

SANJEEV AGRAWAL GLOBAL EDUCATIONAL UNIVERSITY, BHOPAL



SCHOOL OF COMPUTER APPLICATION
Lab File
PRINCIPLES OF VIRTUALIZATION
(CA21B302)

BACHELOR OF COMPUTER APPLICATION
(CLOUD COMPUTING)
Academic Year 2023-24

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SSOCA

Content

Sr. No.	Title of Experiment	Date of Submission	Remarks
1	Install and configure VMware ESXi Server 6.0, a type-I hypervisor on a host machine to deploy a virtual machine. 1. Launch DCUI Console. 2. Configure Management Network 3. Set IPV4 & DNS Configuration. 4. Restart		
2	Installation and deployment of VMware vSphere Client in a Physical Machine. Connect ESXi Host with all required configurations. – Use ESXi 5.X version for this Lab.		
3	Installation and deployment of VMware vCenter in a virtual machine that runs on an ESXi host-Mount VMware vCenter 6.0 on Windows Server operating system 2012, 64 bits along with the necessary drivers. a. Configure the settings (RAM-8GB, Processor-2) b. Mount iso image of vCenter on CD/DVD drive c. Select Embedded deployment d. Create New vCenter Single-Sign-On domain e. Allow Common ports, Platform service controller ports & vCenter Server ports. f. Launch vSphere Web Client.		
4	Creation of virtual machine using vCenter Server on a machine that has access to ESXi host by installing vSphere client - Launch vSphere client and communicate with the ESXi host by performing the following operations. a. Create a virtual machine b. Configure and run the machine c. Select Guest OS Ubuntu d. Select a location & datacenter e. Create a Cluster & Add a host		
5	Modify virtual machine settings by adjusting configuration like hardware, adding new virtual hard disk, number of virtual processor and memory settings.		
6	Clone a virtual machine including all its settings		
7	Installing Windows Virtual PC on various platforms (32-bit, 64-bit).		
8	Creating and managing virtual hard disks.		
9	Create a Snapshot & then create a virtual machine using that snapshot.		
10	Create a Template & then create a virtual machine from Template.		

Experiment No. 1

Title: Install and configure VMware ESXi Server 6.0, a type-I hypervisor on a host machine to deploy a virtual machine. 1. Launch DCUI Console. 2. Configure Management Network 3. Set IPV4 & DNS Configuration. 4. Restart.

Steps of VMware ESXi Server 7.0 installation and configuration:

Minimum hardware requirements for ESXi are:

CPU: A two-core x86_64 CPU on the computer where the ESXi host will run. Intel VT-x or AMD-v (RVI) features must be enabled in UEFI/BIOS.

RAM: 4 GB of RAM to run ESXi and at least 8 GB of RAM to run VMs on an ESXi host. The more memory your computer/server running ESXi has, the more VMs you can run.

Storage: At least 8 GB of disk space is required to install and boot ESXi 7.0. ESXi can be installed on a separate HDD or SSD, RAID, and even a USB flash drive or SD card. Be aware that when you install ESXi on a USB flash drive or SD card, there is no persistent */scratch* partition to store logs. It is recommended that you provide 32 GB or more on a boot device for ESXi. A boot device must not be shared between multiple ESXi hosts. Opt for SCSI (SAS) disks for VM storage.

Network: At least one Gigabit Ethernet network controller. The network adapter must be compatible with ESXi 7.0. Install multiple network adapters on your ESXi server to use NIC Teaming (link aggregation), configure separate This is especially important for using VMware clustering features. It is recommended that you use static IP configuration for vSphere components such as ESXi hosts, vCenter servers, and so on.

Step 1. DVD disc or USB flash drive and boot from this prepared medium to run the ESXi 7 installer on your server.

Step 2. Welcome to the VMware ESXi 7.0.0 Installation. Read the welcome message and hit Enter to continue.



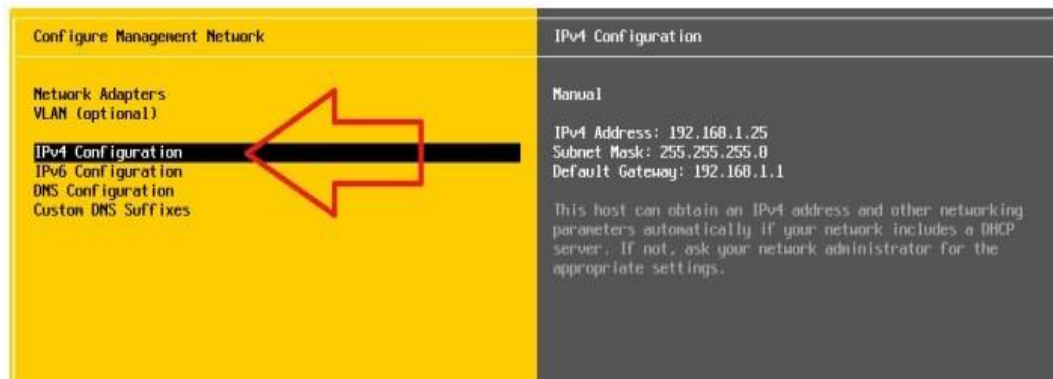
Step 3. End User License Agreement (EULA). Read the EULA and press Enter to accept and continue.

Step 4. Setup-vSphere-7_starting-ESXi-installation

- Step 5. Select a Disk to Install or Upgrade. In this example we have one disk to install ESXi 7.0. Later you can attach more disks, initialize them and use as datastores to store VM files. Select a storage device and hit Enter.
- Step 6. Please select a keyboard layout. US Default is used in our case. We recommend that you use the same option.
- Step 7. VMware-vSphere-installation-and-setup-begins-from-ESXi-installation
- Step 8. Enter a root password. A password must meet the complexity requirements.
- Step 9. Confirm Install. Press F11 to start the installation process of ESXi 7.0 on your server.



- Step 10. Entering-the-root-password-for-ESXi-and-installation-confirmation
- Step 11. Wait until the installation process finishes. Installation Complete. When you see this screen, it means that ESXi 7.0 has been installed successfully. Remove the installation medium and press Enter to reboot the machine.
- Step 12. The ESXi server can be configured using function keys F2.



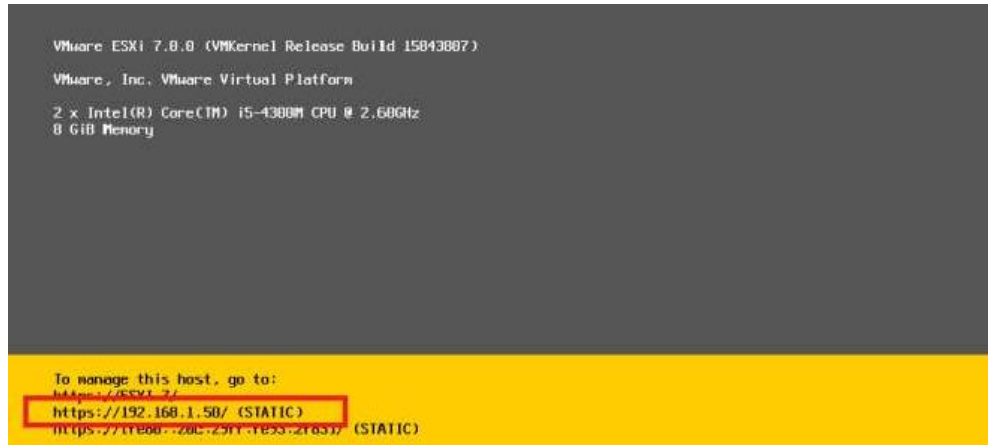
- Step 13. 192.168.1.25 – IP address given to manage the ESXi server
- Step 14. <F2> Customize System/ View logs
- Step 15. <F12> Shutdown /Restart

Conclusion:

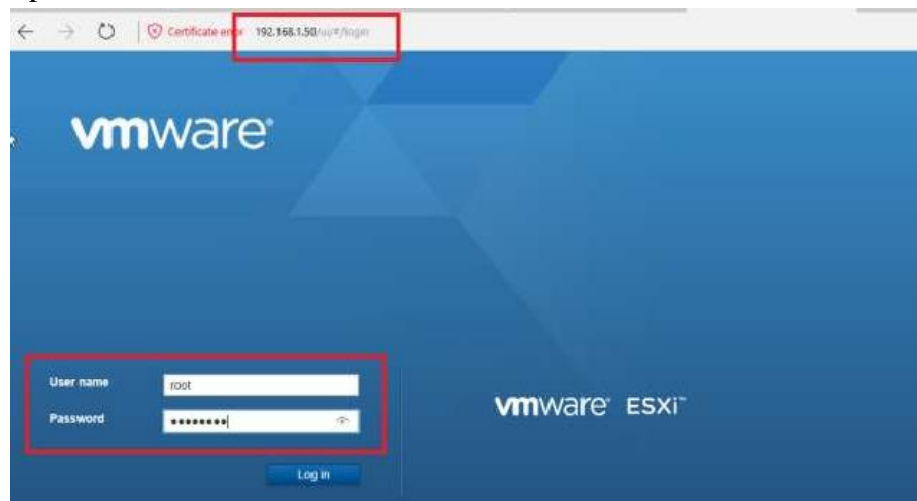
Experiment No. 2

Title: Installation and deployment of VMware vSphere Client in a Physical Machine. Connect ESXi Host with all required configurations. – Use ESXi 7.X version for this Lab.

