



Application Notes
October 2015

VDI Deployment with VMware Horizon View on QNAP Enterprise Storage

History ([Document history is QNAP internal, please remove it when converting formal pdf](#))

Date	Version	Author	Description
Oct 1, 2015	1.0.0	Albert Shan	Initial Draft
Jan 12, 2016	1.1.0	Juan Mulford	Revision and Update



Notices

This user manual provides detailed instructions of using the QNAP Enterprise Storage NAS. Please read carefully and start to enjoy the powerful functions of the Enterprise Storage NAS.

- The QNAP Enterprise Storage NAS is hereafter referred to as the ES NAS or the NAS.
- This manual provides the description of all the functions of the ES NAS. The product you purchased may not support certain functions dedicated to specific models.

Legal Notices

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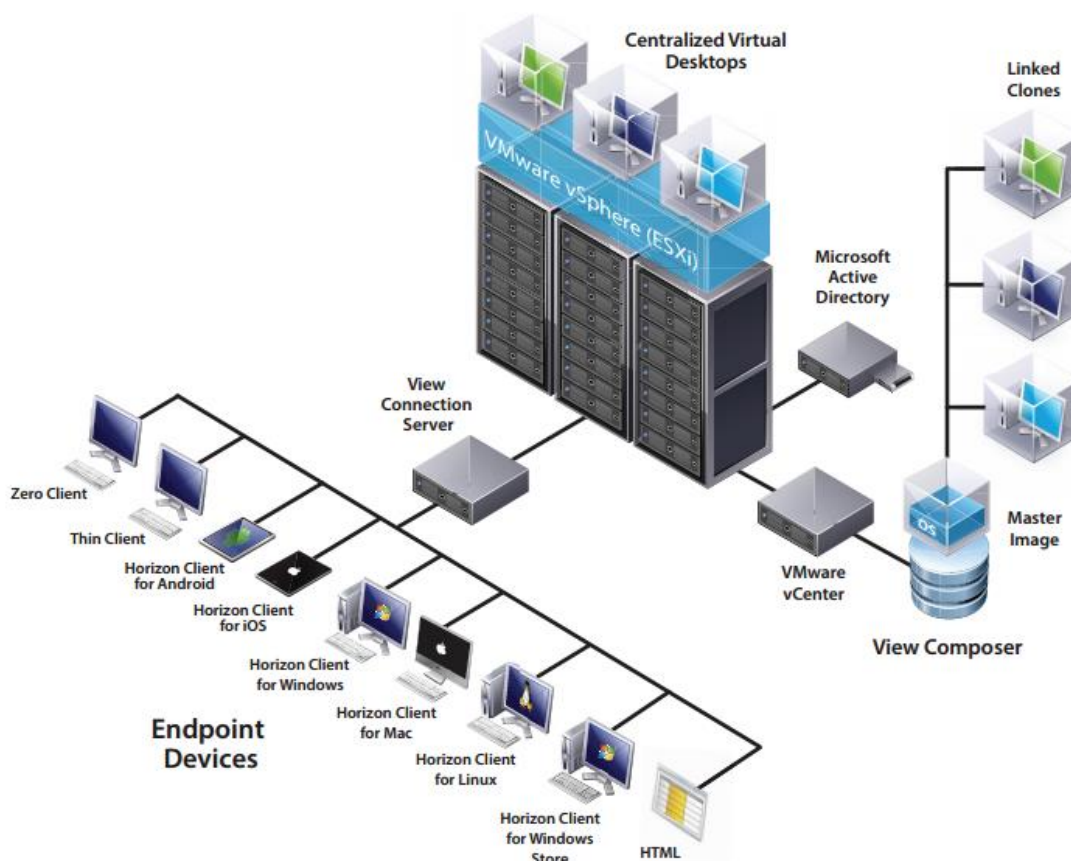
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Overview

QNAP ES1640dc is an enterprise storage system, it provides redundancy not only on the power supply module but also on the dual controller system modules. Also with storage features like Read Cache, Compression and Deduplication that extremely improve the performance and capacity for desktop virtualization (VDI).

This document is a step-by step guide for multiple VDIs deployment on QNAP ES1640dc storage system with VMware Horizon View.

Architecture



In the architecture diagram, there are three major components to work around with, View Connection Server, View Composer and Master Image. We will build this environment by going through the installation of them.



System configuration

Server Network Settings		
Setting	Value	Description
AD server IP	10.4.19.19	Active Directory server (adc.esapp.local)
vCenter server IP	10.4.19.21	vCenter server(+view Composer)
View Connection server IP	10.4.19.23	Horizon View Connection server
Esxi1 server	10.4.19.25	ESXi Server in cluster1
Esxi2 server	10.4.19.26	ESXi Server in cluster1

Storage Network Settings (Site A)		
Setting	Value	Description
SCA Management IP	10.4.19.41	Management IP of controller A
SCA Ethernet1 IP	10.10.100.105	Data port 1 IP of controller A
SCA Ethernet2 IP	10.10.200.105	Data port 2 IP of controller A
SCB Management IP	10.4.19.42	Management IP of controller B
SCB Ethernet1 IP	10.10.100.106	Data port 1 IP of controller B
SCB Ethernet2 IP	10.10.200.106	Data port 2 IP of controller B
Pool at SCA	Pool1	RAID6 pool at controller A
iSCSI LUN	vdi1_0	iSCSI lun on Pool1

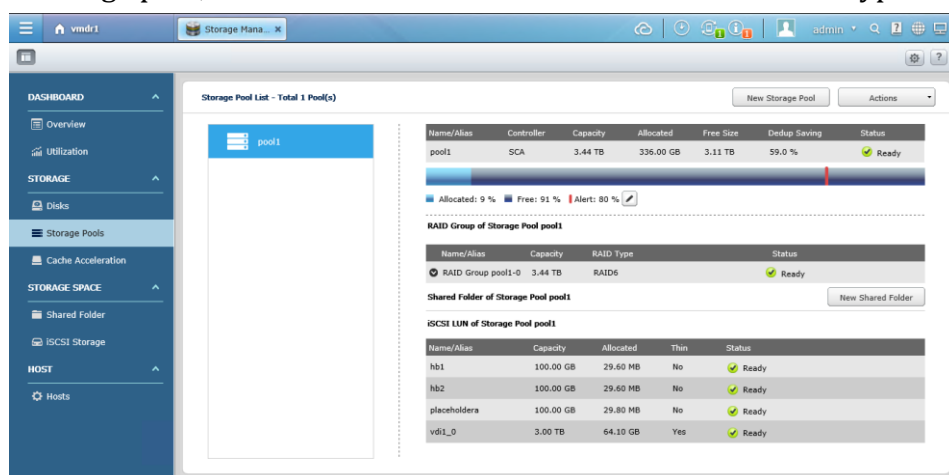
Configuring your storage

Before starting to setup the VDI Infrastructure, you need to set up the initial configuration on the ES storage. For the detailed configuration about how to create storage pool and iSCSI LUN, you can refer to the ES1640dc user manual.

Note: You can found the latest version of the ES1640dc user manual in the QNAP webpage.

Create the storage pool and iSCSI LUN

A storage pool, Pool1 is created on controller SCA with RAID6 type as below.



The screenshot shows the QNAP Storage Manager interface. On the left is a navigation menu with options like Dashboard, Overview, Utilization, Storage, Disks, Storage Pools, Cache Acceleration, Storage Space, Shared Folder, iSCSI Storage, and Hosts. The main area displays the 'Storage Pool List - Total 1 Pool(s)'. A table shows the details for 'pool1'.

Name/Alias	Controller	Capacity	Allocated	Free Size	Endup Saving	Status
pool1	SCA	3.44 TB	336.00 GB	3.11 TB	59.0 %	Ready

Below the table, it shows 'RAID Group of Storage Pool pool1' with a table:

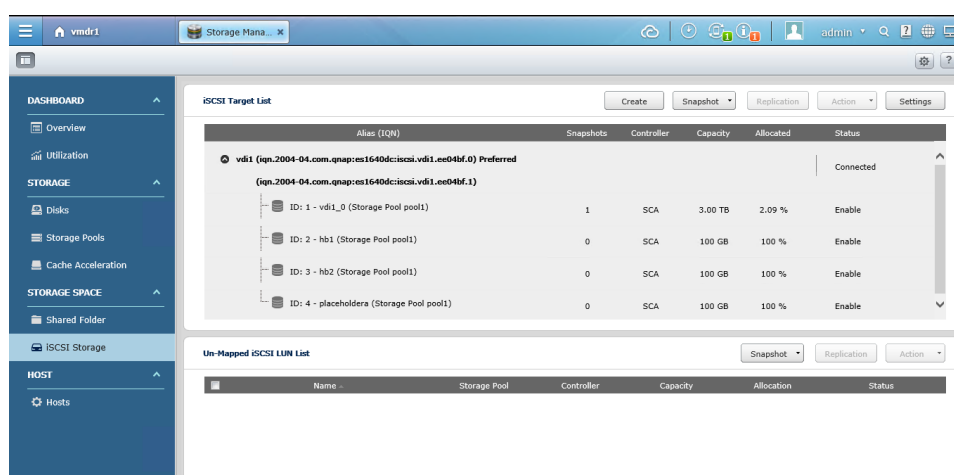
Name/Alias	Capacity	RAID Type	Status
RAID Group pool1-0	3.44 TB	RAID6	Ready

It also shows 'Shared Folder of Storage Pool pool1' and 'iSCSI LUN of Storage Pool pool1' with a table:

Name/Alias	Capacity	Allocated	Thin	Status
hb1	100.00 GB	29.60 MB	No	Ready
hb2	100.00 GB	29.60 MB	No	Ready
placeholdera	100.00 GB	29.80 MB	No	Ready
vd1_0	3.00 TB	64.10 GB	Yes	Ready

There are four LUNs created and attached to the iSCSI target.

- vid1_0 is used for storing your virtual machines (VMs).
- hb1 and hb2 are used for the heartbeat LUNs of ESXi cluster servers.



The screenshot shows the QNAP Storage Manager interface with the 'iSCSI Target List' selected. It shows a target named 'vd1' with a list of LUNs.

Alias (IQN)	Snapshots	Controller	Capacity	Allocated	Status
vd1 (iqn.2004-04.com.qnap:es1640dc:iscsi.vd1.ee04bf.0) Preferred					Connected
(iqn.2004-04.com.qnap:es1640dc:iscsi.vd1.ee04bf.1)					
ID: 1 - vd1_0 (Storage Pool pool1)	1	SCA	3.00 TB	2.09 %	Enable
ID: 2 - hb1 (Storage Pool pool1)	0	SCA	100 GB	100 %	Enable
ID: 3 - hb2 (Storage Pool pool1)	0	SCA	100 GB	100 %	Enable
ID: 4 - placeholdera (Storage Pool pool1)	0	SCA	100 GB	100 %	Enable

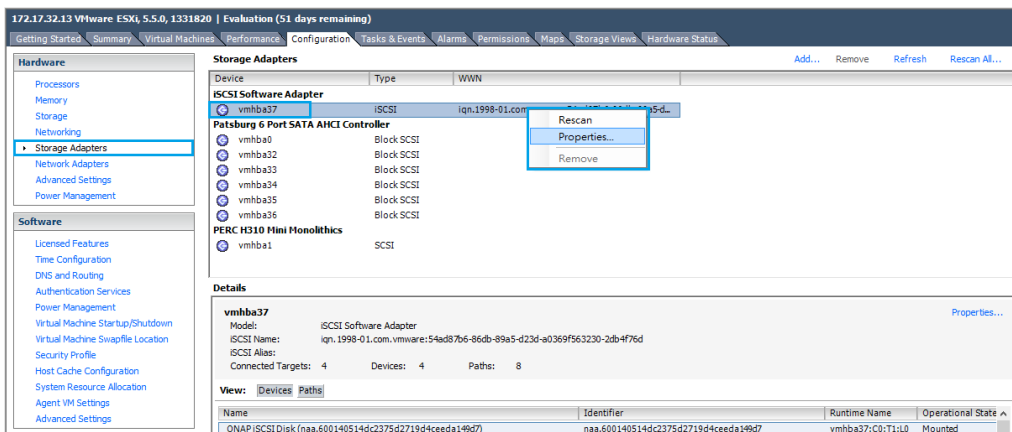
Below this, the 'Un-Mapped iSCSI LUN List' is shown, which is currently empty.



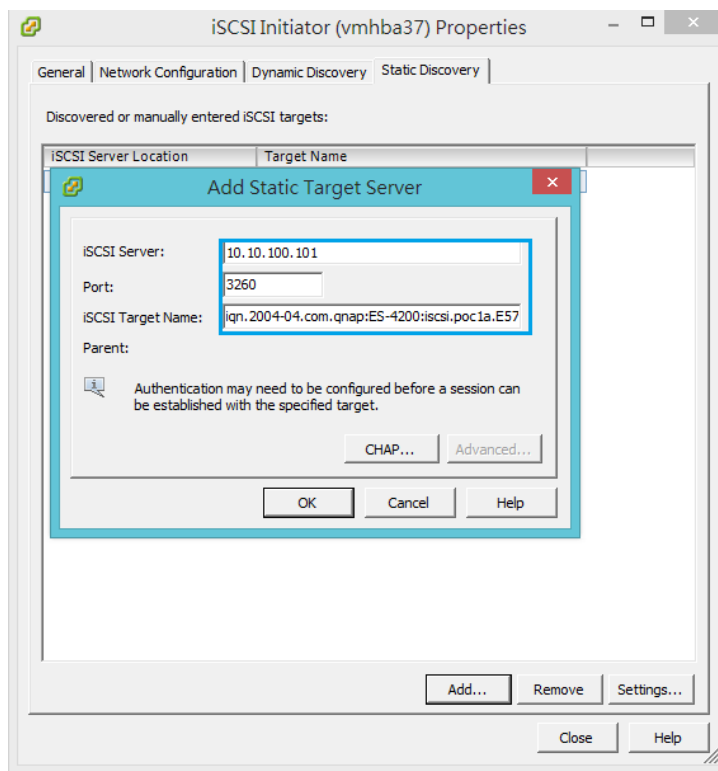
Connecting storage from the servers

The recommended connection from the server to the storage is to use Multipath I/O (MPIO). Please follow below steps to complete it.

Choose [Configuration] tab → Storage Adapters → Right click on iSCSI Software Adapter to select Properties.



