-control --stop vsphere-client
service-control --start vsphere-client
```

```
localhost:~ # service-control --stop vsphere-client
INFO:root:Service: vsphere-client, Action: stop
Service: vsphere-client, Action: stop
2017-03-26T08:49:59.423Z   Running command: ['/sbin/service', u'vsphere-client', 'stop']
2017-03-26T08:50:04.949Z   Done running command
2017-03-26T08:50:04.949Z   Successfully stopped service vsphere-client
localhost:~ # service-control --start vsphere-client
INFO:root:Service: vsphere-client, Action: start
Service: vsphere-client, Action: start
2017-03-26T08:50:07.818Z   Running command: ['/sbin/chkconfig', u'vsphere-client']
2017-03-26T08:50:07.879Z   Done running command
2017-03-26T08:50:07.879Z   Running command: ['/sbin/service', u'vsphere-client', 'status']
2017-03-26T08:50:08.120Z   Done running command
2017-03-26T08:50:08.120Z   Running command: ['/sbin/chkconfig', '--force', u'vsphere-client', 'on']
2017-03-26T08:50:08.177Z   Done running command
2017-03-26T08:50:08.177Z   Running command: ['/sbin/service', u'vsphere-client', 'start']
2017-03-26T08:50:12.177Z   Done running command
2017-03-26T08:50:12.177Z   Successfully started service vsphere-client
localhost:~ #
```

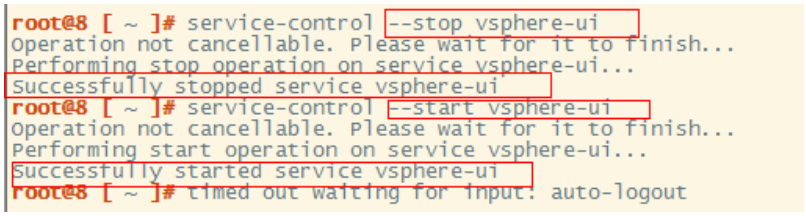
NOTE

In VMware vSphere 6.5 and later versions, you need to restart the VMware vSphere Web Client and VSPHERE CLIENT (HTML5) services at the same time.

Run the following commands to restart VSPHERE CLIENT (HTML5):

service-control --stop vsphere-ui

service-control --start vsphere-ui


root@8 [~]# service-control --stop vsphere-ui
Operation not cancellable. Please wait for it to finish...
Performing stop operation on service vsphere-ui...
Successfully stopped service vsphere-ui
root@8 [~]# service-control --start vsphere-ui
Operation not cancellable. Please wait for it to finish...
Performing start operation on service vsphere-ui...
Successfully started service vsphere-ui
root@8 [~]# timed out waiting for input: auto-logout

5 FAQ