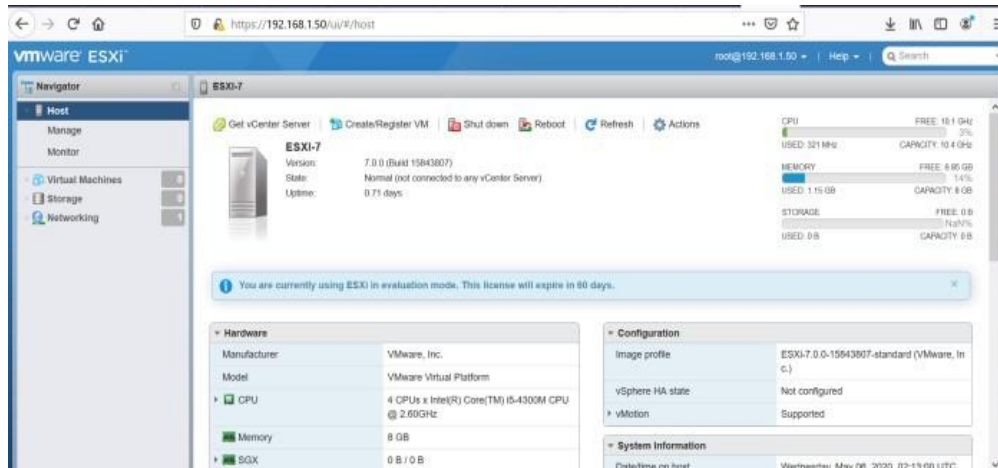
Access of ESXi using VMware vSphere Client:



Step 1. Open Web browser and write IP address 192.168.1.50 to access ESXi server.



Step 2. Enter Username as root and password.



Conclusion:

Experiment No. 3

Title: Installation and deployment of VMware vCenter in a virtual machine that runs on an ESXi host-Mount VMware vCenter 6.0 on Windows Server operating system 2012, 64 bits along with the necessary drivers. a. Configure the settings (RAM-8GB, Processor-2) b. Mount iso image of vCenter on CD/DVD drive c. Select Embedded deployment d. Create New vCenter Single-Sign-On domain e. Allow Common ports, Platform service controller ports & vCenter Server ports. f. Launch vSphere Web Client.

vCenter installation and configuration steps:

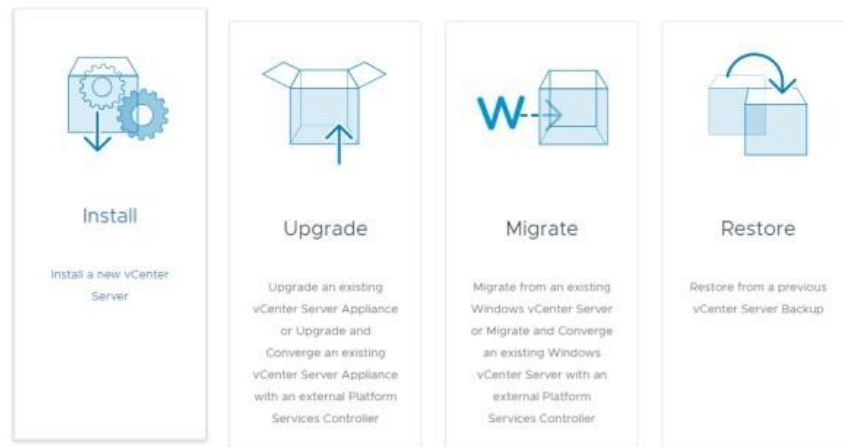
Step1: Mount the vCenter ISO file

Name	Date modified	Type	Size
dbschema	5/9/2020 2:42 PM	File folder	
migration-assistant	5/9/2020 2:42 PM	File folder	
umds	5/9/2020 2:42 PM	File folder	
vc	5/9/2020 2:51 PM	File folder	
vccli-installer	5/9/2020 2:42 PM	File folder	
vcui-installer	5/9/2020 2:42 PM	File folder	
readme	5/9/2020 2:42 PM	Text Document	5 KB
readme-de	5/9/2020 2:42 PM	Text Document	7 KB
readme-es	5/9/2020 2:42 PM	Text Document	6 KB
readme-fr	5/9/2020 2:42 PM	Text Document	7 KB
readme-ja	5/9/2020 2:42 PM	Text Document	7 KB
readme-ko	5/9/2020 2:42 PM	Text Document	6 KB
readme-zh-CN	5/9/2020 2:42 PM	Text Document	5 KB
readme-zh-TW	5/9/2020 2:42 PM	Text Document	5 KB

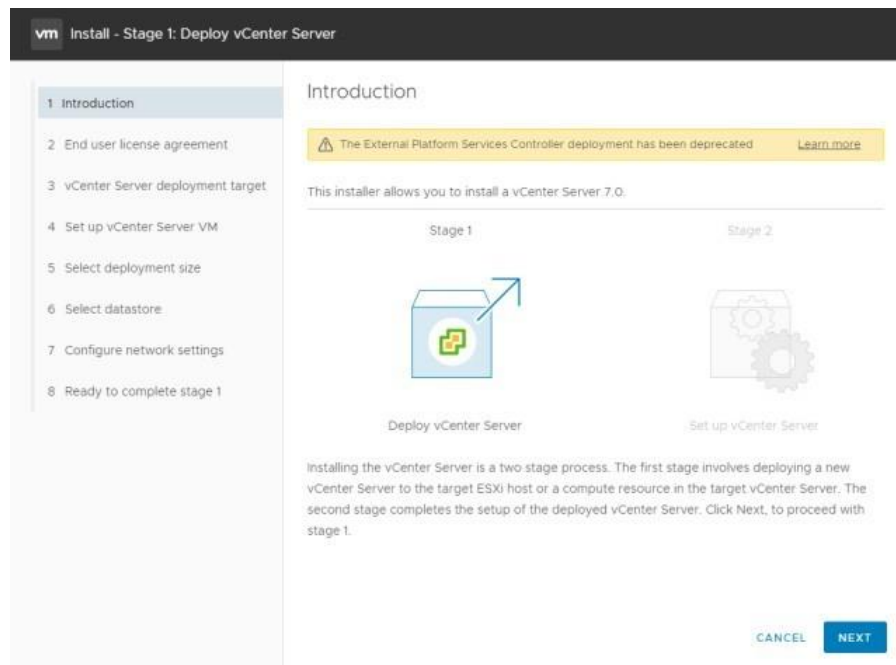
Step 2: Go to **vccli-installer** folder

Step 3: Go to **win32** folder

Name	Date modified	Type	Size
api-ms-win-crt-time-l1-1-0.dll	3/3/2020 6:38 PM	Application exten...	19 KB
blink_image_resources_200_percent.pak	3/3/2020 6:38 PM	PAK File	5 KB
content_resources_200_percent.pak	3/3/2020 6:38 PM	PAK File	1 KB
content_shell.pak	3/3/2020 6:38 PM	PAK File	7,307 KB
d3dcompiler_47.dll	3/3/2020 6:38 PM	Application exten...	3,386 KB
ffmpeg.dll	3/3/2020 6:40 PM	Application exten...	1,577 KB
icudtl.dat	3/3/2020 6:38 PM	DAT File	9,933 KB
installer	3/3/2020 6:40 PM	Application	51,251 KB
libEGL.dll	3/3/2020 6:40 PM	Application exten...	31 KB
libGLESv2.dll	3/3/2020 6:40 PM	Application exten...	2,867 KB
LICENSE	3/3/2020 6:38 PM	File	2 KB
LICENSES.chromium	3/3/2020 6:38 PM	Chrome HTML Do...	1,862 KB
msvcp140.dll	3/3/2020 6:38 PM	Application exten...	430 KB
natives_blob.bin	3/3/2020 6:38 PM	BIN File	171 KB
node.dll	3/3/2020 6:39 PM	Application exten...	14,748 KB
ucrtbase.dll	3/3/2020 6:38 PM	Application exten...	1,145 KB
ui_resources_200_percent.pak	3/3/2020 6:38 PM	PAK File	110 KB
v8_context_snapshot.bin	3/3/2020 6:38 PM	BIN File	1,441 KB
vcruntime140.dll	3/3/2020 6:38 PM	Application exten...	82 KB
version	3/3/2020 6:38 PM	File	1 KB
views_resources_200_percent.pak	3/3/2020 6:38 PM	PAK File	56 KB



Step 4: Click on **Install**



Step 5: Click on **Next**

vm Install - Stage 1: Deploy vCenter Server

1 Introduction

2 End user license agreement

3 vCenter Server deployment target

4 Set up vCenter Server VM

5 Select deployment size

6 Select datastore

7 Configure network settings

8 Ready to complete stage 1

End user license agreement

Read and accept the following license agreement.

VMWARE END USER LICENSE AGREEMENT

PLEASE NOTE THAT THE TERMS OF THIS END USER LICENSE AGREEMENT SHALL GOVERN YOUR USE OF THE SOFTWARE, REGARDLESS OF ANY TERMS THAT MAY APPEAR DURING THE INSTALLATION OF THE SOFTWARE.