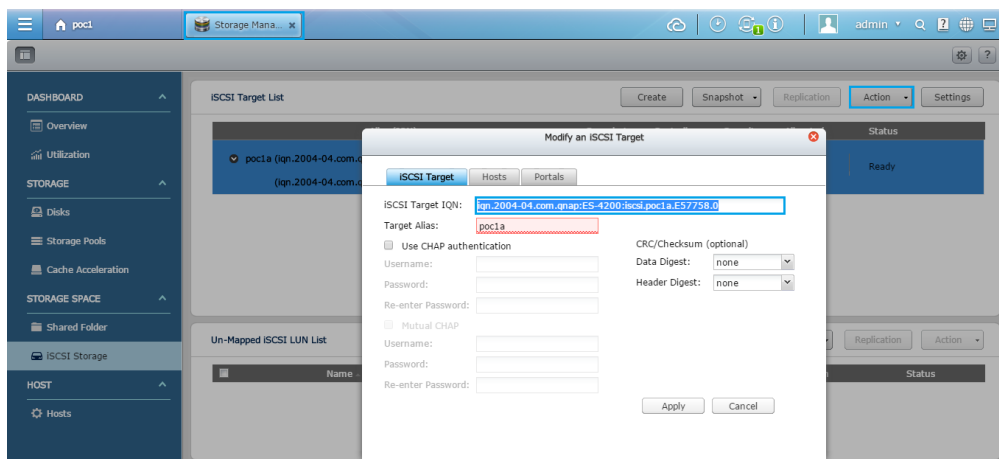
Choose [Static Discovery] tab and then enter iSCSI server IP and its corresponding iSCSI Target Name.





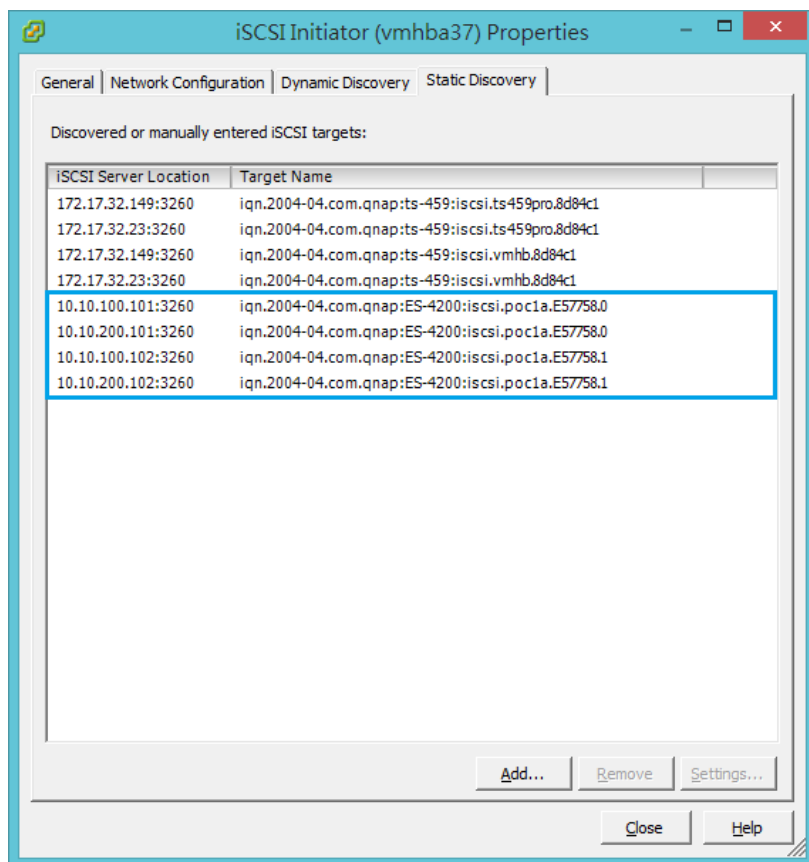
(The storage iSCSI target name IQN can be found at below web page of the storage.)

Storage Manager → iSCSI storage → Action → Modify



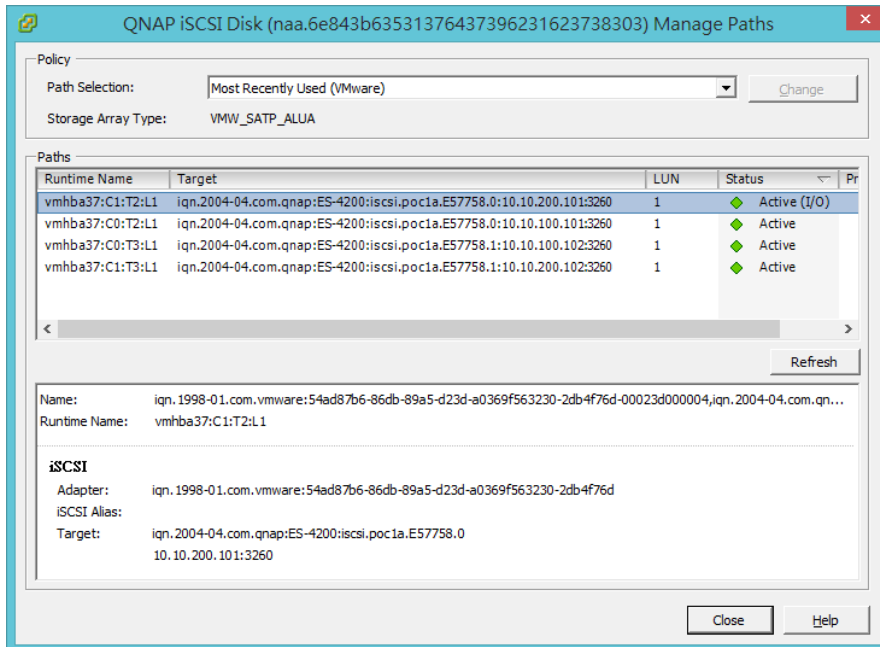
EX: iqn.2004-04.com.qnap:ES-4200:iscsi.poc1a.E57758.0

Repeat above steps to add all data paths into the Static Discovery of the iSCSI initiator properties.





Click **Close** button and the server will rescan the storage. At last, you can find all paths listed in datastore manage paths.



Software Installation

Prior to the installation of VMware Horizon View software, two ESXi servers and vCenter server must be installed.

Install Horizon View Connection Server

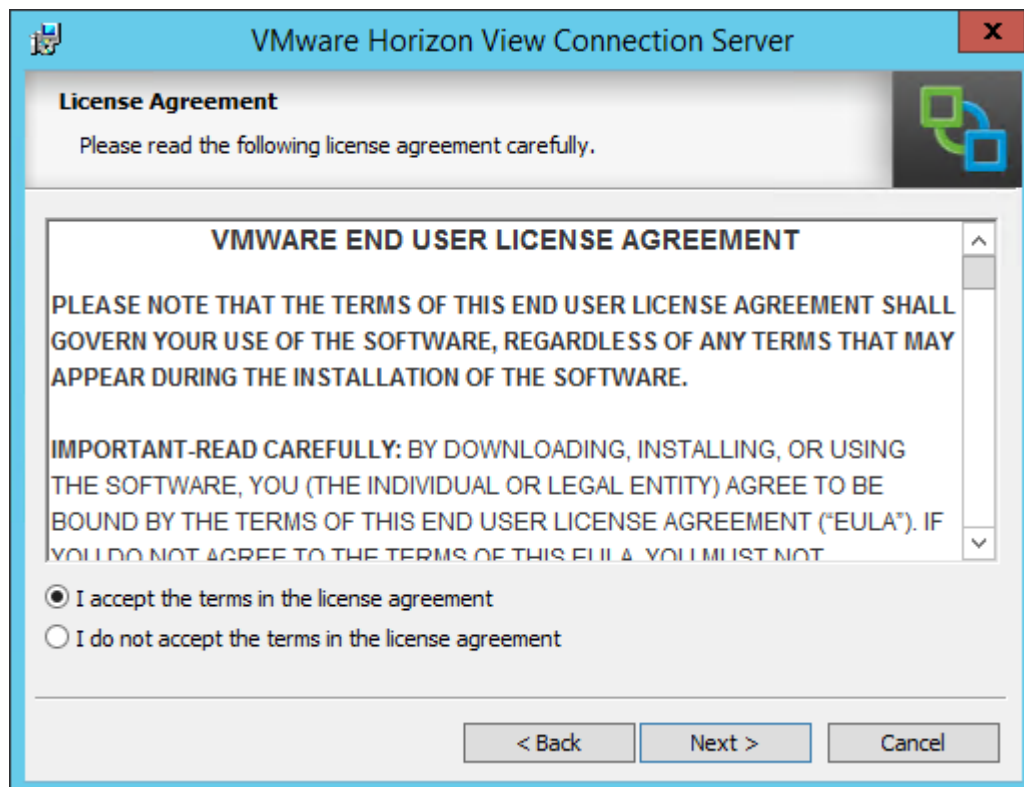
Download **VMware Horizon View Connection Server** software from VMware website and install it to the machine.



Click Next.

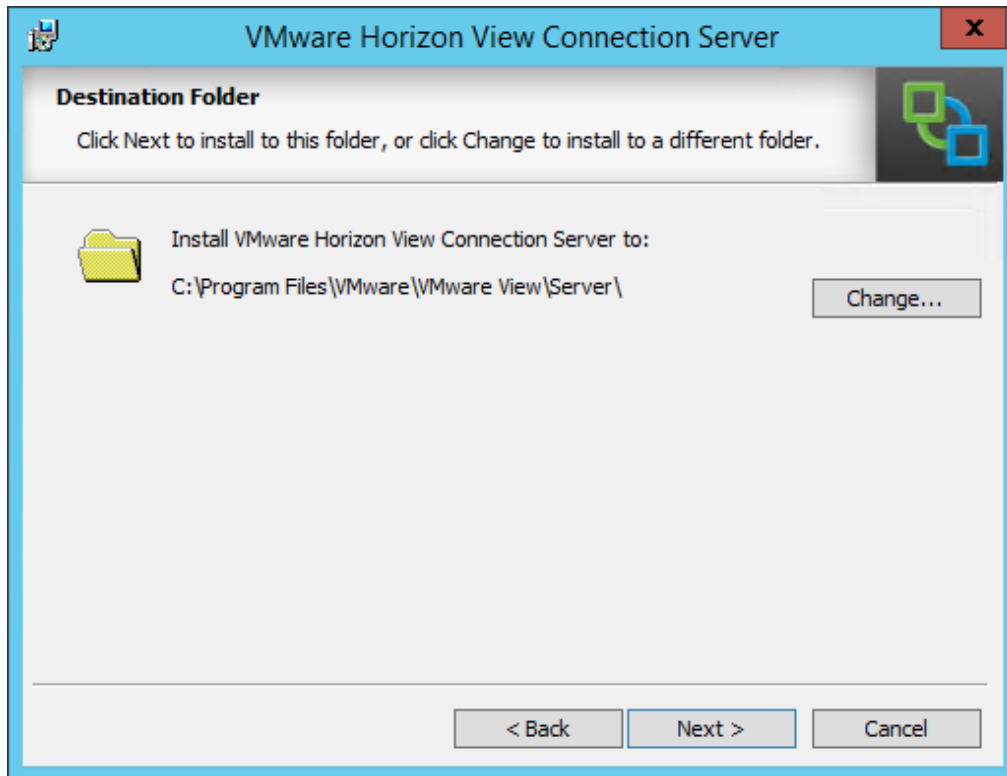


Accept the EULA and click Next.

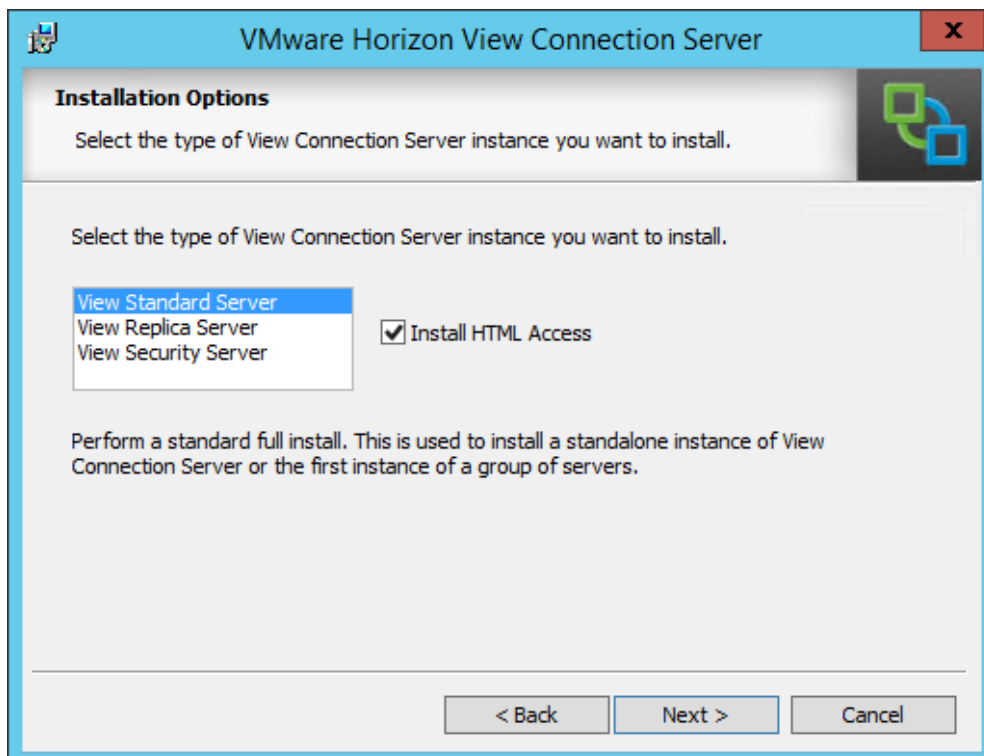




Select the destination folder to install and click Next.



Select the **View Standard Server** and **Install HTML Access**. Click Next.





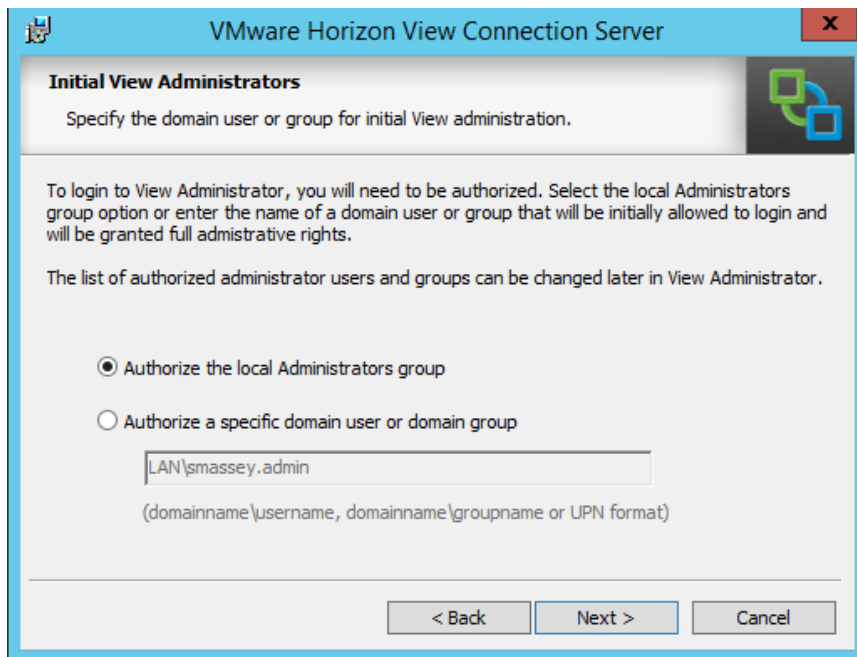
Enter password for data recovery and click Next.