IMPORTANT-READ CAREFULLY: BY DOWNLOADING, INSTALLING, OR USING THE SOFTWARE, YOU (THE INDIVIDUAL OR LEGAL ENTITY) AGREE TO BE BOUND BY THE TERMS OF THIS END USER LICENSE AGREEMENT ("EULA"). IF YOU DO NOT AGREE TO THE TERMS OF THIS EULA, YOU MUST NOT DOWNLOAD, INSTALL, OR USE THE SOFTWARE, AND YOU MUST DELETE OR RETURN THE UNUSED SOFTWARE TO THE VENDOR FROM WHICH YOU ACQUIRED IT WITHIN THIRTY (30) DAYS AND REQUEST A REFUND OF THE LICENSE FEE, IF ANY, THAT YOU PAID FOR THE SOFTWARE.

☒ I accept the terms of the license agreement.

CANCEL

BACK

NEXT

Step 6: Accept the **User Agreement** and click on **Next**

vm Install - Stage 1: Deploy vCenter Server

1 Introduction

2 End user license agreement

3 vCenter Server deployment target

4 Set up vCenter Server VM

5 Select deployment size

6 Select datastore

7 Configure network settings

8 Ready to complete stage 1

vCenter Server deployment target

Specify the vCenter Server deployment target settings. The target is the ESXi host or vCenter Server instance on which the vCenter Server will be deployed.

ESXi host or vCenter Server name

192.168.59.14

ⓘ

HTTPS port

443

User name

root

ⓘ

Password

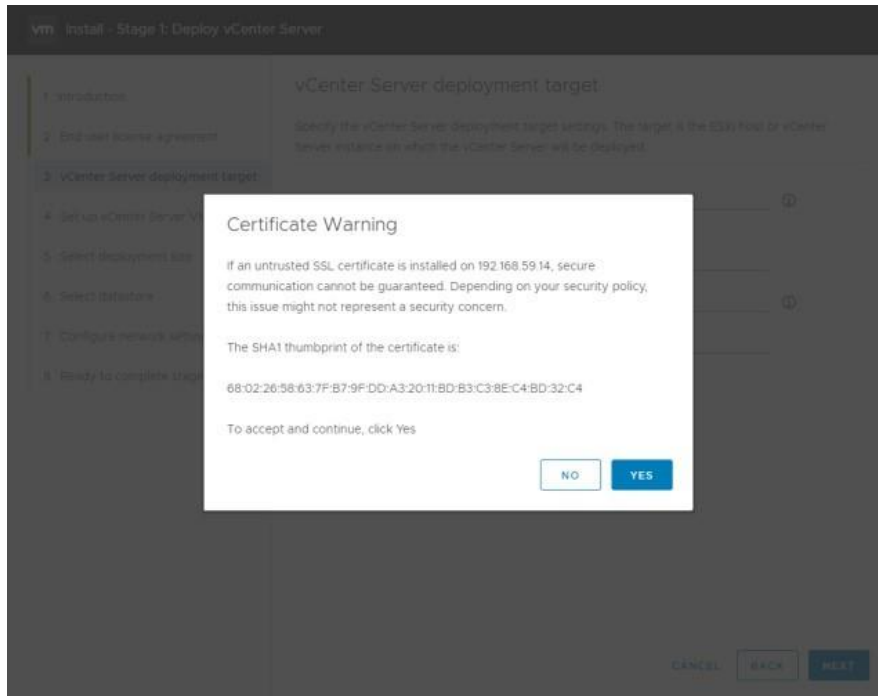
.....

CANCEL

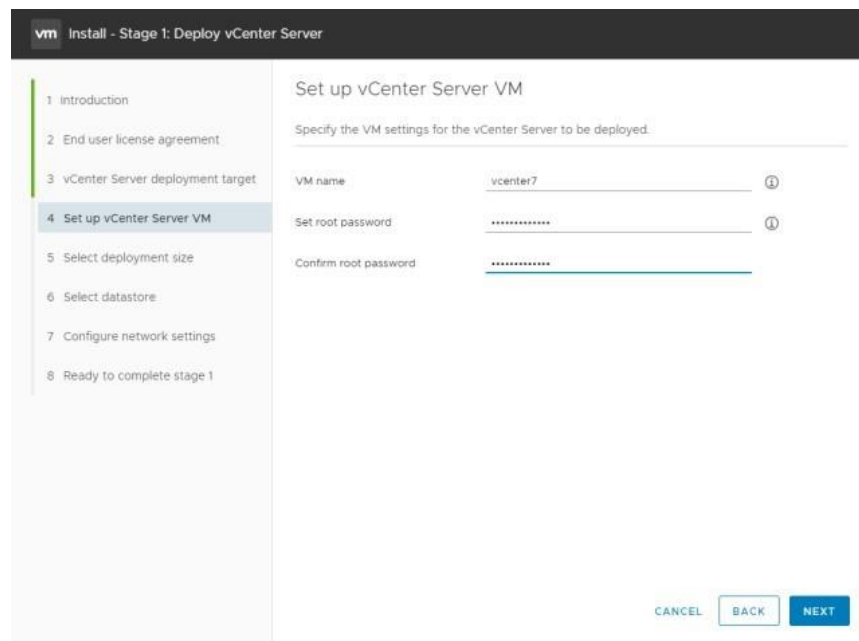
BACK

NEXT

Step 7: Provide IP of the host where you want to install vCenter Appliance, the root password and click on **Next**



Step 8: Click on Yes



Step 9: Provide a name for the VM, set the root password and click on Next

vm

Install - Stage 1: Deploy vCenter Server

1 Introduction

2 End user license agreement

3 vCenter Server deployment target

4 Set up vCenter Server VM

5 Select deployment size

6 Select datastore

7 Configure network settings

8 Ready to complete stage 1

Select deployment size

Select the deployment size for this vCenter Server.

For more information on deployment sizes, refer to the vSphere 7.0 documentation.

Deployment size Tiny

Storage size Default

Resources required for different deployment sizes

Deployment Size	vCPUs	Memory (GB)	Storage (GB)	Hosts (up to)	VMs (up to)
Tiny	2	12	415	10	100
Small	4	19	480	100	1000
Medium	8	28	700	400	4000
Large	16	37	1065	1000	10000
X-Large	24	56	1805	2000	35000

CANCEL

BACK

NEXT

Step 10: Select your deployment type (I keep default one for my Lab) and click on **Next**

vm

Install - Stage 1: Deploy vCenter Server

1 Introduction

2 End user license agreement

3 vCenter Server deployment target

4 Set up vCenter Server VM

5 Select deployment size

6 Select datastore

7 Configure network settings

8 Ready to complete stage 1

Select datastore

Select the storage location for this vCenter Server

Install on an existing datastore accessible from the target host

Show only compatible datastores

Name	Type	Capacity	Free	Provisioned	Thin Provisioning
VMs (1)	NFS	10.82 TB	10.71 TB	110.61 GB	Supported
ISOs	NFS	10.82 TB	10.71 TB	110.61 GB	Supported
Lab	VMFS-6	3.27 TB	1.85 TB	1.42 TB	Supported
Arnaud	VMFS-6	6.89 TB	3.21 TB	3.69 TB	Supported
ESX-04-DS	VMFS-6	271.25 GB	267.84 GB	3.41 GB	Supported

5 items

Enable Thin Disk Mode

Install on a new vSAN cluster containing the target host

CANCEL

BACK

NEXT

Step 11: Select the Datastore and click on **Next**

11

vm Install - Stage 1: Deploy vCenter Server

- 1 Introduction
- 2 End user license agreement
- 3 vCenter Server deployment target
- 4 Set up vCenter Server VM
- 5 Select deployment size
- 6 Select datastore
- 7 Configure network settings**
- 8 Ready to complete stage 1

Configure network settings

Configure network settings for this vCenter Server

Network	vDS 1Gb-VM Network-ephemeral ⓘ
IP version	IPv4
IP assignment	static
FQDN	vcenter7.lab.local ⓘ
IP address	192.168.59.17
Subnet mask or prefix length	255.255.255.0 ⓘ
Default gateway	192.168.59.253
DNS servers	192.168.0.1, 192.168.0.2
Common Ports	
HTTP	80
HTTPS	443

CANCEL BACK **NEXT**

Step 12: Select Network, provide FQDN, network information and click on **Next**

vm Install - Stage 1: Deploy vCenter Server

- 1 Introduction
- 2 End user license agreement
- 3 vCenter Server deployment target
- 4 Set up vCenter Server VM
- 5 Select deployment size
- 6 Select datastore
- 7 Configure network settings
- 8 Ready to complete stage 1**

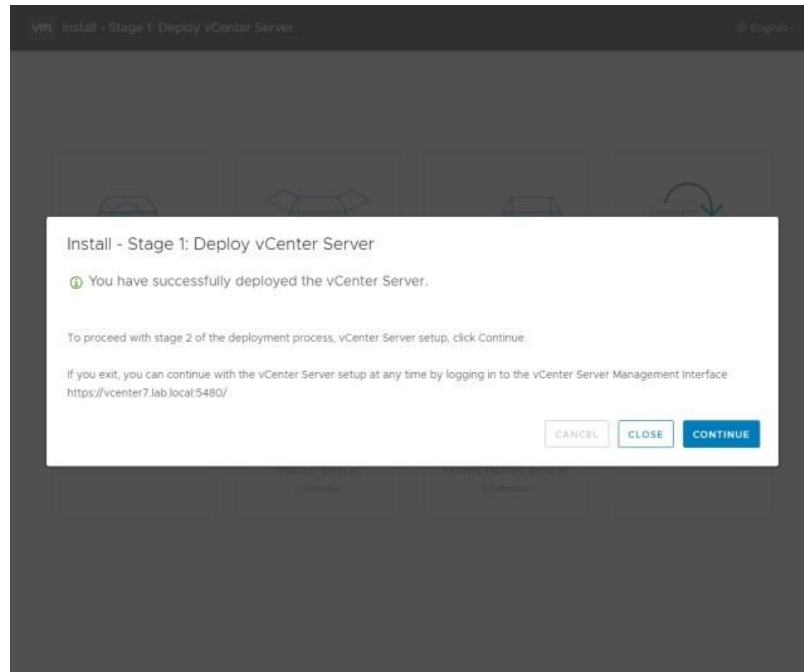
Ready to complete stage 1

Review your settings before starting the vCenter Server deployment.

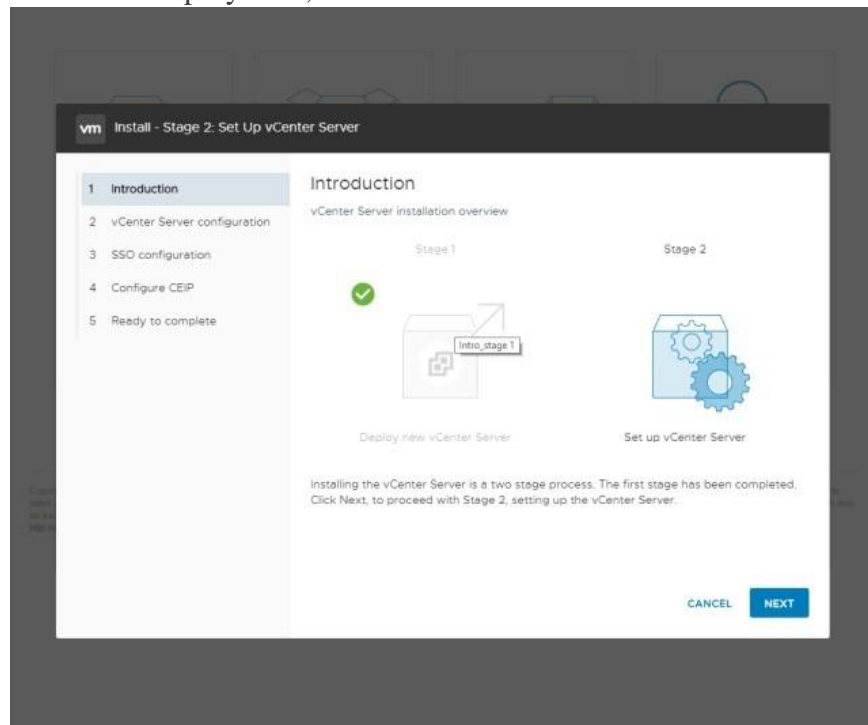
Deployment Details	
Target ESXi host	192.168.59.14
VM name	vcenter7
Deployment size	Tiny
Storage size	Default
Datastore Details	
Datastore, Disk mode	ESX-04-D5, thin
Network Details	
Network	vDS 1Gb-VM Network-ephemeral
IP settings	IPv4, static
IP address	192.168.59.17
Host name	vcenter7.lab.local
Subnet mask or prefix length	255.255.255.0
Default gateway	192.168.59.253
DNS servers	192.168.0.1, 192.168.0.2
HTTP Port	80
HTTPS Port	443

CANCEL BACK **FINISH**

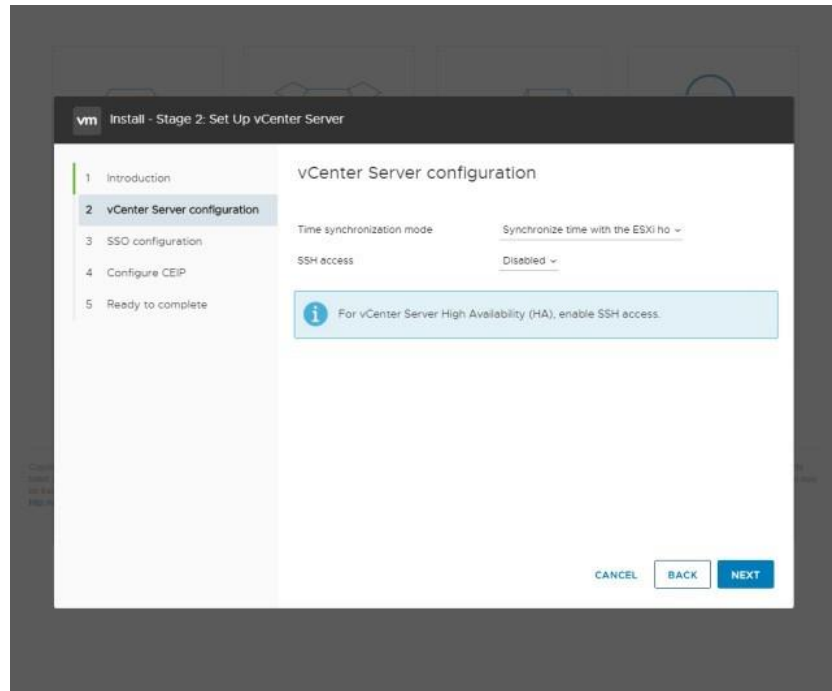
Step 13: Review information and click on **Finish**



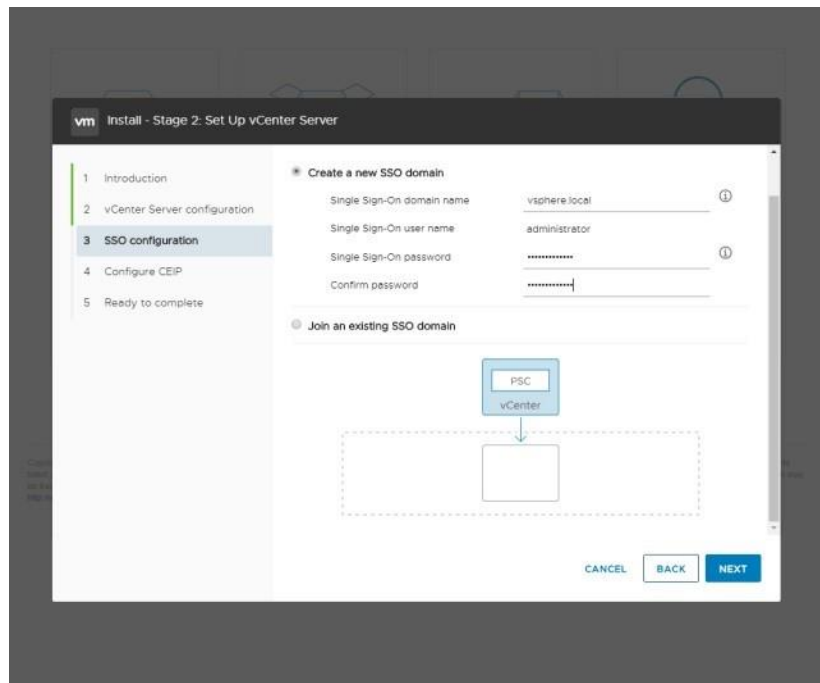
Step 14: At the end of the deployment, click on **Continue**