The screenshot shows the 'Data Recovery' window of the VMware Horizon View Connection Server. The window has a title bar with the application name and a close button. The main content area is titled 'Data Recovery' and contains the instruction 'Enter data recovery password details.' Below this, a paragraph explains that the password protects data backups and is required for recovery. There are three input fields: 'Enter data recovery password:' with a masked password of 10 dots, 'Re-enter password:' with a masked password of 10 dots and a cursor at the end, and 'Enter password reminder (optional):' which is empty. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Select **Configure Windows Firewall** automatically and click Next.

The screenshot shows the 'Firewall Configuration' window of the VMware Horizon View Connection Server. The window has a title bar with the application name and a close button. The main content area is titled 'Firewall Configuration' and contains the instruction 'Automatically configure the Windows Firewall to allow incoming TCP protocol connections.' Below this, a paragraph explains that specific incoming TCP ports must be allowed for the server to operate on a network, listing the ports for the Standard Server: 8009 (AJP 13), 80 (HTTP), 443 (HTTPS), 4001 (JMS), 4100 (JMSIR), 4172 (PCoIP), 8472 (Inter-pod API), and 8443 (HTML Access). It also mentions that UDP packets on port 4172 (PCoIP) are allowed. There are two radio button options: 'Configure Windows Firewall automatically' (which is selected) and 'Do not configure Windows Firewall'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Select Authorize the local Administrator group and click Next.



Initial View Administrators

Specify the domain user or group for initial View administration.

To login to View Administrator, you will need to be authorized. Select the local Administrators group option or enter the name of a domain user or group that will be initially allowed to login and will be granted full administrative rights.

The list of authorized administrator users and groups can be changed later in View Administrator.

☒ Authorize the local Administrators group

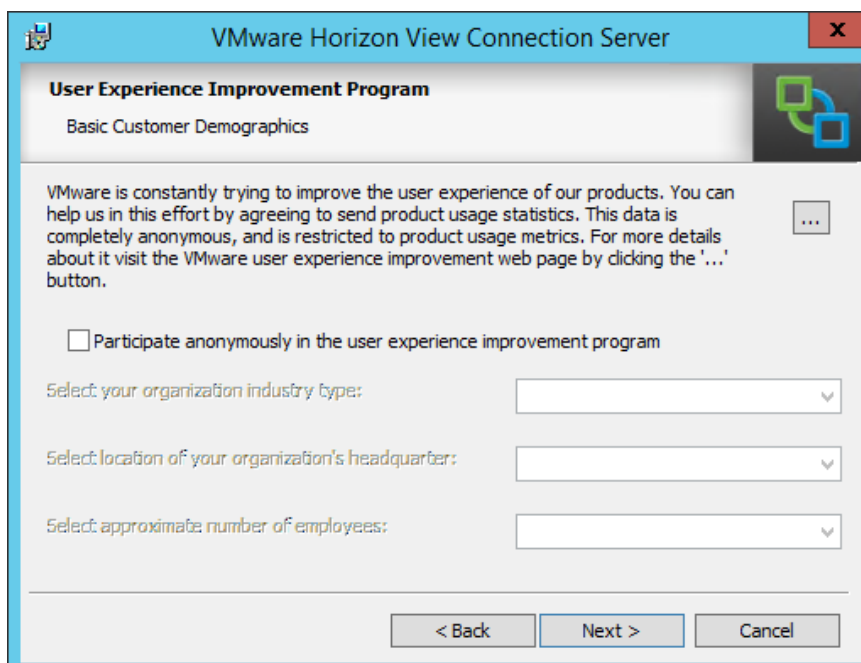
☐ Authorize a specific domain user or domain group

LAN\smassey.admin

(domainname\username, domainname\groupname or UPN format)

< Back Next > Cancel

Choose whether you want to participate in the User Experience Improvement program. If you do not wish to participate, just click Next to continue.



User Experience Improvement Program

Basic Customer Demographics

VMware is constantly trying to improve the user experience of our products. You can help us in this effort by agreeing to send product usage statistics. This data is completely anonymous, and is restricted to product usage metrics. For more details about it visit the VMware user experience improvement web page by clicking the '...' button.

☐ Participate anonymously in the user experience improvement program

Select your organization industry type:

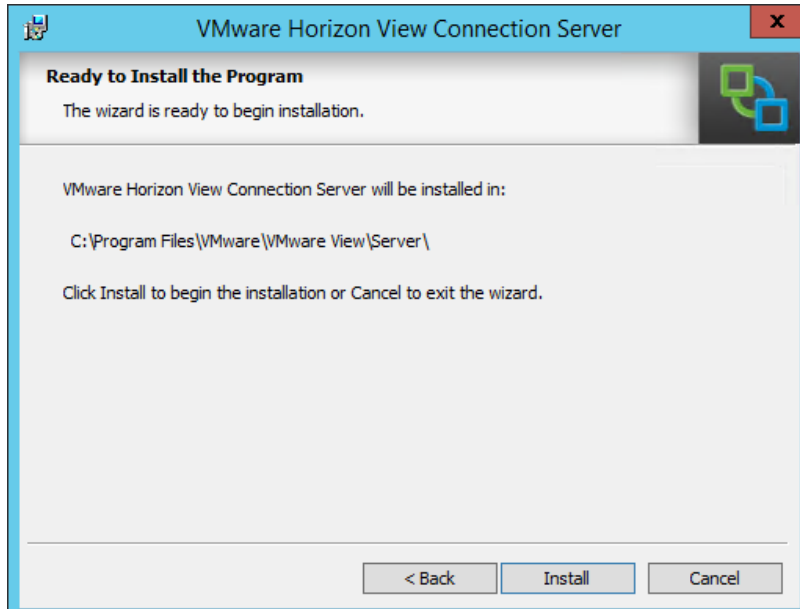
Select location of your organization's headquarter:

Select approximate number of employees:

< Back Next > Cancel



Click **Install** to start the installation.

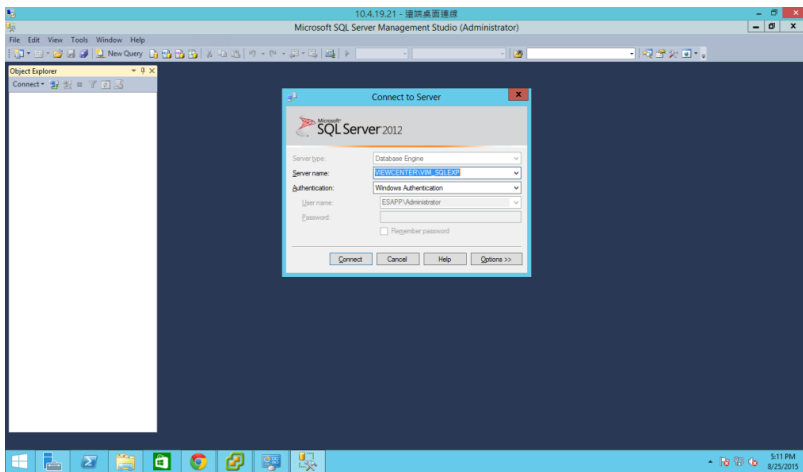


Once the install completes, click Finish. You may be prompted to reboot the server after the installation completes.

Install View Composer Database

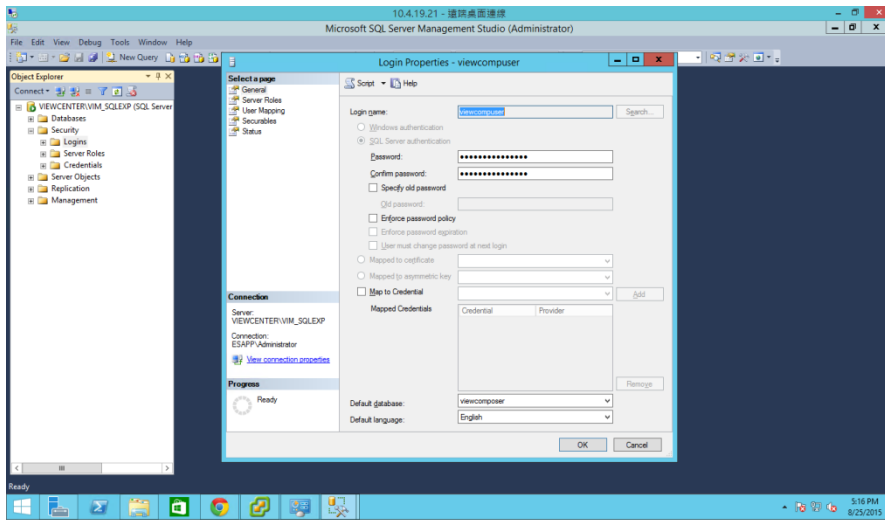
Composer requires its own database. We will use SQL Server Management Studio to create a composer database and assign the authentication. Install and configure SQL Server in advance.

Open SQL Server Management Studio and Log in as a user with administrator rights on SQL Server.



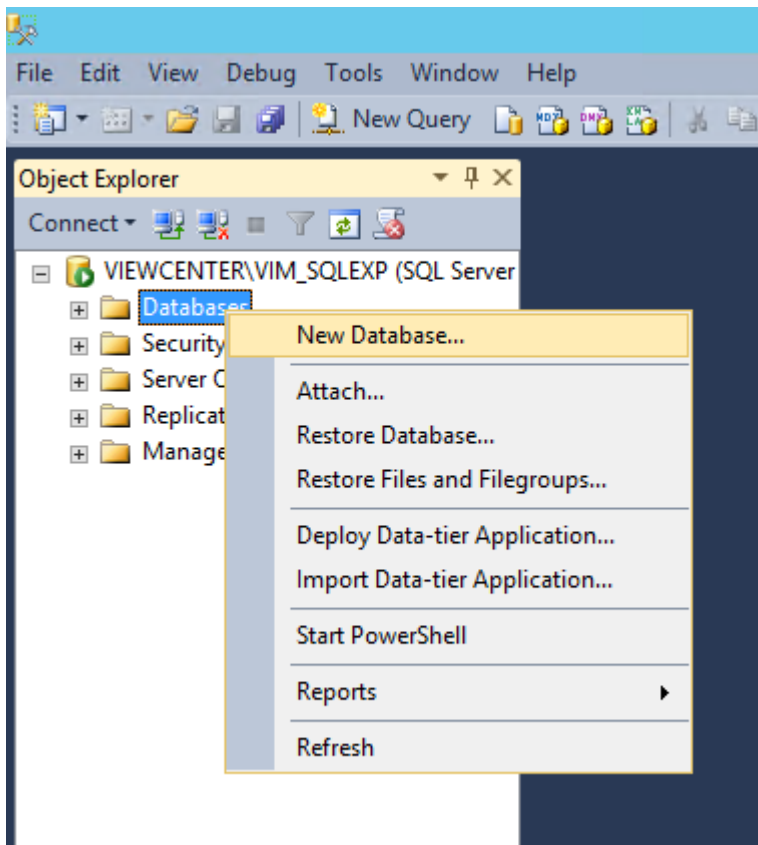


Create a new SQL Login at **Security** → **Logins**. Right click on **Logins** and select **New Login**.



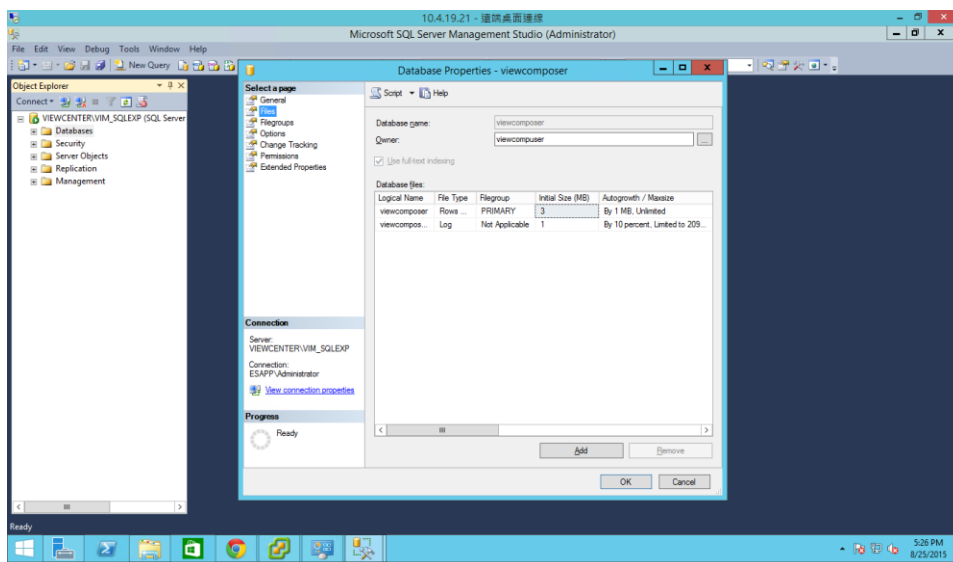
Enter a login name such as **viewcomposer** and select **SQL Server Authentication** and enter password. Disable **Enforce password policy**.

After the SQL login is created, you need to create an empty database. To create the database, right click on the database folder and select **New Database**.