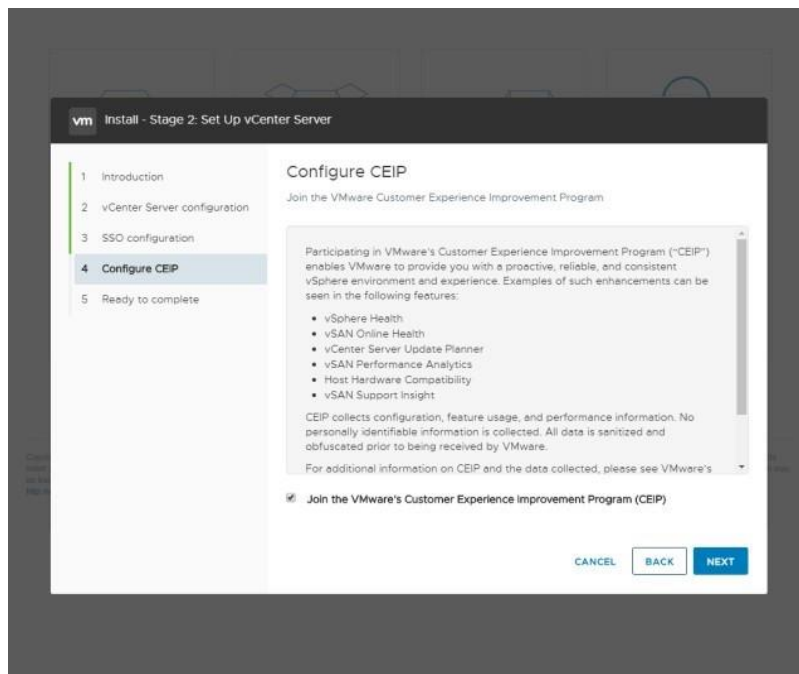
Step 15: Click on **Next**



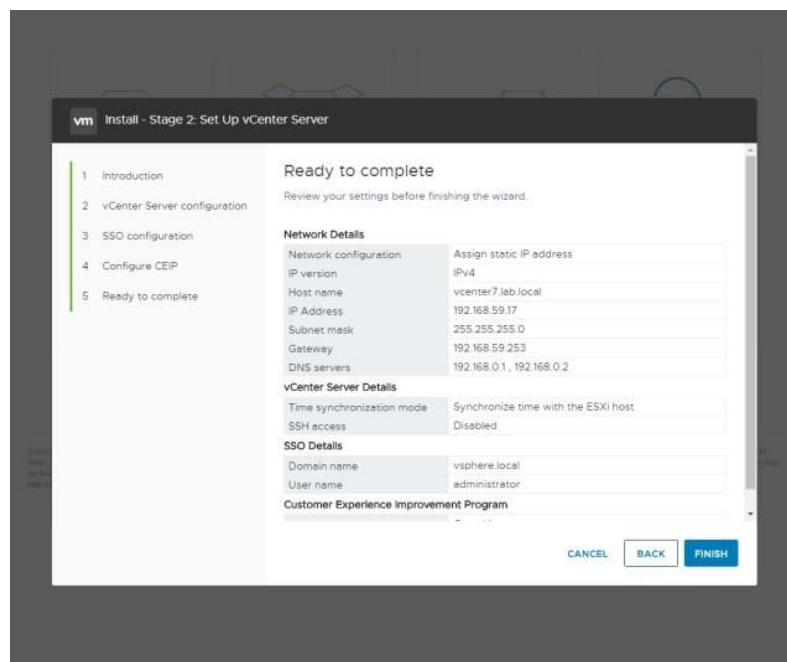
Step 16: Click on **Next**



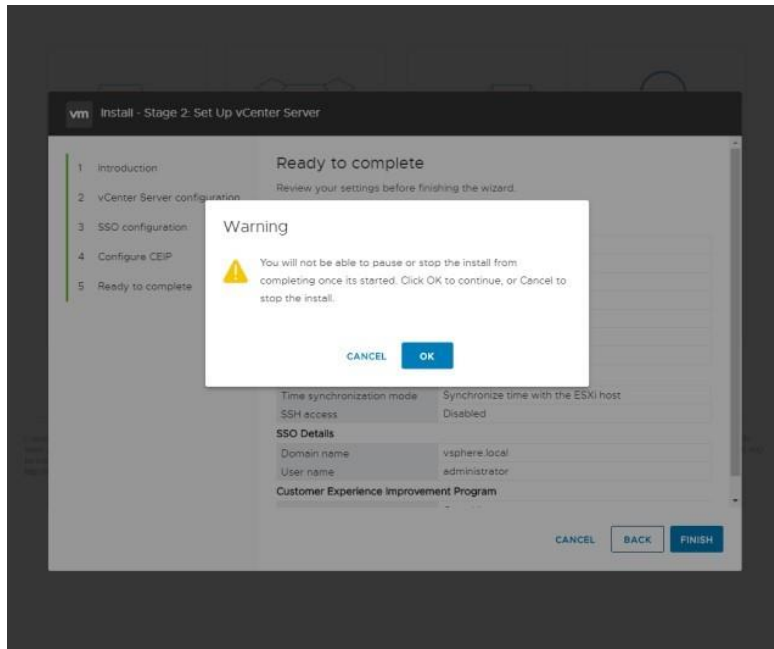
Step 17: Provide SSO Domain, Password and click on **Next**



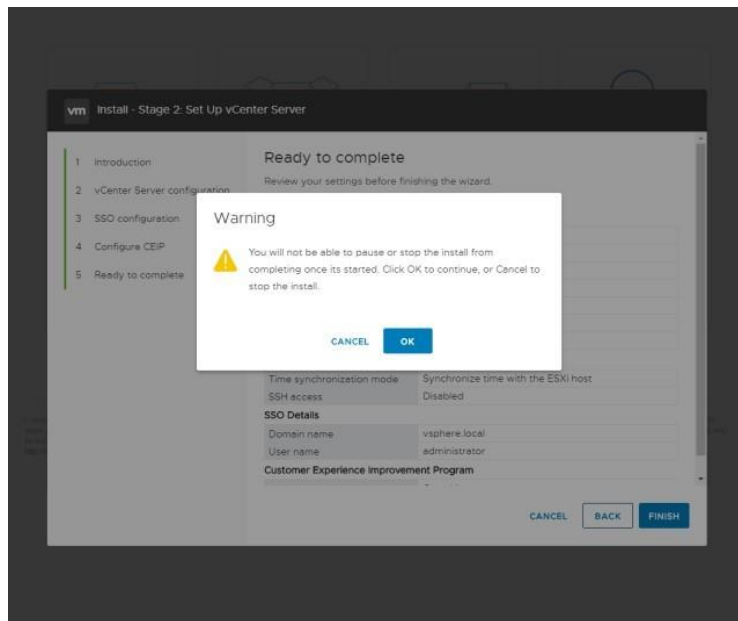
Step 18: If you want to join CEP click on **Next** (otherwise uncheck the box)



Step 19: Review details and click on **Finish**



Step 20: Click on **OK** to start the install

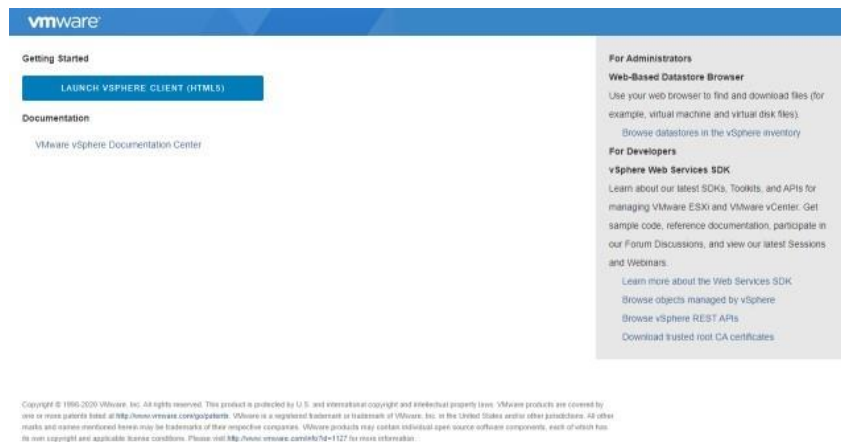


Step 21: Click on **Close**

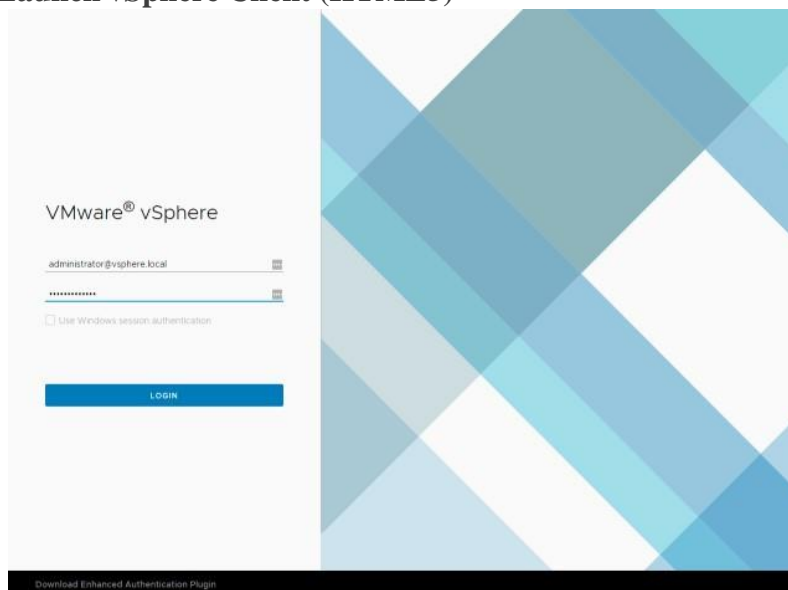
Conclusion:

Experiment No. 4

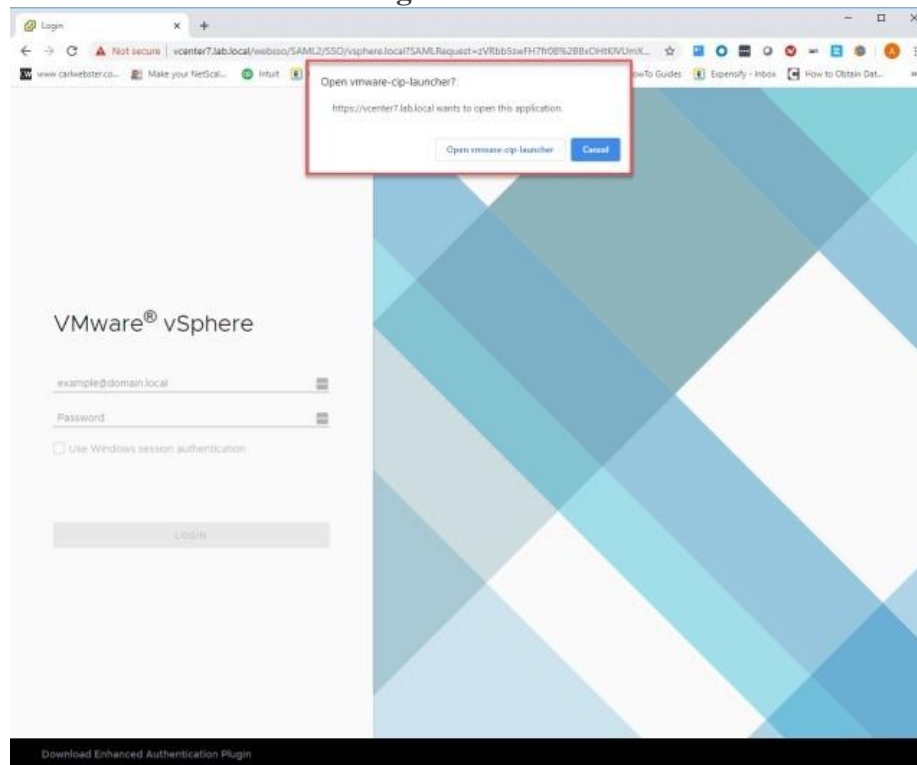
Title: Creation of virtual machine using vCenter Server on a machine that has access to ESXi host by installing vSphere client - Launch vSphere client and communicate with the ESXi host by performing the following operations. a. Create a virtual machine b. Configure and run the machine c. Select Guest OS Ubuntu d. Select a location & datacentre e. Create a Cluster & Add a host



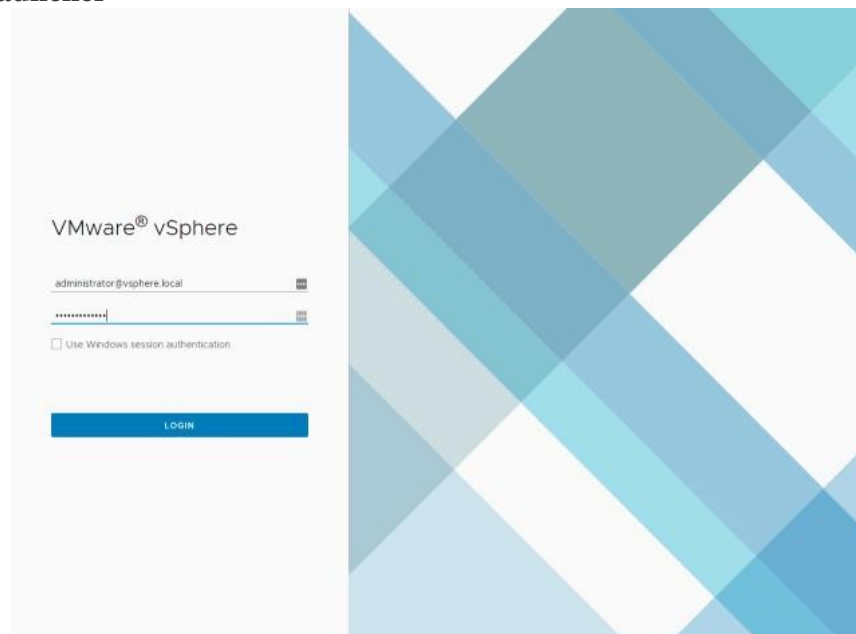
Step 1: Click on **Launch vSphere Client (HTML5)**



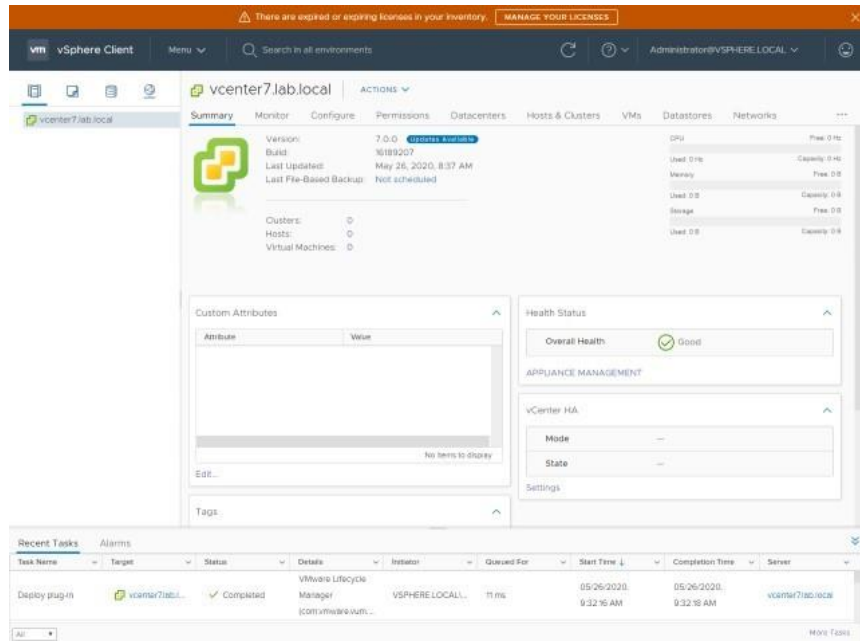
Step 2: Provide credentials and click on **Login**



Step 3: When plugin is installed, on first connection you have the above pop-up, click on **Open vmware-cip-launcher**



Step 4: Provide credentials and click on **Login**



Step 5: Next steps will be to add host, manage license, etc.

Conclusion:

Experiment No. 5

Title: Modify virtual machine settings by adjusting configuration like hardware, adding new virtual hard disk, number of virtual processor and memory settings.

Theory:

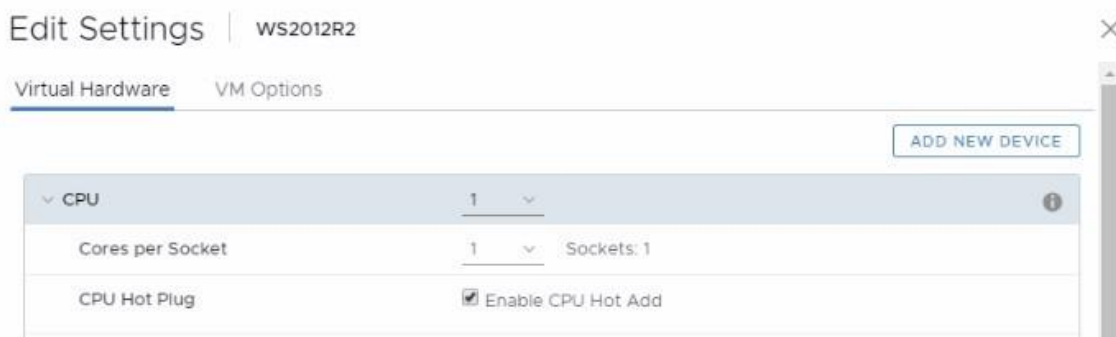
Each Virtual Machine is a collection of resources provided by the infrastructure layer, usually organized in a pool of resources and assigned dynamically (or in some case statically) to each VM. Each VM “see” a subset of the physical resources in a form of virtual hardware components defined usually by the following minimum elements:

- Hardware platform type (x86 for 32 bit VM or x64 for 64 bit VM)
- Virtual Hardware type (depending by the virtualization layer)
- Virtual CPU (and maybe virtual sockets and virtual cores)
- Virtual RAM (and maybe also a Persistent RAM)
- Virtual disk connected to a virtual controller
- Virtual NIC

Then there can be also additional hardware components that maybe are not mandatory, but maybe are useful on specific use cases. Or are needed for some basic operations, like, for example, installing the guest OS where a video driver, a keyboard and a mouse device are needed to use the remote console.

To enable the CPU hot add option:

1. Right-click a virtual machine in the inventory and select Edit Settings.
2. On the Virtual Hardware tab, expand CPU, and select Enable CPU Hot Add.
3. Click OK.



Conclusion:

Experiment No. 6

Title: Clone a virtual machine including all its settings.

Theory:

The cloning process in VMware is a process in which you create an exact copy of your original virtual machine (VM). A VMware clone has the same hardware, software, and other configurations as the original VM. Cloning is useful when deploying several virtual machines with the same resource allocation and configurations. The cloning process saves you a lot of time in situations that require new, similar machines fast.

Benefits of Cloning a Virtual Machine

The speed and simplicity of the VMware cloning VM process are its biggest advantage. The process of new VM creation can be quite long sometimes because of the OS installation. With cloning, you can quickly deploy multiple virtual machines with the same setup. Cloning is handy when you've just started a new quality assurance (QA) team, and they all need to run tests in the same environment. They can all get their environment in just a few clicks.