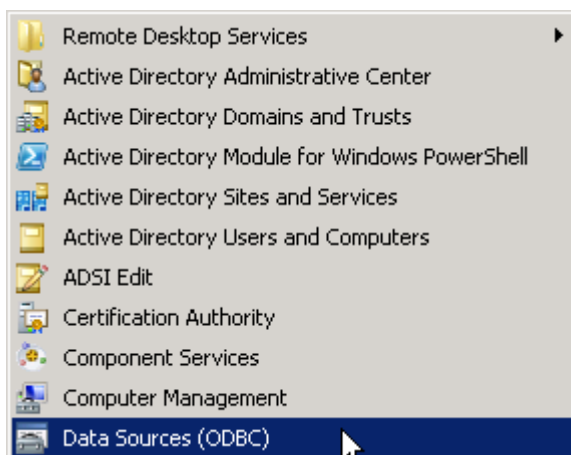




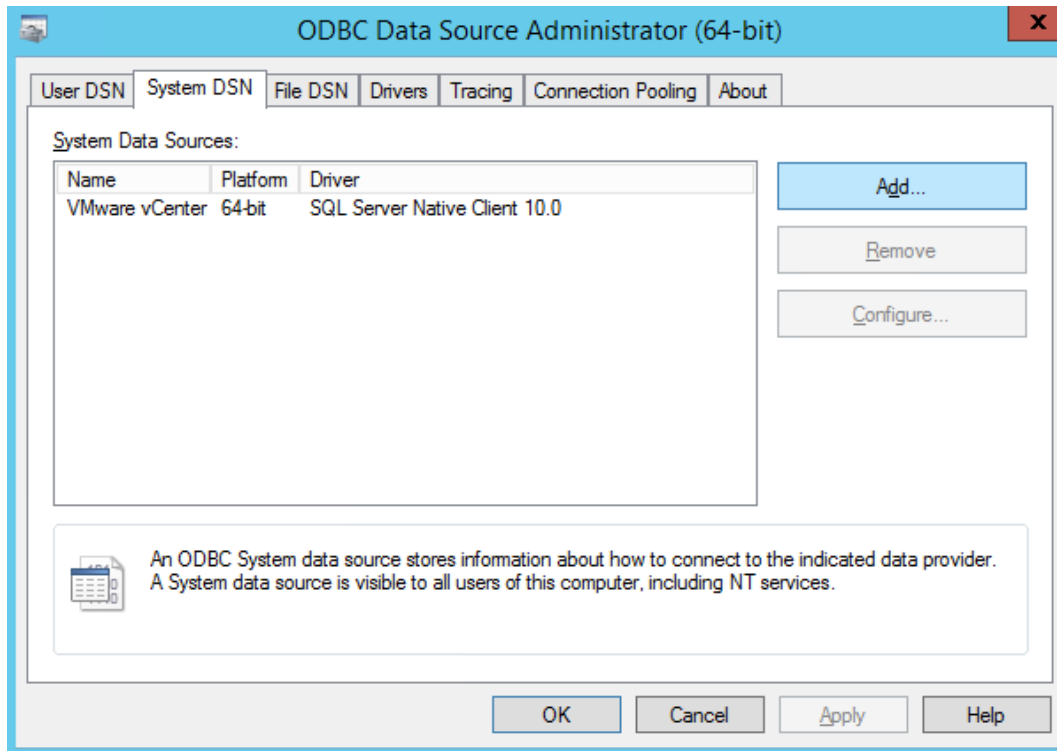
In the database name field, enter a name such as viewcomposer. To select an owner for the database, click on the ... button and search for the database user account you created above. Click OK to create the database.



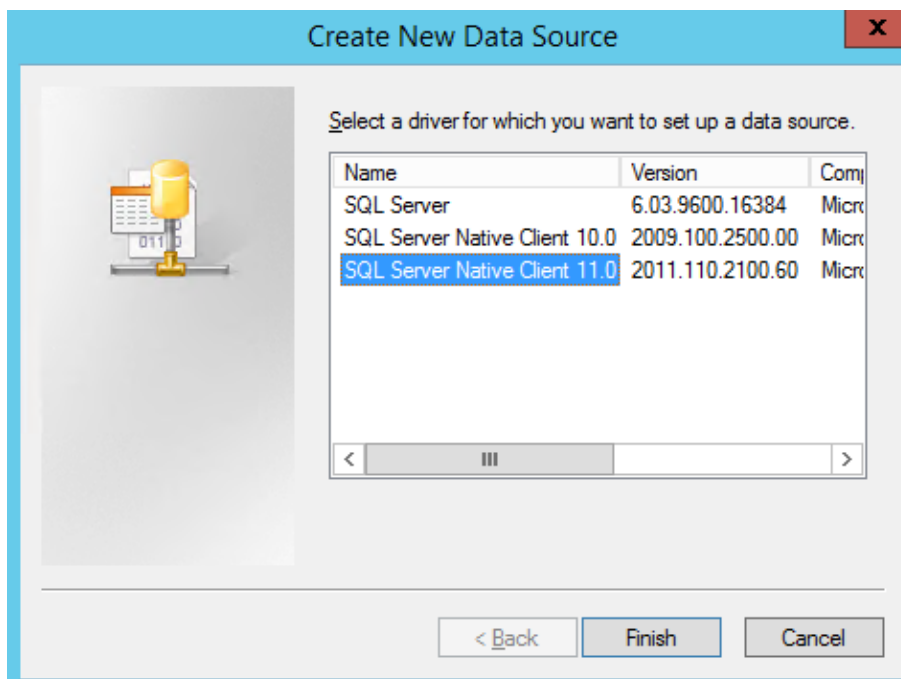
Now we need to create an ODBC Data Source to connect to the Composer database.
Go to **Start -> Administrative Tools -> Data Sources (ODBC)**



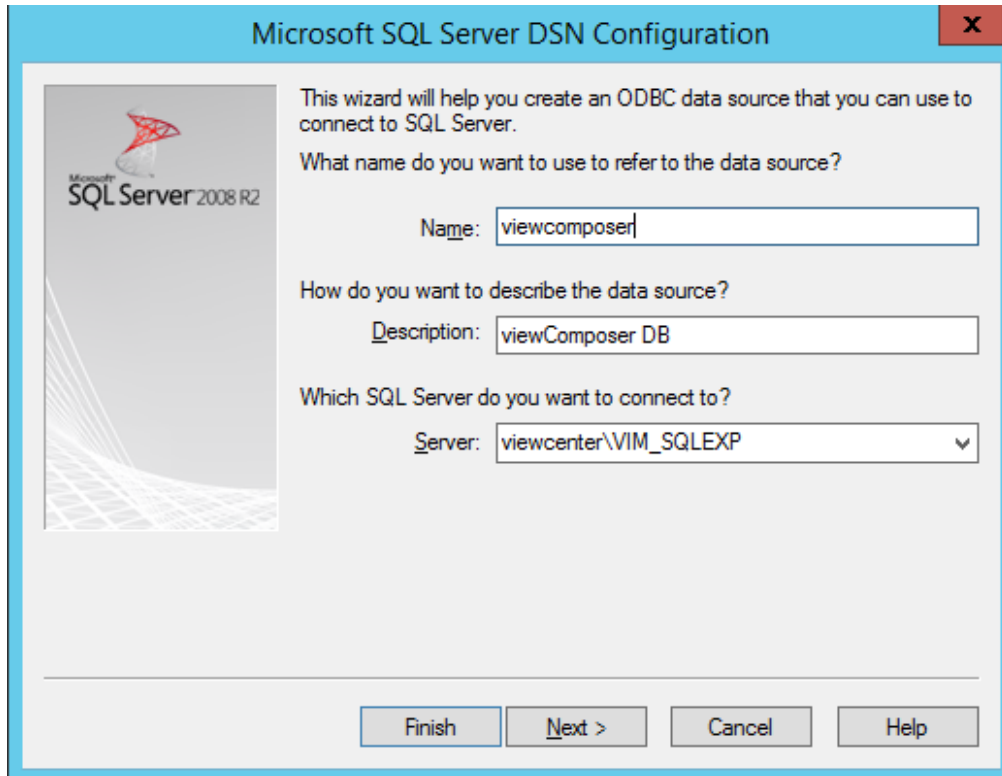
Click on **System DSN** tab and then click **Add**.



Select **SQL Server Native Client 11.0** and click Finish. Then it will launch the wizard for setting up the data source.



Enter DSN Name, Description and SQL server information and click Next.

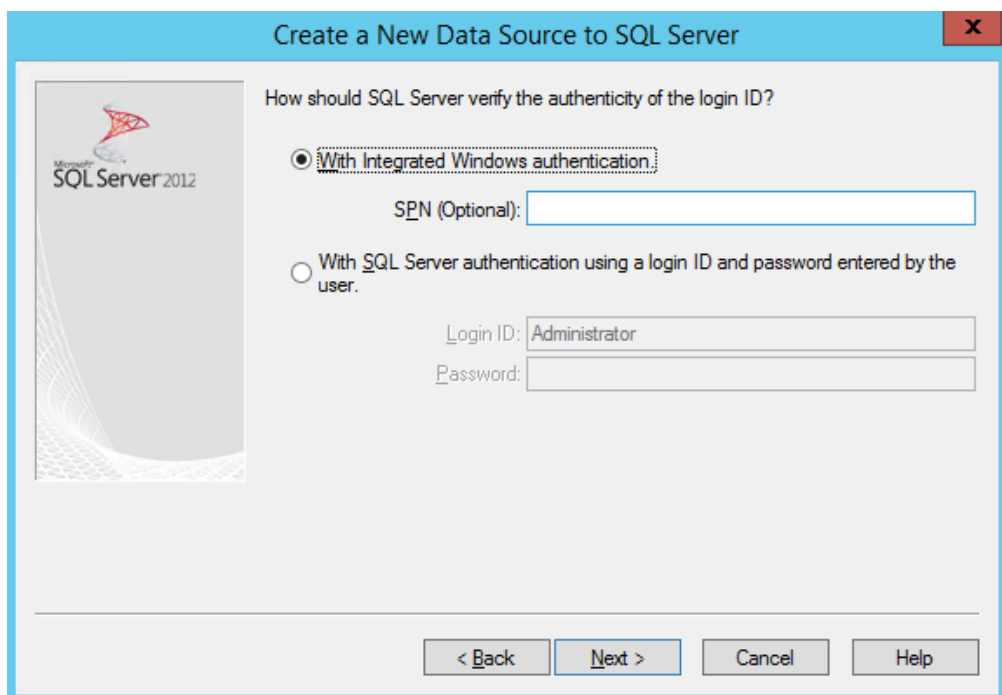


The screenshot shows the 'Microsoft SQL Server DSN Configuration' wizard. On the left is a graphic with the 'Microsoft SQL Server 2008 R2' logo. The main text area contains the following instructions and fields:

- 'This wizard will help you create an ODBC data source that you can use to connect to SQL Server.'
- 'What name do you want to use to refer to the data source?' with a text box containing 'viewcomposer'.
- 'How do you want to describe the data source?' with a text box containing 'viewComposer DB'.
- 'Which SQL Server do you want to connect to?' with a dropdown menu showing 'viewcenter\VIM_SQLEXP'.

At the bottom are four buttons: 'Finish', 'Next >', 'Cancel', and 'Help'.

Select Windows authentication and click Next.

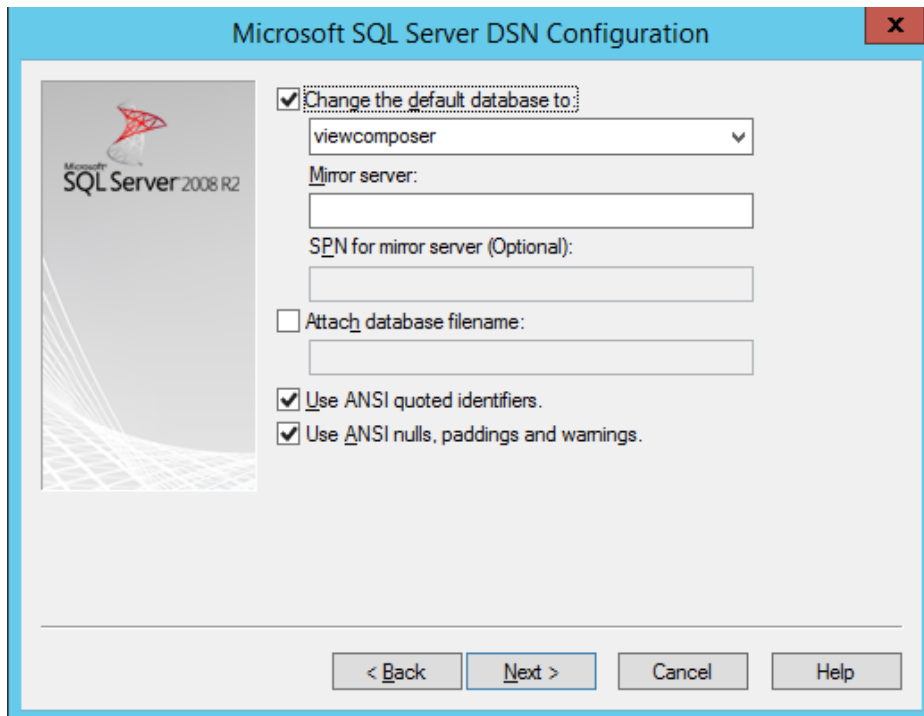


The screenshot shows the 'Create a New Data Source to SQL Server' wizard. On the left is a graphic with the 'Microsoft SQL Server 2012' logo. The main text area contains the following instructions and fields:

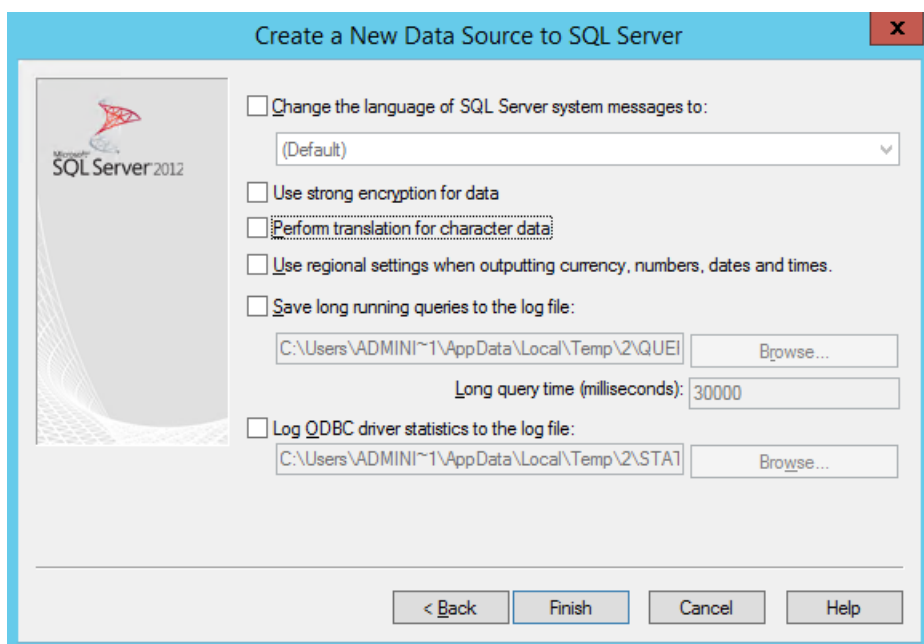
- 'How should SQL Server verify the authenticity of the login ID?'
- Two radio button options:
 - ☒ 'With Integrated Windows authentication.' followed by an 'SPN (Optional):' text box.
 - ☐ 'With SQL Server authentication using a login ID and password entered by the user.'
- Below the second option, there are text boxes for 'Login ID:' (containing 'Administrator') and 'Password:'.

At the bottom are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

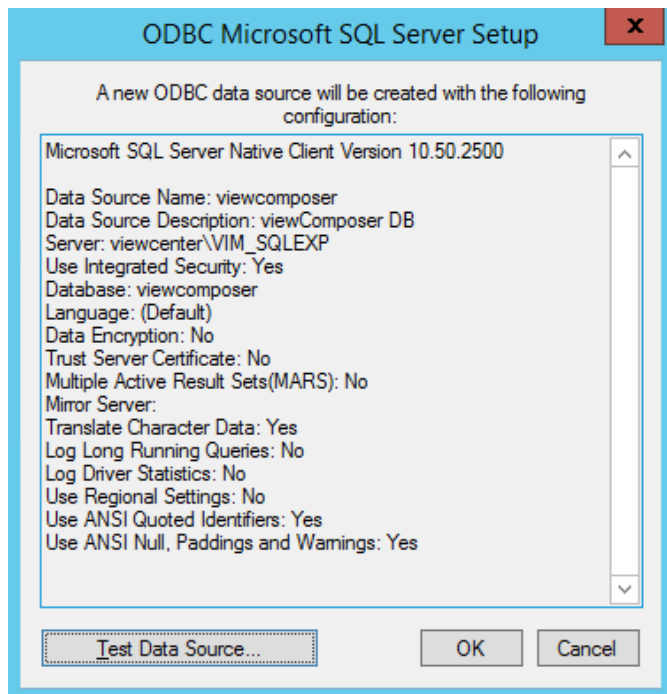
Select **Change the default database** to and choose **viewcomposer** and Click Next.



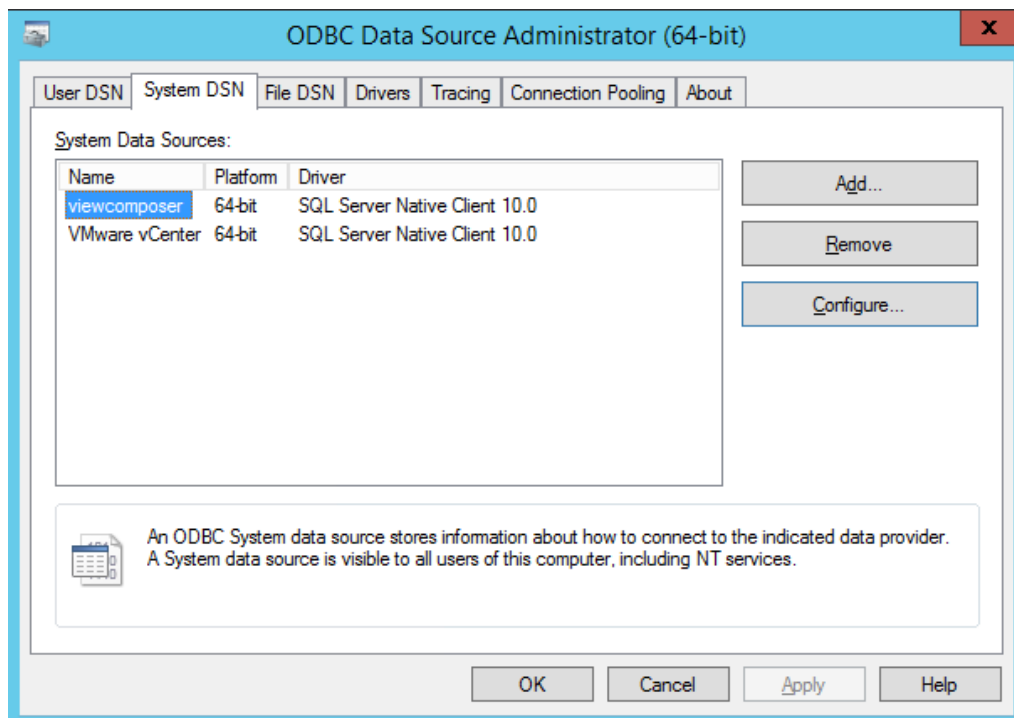
Click on **Finish** button.



DSN creation completed. You can click on **Test Data Source...** button to test it.



Click **OK** to close it.





Install Horizon View Composer

Download **VMware Horizon View Composer Server** software from VMware website.
Run the View Composer Installer. Click Next.

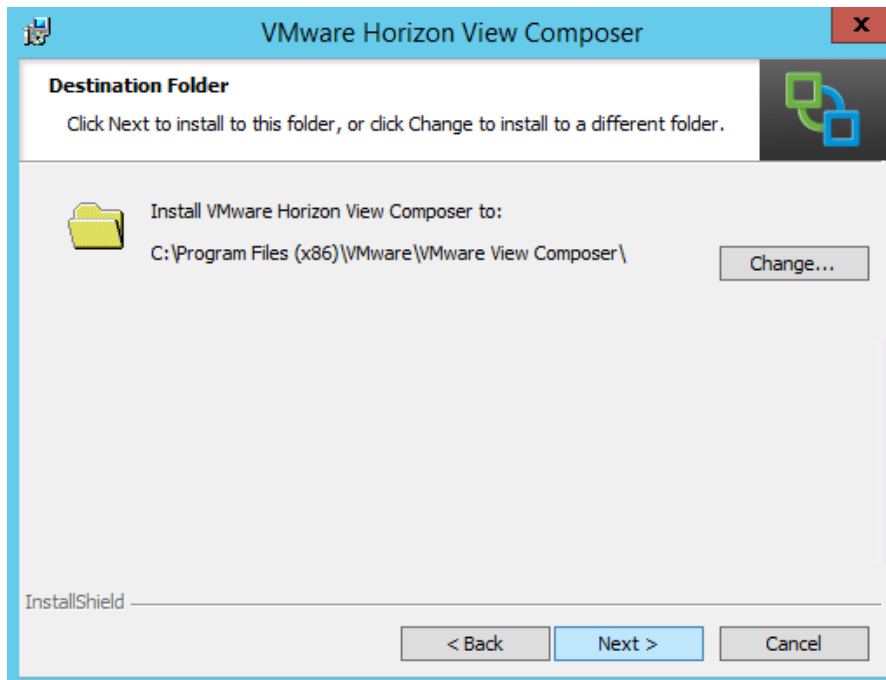


Accept the license agreement and click Next

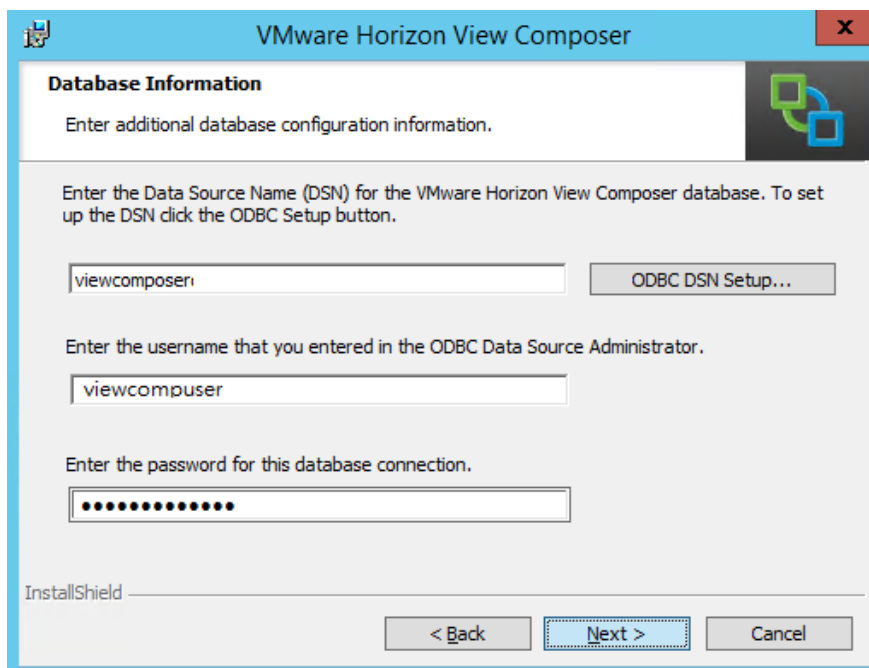




Select the destination folder where Composer will be installed.

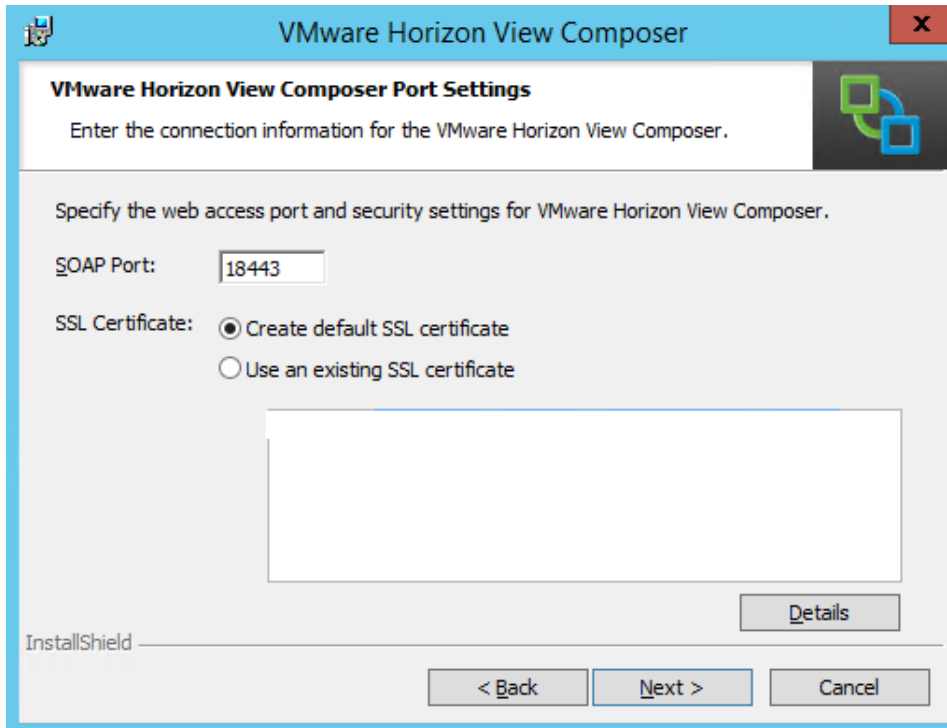


Enter database information here and click Next.

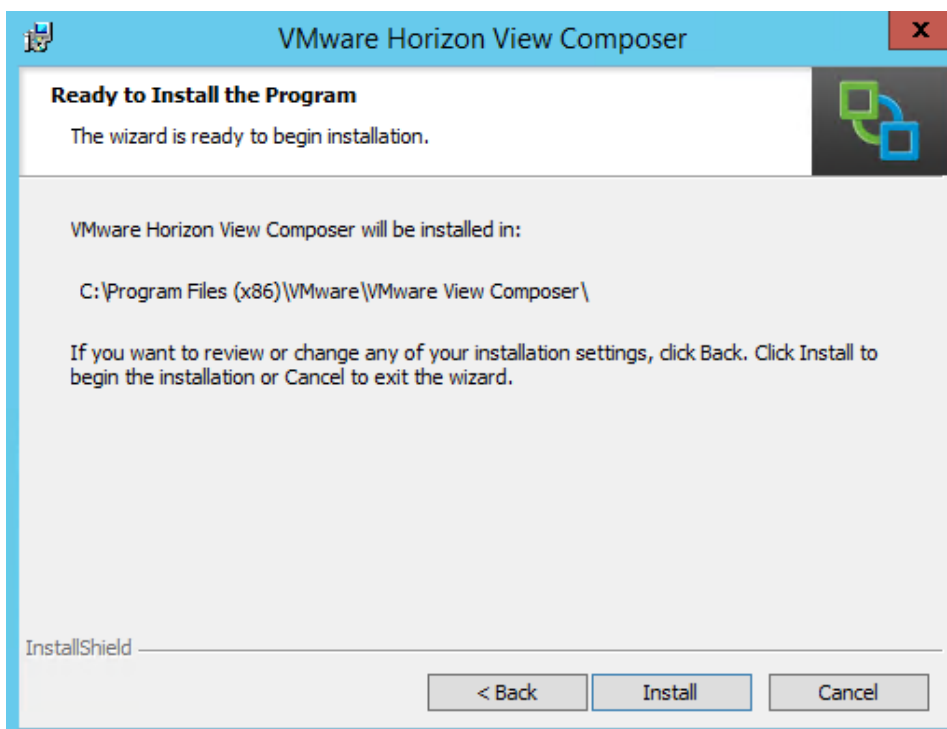




Click Next.

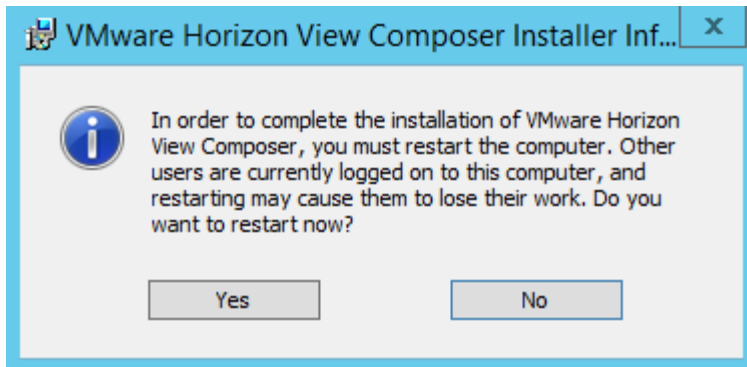


Click **Install** to start the installation.





Once the installation is finished, you will be prompted to restart your computer.



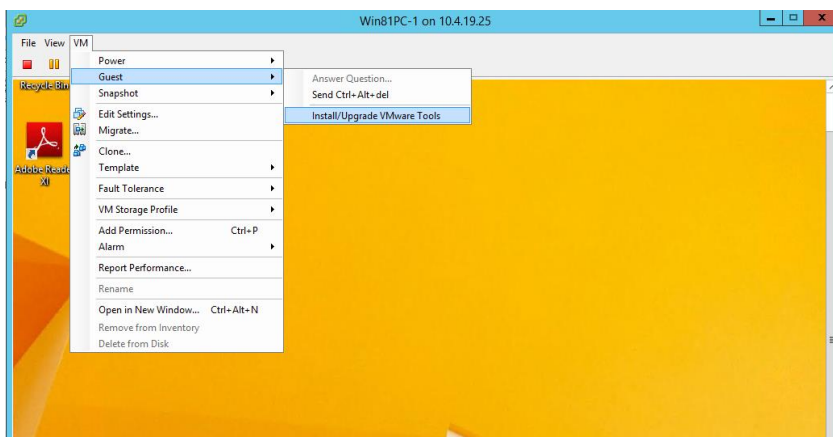
Build Master Image of Your Desktop

Create a new VM and install client operation system

Here we install Microsoft Windows 8.1 as the client VM.

Install VMware Tools

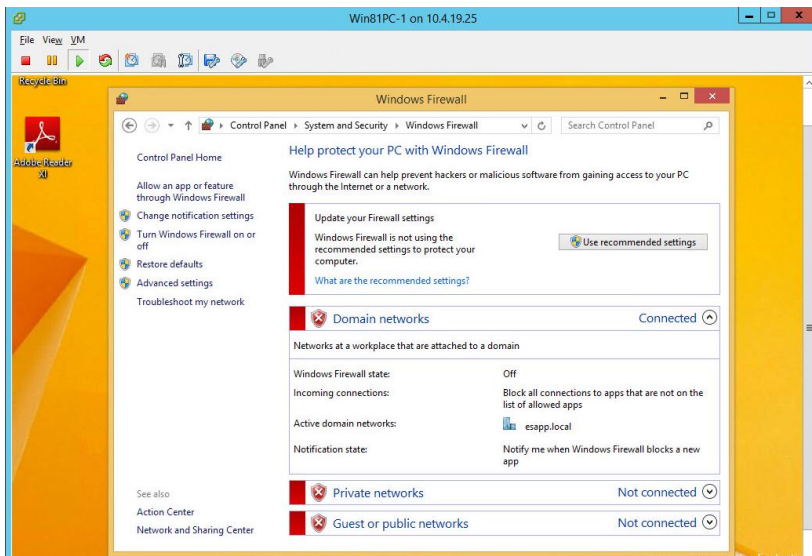
Open the VM console screen and select VM→Guest→Install/Upgrade VMware Tools from the pull-down menu bar.



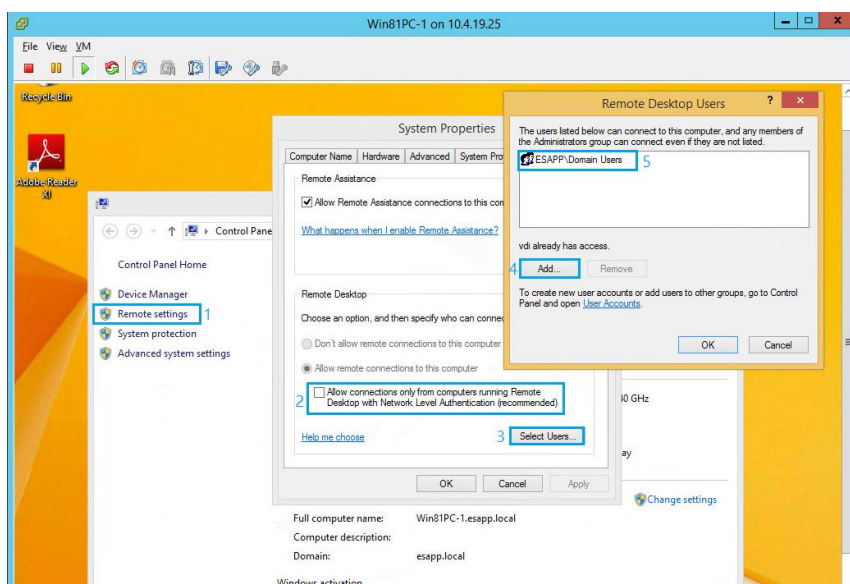
Join the template VM to a domain and Configure remote settings

Join the template VM to the domain first.

Disable Windows firewall.



Configure the remote settings to allow domain users to access through the remote desktop.

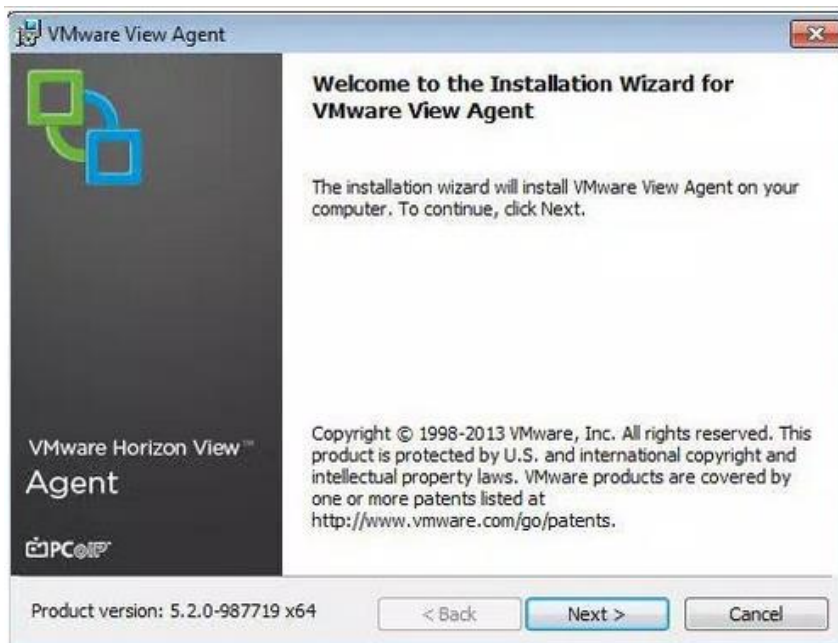




Install Horizon View Agent software

Download **VMware Horizon View Agent** software from VMware website.

Run the view agent installer and click Next.

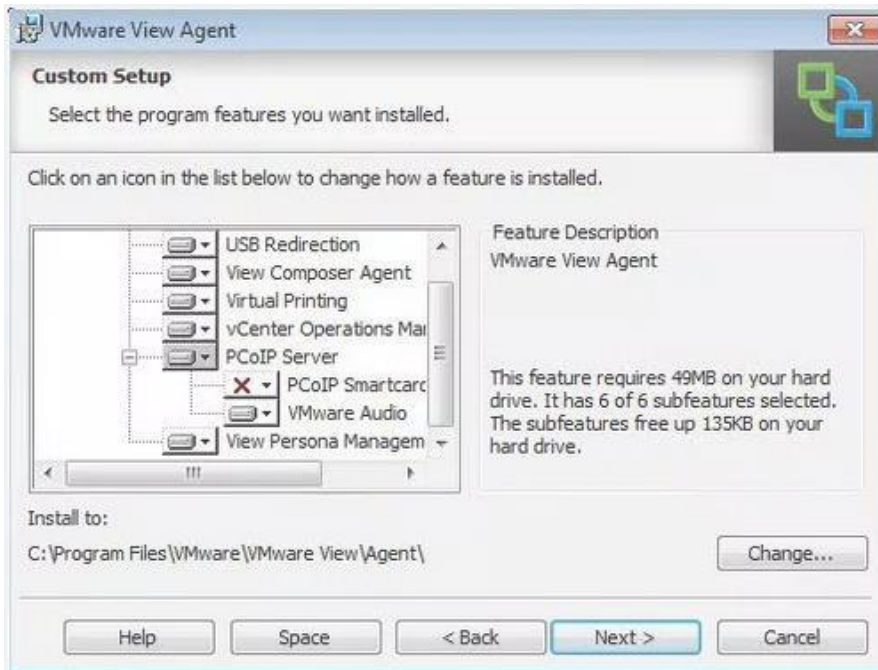


Read and accept the EULA and click Next.

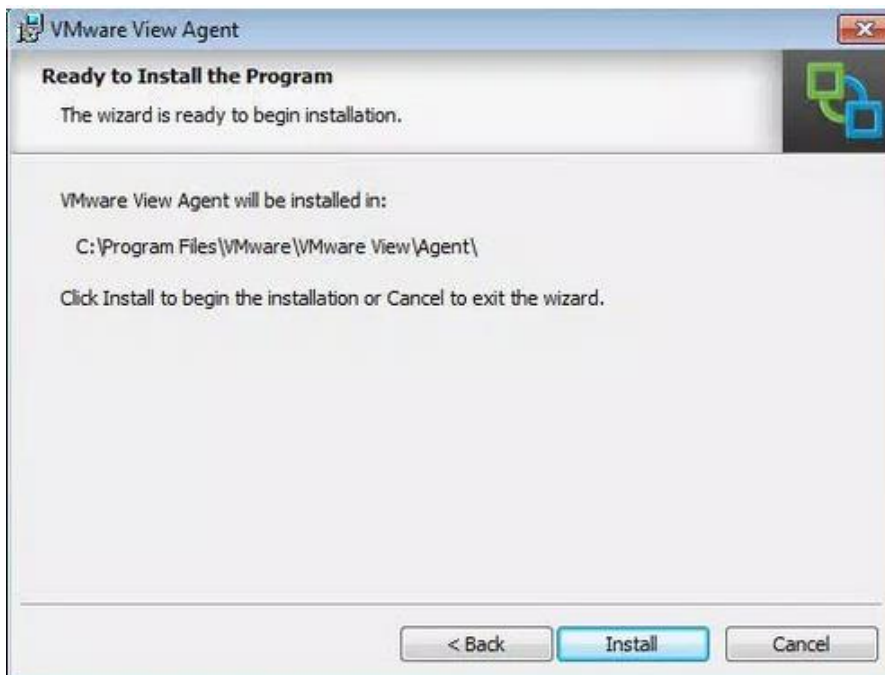




Select modules you want to install and click Next.

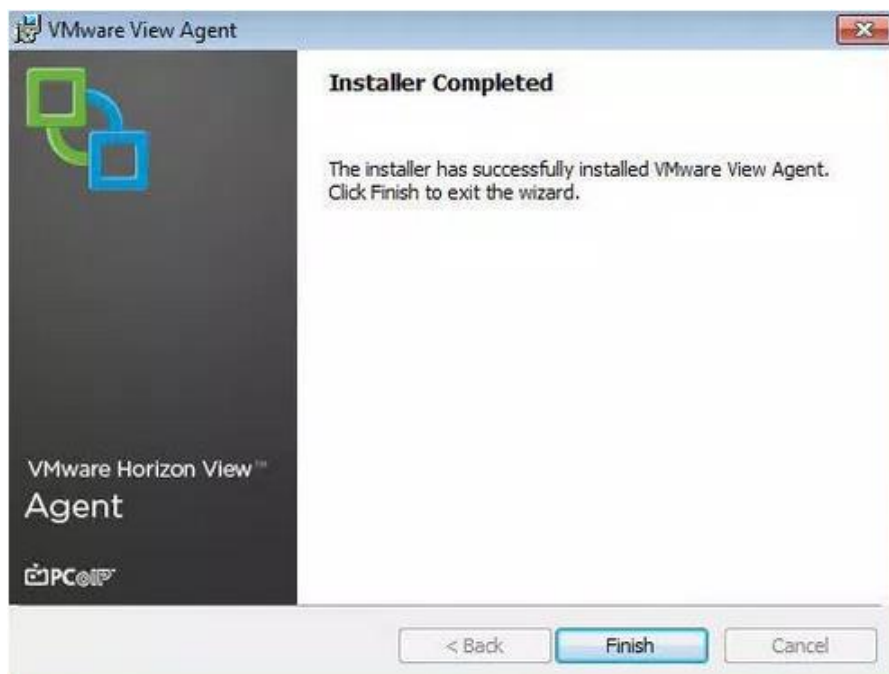


Click **Install** to start the installation.





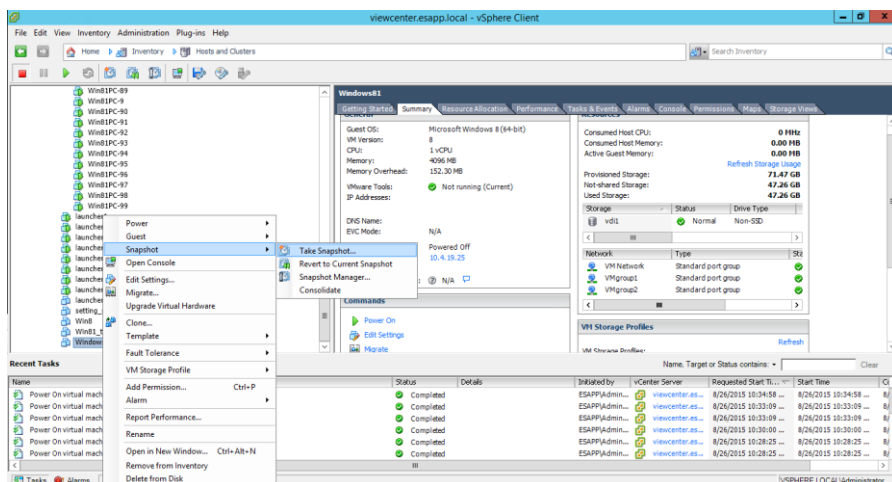
Installation is completed.



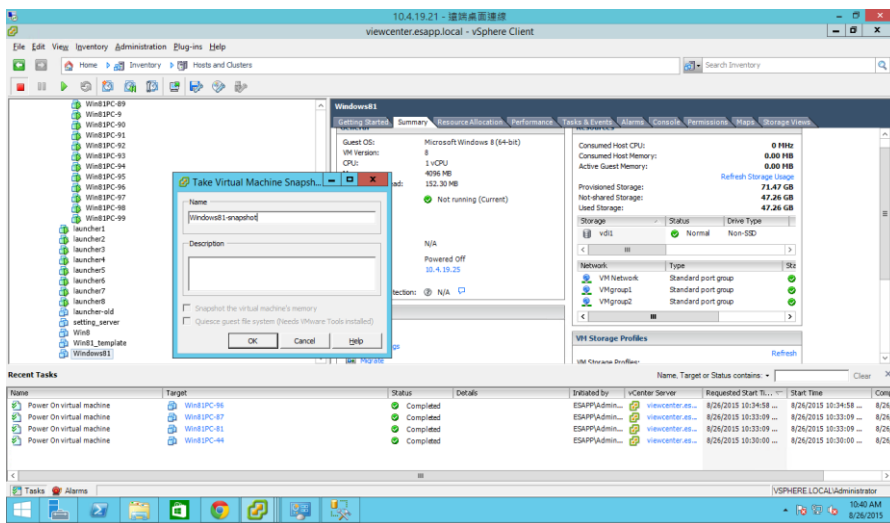
Take snapshot of this VM

Before shutdown the VM to take snapshot, please remember to logout this VM from the domain. Then shutdown this VM.

Right-clicking on the VM and select **Snapshot→Take snapshot...**



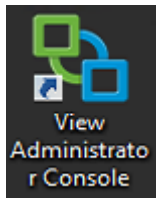
Assign the snapshot name and click OK to complete it.





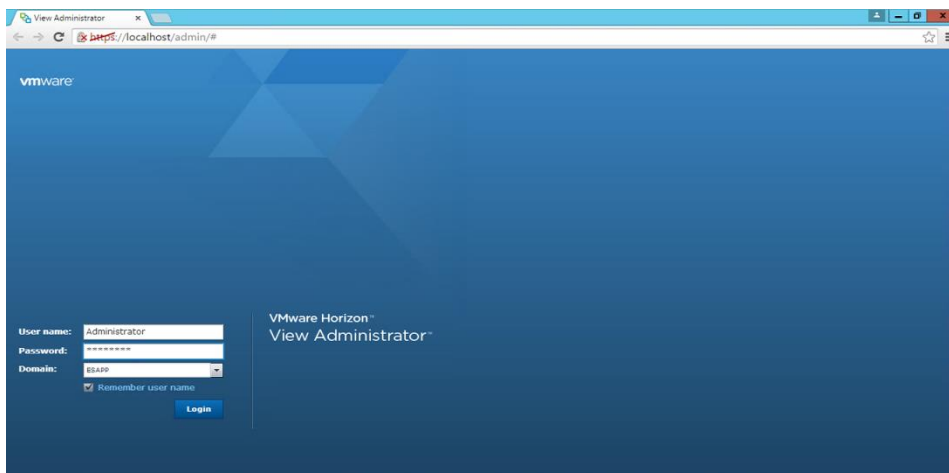
View Desktop Pool

Configure View Administration

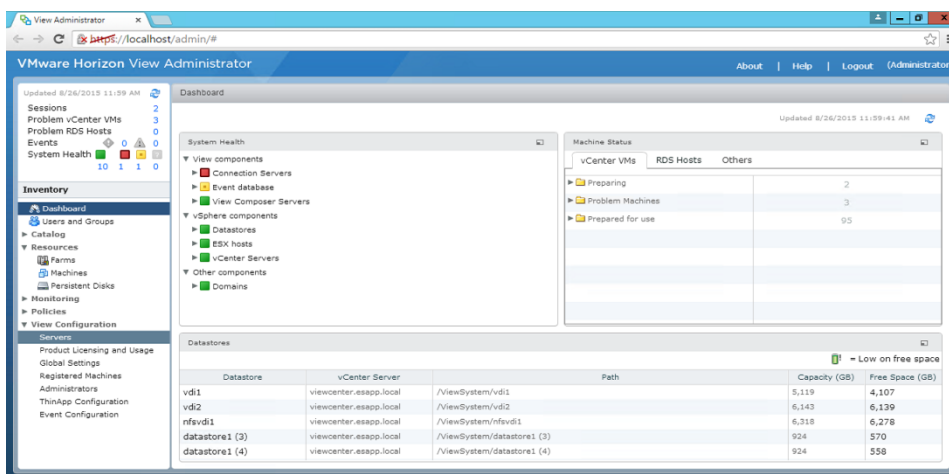


Click on **View Administrator Console** to connect to View Administrator Console.

Enter user and password to login View Administration page.



Below is the View Administration page

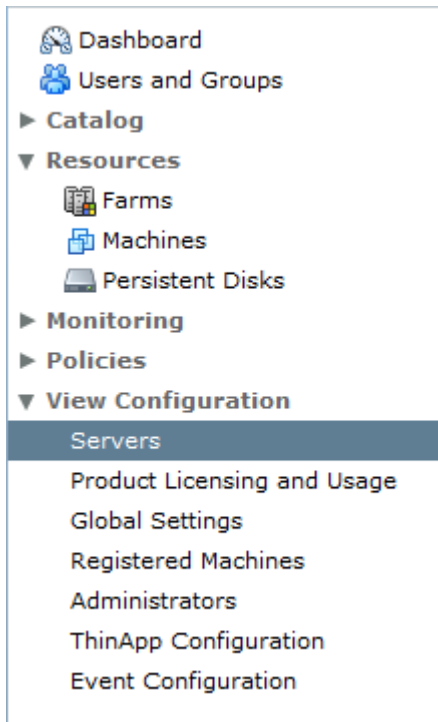


For the first time to configure View environment, you need to add vCenter server into it and so

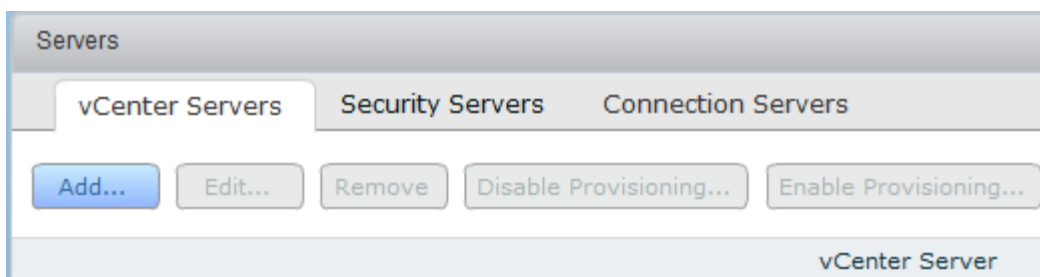


that it can communicate with vCenter server.

Expand **View Configuration** and select **Servers**



Select the **vCenter Servers** tab and select **Add...**





Enter your vCenter server information here and click Next.

Add vCenter Server

vCenter Server Information

vCenter Server Settings

Server address:

User name:

Password:

Description:

Port:

Advanced Settings

Specify the concurrent operation limits.

Max concurrent vCenter provisioning operations:

Max concurrent power operations:

Max concurrent View Composer maintenance operations:

Max concurrent View Composer provisioning operations:

vCenter Server Settings

Before you add vCenter Server to View, install a valid SSL certificate signed by a trusted CA. In a test environment, you can use the default, self-signed certificate that is installed with vCenter Server, but you must accept the certificate thumbprint.

Provide the vCenter Server FQDN or IP address, user name, and password.

Concurrent Operations Limits

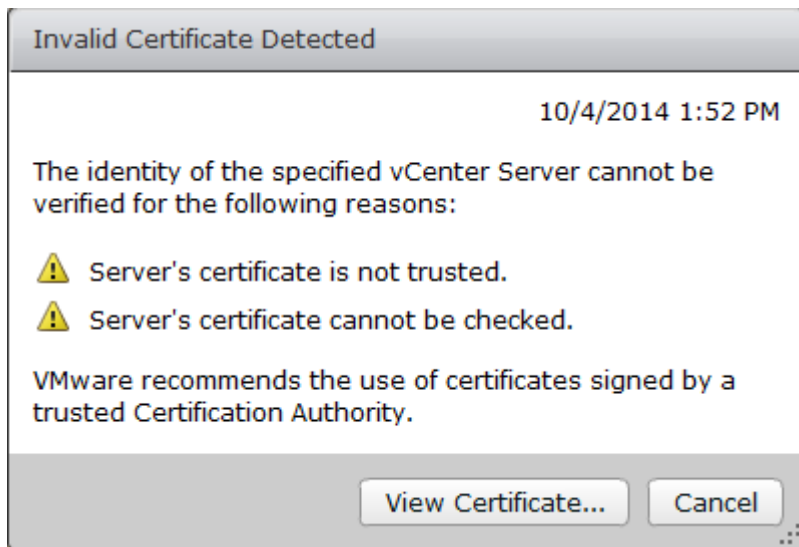
Max concurrent vCenter provisioning operations: the maximum number of concurrent VM cloning and deletion operations on this vCenter server (full clones).

Max concurrent power operations: the maximum number of concurrent VM power-on, power-off, reset, and configuration operations (full clones and linked clones).

Max concurrent View Composer maintenance operations: the maximum number of concurrent View

Next > Cancel

Click on **View Certificate...** button the view and accept the certificates.





Since we installed view composer on vCenter server, choose **View Composer co-installed with vCenter Server** here and click Next.

The screenshot shows the 'Add vCenter Server' wizard with the 'View Composer' tab selected. The 'View Composer Settings' section has two radio buttons: 'Do not use View Composer' and 'View Composer co-installed with vCenter Server'. The second option is selected. Below it, a text box shows 'Port: 18443'. To the right, the 'View Composer Settings' panel contains explanatory text about installing View Composer on the vCenter Server host or a standalone host, and a warning about SSL certificates. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

Add vCenter Server

View Composer

View Composer Settings

☐ Do not use View Composer

☒ View Composer co-installed with vCenter Server

Choose this if View Composer is installed on the same server as vCenter

Port:

☐ Standalone View Composer Server

Choose this if View Composer is installed on a separate server from vCenter

Server address:

User name:

Password:

Port:

View Composer Settings

View Composer can be installed on the vCenter Server host or a standalone host.

Before you add View Composer to View, install a valid SSL certificate signed by a trusted CA. In a test environment, you can use the default, self-signed certificate that is installed with View Composer, but you must accept the certificate thumbprint.

< Back Next > Cancel

Add Composer Domains.

The screenshot shows the 'Add vCenter Server' wizard with the 'View Composer Domains' tab selected. The 'View Composer Domains' section has three buttons: 'Add...', 'Edit...', and 'Remove...'. Below these is a table with three columns: 'Domain', 'User', and 'Desktop Pool'. The first row contains 'esapp.local', 'Administrator', and an empty cell. To the right, the 'View Composer Domains' panel contains explanatory text about adding computer accounts for linked-clone machines in AD domains and the permissions required. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

Add vCenter Server

View Composer Domains

View Composer Domains

Add... Edit... Remove...

Domain	User	Desktop Pool
esapp.local	Administrator	

View Composer Domains

View Composer adds computer accounts for linked-clone machines in the AD domains configured here. The View Composer user accounts for the domains must have **Create Computer Objects, Delete Computer Objects, and Write All Properties** permissions in the domains.

When you create a linked-clone desktop pool, you select a domain from this list to store the computer accounts.

< Back Next > Cancel



View the settings and click on **Finish** button to complete the settings.

The screenshot shows the 'Add vCenter Server' wizard in the VMware Horizon View Administrator. The 'Ready to Complete' tab is selected, displaying a summary of the configuration. The 'vCenter Server' field is 'vcenter.esapp.local'. The 'User name' is 'Administrator@esapp.local' and the 'Password' is masked with asterisks. The 'View Composer' section shows 'Standalone View Composer Server' with 'viewcomp.esapp.local' as the address and 'Administrator@esapp.local' as the user name. Other settings include 'Server Port' (443), 'Max Provision' (20), 'Max Power' (50), 'Max View Composer Operations' (12), 'Max View Composer Provision' (8), 'Enable View Storage Accelerator' (Yes), 'Default host cache size' (1024), and 'VM Disk Space Reclamation' (Yes). At the bottom, there are '< Back', 'Finish', and 'Cancel' buttons.

Field	Value
vCenter Server	vcenter.esapp.local
User name	Administrator@esapp.local
Password	*****
Description	
Server Port	443
Max Provision	20
Max Power	50
Max View Composer Operations	12
Max View Composer Provision	8
View Composer State	Standalone View Composer Server
View Composer Address	viewcomp.esapp.local
View Composer Password	*****
View Composer User Name	Administrator@esapp.local
View Composer Port	18443
Enable View Storage Accelerator	Yes
Default host cache size	1024
VM Disk Space Reclamation	Yes

Configure View Desktop Pool

Expand Catalog and select Desktop Pools and then click on **Add...** button.

The screenshot shows the 'Desktop Pools' page in the VMware Horizon View Administrator. The 'Add Desktop Pool' button is highlighted. The 'Desktop Pool Definition' section shows three options: 'Automated Desktop Pool' (selected), 'Manual Desktop Pool', and 'RDS Desktop Pool'. The 'Automated Desktop Pool' section provides a description: 'An automated desktop pool uses a vCenter Server template or virtual machine snapshot to generate new machines. The machines can be created when the pool is created or generated on demand based on pool usage.' Below this, the 'Supported Features' section lists: 'vCenter virtual machines', 'Physical computers', 'Microsoft RDS Hosts', 'View Composer', 'PCoIP', and 'Persona management', all of which are checked. On the right, there is a table with columns 'Enabled' and 'Sessions'. The 'Enabled' column shows a green checkmark, and the 'Sessions' column shows the number '2'. The left sidebar shows the 'Catalog' menu expanded, with 'Desktop Pools' selected.

We choose Automated Desktop Pool here and click Next.



Select **Floating** option and click Next.

The screenshot shows the 'Add Desktop Pool' wizard at the 'User assignment' step. The left sidebar has 'User Assignment' selected under 'Desktop Pool Definition'. The main area shows two options: 'Dedicated' (unselected) and 'Floating' (selected). The 'Floating assignment' section on the right explains that users will receive machines picked randomly from the desktop pool. The 'Supported Features' section lists View Composer, PCoIP, and Persona management, all with green checkmarks. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

Add Desktop Pool

Desktop Pool Definition

Type

User Assignment

vCenter Server

Setting

Desktop Pool Identification

Desktop Pool Settings

Provisioning Settings

Storage Optimization

vCenter Settings

Advanced Storage Options

Guest Customization

Ready to Complete

User assignment

☐ Dedicated

☒ Enable automatic assignment

☒ Floating

Floating assignment

Users will receive machines picked randomly from the desktop pool each time they log in.

Supported Features

- ✓ View Composer
- ✓ PCoIP
- ✓ Persona management

< Back Next > Cancel

Choose View Composer linked clones and click Next.

The screenshot shows the 'Add Desktop Pool' wizard at the 'vCenter Server' step. The left sidebar has 'vCenter Server' selected under 'Desktop Pool Definition'. The main area shows two options: 'Full virtual machines' (unselected) and 'View Composer linked clones' (selected). Below these is a table with two columns: 'vCenter Server' and 'View Composer'. The first row contains 'viewcenter.esapp.local(esapp\Administrator)' and 'viewcenter.esapp.local'. Below the table is a 'Description' field with 'None' entered. The 'View Composer' section on the right explains that linked clones share the same base image and use less storage space. The 'Supported Features' section lists PCoIP, Storage savings, Recompose and refresh, QuickPrep guest customization, Sysprep guest customization (vSphere 4.1 or higher), and Persona management, all with green checkmarks. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

Add Desktop Pool

Desktop Pool Definition

Type

User Assignment

vCenter Server

Setting

Desktop Pool Identification

Desktop Pool Settings

Provisioning Settings

View Composer Disks

Storage Optimization

vCenter Settings

Advanced Storage Options

Guest Customization

Ready to Complete

vCenter Server

☐ Full virtual machines

☒ View Composer linked clones

vCenter Server	View Composer
viewcenter.esapp.local(esapp\Administrator)	viewcenter.esapp.local

Description: None

View Composer

View Composer linked clones share the same base image and use less storage space than full virtual machines.

The user profile for linked clones can be redirected to persistent disks that will be unaffected by OS updates and refreshes.

Supported Features

- ✓ PCoIP
- ✓ Storage savings
- ✓ Recompose and refresh
- ✓ QuickPrep guest customization
- ✓ Sysprep guest customization (vSphere 4.1 or higher)
- ✓ Persona management

< Back Next > Cancel



Enter **ID** and **Display Name** and click Next.

The screenshot shows the 'Add Desktop Pool - Win81PC' wizard at the 'Desktop Pool Identification' step. The left sidebar lists 'Desktop Pool Definition' (Type, User Assignment, vCenter Server) and 'Setting' (Desktop Pool Identification, Desktop Pool Settings, Provisioning Settings, View Composer Disks, Storage Optimization, vCenter Settings, Advanced Storage Options, Guest Customization, Ready to Complete). The main area contains fields for 'ID' (Win81PC), 'Display name' (Windows81-VDI), 'Access group' (a dropdown menu), and 'Description' (a text area). On the right, there are informational sections for 'ID', 'Display Name', 'Access Group', and 'Description'. At the bottom, there are '< Back', 'Next >', and 'Cancel' buttons.

Check **HTML Access** if you want to access VDI from the web browser and click Next.

The screenshot shows the 'Add Desktop Pool - Win81PCA' wizard at the 'Desktop Pool Settings' step. The left sidebar is similar to the previous step, but 'Desktop Pool Settings' is highlighted. The main area contains settings for 'State' (Enabled), 'Connection Server' (None), 'Remote Settings' (Remote Machine Power Policy: Take no power action, Automatically logoff after disconnect: Never, Allow users to reset their machines: No, Allow multiple sessions per user: No, Delete or refresh machine on logoff: Never), 'Remote Display Protocol' (Default display protocol: PCoIP, Allow users to choose protocol: Yes, 3D Renderer: Disabled, Max number of monitors: 2, Max resolution of any one monitor: 1920x1200), and 'HTML Access' (checked/Enabled). At the bottom, there are '< Back', 'Next >', and 'Cancel' buttons.



Choose **Use a naming pattern** and enter **Name Pattern** and click Next.

The screenshot shows the 'Add Desktop Pool - Win81PCA' wizard with the 'Provisioning Settings' tab selected. The left sidebar lists 'Desktop Pool Definition' (Type, User Assignment, vCenter Server) and 'Setting' (Desktop Pool Identification, Desktop Pool Settings, Provisioning Settings, View Composer Disks, Storage Optimization, vCenter Settings, Advanced Storage Options, Guest Customization, Ready to Complete). The main content area is divided into three sections: 'Basic', 'Virtual Machine Naming', and 'Desktop Pool Sizing'. In the 'Basic' section, 'Enable provisioning' and 'Stop provisioning on error' are checked. In the 'Virtual Machine Naming' section, 'Use a naming pattern' is selected, and the 'Naming Pattern' field contains 'Win81PC-{n}'. In the 'Desktop Pool Sizing' section, 'Max number of machines' is 1, 'Number of spare (powered on) machines' is 1, and 'Minimum number of ready (provisioned) machines during View Composer maintenance operations' is 0. The 'Provisioning Timing' section shows 'Provision all machines up-front' selected. A 'Naming Pattern' help text on the right explains that virtual machines will be named according to the specified naming pattern and provides examples like 'vm-{n}-sales.'. At the bottom, there are '< Back', 'Next >', and 'Cancel' buttons.

Click Next.

The screenshot shows the 'Add Desktop Pool - Win81PCA' wizard with the 'View Composer Disks' tab selected. The left sidebar is the same as the previous screenshot. The main content area is divided into two sections: 'Disposable File Redirection' and 'Disposable File Redirection'. In the 'Disposable File Redirection' section, 'Redirect disposable files to a non-persistent disk' is selected, and the 'Disk size' is 4096 MB (minimum 512 MB). The 'Drive letter' is set to 'Auto'. In the 'Disposable File Redirection' section, 'Do not redirect disposable files' is selected. A 'Disposable File Redirection' help text on the right explains that this option is used to redirect disposable files to a non-persistent disk that will be deleted automatically when a user's session ends. At the bottom, there are '< Back', 'Next >', and 'Cancel' buttons.



Click Next.

The screenshot shows the 'Add Desktop Pool - Win81PCA' wizard at the 'Storage Optimization' step. The left sidebar lists the steps: Desktop Pool Definition, Setting, Desktop Pool Identification, Desktop Pool Settings, Provisioning Settings, View Composer Disks, Storage Optimization (selected), vCenter Settings, Advanced Storage Options, Guest Customization, and Ready to Complete. The main area is titled 'Storage Optimization' and contains two sections: 'Storage Policy Management' and 'Storage Optimization'. Under 'Storage Policy Management', there are two radio buttons: 'Use VMware Virtual SAN' (unselected) and 'Do not use VMware Virtual SAN' (selected). Below the radio buttons, there are two warning icons with text: 'Virtual SAN is not available because no Virtual SAN datastores are configured.' and 'Fast NFS Clones (VAAI) will be unavailable if the Replica disks are stored separately from the OS disks'. Under 'Storage Optimization', there is a section titled 'Replica disks' with text explaining that this option enables control over the placement of the replica that linked clones use as their base image. It also states that it is recommended that a high performance datastore be chosen for these images, depending on hardware configuration, storing replicas on a separate datastore might create a single point of failure. At the bottom of the wizard, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Click **Browse...** button to select information for each items and click Next.

The screenshot shows the 'Add Desktop Pool - Win81PCA' wizard at the 'vCenter Settings' step. The left sidebar is the same as in the previous screenshot, with 'vCenter Settings' selected. The main area is titled 'vCenter Settings' and contains three sections: 'Default Image', 'Virtual Machine Location', and 'Resource Settings'. Under 'Default Image', there are two items: '1 Parent VM:' with a text box containing '/ViewSystem/vm/Windows81' and a 'Browse...' button, and '2 Snapshot:' with a text box containing '/Windows81_snapshot/Windows81_0' and a 'Browse...' button. Under 'Virtual Machine Location', there is one item: '3 VM folder location:' with a text box containing '/ViewSystem/vm' and a 'Browse...' button. Under 'Resource Settings', there are three items: '4 Host or cluster:' with a text box containing '/ViewSystem/host/viewCluster' and a 'Browse...' button, '5 Resource pool:' with a text box containing '/ViewSystem/host/viewCluster/Resour' and a 'Browse...' button, and '6 Datastores:' with a text box containing '1 selected' and a 'Browse...' button. At the bottom of the wizard, there are three buttons: '< Back', 'Next >', and 'Cancel'.



Click Next.

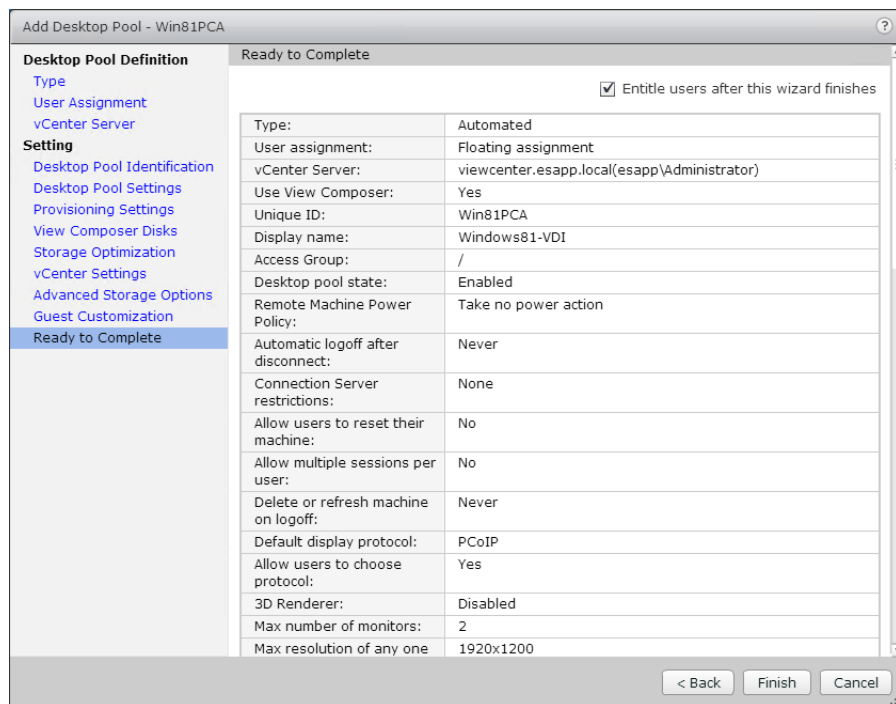
The screenshot shows the 'Advanced Storage Options' step of the 'Add Desktop Pool - Win81PCA' wizard. The left sidebar lists navigation options: Desktop Pool Definition, Type, User Assignment, vCenter Server, Setting, Desktop Pool Identification, Desktop Pool Settings, Provisioning Settings, View Composer Disks, Storage Optimization, vCenter Settings, **Advanced Storage Options**, Guest Customization, and Ready to Complete. The main content area is divided into three sections: 'Advanced Storage Options', 'View Storage Accelerator', and 'Native NFS Snapshots (VAAI)'. The 'Advanced Storage Options' section includes a checkbox for 'Use View Storage Accelerator' (checked), 'Disk Types' (OS disks), 'Regenerate storage accelerator after: 7 Days', and 'Other Options' (Use native NFS snapshots (VAAI) and Reclaim VM disk space). The 'View Storage Accelerator' section explains that vSphere 5.x hosts can be configured to improve performance by caching certain desktop pool data. The 'Native NFS Snapshots (VAAI)' section explains that VAAI is a hardware feature of certain storage arrays. The 'Disk Space Reclamation' section explains that with vSphere 5.x, virtual machines can be configured to use a space efficient disk format that supports reclamation of unused disk space. The 'Blackout Times' section explains that storage accelerator regeneration and VM disk space reclamation do not occur during blackout times. At the bottom, there are buttons for '< Back', 'Next >', and 'Cancel'.

Select the domain and AD container and click Next.

The screenshot shows the 'Guest Customization' step of the 'Add Desktop Pool - Win81PCA' wizard. The left sidebar is the same as the previous step. The main content area is divided into two sections: 'Guest Customization' and 'Use a customization specification (Sysprep)'. The 'Guest Customization' section includes a 'Domain:' dropdown (esapp.local(Administrator)), an 'AD container:' dropdown (CN=Computers) with a 'Browse...' button, and checkboxes for 'Allow reuse of pre-existing computer accounts' (unchecked) and 'Use QuickPrep' (checked). Below these are fields for 'Power-off script name:', 'Power-off script parameters:', 'Post-synchronization script name:', and 'Post-synchronization script parameters:', each with an example: 'p1 p2 p3'. The 'Use a customization specification (Sysprep)' section includes a table with columns 'Name', 'Guest OS', and 'Description'. The table has one row: 'Win81 Customization', 'Windows', and an empty description field. At the bottom, there are buttons for '< Back', 'Next >', and 'Cancel'.

Name	Guest OS	Description
Win81 Customization	Windows	

Check whether all settings are correct. If yes, click **Finish** button to complete it. If no, you can click on **Back** button to modify it.



Add Desktop Pool - Win81PCA

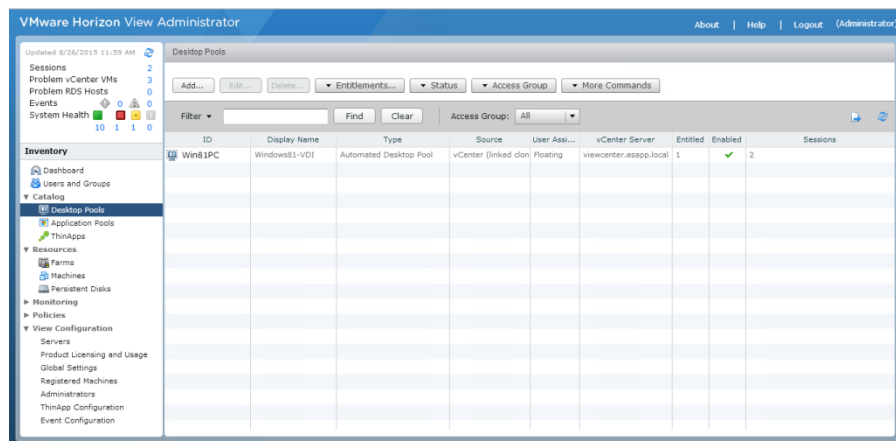
Ready to Complete

☒ Entitle users after this wizard finishes

Type:	Automated
User assignment:	Floating assignment
vCenter Server:	viewcenter.esapp.local(esapp\Administrator)
Use View Composer:	Yes
Unique ID:	Win81PCA
Display name:	Windows81-VDI
Access Group:	/
Desktop pool state:	Enabled
Remote Machine Power Policy:	Take no power action
Automatic logoff after disconnect:	Never
Connection Server restrictions:	None
Allow users to reset their machine:	No
Allow multiple sessions per user:	No
Delete or refresh machine on logoff:	Never
Default display protocol:	PCoIP
Allow users to choose protocol:	Yes
3D Renderer:	Disabled
Max number of monitors:	2
Max resolution of any one	1920x1200

< Back Finish Cancel

The View Desktop Pool is created.



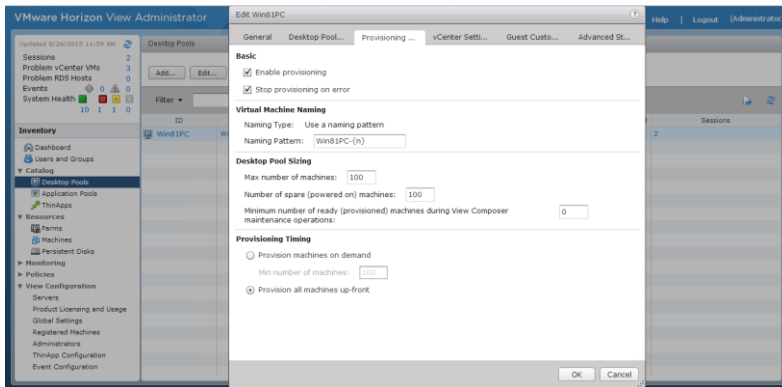
ID	Display Name	Type	Source	User Ass...	vCenter Server	Entitled	Enabled	Sessions
Win81PCA	Windows81-VDI	Automated Desktop Pool	vCenter (linked clon)	Floating	viewcenter.esapp.local	1	✓	2



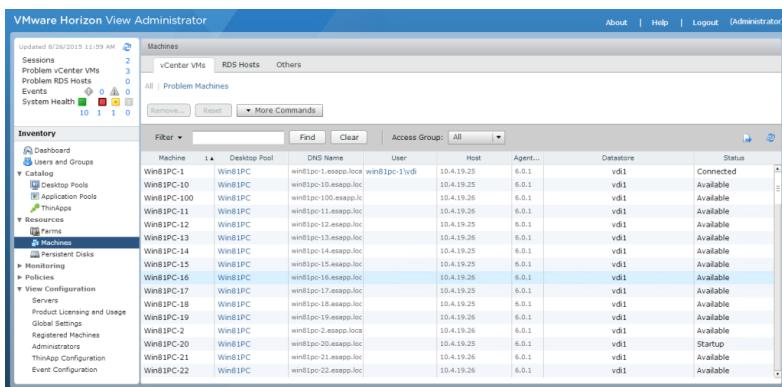
Start provisioning multiple VMs.

Select Desktop Pool and click on **Edit...** button. Select **Provisioning...** tab.

Select **Enable provisioning** checkbox. Enter the number of the VMs you want to create and click OK.



In Resources → Machines, you can see all VMs created.



Or you can check these VMs in vCenter server.