Drawbacks of Cloning a Virtual Machine

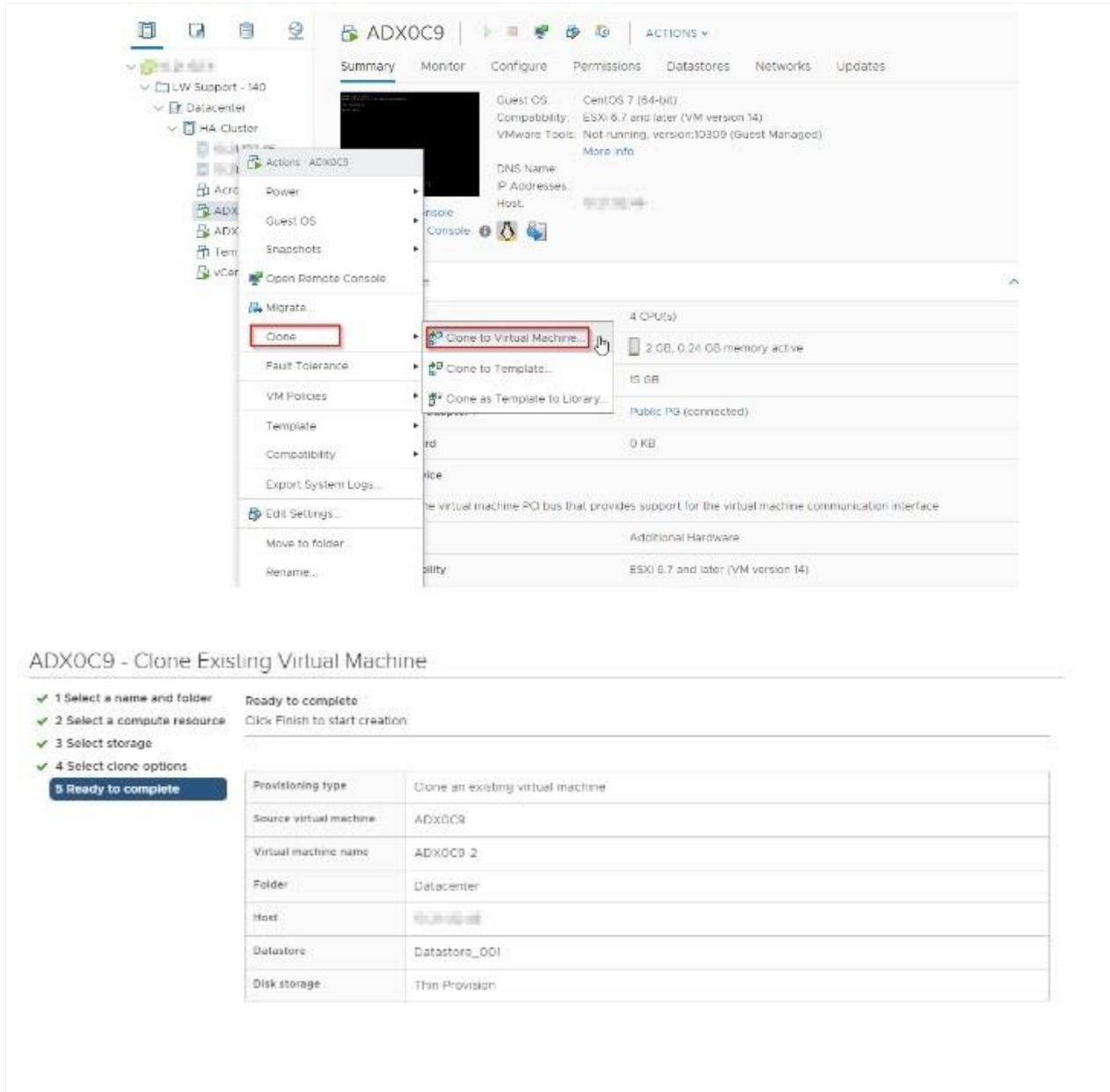
The only real drawback is that eventually, you may run out of resources. It is easy to create new clones, and you may run out of resources faster than you realize. When creating many VM clones, you will overload your RAM and CPU at some point. It happens because you will have many virtual CPUs and virtual memory allocated to your virtual machines, not to mention storage space. So just keep in mind how many resources you have at your disposal when you are cloning virtual machines.

Clone a Virtual Machine:

Step 1: Log in to your vSphere client. Each managed VMware cloud hosting here at Liquid Web comes with vSphere. Enter the IP address of the host on which has your vSphere installation. The login page will load. Enter your credentials and click **login**.



Step 2: Once logged in, navigate to your virtual machines. Choose a VM you wish to clone and right-click on it with your mouse. A menu will appear, and you can hover your mouse pointer over the Clone option. Finally, click on **Clone to Virtual Machine**.



The screenshot shows the vSphere interface with the 'Clone' context menu open for the virtual machine 'ADX0C9'. The 'Clone to Virtual Machine...' option is highlighted. Below the screenshot is a form titled 'ADX0C9 - Clone Existing Virtual Machine' with a progress bar and a table of clone settings.

ADX0C9 - Clone Existing Virtual Machine

Progress: 1 Select a name and folder, 2 Select a compute resource, 3 Select storage, 4 Select clone options, **5 Ready to complete**

Ready to complete
Click Finish to start creation

Provisioning type	Clone an existing virtual machine
Source virtual machine	ADX0C9
Virtual machine name	ADX0C9_2
Folder	Datacenter
Host	Host
Datastore	Datastore_001
Disk storage	Thin Provision

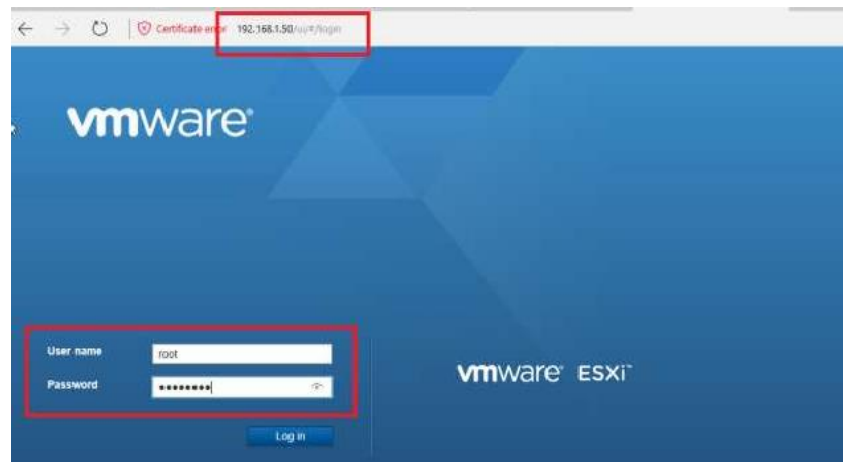
Conclusion:

Experiment No. 7

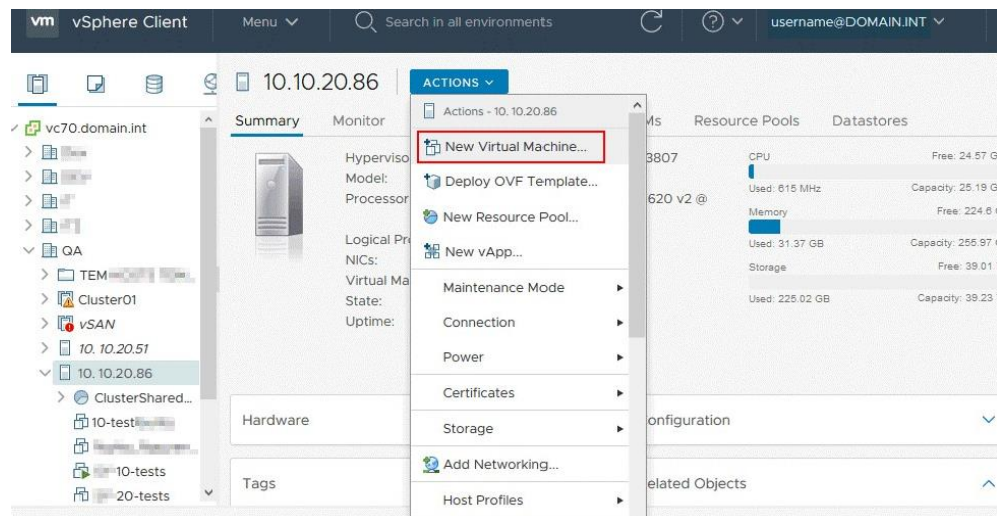
Title: Installing Windows Virtual PC on various platforms (32-bit, 64-bit).

Steps of installation of Windows Virtual PC:

Step 1: Open VMware vSphere client using web browser.



Step 2: Click on Virtual machine



Step 3: Click on Create a new virtual machine

New Virtual Machine

1 Select a creation type

- 2 Select a name and folder
- 3 Select a compute resource
- 4 Select storage
- 5 Select compatibility
- 6 Select a guest OS
- 7 Customize hardware
- 8 Ready to complete

Select a creation type

How would you like to create a virtual machine?

- Create a new virtual machine
- Deploy from template
- Clone an existing virtual machine
- Clone virtual machine to template
- Clone template to template
- Convert template to virtual machine

This option guides you through creating a new virtual machine. You will be able to customize processors, memory, network connections, and storage. You will need to install a guest operating system after creation.

CANCEL

BACK

NEXT

- Step 4:** select ESXi version, Guest Operating system family, ESXi compatibility.
- Step 5:** insert windows ISO image select appropriate version of windows (32/64 bits)
- Step 6:** click on install
- Step 7:** enter administrator password and continue
- Step 8:** wait for windows installation completion.

Experiment No. 8

Title: Creating and managing virtual hard disks.

Steps to manage Virtual disks:

Step 1. Select **Window > Virtual Machine Library**.

Step 2. Select a virtual machine in the **Virtual Machine Library** window and click **Settings**.

Step 3. Click **Add Device**.

Step 4. Click **New Hard Disk**.

Step 5. Click **Add**.

A new hard disk appears. The new hard disk is selected and a default filename appears in the **File name** pop-up menu.

Step 6. **(Optional)** Change the filename for the new virtual hard disk.

a. Select the filename in the pop-up menu and select **Save As**.

b. Type the filename for the hard disk in the **Save as** field and click **Save**.

Fusion creates the virtual disk file with this name and stores it in the App bundle directory.

Step 7. Use the **Disk size** slider to set the maximum size for the hard disk.

The maximum size for any hard disk is 8 TB.

Step 8. **(Optional)** Under Advanced options, set the **Bus type** for the hard disk to **IDE, SCSI, SATA, or NVMe**.

Step 9. Set your disk space configuration, depending on the constraints of the file system.

Step 10. Click **Apply**. The hard disk is created. View the new hard disk in **Settings > Removable Devices** of the virtual machine.

Conclusion:

Experiment No. 9

Title: Create a Snapshot & then create a virtual machine using that snapshot.

To take a snapshot in the vSphere Web Client:

Step 1. Right-click the virtual machine in the inventory and click **Take Snapshot**.

1. Select a datacenter, folder, cluster, resource pool, host, or vApp.
2. Click the **Related Objects** tab and click **Virtual Machines**.

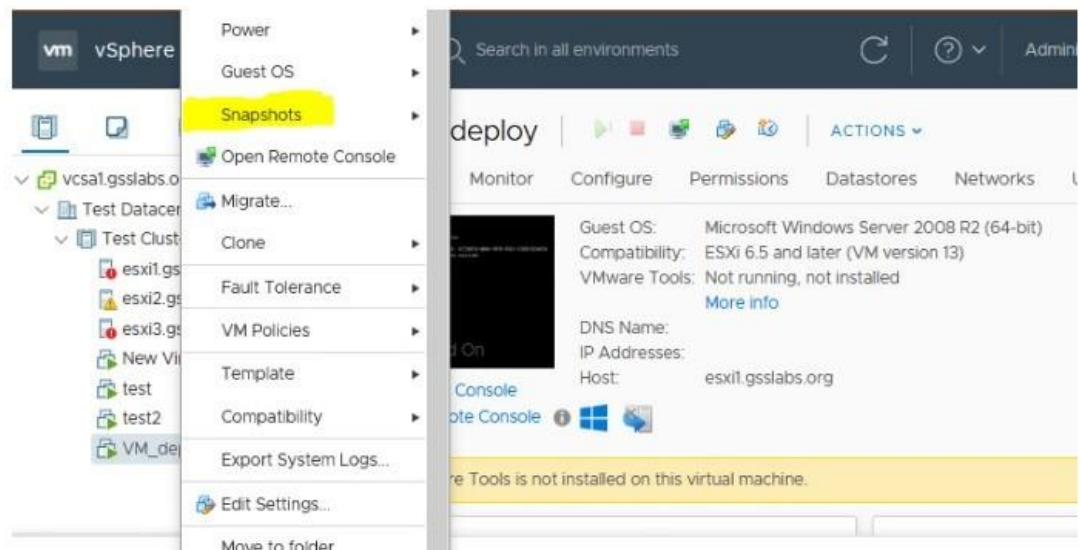
Step 2. Enter a name for the snapshot.

Step 3. Enter a description for the snapshot. This step is optional.

Step 4. Select the **Snapshot the virtual machine's memory** option to capture the memory of the virtual machine. This step is optional.

Step 5. Select **guest file system (Needs VMware Tools installed)** option to pause running processes on the guest operating system, so that file system contents are in a known consistent state when you take the snapshot. This step is optional.

Step 6. Click **OK**.



Conclusion:

Experiment No. 10

Title: Create a Template & then create a virtual machine from Template.

Theory: A VM template is a master copy image of a virtual machine that includes VM disks, virtual devices, and settings. A VM template can be used many times over for the purposes of VM cloning. You cannot power on and edit the template once it has been created. This is by design, so that nobody can accidentally edit the virtual machine that is used as a template. This approach provides greater security (and a more “foolproof” method) for VM cloning. After cloning the VM from a template, VM clones are not linked to a VM template and are independent. If you want to edit a template, you should convert a template to a VM, edit the VM, and then convert the edited VM to a new template.

Difference between a VM Clone and a VM Template:

A regular VM clone is an exact copy of the source VM at the appropriate point of time. If you were to periodically clone a VM that is in a running state, the resulting clones would differ from one another. It is preferable to clone a powered-off VM, although standard cloning still doesn't offer all the benefits of a template.

When a VM is cloned, all settings such as static IP network, computer name, and identifiers are left identical for each VM clone. As a result, network conflicts can occur. A VM template helps you prevent these issues, because a VM template cannot be edited, nor can it ever be in a running state. VMware provides tools that simplify guest OS customization for VM clones.

OVA and OVF templates are used for distributing pre-configured software as virtual appliances. OVA and OVF are compressed file formats. They can contain multiple VMs, which is useful for cases where software consists of multiple components that must be deployed on different machines.

OVF and OVA Files:

OVF is an open standard which contains multiple files as a package. For example, .ovf, .vmdk, .nvram, and so on. OVF supports exchange of virtual appliances across products and platforms. OVA is a single file distribution of the OVF file package. When you export a virtual machine as an OVF file, you create a directory that contains an OVF file and the virtual disk files.

The OVF and OVA formats offer the following advantages:

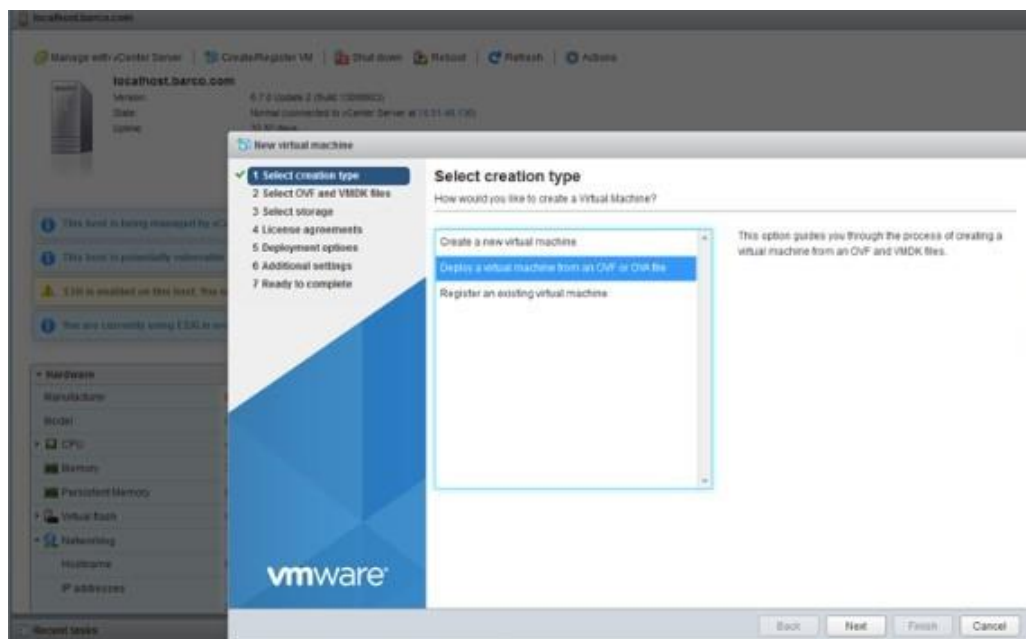
- OVF and OVA files are compressed, allowing for faster downloads.
- The vSphere Web Client validates an OVF or OVA file before importing it, and ensures that it is compatible with the intended destination server. If the appliance is incompatible with the selected host, it cannot be imported and an error message appears.
- OVF and OVA can encapsulate multi-tiered applications and more than one virtual machine.

Create VM using OVA and OVF template:

1. Right-click Host in the VMware Host Client inventory and select Create/Register VM.

The New Virtual Machine wizard opens.

2. On the Select creation type page, select Deploy a virtual machine from an OVF or OVA file and click Next.
3. On the Select OVF and VMDK files page, provide a unique name for the virtual machine.
4. To select an OVF and VMDK, or an OVA file to deploy, click the blue pane. Your local system storage opens.
5. Select the file that you want to deploy your virtual machine from and click Open. The file you selected appears in the blue pane.
6. Click Next.
7. On the Select storage page, select the storage type for the virtual machine.
 - a. To save all the virtual machine disks and configuration files on a standard datastore, click the Standard button.
 - b. To save the virtual machine hard disks on the host-local PMem datastore, click the Persistent Memory button.
 - c. Select a datastore from the list and click Next.
8. On the Deployment options page, select the network mappings, disk provisioning, and whether you want the virtual machine to power on after deployment.
9. Click Next.
10. On the Ready to complete page, review the details and click Finish.



Conclusion: