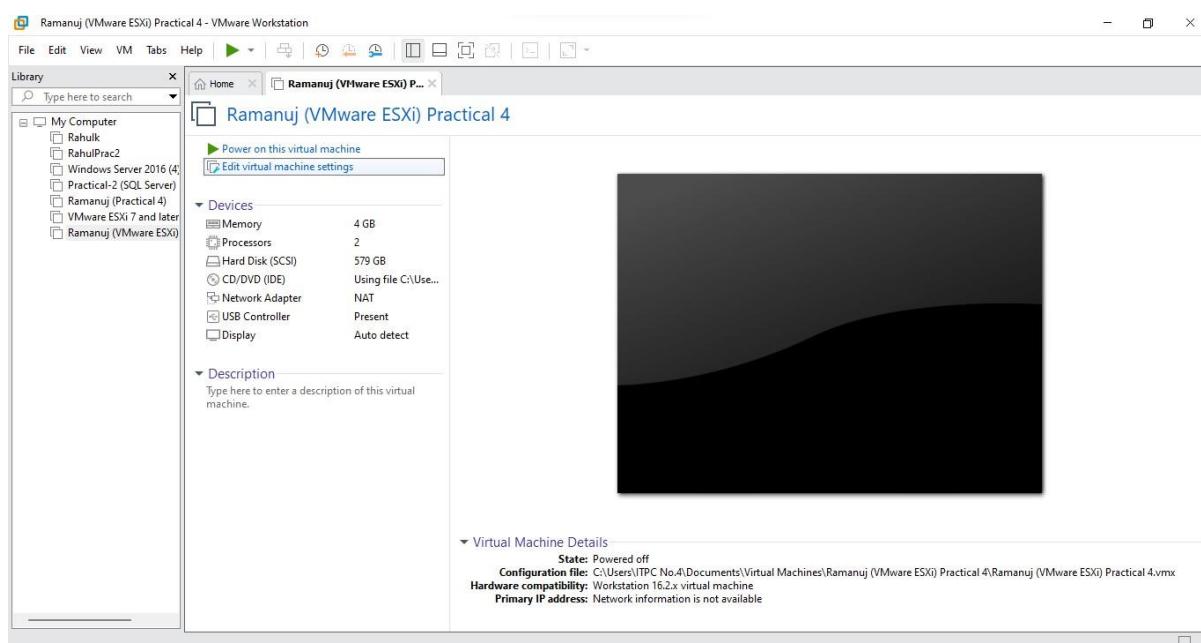


Working with vCenter Server Appliance

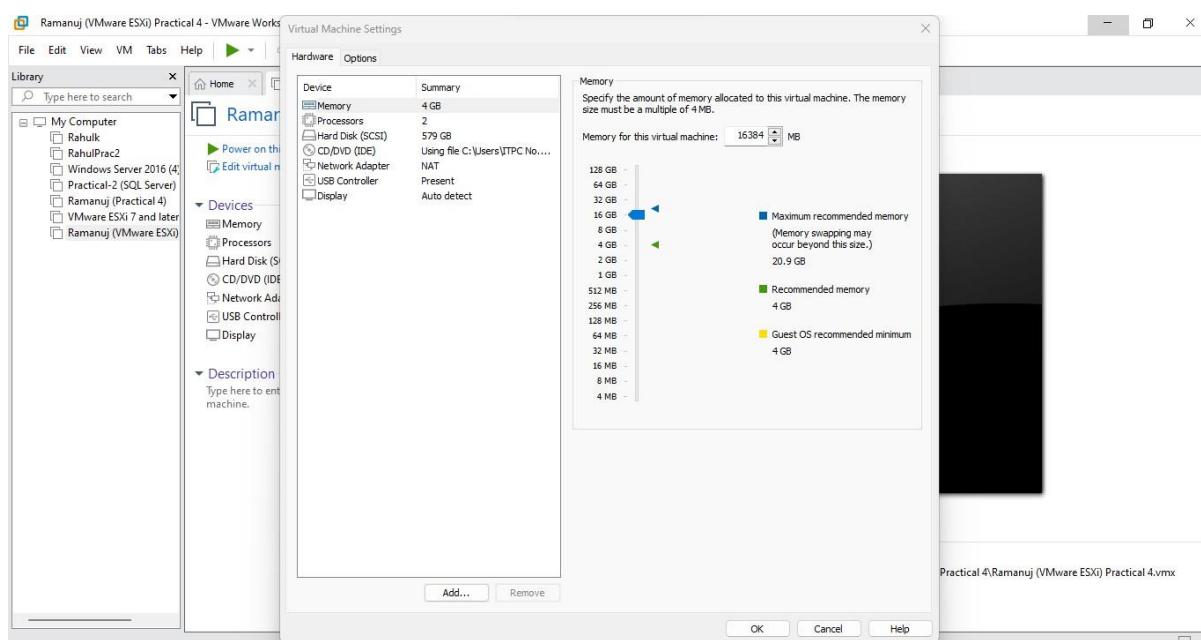
1. Access your vCenter Server Appliance and Configure Licenses
2. Configure Single Sign-On and Create a Data Center Object
3. Add Your ESXi Hosts to the vCenter Server Inventory
4. Configure the ESXi Hosts as NTP Clients
5. Create a Host and Cluster Folder.
6. Create Virtual Machine and Template Folders.
7. Navigate vSphere Client

Step 1: Setting up the VMware ESXi Server

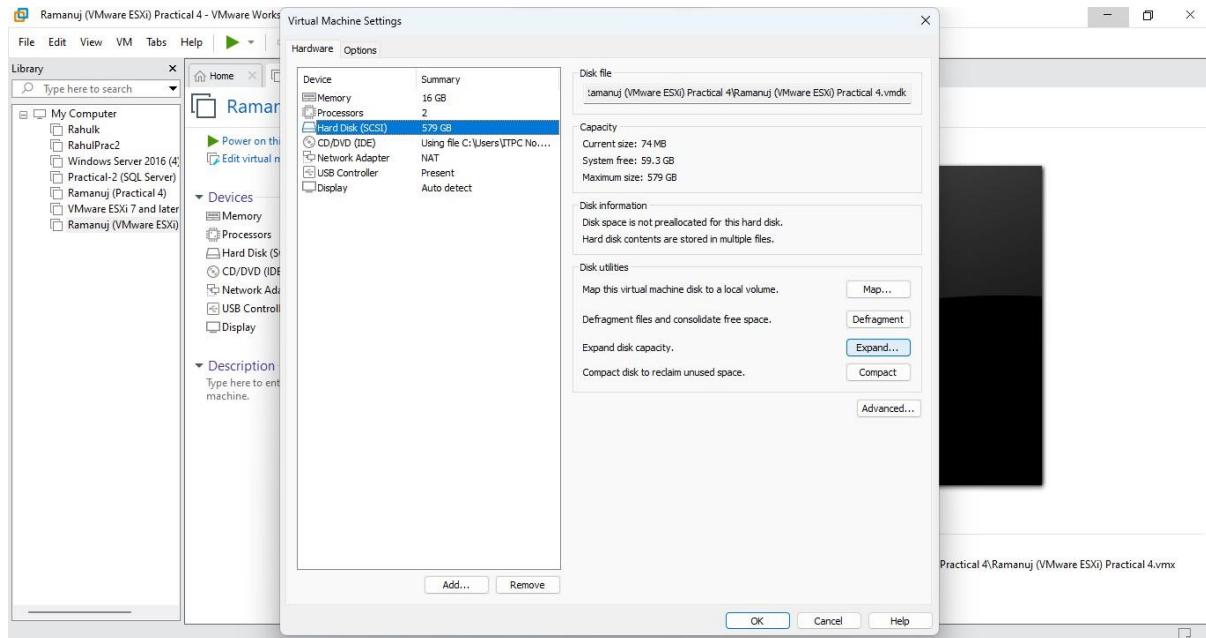
- We have to Modify the server created in the previous practical
- Click on the virtual machine and select **Edit virtual machine settings**



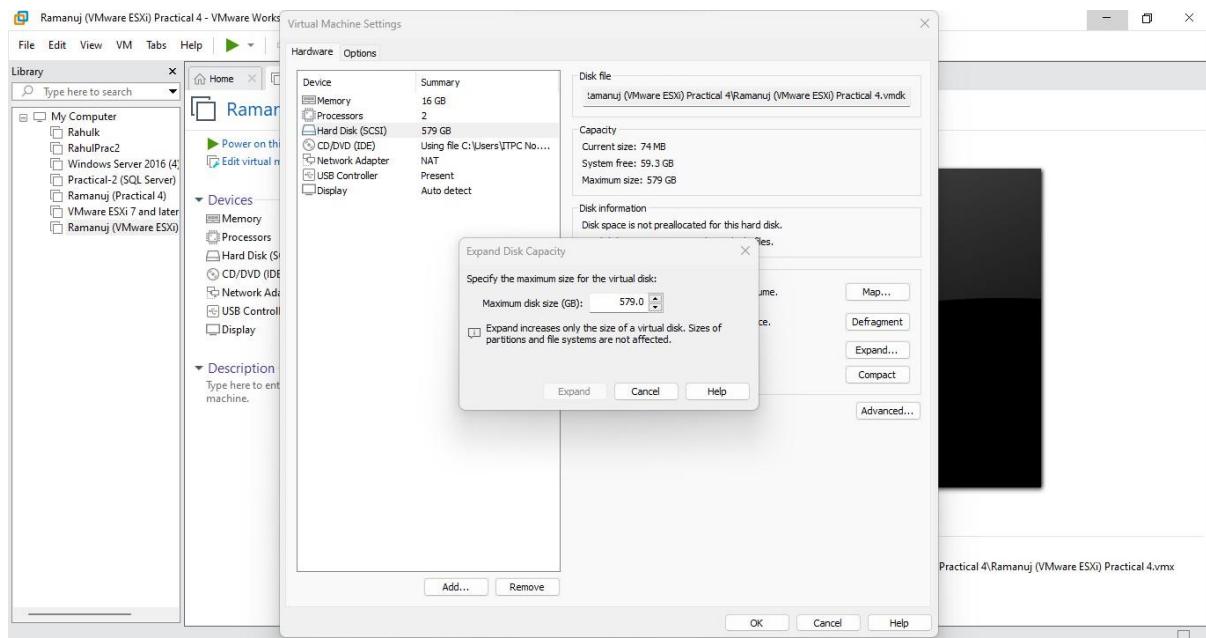
- Within virtual machine settings Click on **Memory** and Select **16384 MB (16GB)**



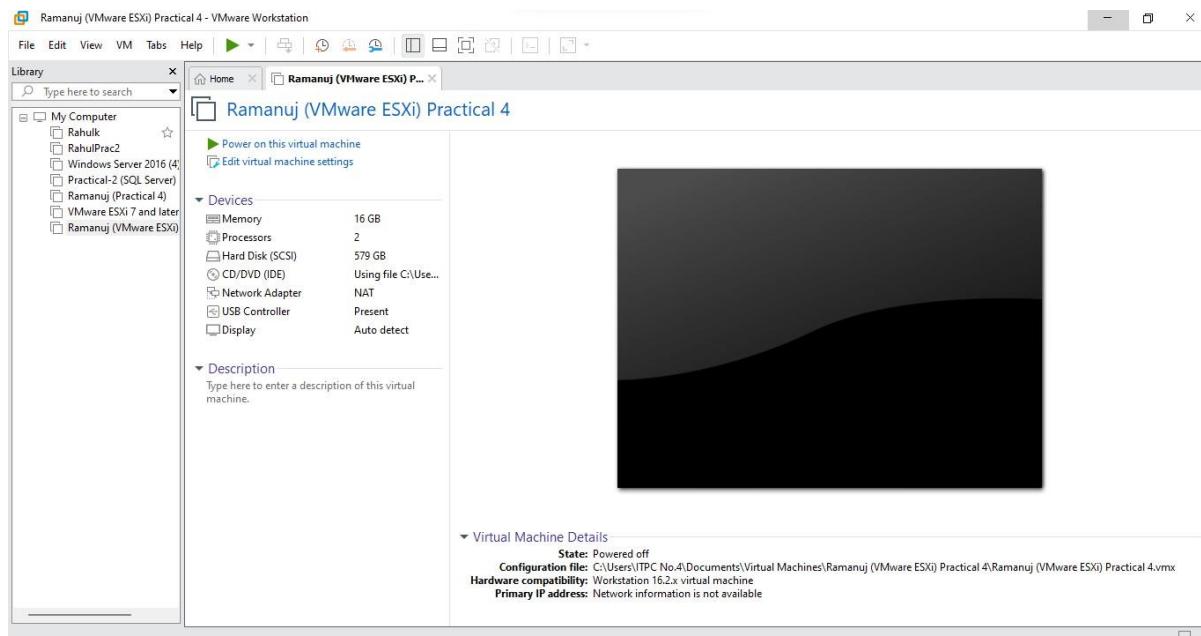
- Next select **Hard Disk (SCSI)** and Click on **Expand**



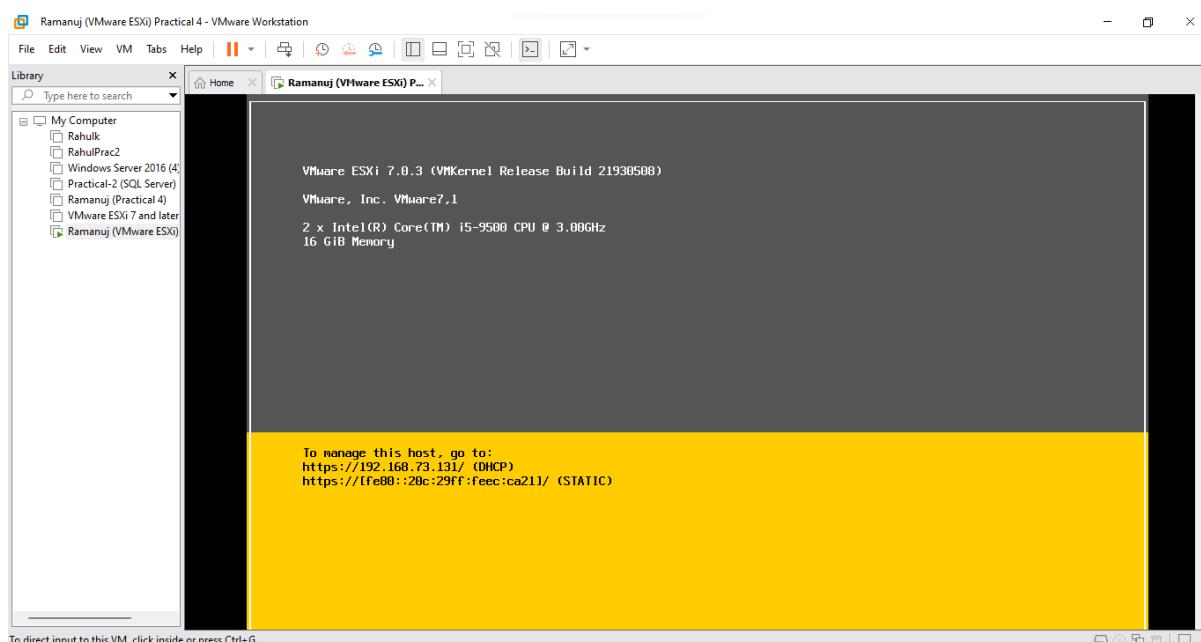
- Within Expand set the maximum disk size to **579 GB** and Click **Expand**



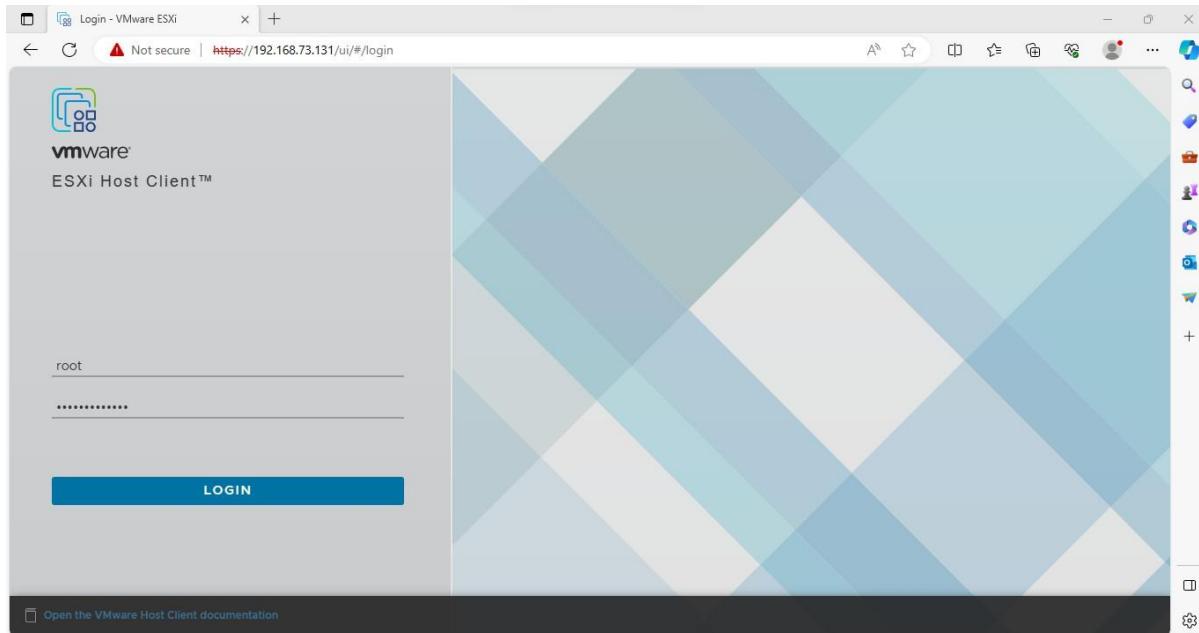
- Now your virtual machine will be set to 16GB of RAM and 579GB of Storage



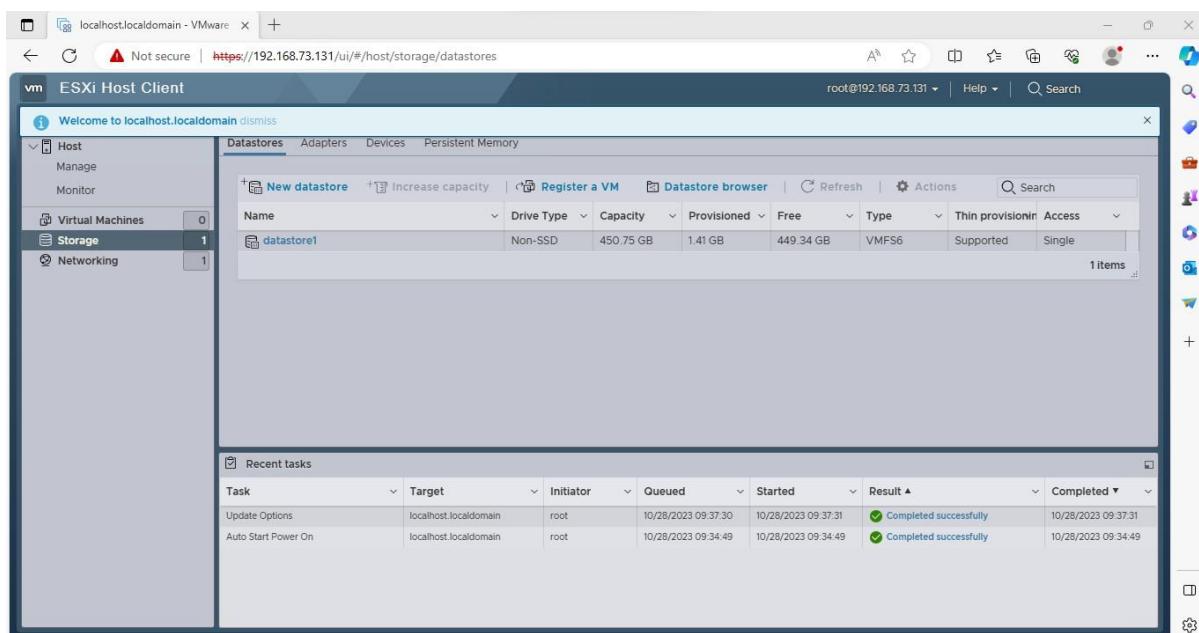
- The is also reflected on the ESXi Server



- Now to open the ESXi Host Client by using the server's IP address and ensure that there is at least 450 GB of storage available on the server

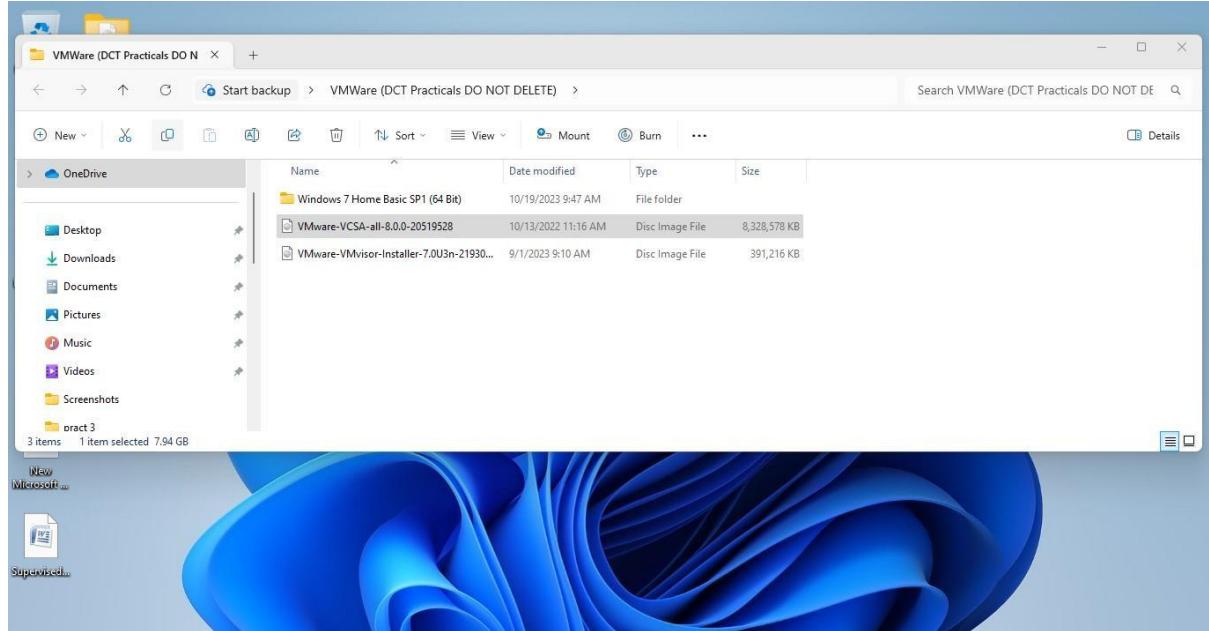


- Now within the Host Client Click on **Storage**, it should display 449GB available

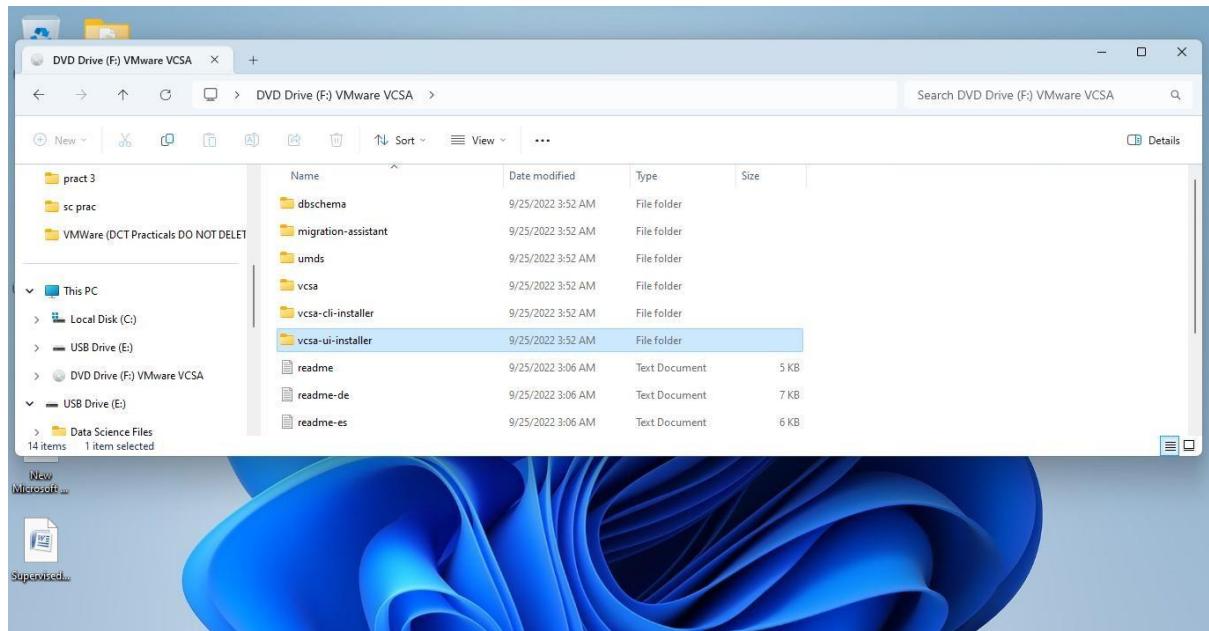


Step 2: Now we start the installation of the VCSA file

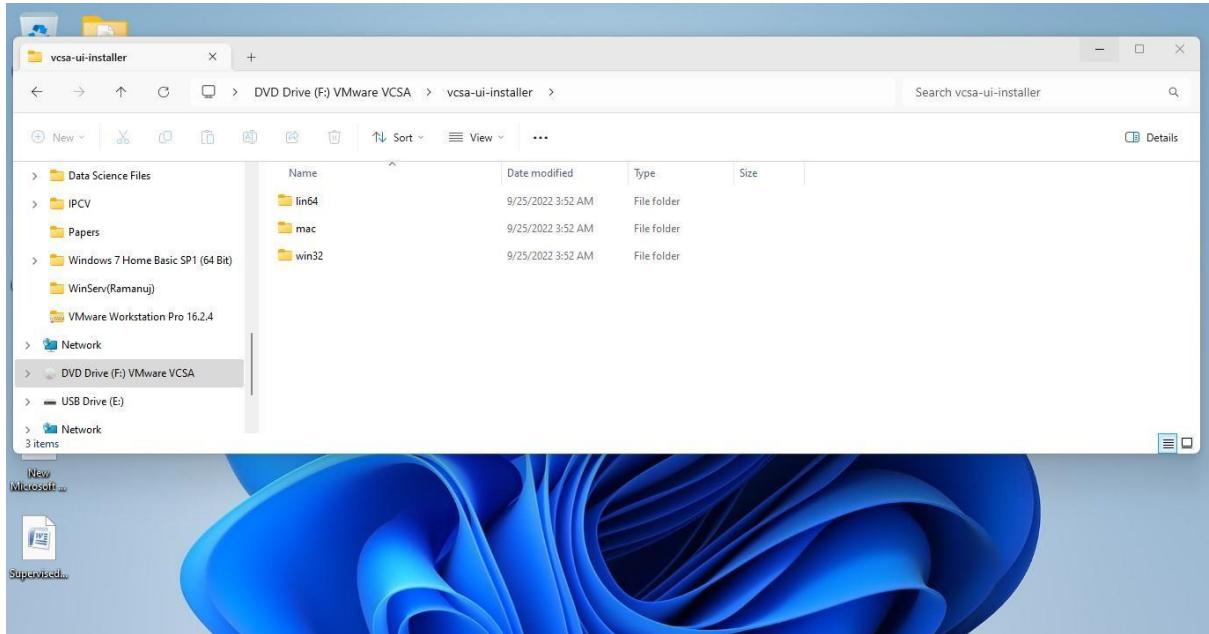
- Within your folder Double Click on the **VCSA.iso** file



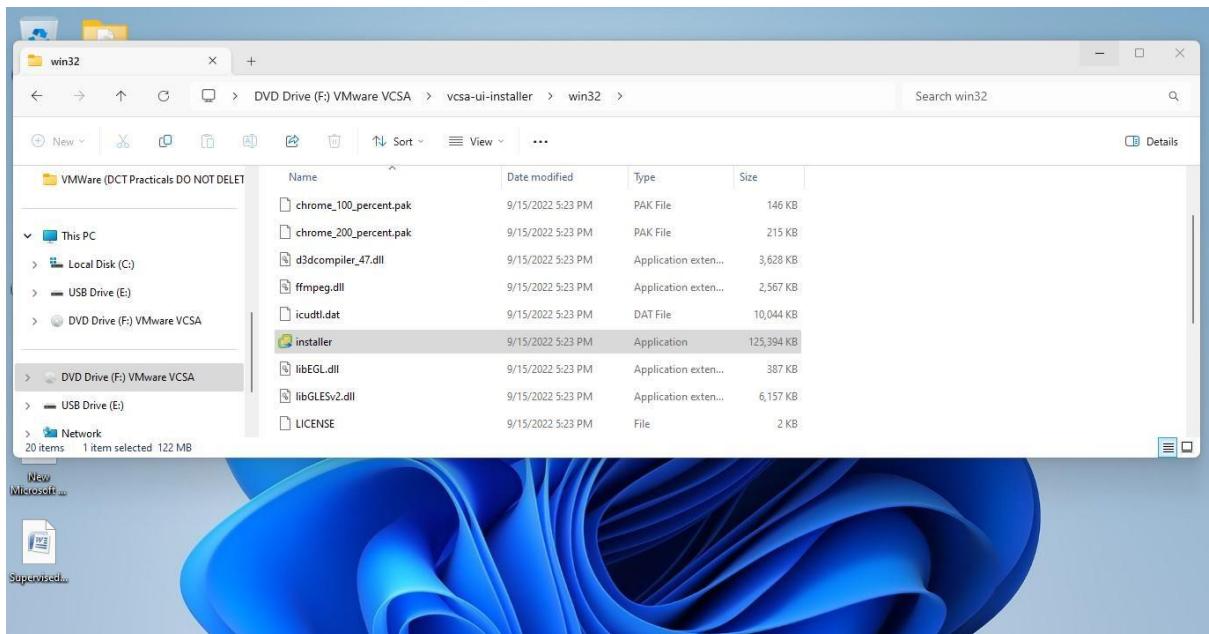
- After mounting the disk Click on **vcsa-ui-installer**



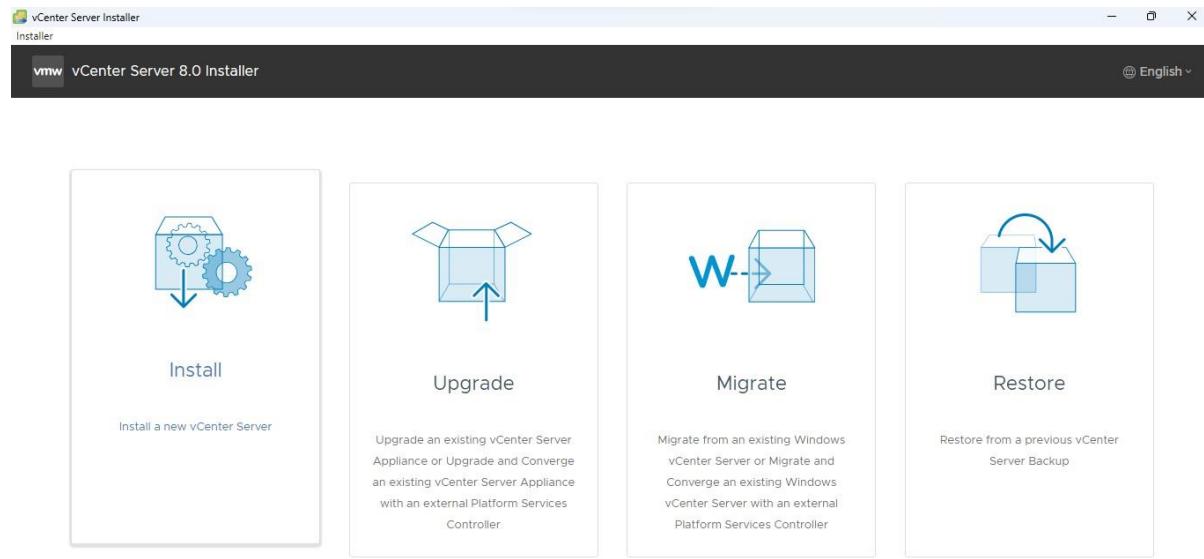
- Click on win32



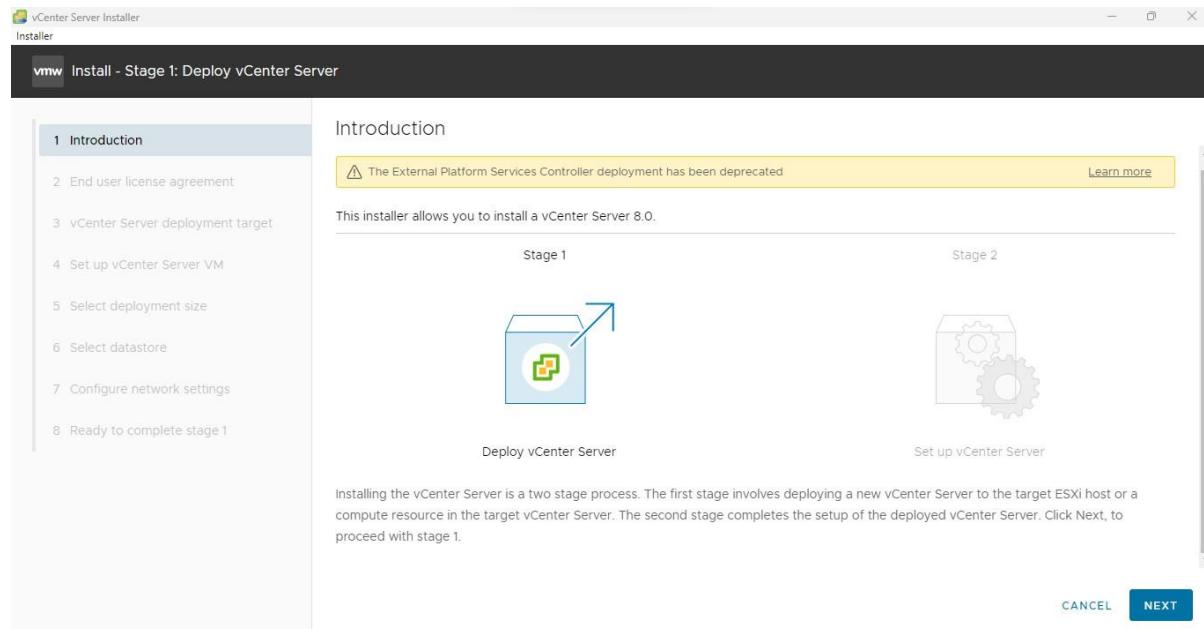
- Within win32 Click on Installer.exe



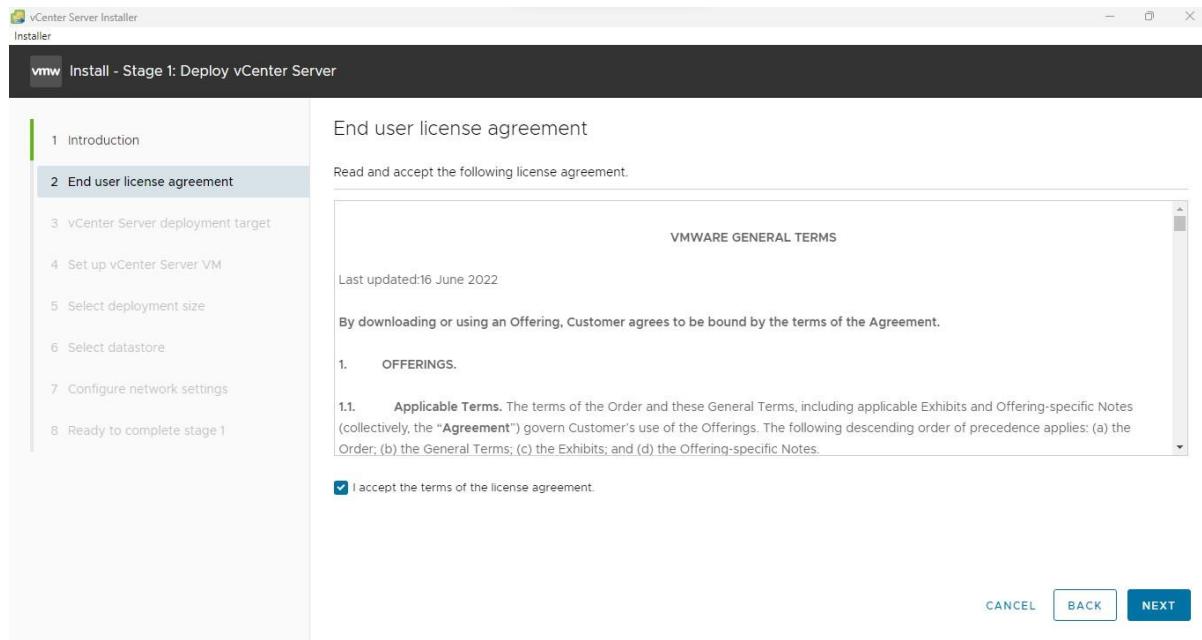
- This opens up the vCenter Server Installer, Click on **Install**



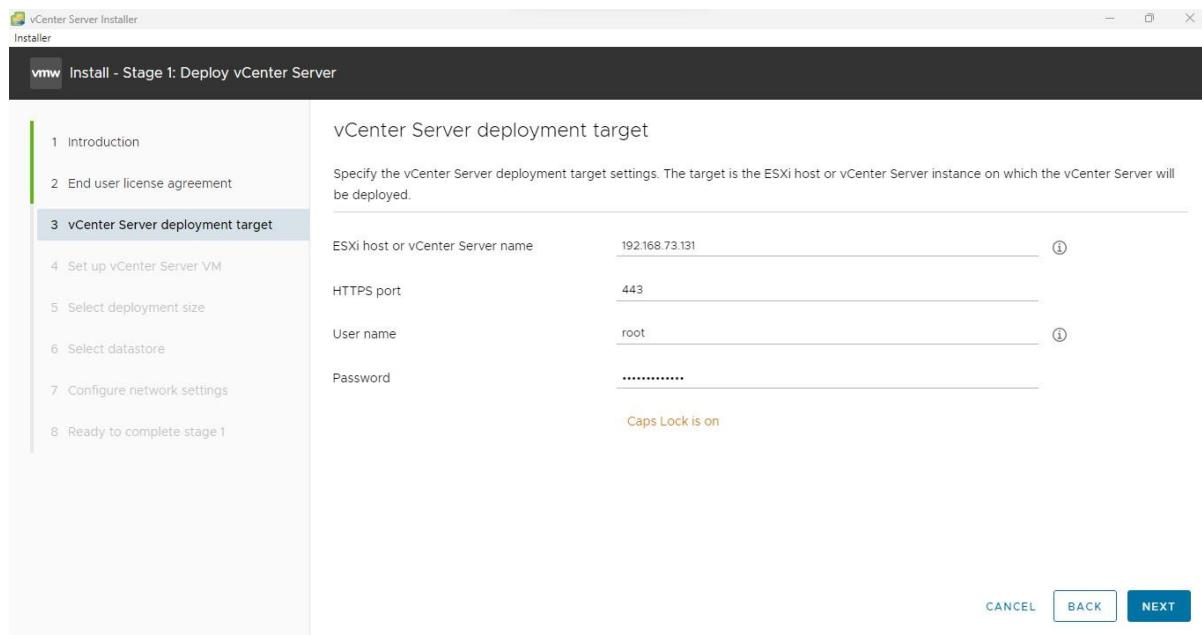
- Click **Next**



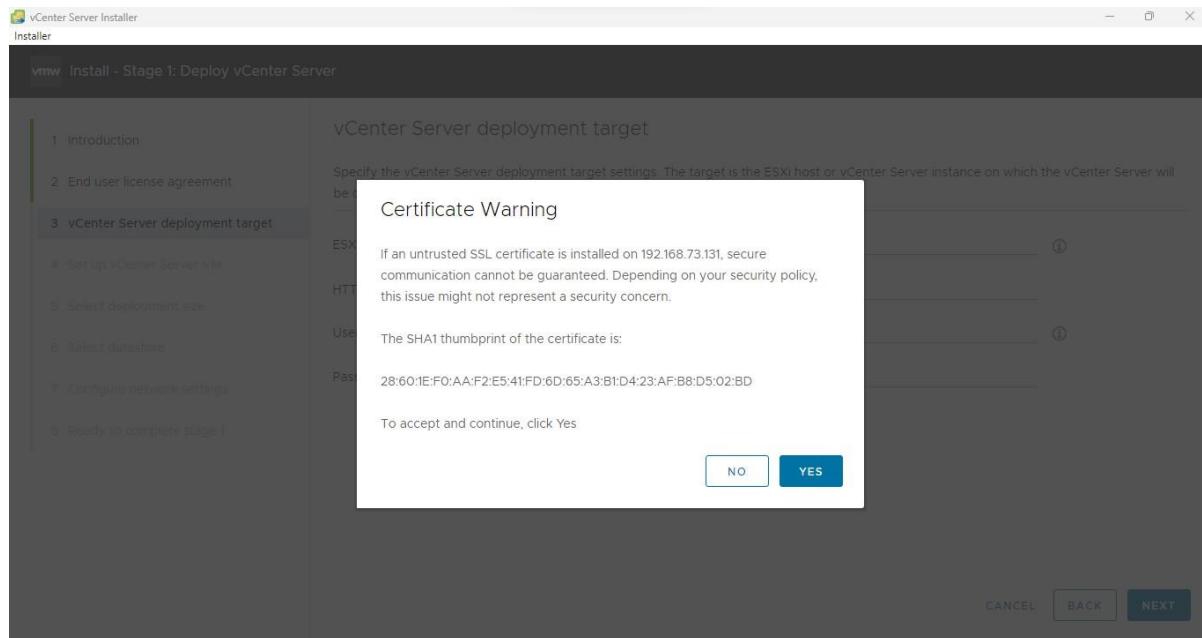
- Select **I accept the terms of the license agreement** and Click **Next**



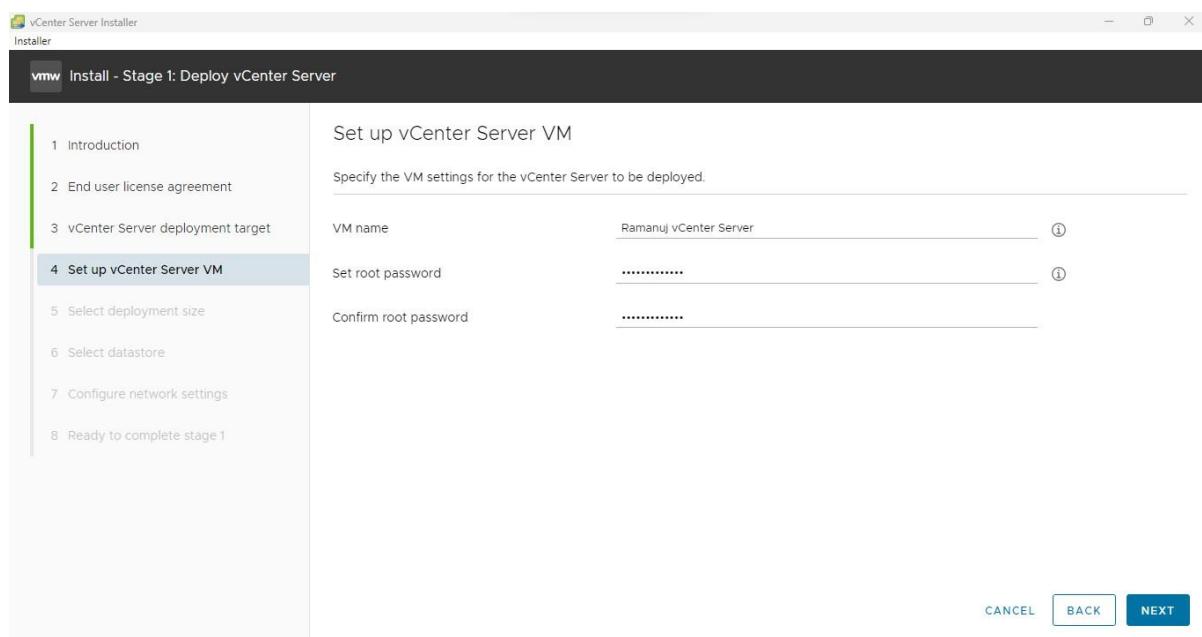
- Now Enter your VMware ESXi server's **IP Address** and its **domain name (root)** and **password**



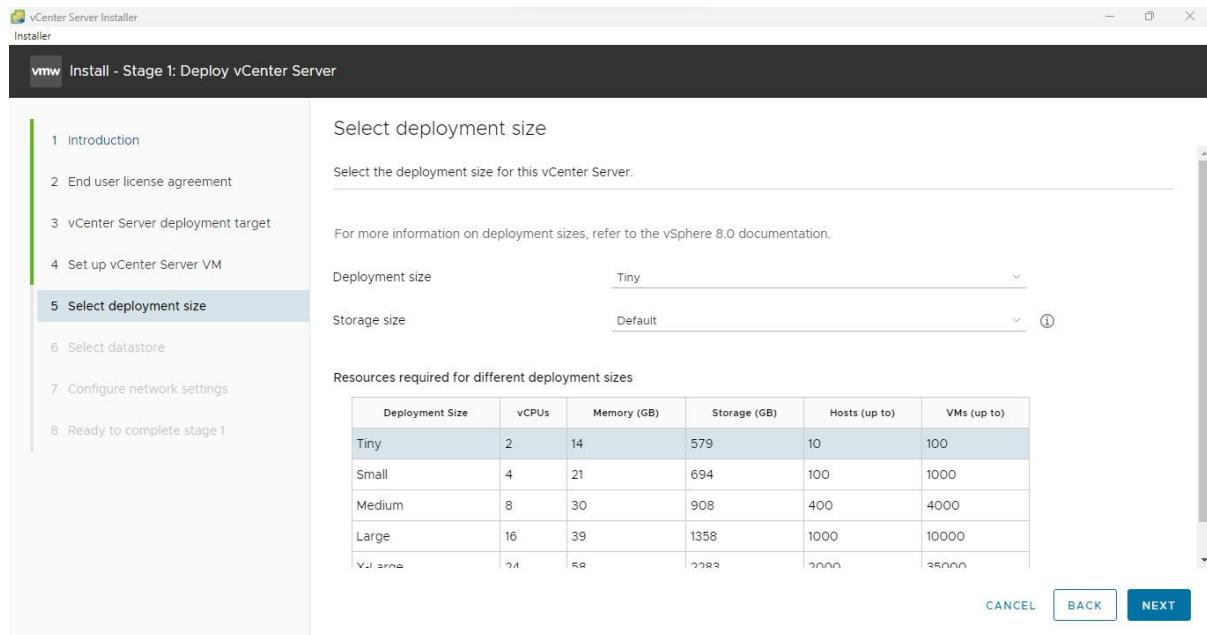
- There will be a Certificate Warning Pop-up, Click Yes



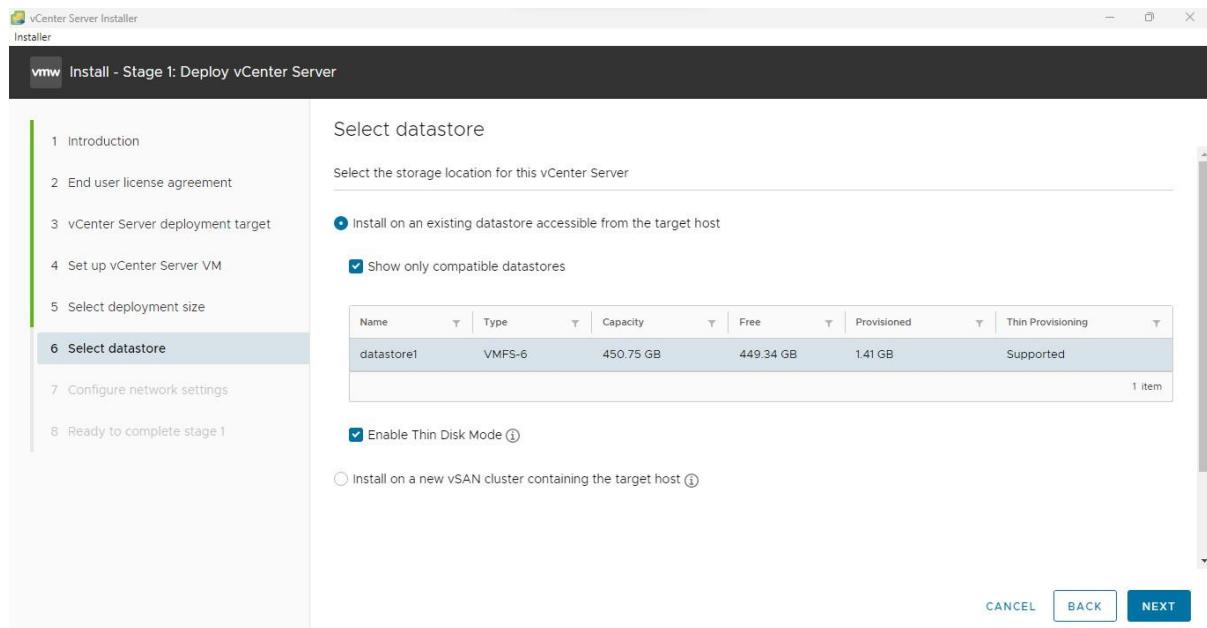
- It will validate your credentials prompt you to provide a **name** for this vCenter server (Here it is **Ramanuj vCenter Server**) with a password



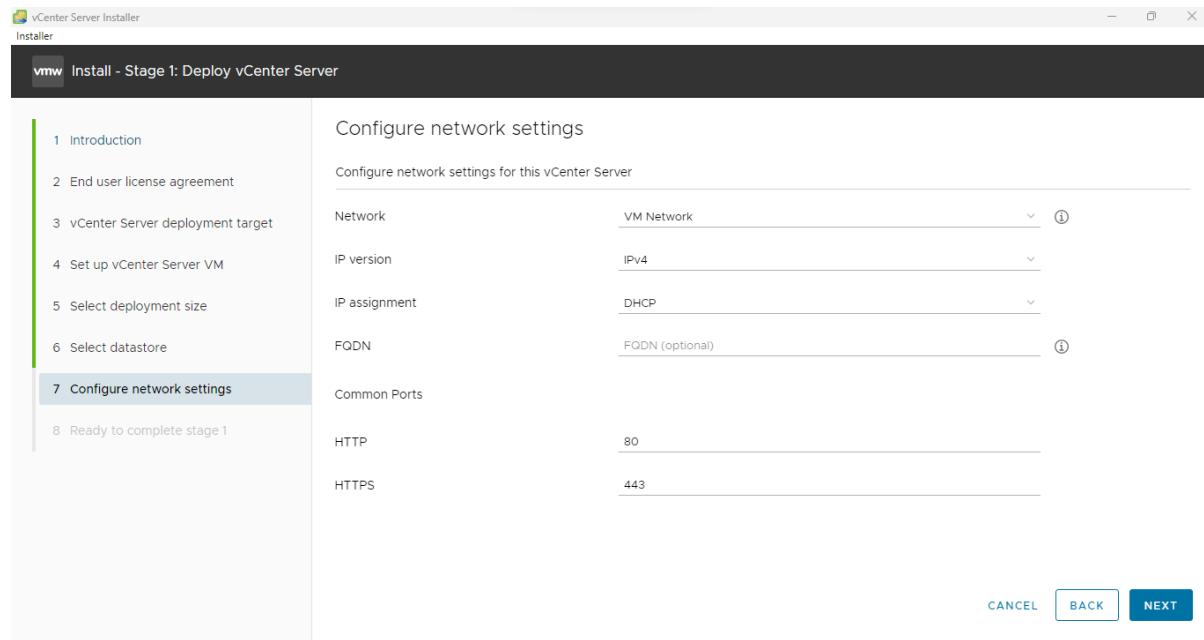
- Select Deployment Size as **Tiny** and Storage Size as **Default** and Click **Next**



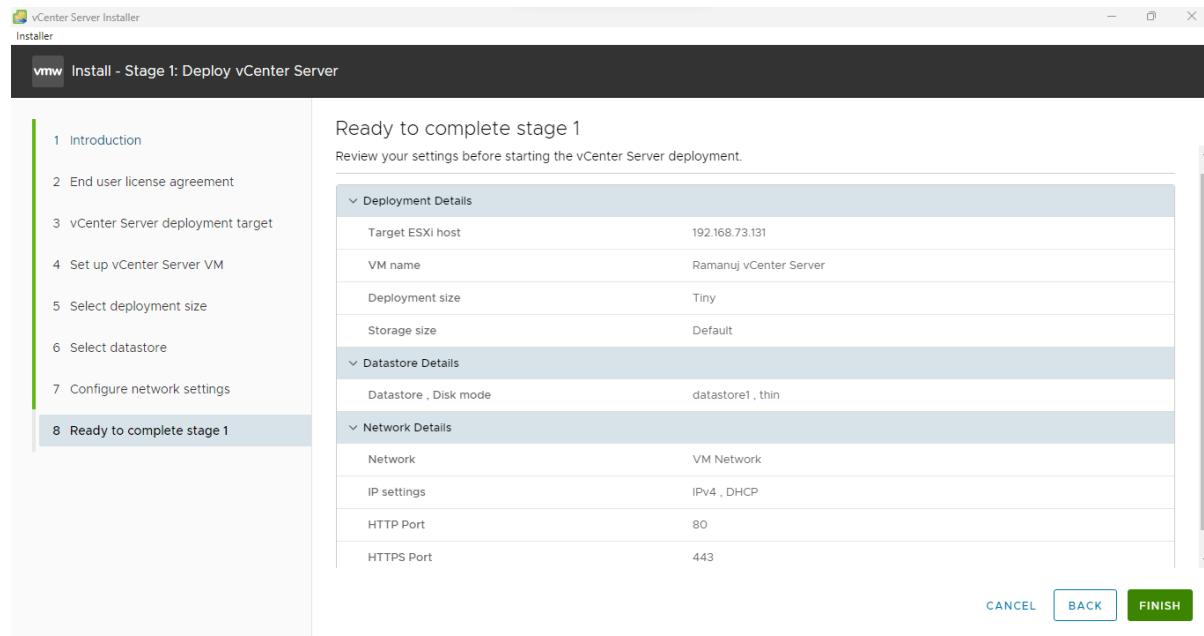
- It will show the available datastores and Select **Enable Thin Disk Mode** and Click **Next**



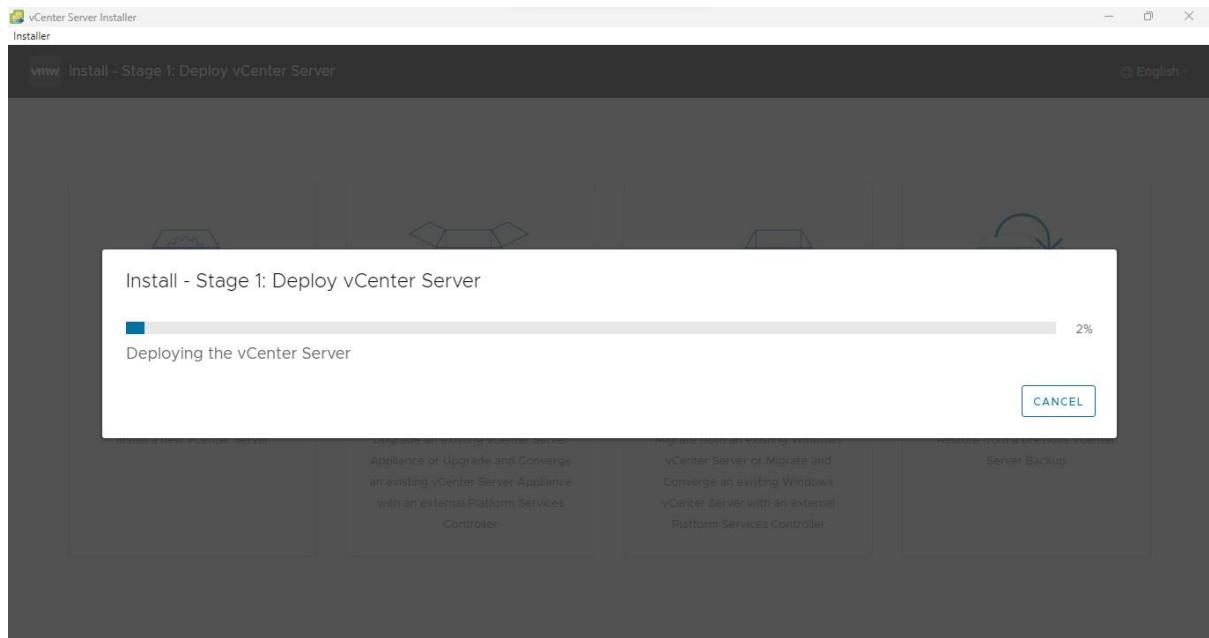
- In IP Assignment Select **DHCP** and Click **Next**



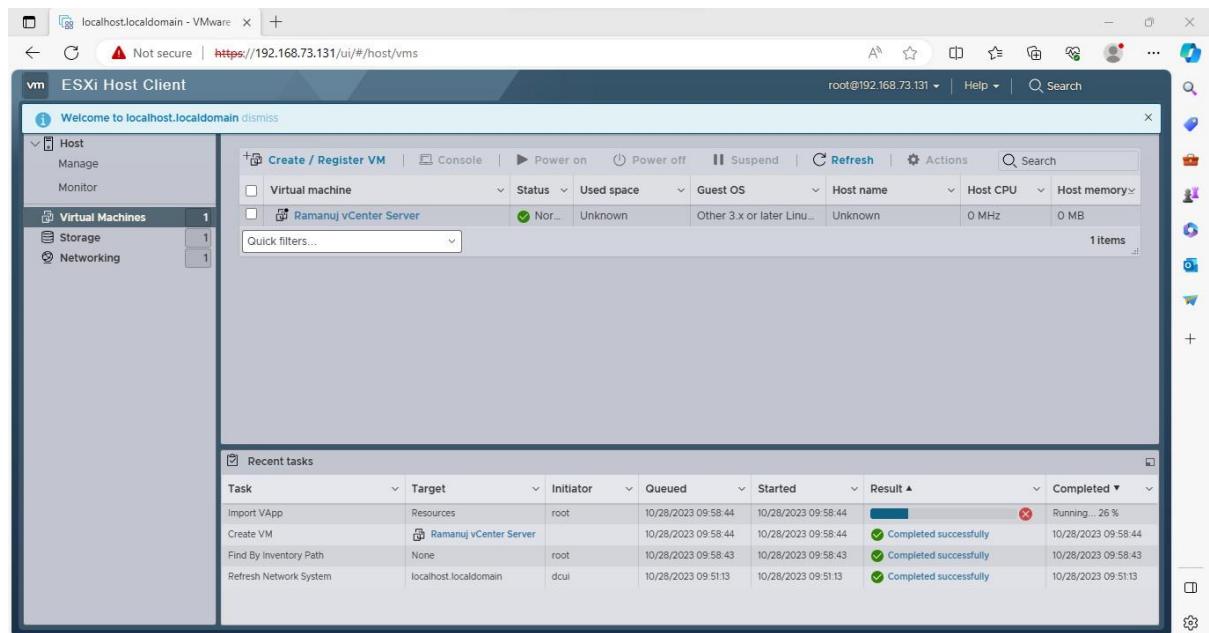
- View the summary of the server and Click **Finish**



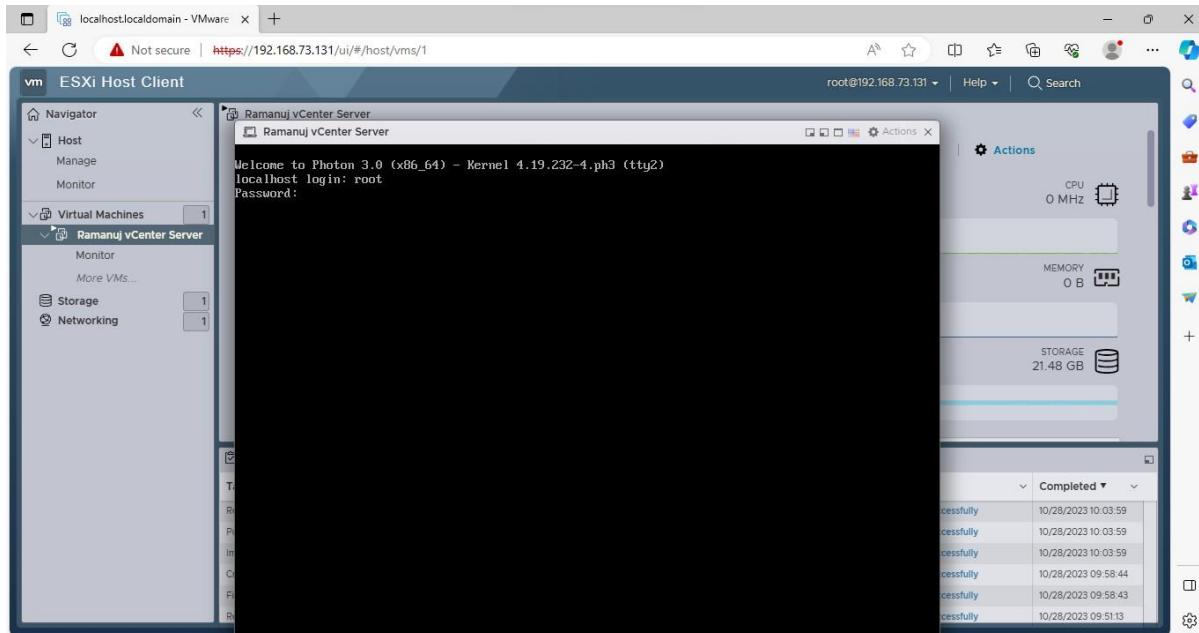
- Now the vCenter will be created on the ESXi Server as a virtual machine



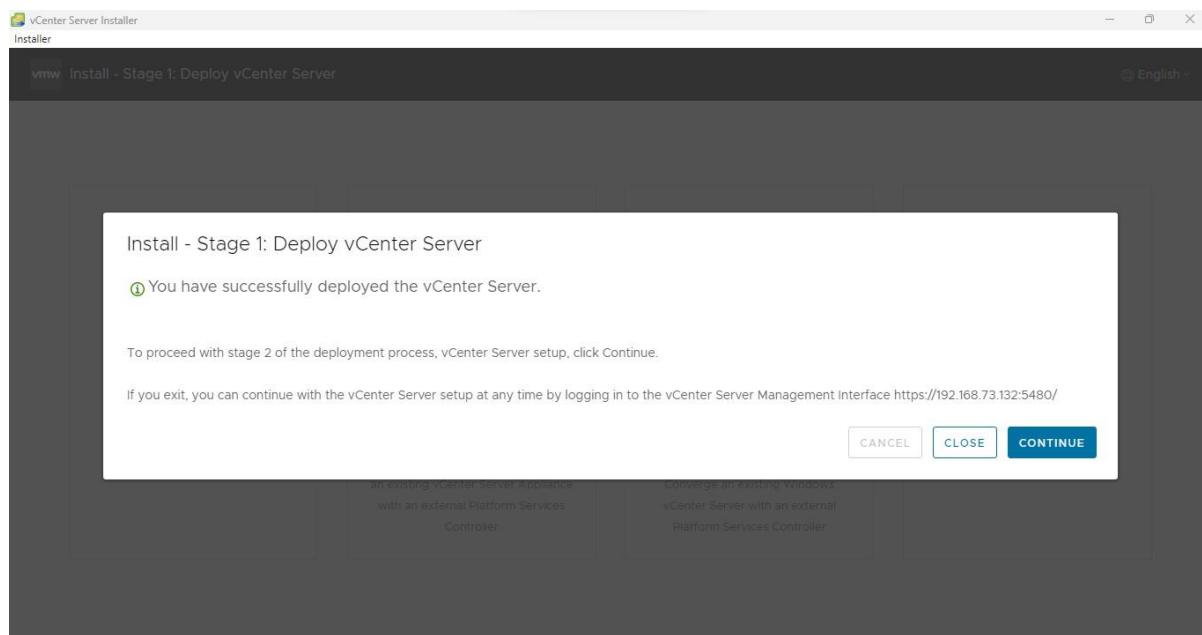
- This will also reflect on the **ESXi Client Host**



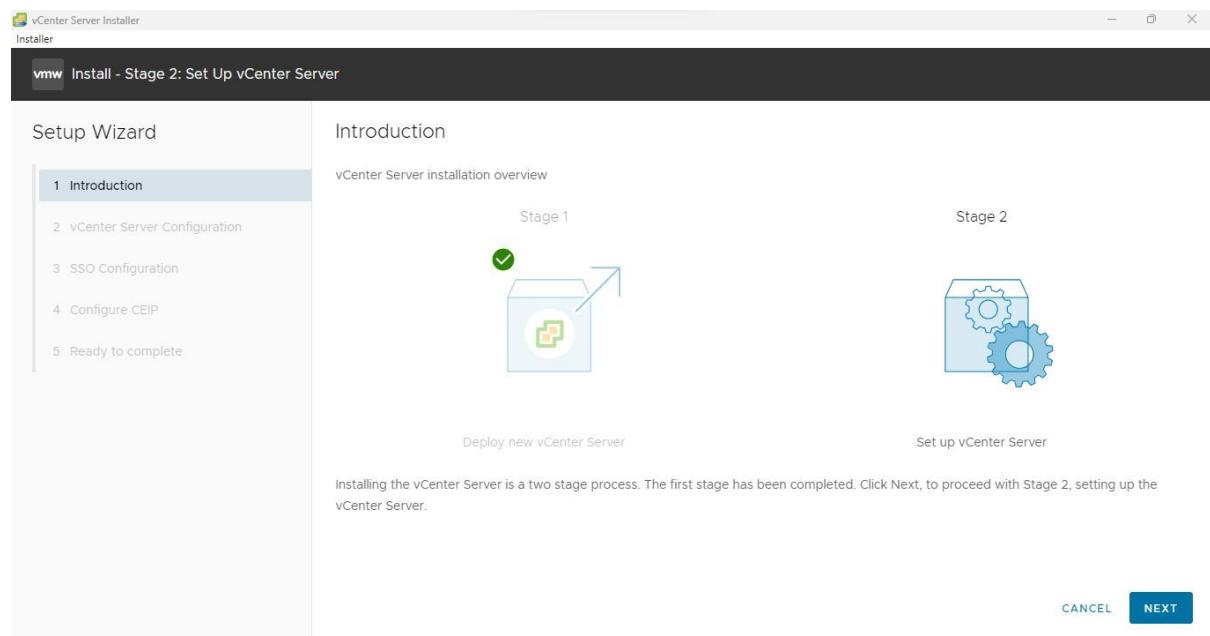
- At 80 percent of the installation, open the ESXi Host Client and Enter the password for your ESXi Server in the vCenter Server VM



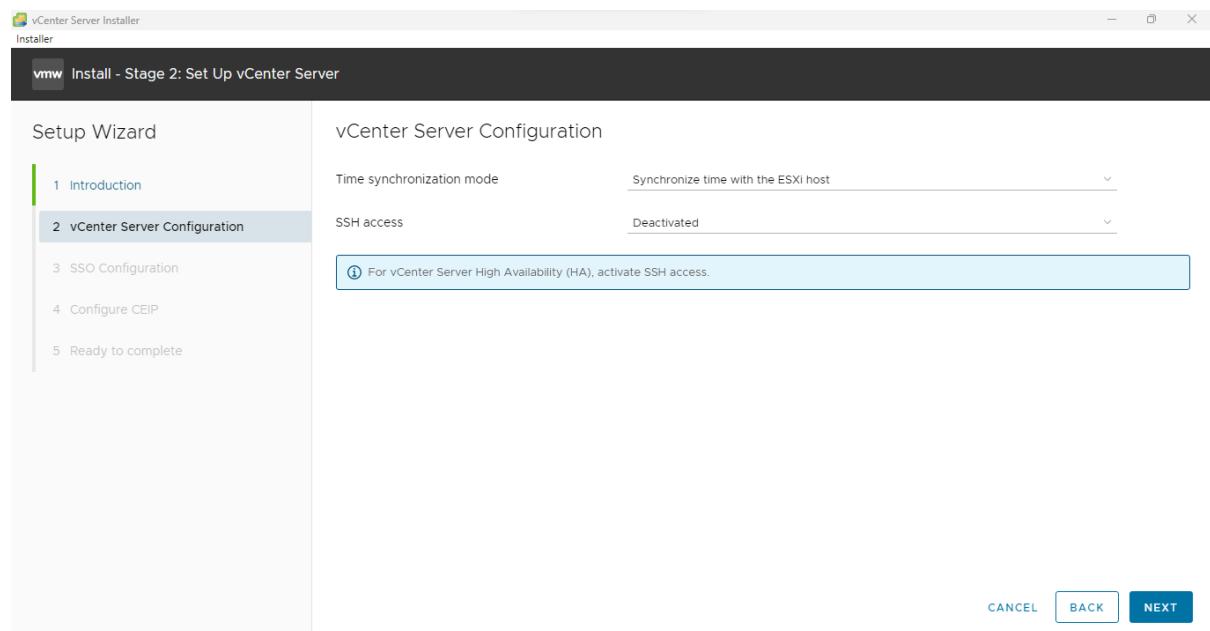
- After the setup is completed Click **Continue**



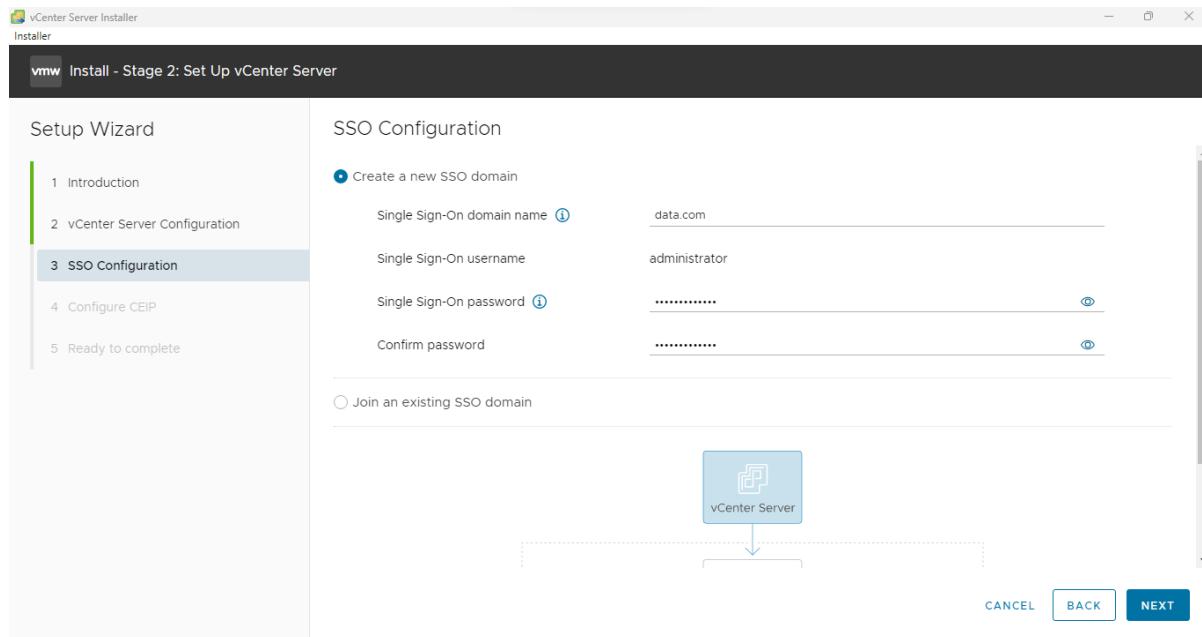
- This will Load Stage 2 which involves setting up the vCenter Server, Click **Next**



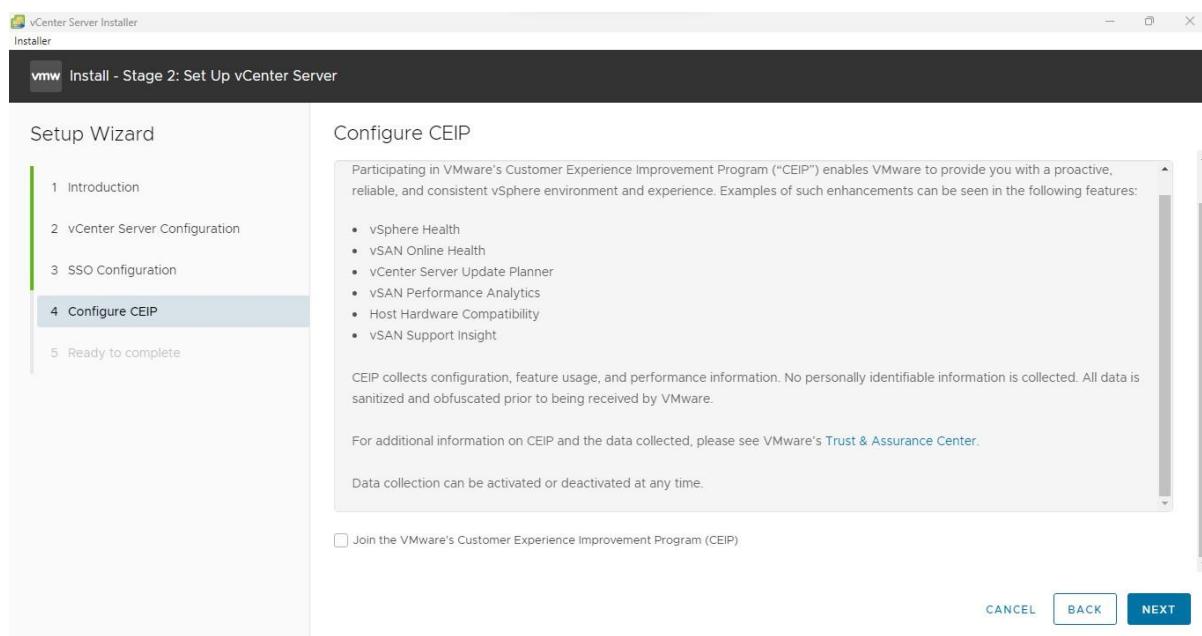
- In Time Synchronization Mode Select **Synchronize time with ESXi host** and Click **Next**



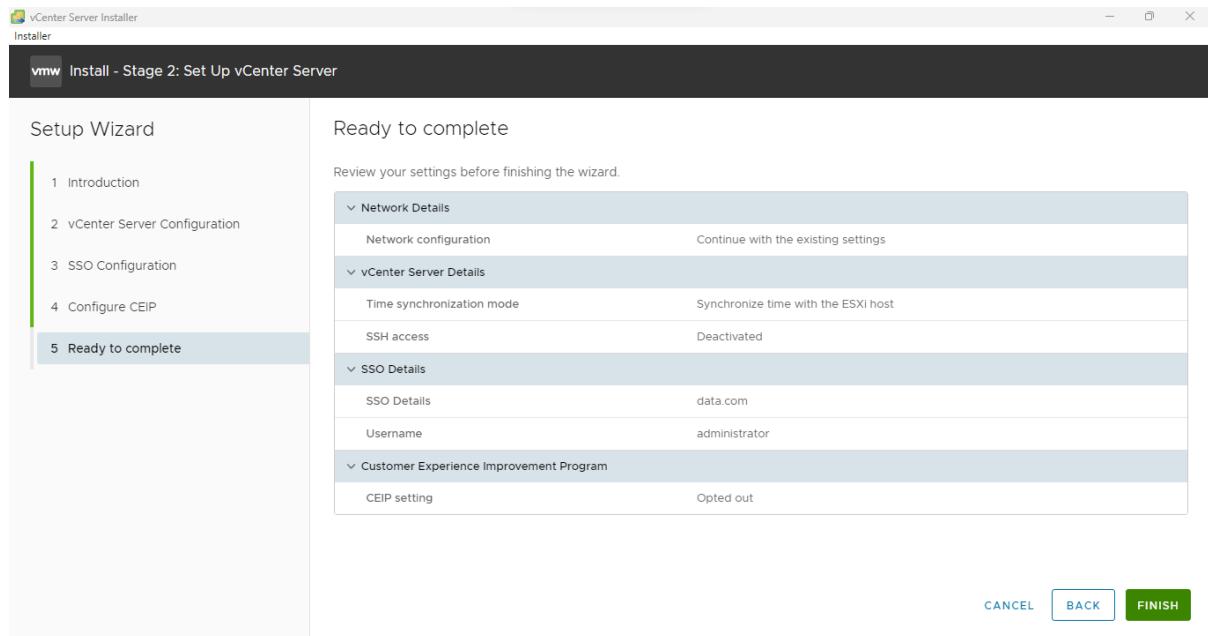
- Enter a **Single Sign on domain name** (here it is data.com) and enter a password and Click **Next**



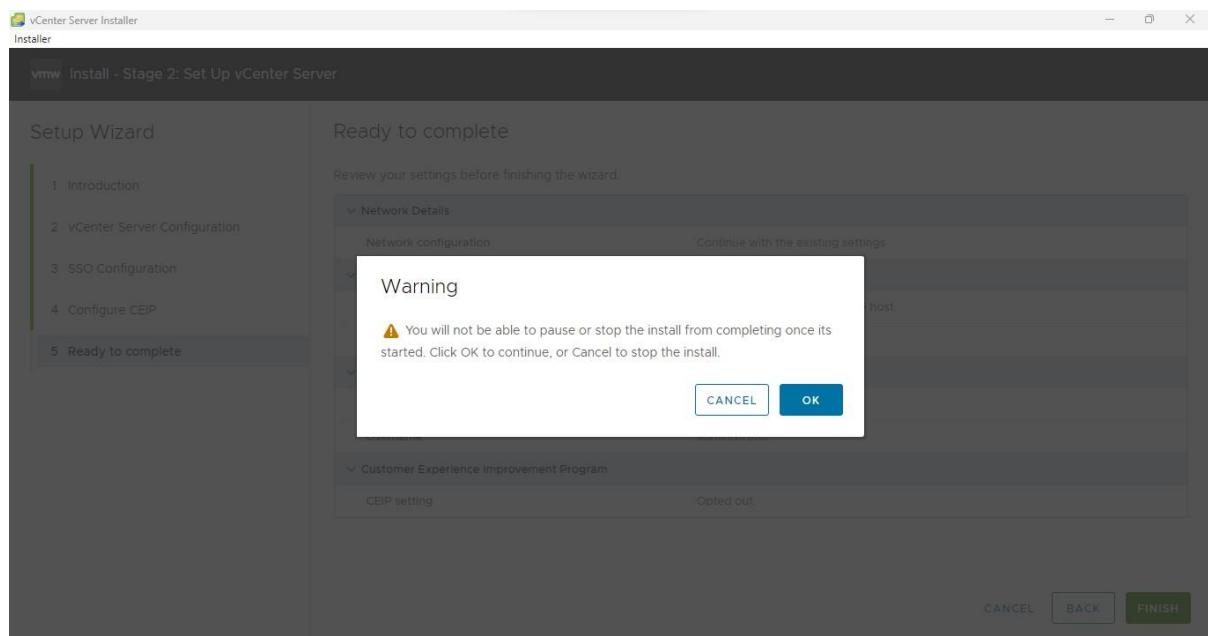
- Here Un-Select **Join the VMware's Customer Experience Improvement Program (CEIP)** and Click **Next**



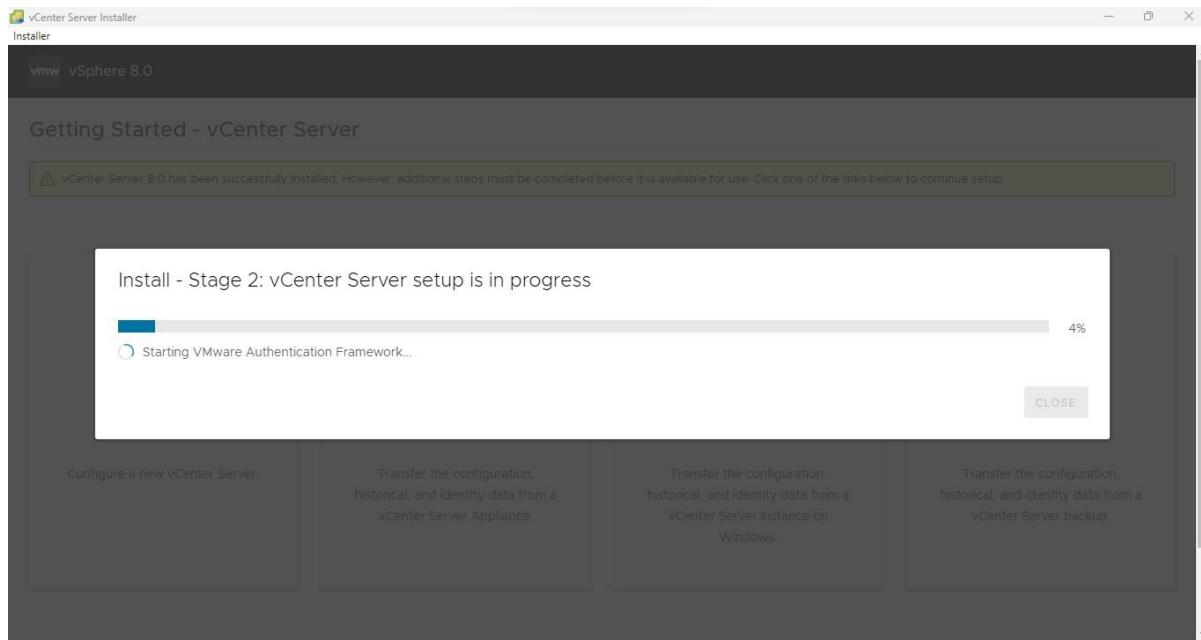
- View the summary and Click **Finish**



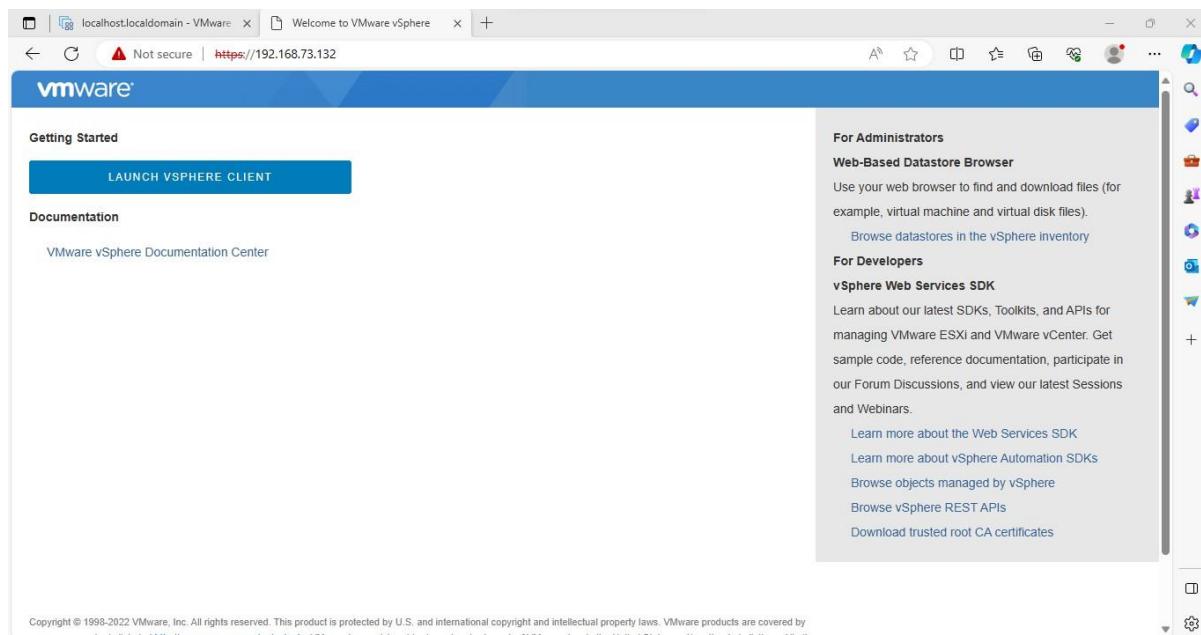
- There will be a warning pop-up Click **Ok**



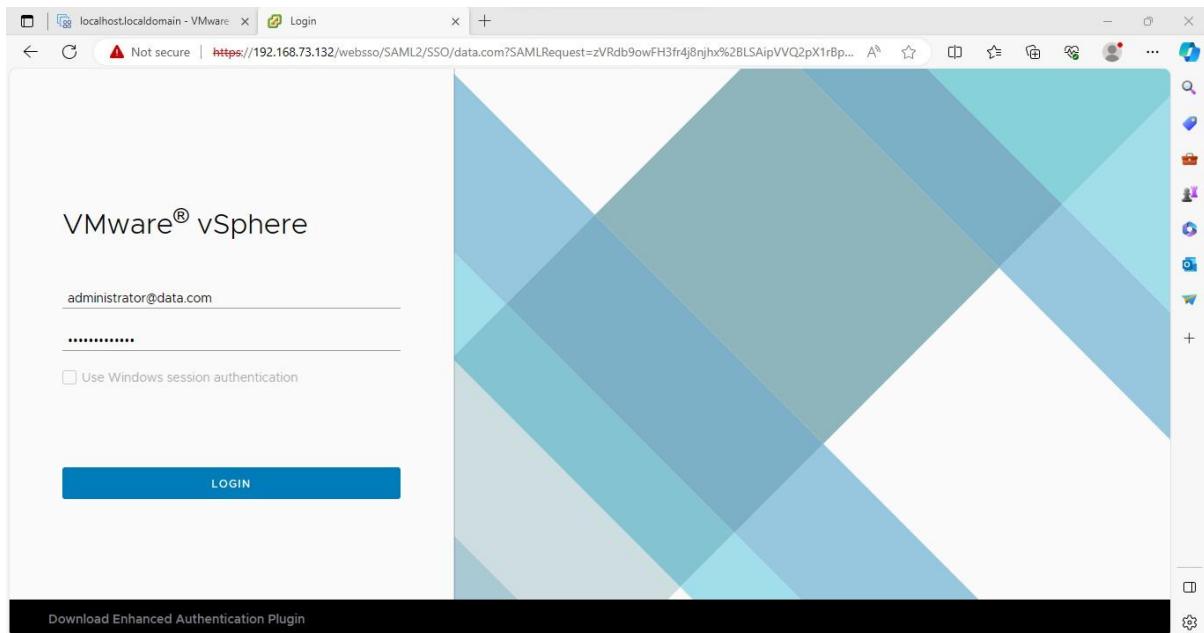
- Now it will start setting up the vCenter Server



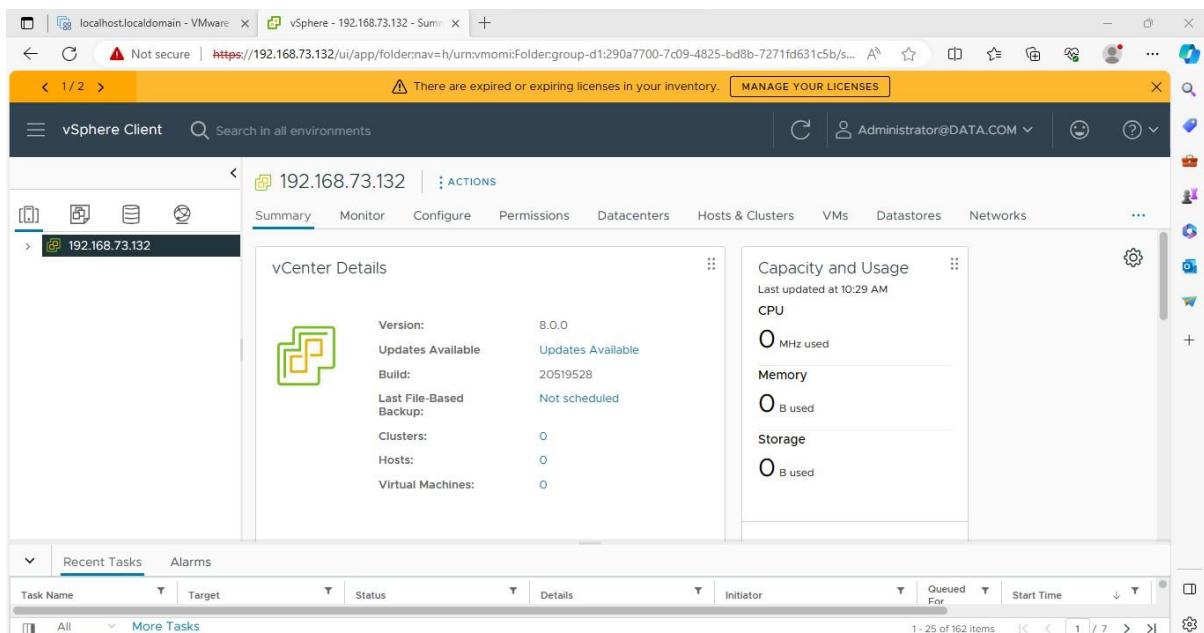
- After installation you will have to type the vCenter Server's IP Address onto the browser and Click on **Launch vSphere Client**



- Here enter your credentials and login

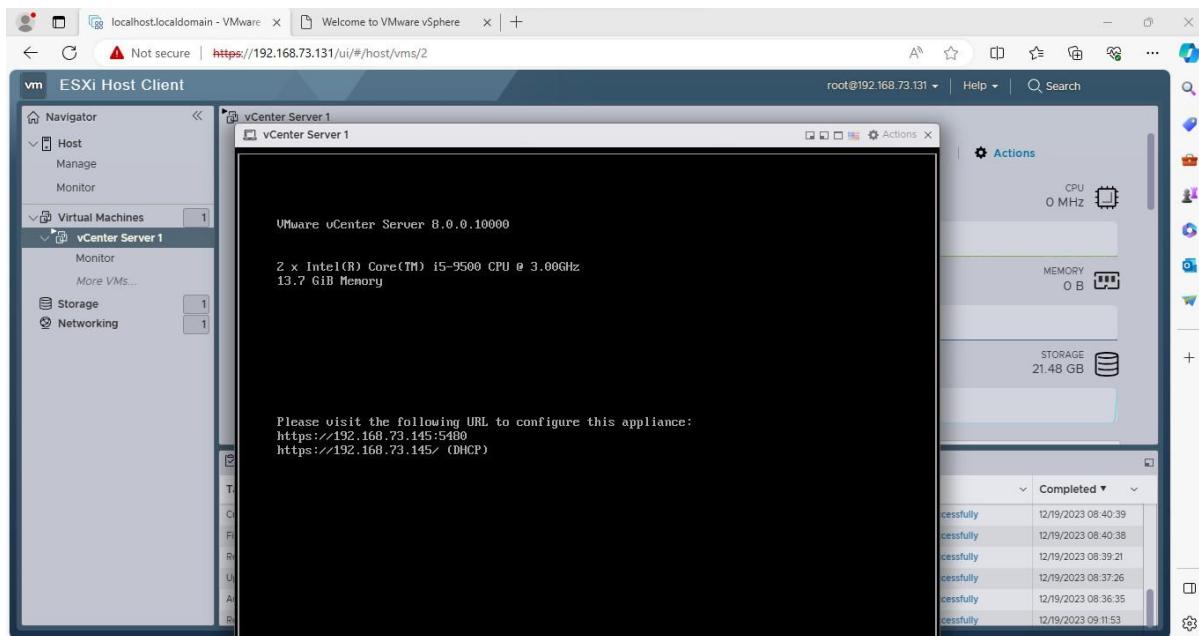


- This now shows that the vCenter Server is live and working

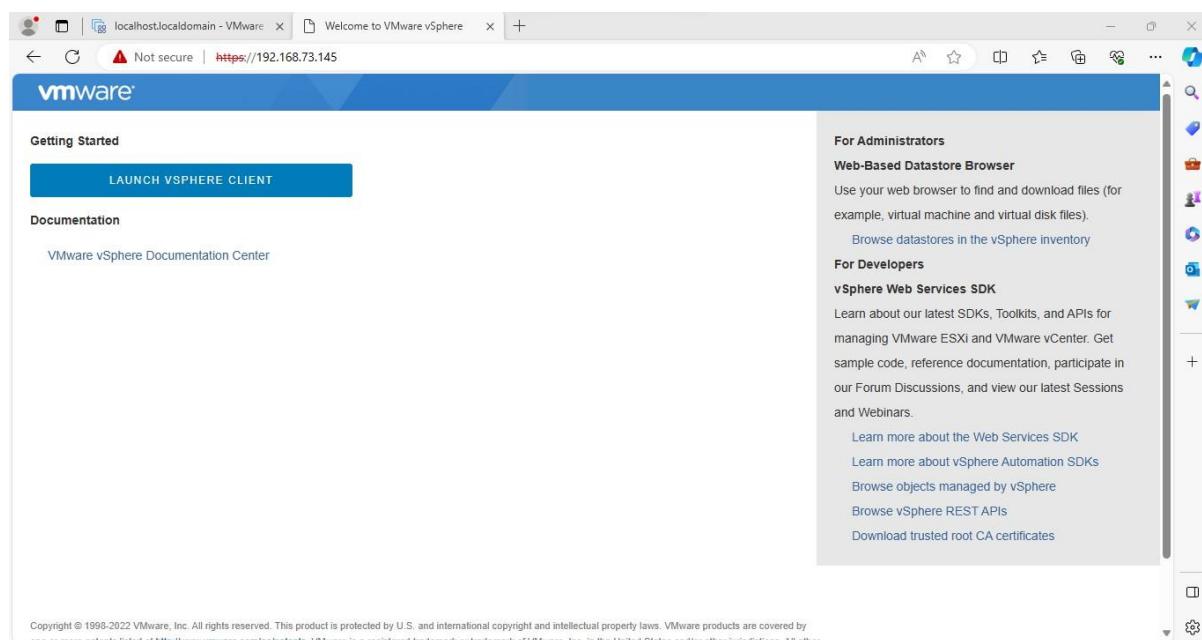


Step 1: Opening the vSphere Client

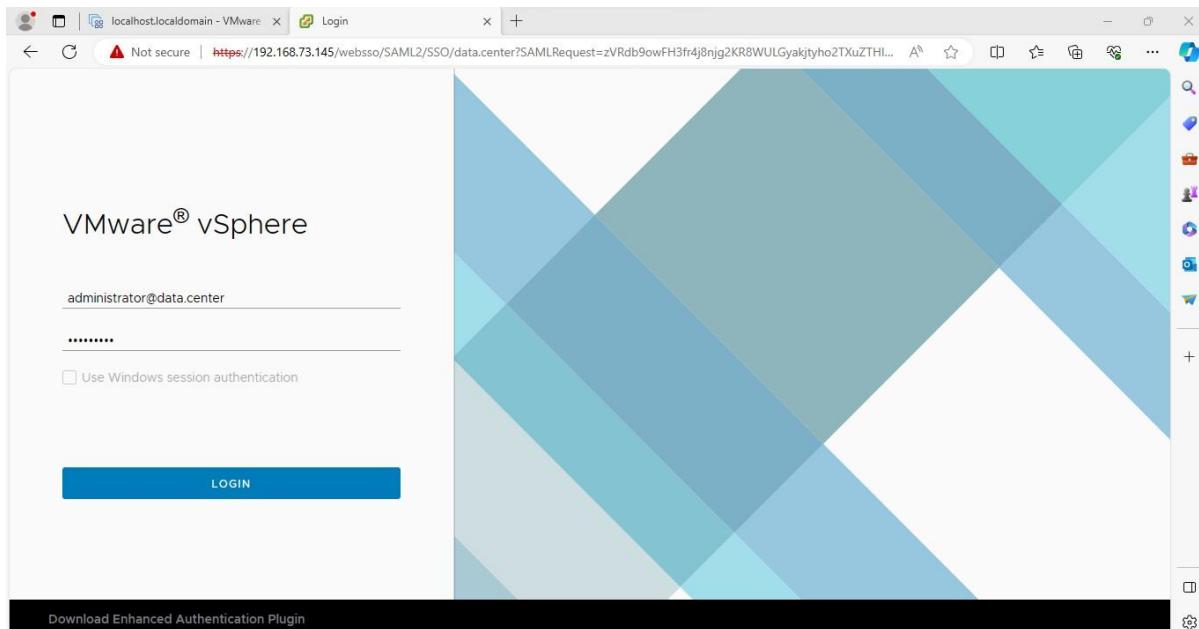
- After Practical 4 once your vCenter Server is up and running copy its **IP address** that is shown



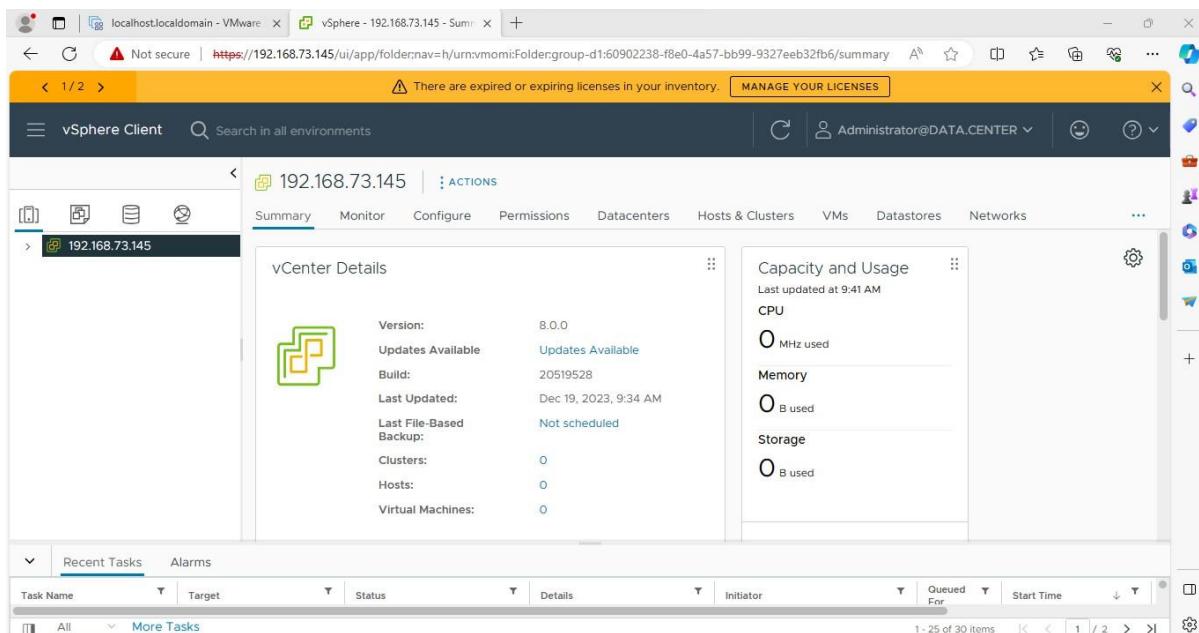
- This is open up the vSphere Site, Click on **Launch vSphere Client**



- Enter your credentials and Click **Login**

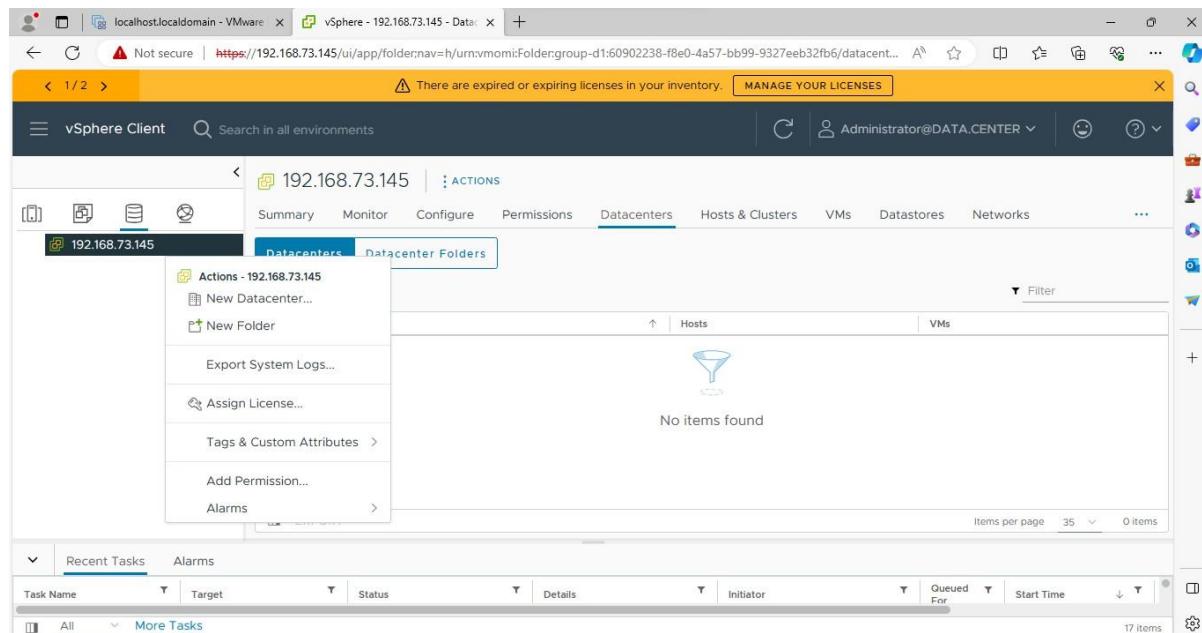


- This will Open **vSphere** where you can see the details of your installed virtual machines



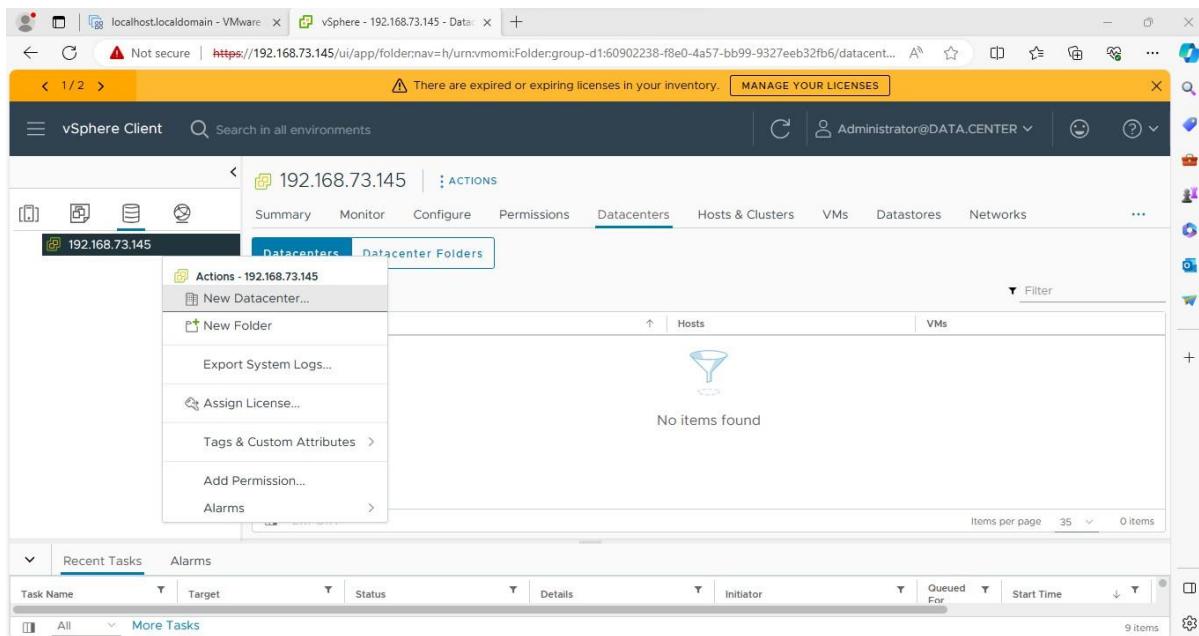
Step 2: View the Actions that can be taken in the vSphere Client

- Right-Click on your Server **IP Address**, this will display all the options for your server

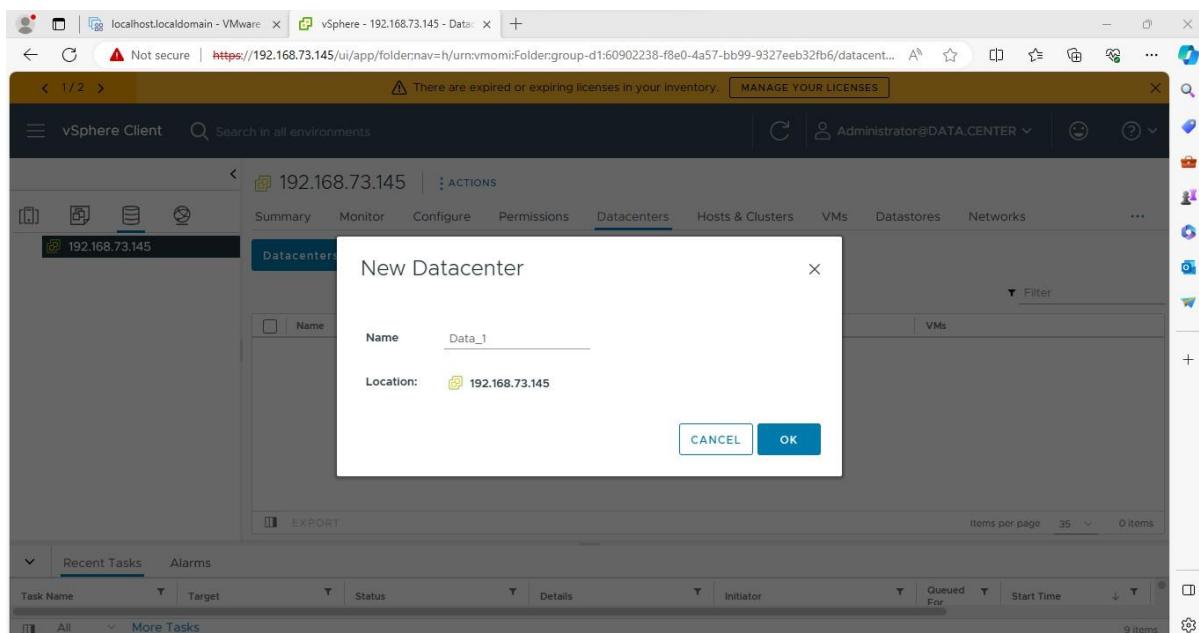


Step 1: Creating a Datacenter Folder

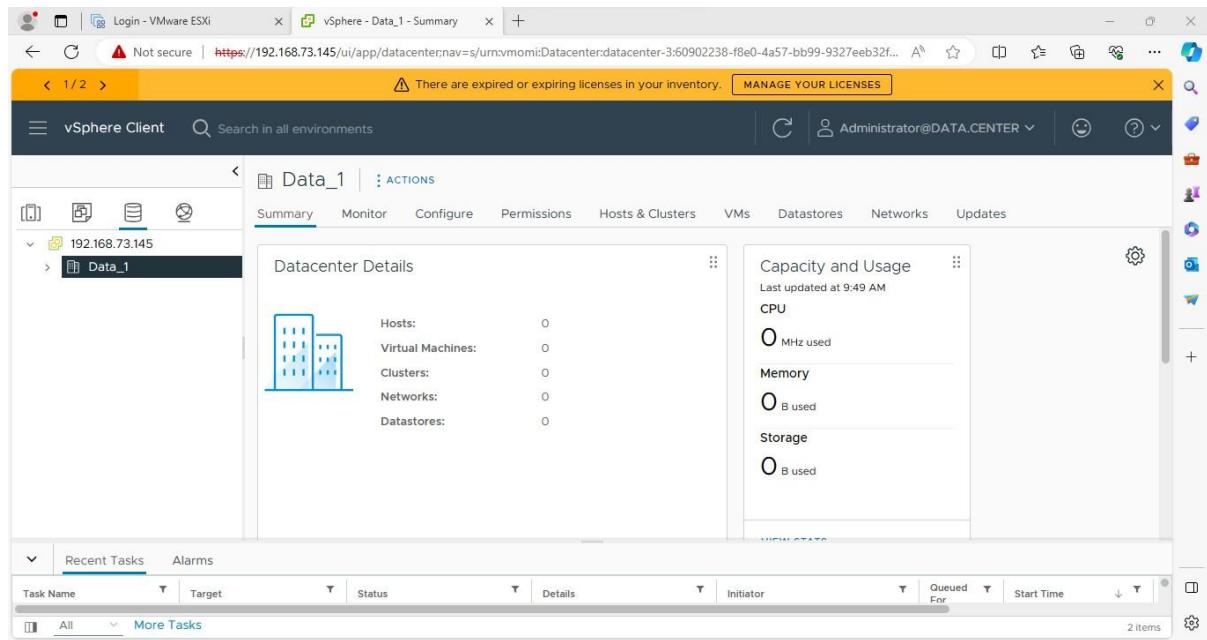
- Open your vSphere Client and Right-Click on your Server IP Address and Select New Datacenter



- Name your Datacenter (Here it is Data_1) and Click Ok

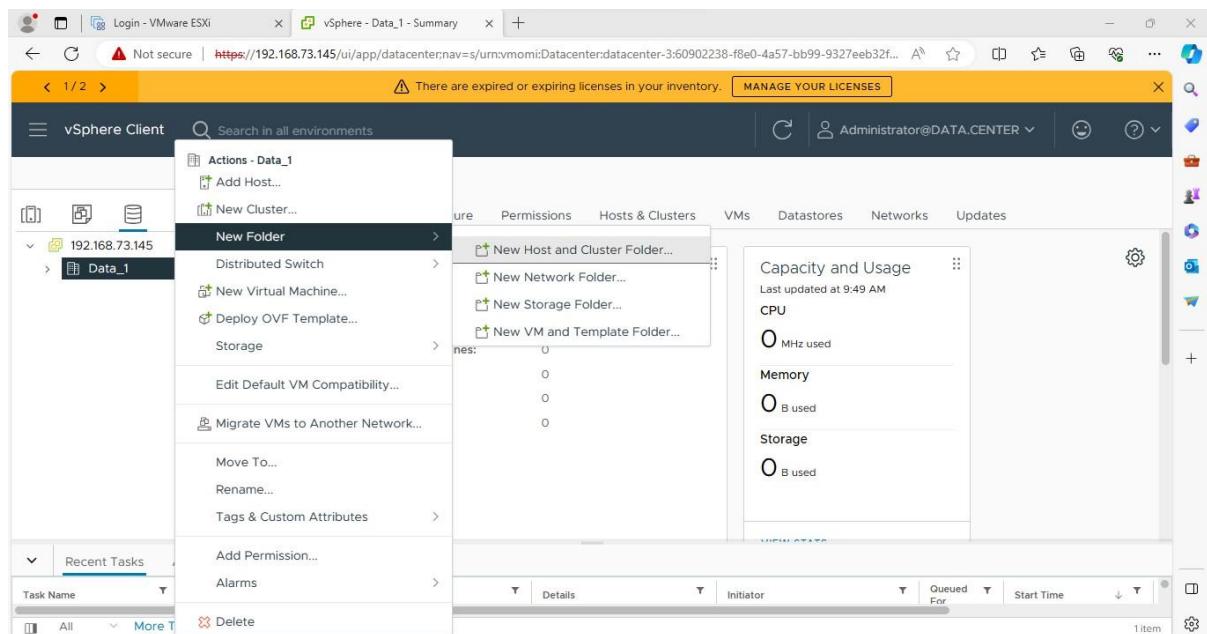


- Now your Datacenter has been created

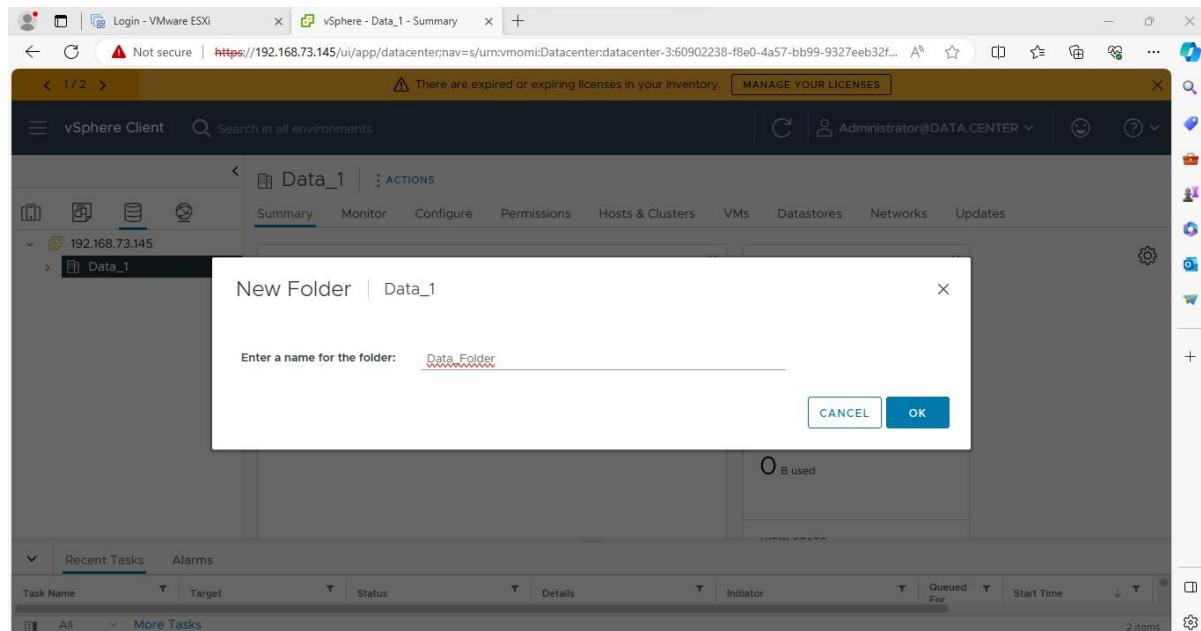


Step 2: Creating a folder in Datacenter

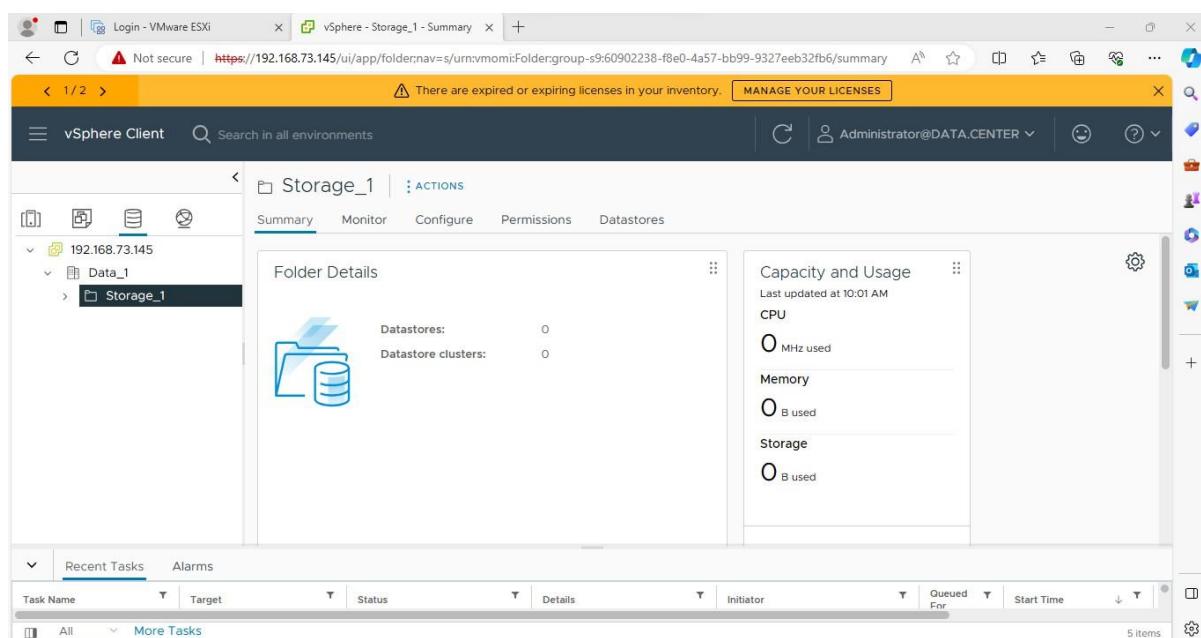
- Right-Click on your Datacenter and Select **New Folder** and Select **New Host and Cluster Folder**

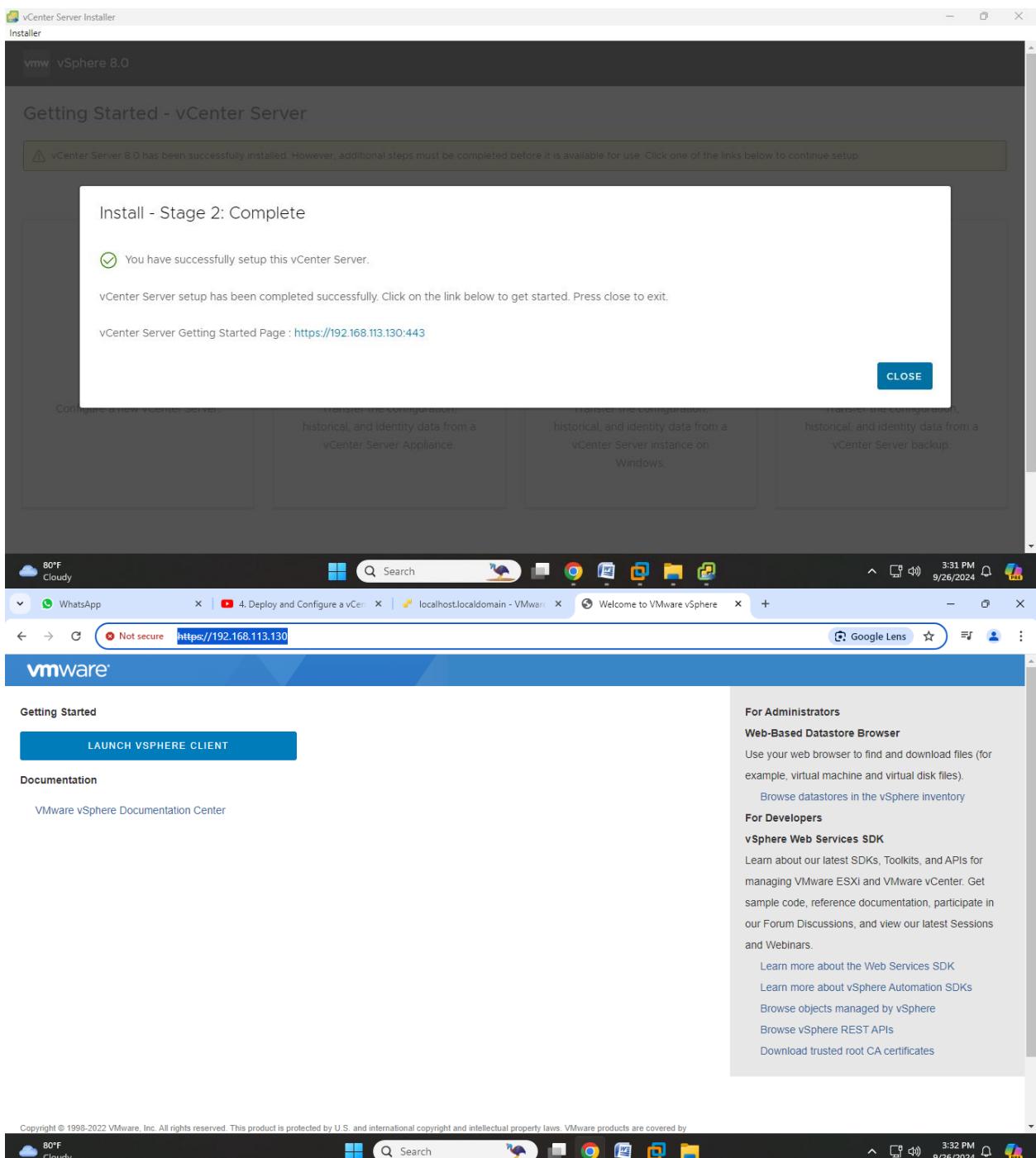


- Name your folder (Here it is Data_folder) and Click Ok



- Your folder has been successfully created





The screenshot shows a dual-monitor setup. The top monitor displays the VMware vSphere login screen, which includes fields for email (administrator@data.com) and password, a checkbox for Windows session authentication, and a blue 'LOGIN' button. The background features a large, abstract geometric graphic. The bottom monitor displays the vSphere Client interface for the host 192.168.113.130. The interface includes a navigation bar with links like Summary, Monitor, Configure, Permissions, Datacenters, Hosts & Clusters, VMs, Datastores, Networks, and a search bar. Below this is a section for 'Issues and Alarms' showing a single alert: 'VMware vAPI Endpoint Service Health Alarm'. Another section displays 'vCenter Details' with information such as Version: 8.0.0, Updates Available, Build: 20519528, Last Updated: Sep 26, 2024, 3:31 PM, and Last File-Based Backup: Not scheduled. To the right is a 'Capacity and Usage' summary showing 0 MHz used for CPU and 0 B used for Memory. At the bottom, there is a table for 'Recent Tasks' showing 182 items, with columns for Task Name, Target, Status, Details, Initiator, Queued For, Start Time, and Complete. The status column indicates most tasks are 'Completed'.

Not secure https://192.168.113.130/ui/app/admin/roles

There are expired or expiring licenses in your inventory. [MANAGE YOUR LICENSES](#)

Roles

Roles provider: DATA.COM

[NEW](#) [CLONE](#) [EDIT](#) [DELETE](#)

Administrator	DESCRIPTION	USAGE	PRIVILEGES
Read-only			
No access			
AutoUpdateUser			
Content library administrator (sample)			
Content Library Registry administrator (sample)			
Datastore consumer (sample)			
NamespacesQueryRole			
Network administrator (sample)			

Recent Tasks Alarms

Task Name Target Status Details Initiator Queued Start Time Complete

javascript:void(0) More Tasks 0 items

Upcoming Earnings 12:54 PM 9/27/2024

Not secure https://192.168.113.130/ui/app/admin/licensing/licenses

There are expired or expiring licenses in your inventory. [MANAGE YOUR LICENSES](#)

New Licenses

1 Enter license keys

2 Edit license names

3 Ready to complete

Enter license keys

License keys (one per line):

```
4F282-0MLD2-M8869-T89G0-CF240
OF4IK-0MJ4H-M88U1-OC3NO-0A214
```

CANCEL NEXT

81°F Cloudy 12:57 PM 9/27/2024

Not secure https://192.168.113.130/ui/app/admin/licensing/licenses

There are expired or expiring licenses in your inventory. [MANAGE YOUR LICENSES](#)

New Licenses

- 1 Enter license keys
- 2 Edit license names**
- 3 Ready to complete

Edit license names

License name:	vCentersever	Expires:	Never
License key:	4F282-0MLD2-M8869-T89G0-CF240	Capacity:	Unlimited Instances
Product:	vCenter Server 8 Standard		
License name:	ESXi	Expires:	Never
License key:	0F41K-0MJ4H-M88U1-0C3N0-0A214	Capacity:	Unlimited Instances
Product:	vCenter Server 8 Standard		

[CANCEL](#) [BACK](#) [NEXT](#)

Not secure https://192.168.113.130/ui/app/admin/licensing/licenses

There are expired or expiring licenses in your inventory. [MANAGE YOUR LICENSES](#)

New Licenses

- 1 Enter license keys
- 2 Edit license names
- 3 Ready to complete**

Ready to complete

Number of licenses: 2

License name:	vCentersever
License key:	4F282-0MLD2-M8869-T89G0-CF240
License name:	ESXi
License key:	0F41K-0MJ4H-M88U1-0C3N0-0A214

[CANCEL](#) [BACK](#) [FINISH](#)

Assign License

EXISTING LICENSES **NEW LICENSE**

	License	License Key	Product	Usage	Capacity
<input checked="" type="radio"/>	>> Evaluation License				
<input type="radio"/>	>> ESXi	0F41K-0MJ4H-M8BUI-0C3N0-0A214	vCenter Server 8 Standard	0 Instances	Unlimited Instances
<input type="radio"/>	>> vCentersever	4F282-0MLD2-MB869-T89G0-CF240	vCenter Server 8 Standard	0 Instances	Unlimited Instances

Assignment Validation for Evaluation License

⚠ The license expires in 59 days.

CANCEL **OK**

Licenses

MANAGE YOUR LICENSES

VCENTER SERVER SYSTEMS **HOSTS** **VSAN CLUSTERS** **SUPERVISORS** **SOLUTIONS**

ASSIGN LICENSE

	Asset	Usage	Product	License	License Expiration
<input checked="" type="checkbox"/>	>> 192.168.113.130	1 Instances	vCenter Server 8 Stand...	vCentersever	Never

EXPORT

Recent Tasks **Alarms**

Task Name Target Status Details Initiator Queued For Start Time Complete

All More Tasks

The image shows two windows related to VMware vSphere. The top window is a login screen titled "VMware® vSphere". It has fields for "example@domain.local" and "Password", and a checkbox for "Use Windows session authentication". A "LOGIN" button is at the bottom. The background features a large, stylized blue and white geometric pattern. The bottom window is the "vSphere Client" interface, showing a summary for host "192.168.113.130". The left sidebar has options like "Actions - 192.168.113.130", "New Datacenter...", "New Folder", "Export System Logs...", "Assign License...", "Tags & Custom Attributes", "Add Permission...", and "Alarms". The main area displays "Health Alarm" under "Alarms" and "Capacity and Usage" under "Capacity and Usage". Below this is a table for "Recent Tasks" with one item listed: "1 81°F Cloudy". The status bar at the bottom indicates "12:41 PM 9/27/2024".

MSC IT Sem-3 (Part-2)

The screenshot shows the vSphere Client interface for a datacenter named "datadotcom".

Datacenter Details:

- Hosts: 0
- Virtual Machines: 0
- Clusters: 0
- Networks: 0
- Datastores: 0

Capacity and Usage:

- Last updated at 12:42 PM
- CPU: 0 MHz used
- Memory: 0 B used
- Storage: 0 B used

Actions - datadotcom:

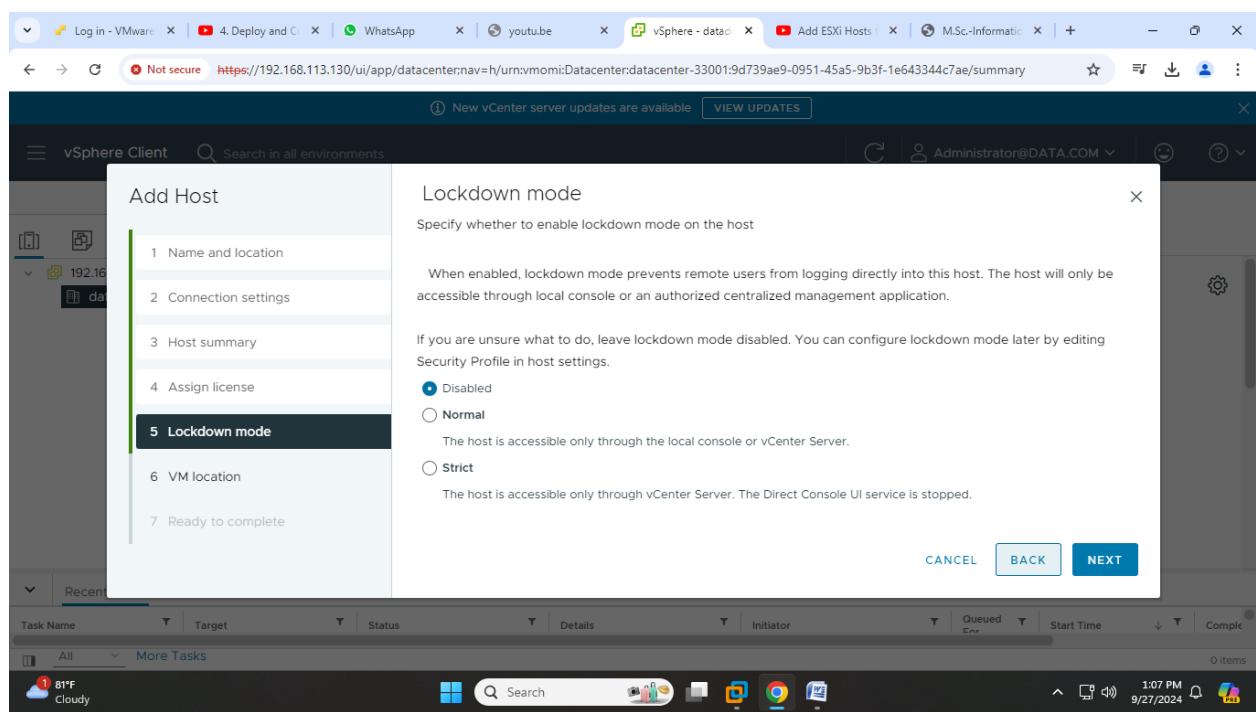
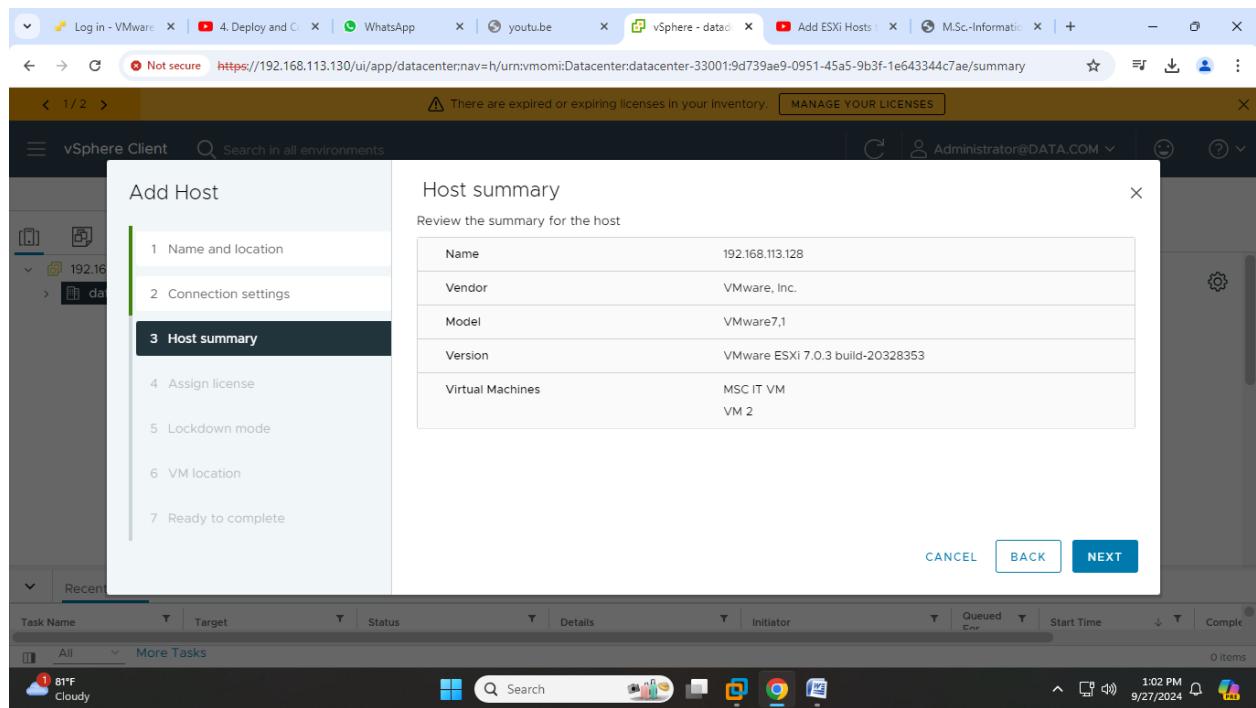
- Add Host...
- New Cluster...
- New Folder...
- Distributed Switch
- New Virtual Machine...
- Deploy OVF Template...
- Storage
- Edit Default VM Compatibility...
- Migrate VMs to Another Network...
- Move To...
- Rename...
- Tags & Custom Attributes
- Add Permission...
- Alarms
- Delete

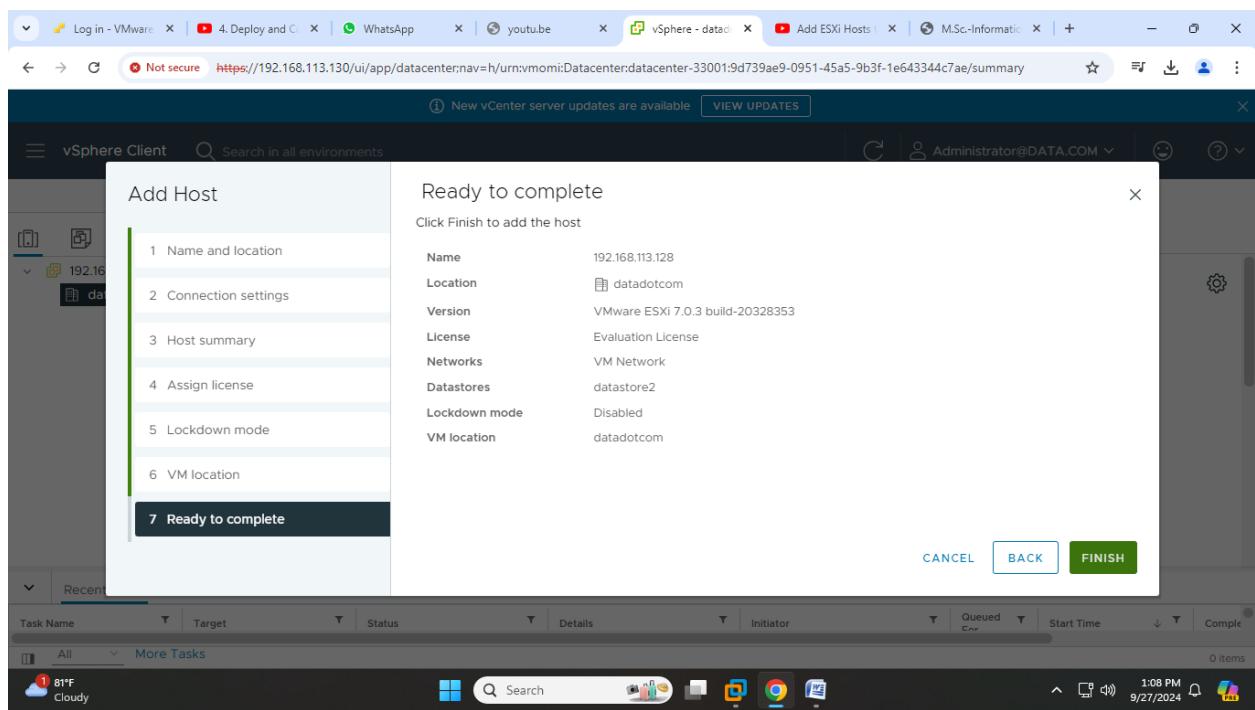
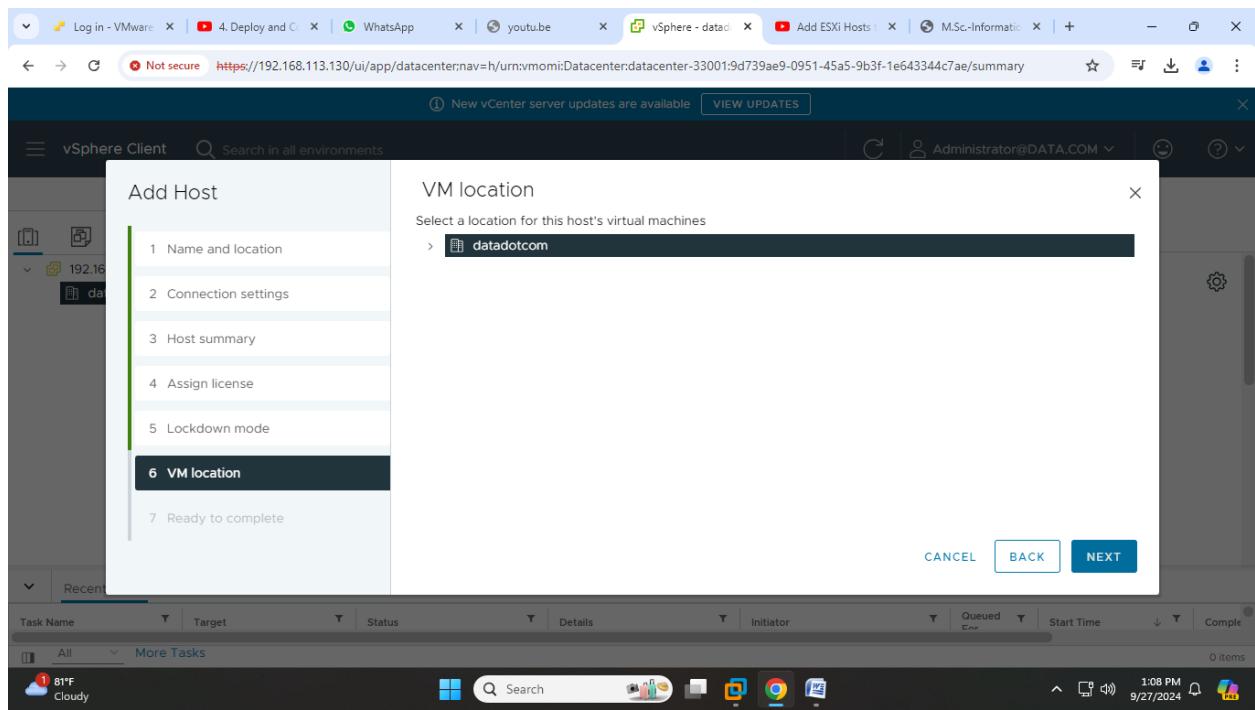
Recent Tasks:

Task Name	Target	Status	Details	Initiator	Queued For	Start Time	Completed
All	More Tasks	2 items				12:42 PM 9/27/2024	

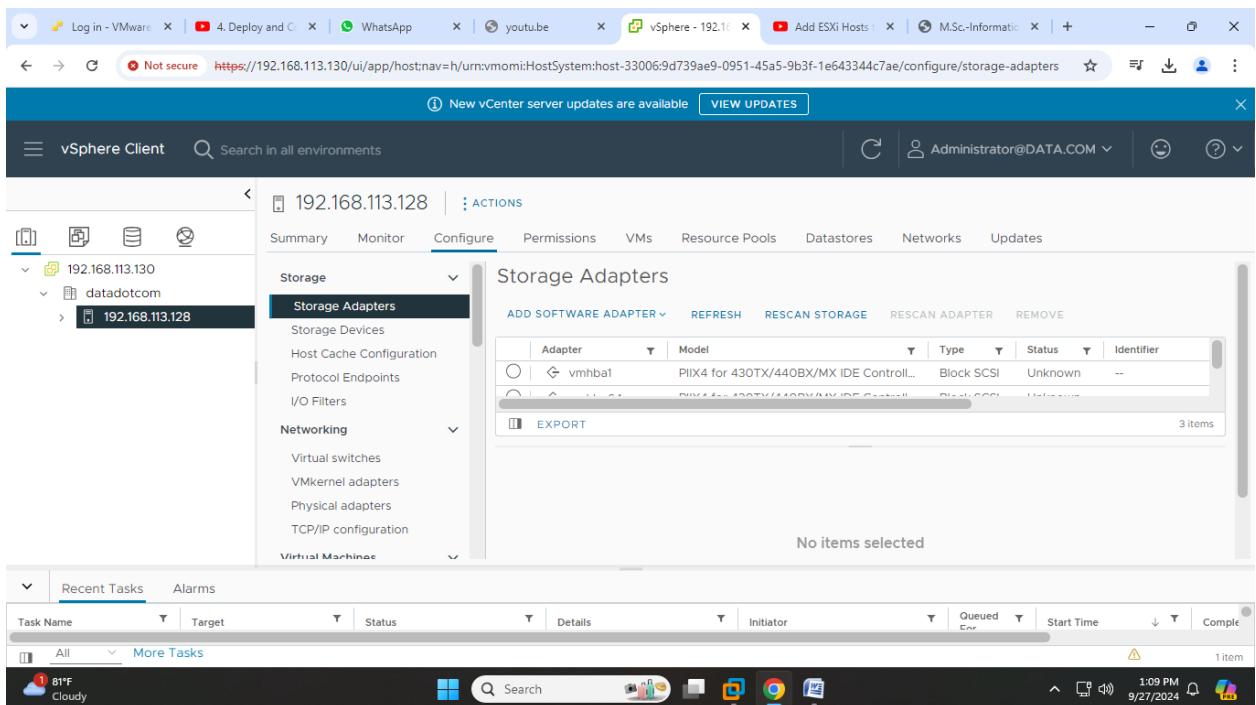
The screenshot shows the vSphere Client interface with the 'Add Host' wizard open. The first step, 'Name and location', is selected. The host name or IP address is set to 192.168.113.128 and the location is set to datadotcom. The wizard has 7 steps in total: 1. Name and location, 2. Connection settings, 3. Host summary, 4. Assign license, 5. Lockdown mode, 6. VM location, and 7. Ready to complete. A 'NEXT' button is visible at the bottom right of the dialog.

The screenshot shows the 'Connection settings' step of the 'Add Host' wizard. An overlay dialog titled 'Security Alert' appears, stating: 'The certificate store of vCenter Server cannot verify the certificate. The SHA1 thumbprint of the certificate is: 2B:F5:84:F1:49:B8:68:8D:40:38:97:F3:9A:0D:FB:27:4F:70:5C:98'. It asks the user to click 'Yes' to replace the host's certificate with a new one signed by the VMware Certificate Server and proceed with the workflow, or 'No' to cancel connecting to the host. The 'YES' button is highlighted.





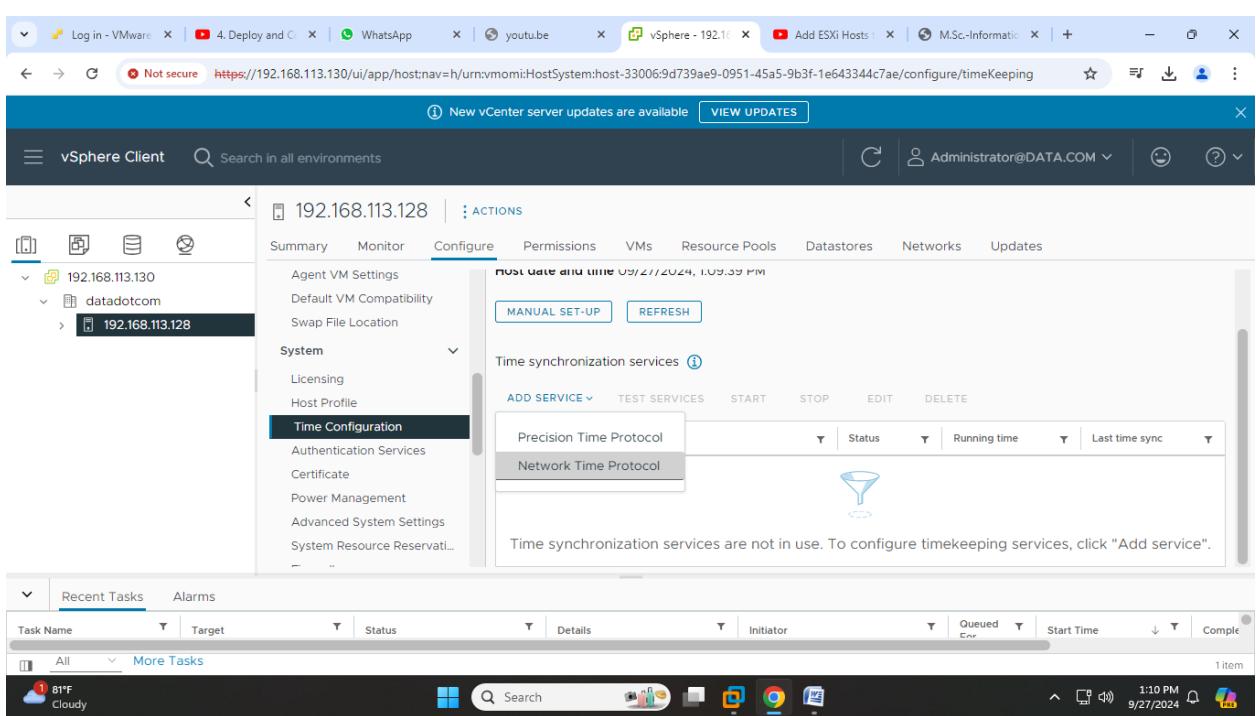
MSC IT Sem-3 (Part-2)



The screenshot shows the vSphere Client interface for host 192.168.113.128. The left sidebar shows the navigation tree with nodes 192.168.113.130, datadotcom, and 192.168.113.128. The main pane is titled "Storage Adapters" under the "Configure" tab. It displays a table of storage adapters:

Adapter	Model	Type	Status	Identifier
vmhba1	PIIX4 for 430TX/440BX/MX IDE Controller	Block SCSI	Unknown	--
	Virtual Fibre Channel Adapter	Block SCSI	Unknown	--

No items selected.



The screenshot shows the vSphere Client interface for host 192.168.113.128. The left sidebar shows the navigation tree with nodes 192.168.113.130, datadotcom, and 192.168.113.128. The main pane is titled "Time Configuration" under the "Configure" tab. It displays a table of time synchronization services:

Precision Time Protocol	Status	Running time	Last time sync
Network Time Protocol			

HOST DATE AND TIME: 09/27/2024, 1:09:59 PM

MANUAL SET-UP REFRESH

Time synchronization services

ADD SERVICE TEST SERVICES START STOP EDIT DELETE

Time synchronization services are not in use. To configure timekeeping services, click "Add service".

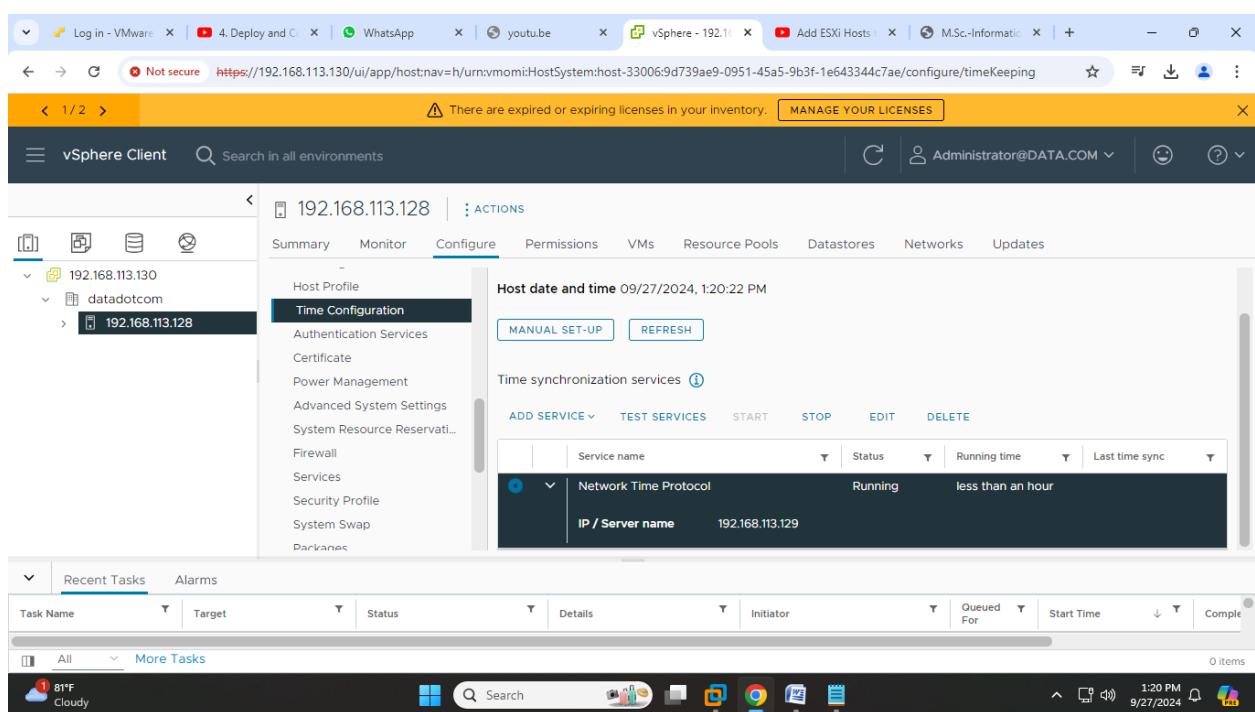
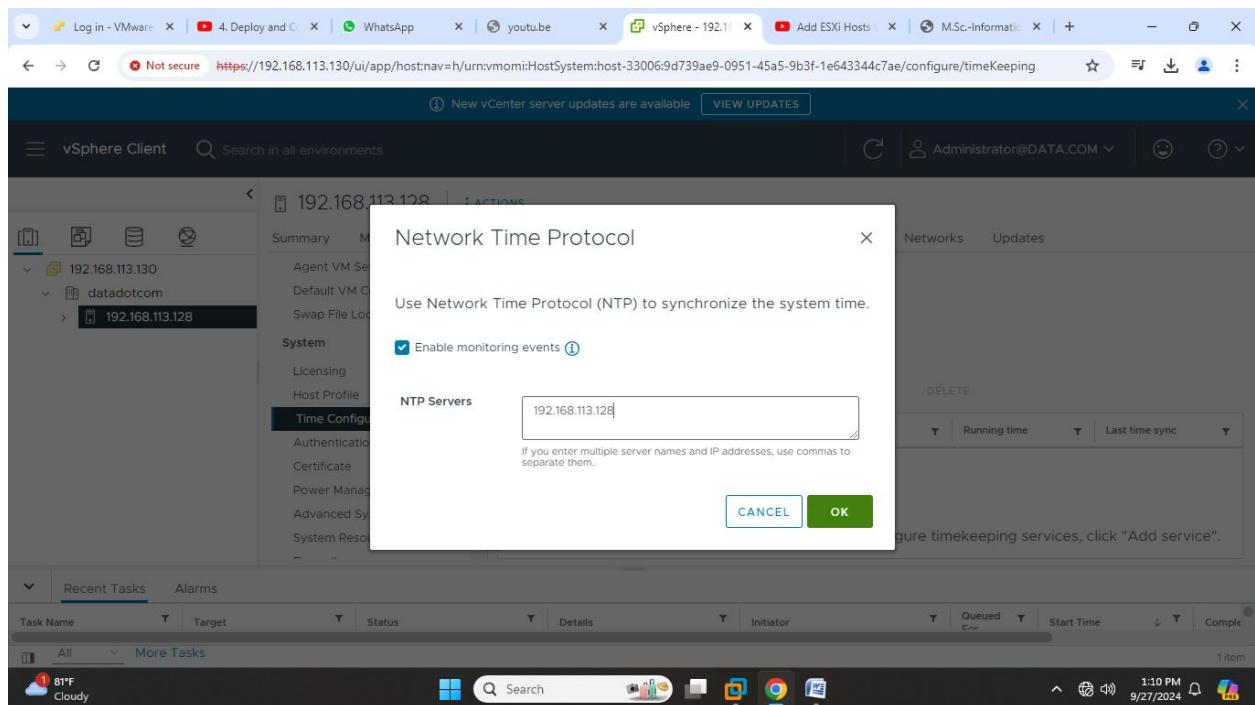
Recent Tasks Alarms

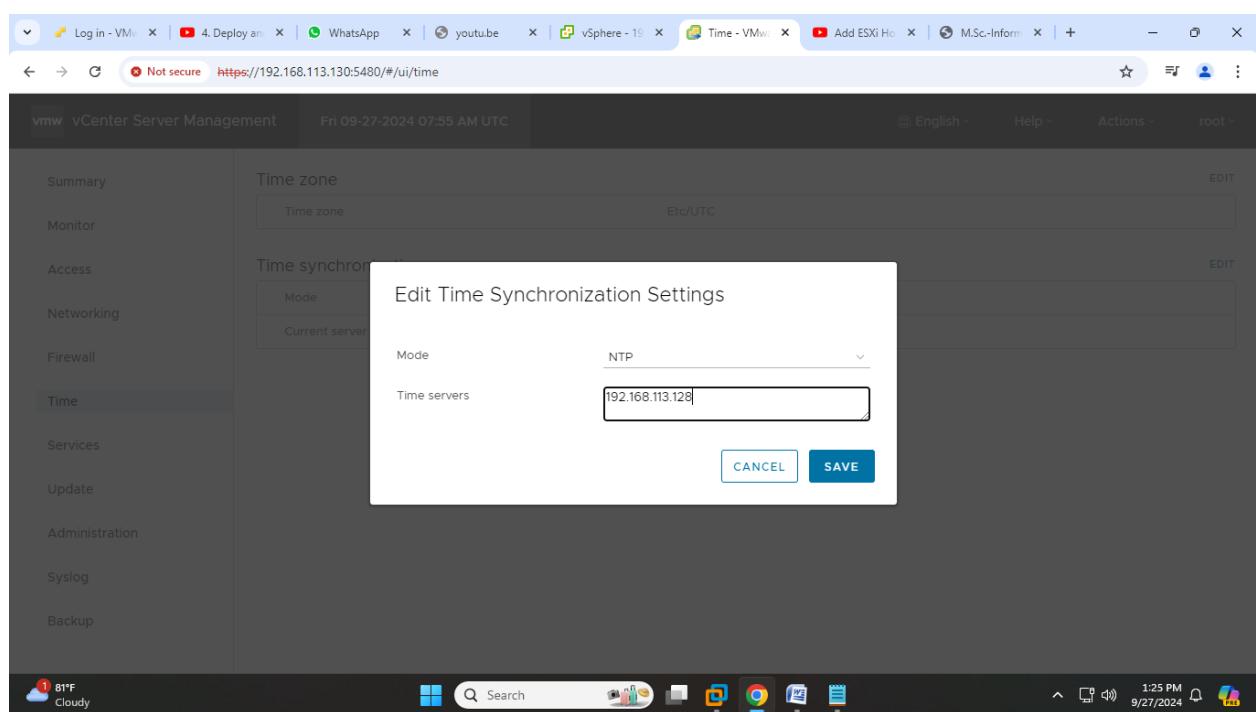
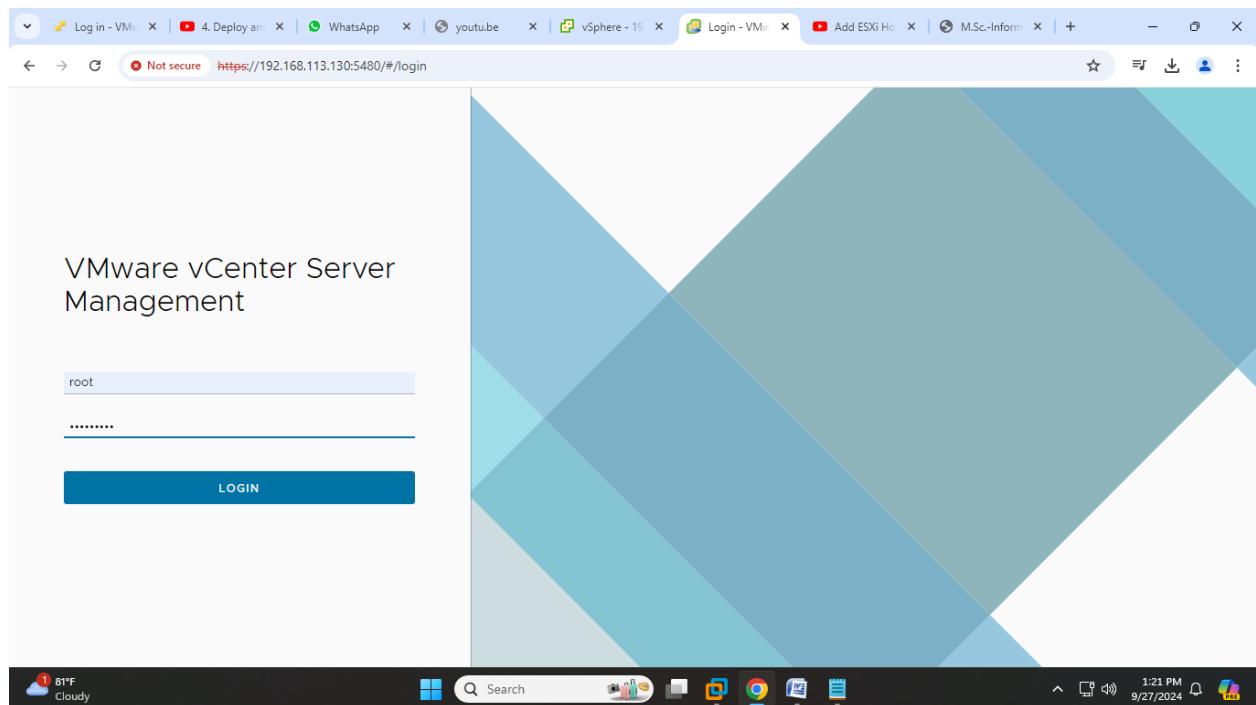
Task Name Target Status Details Initiator Queued Start Time Complete

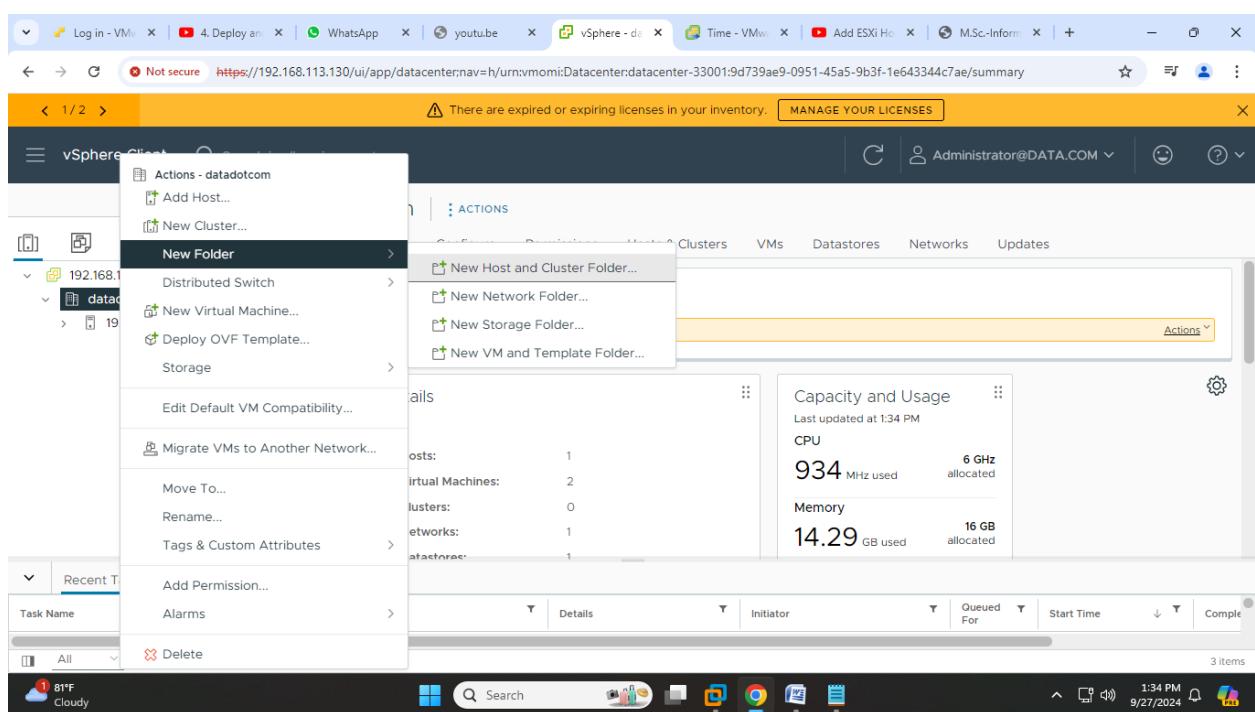
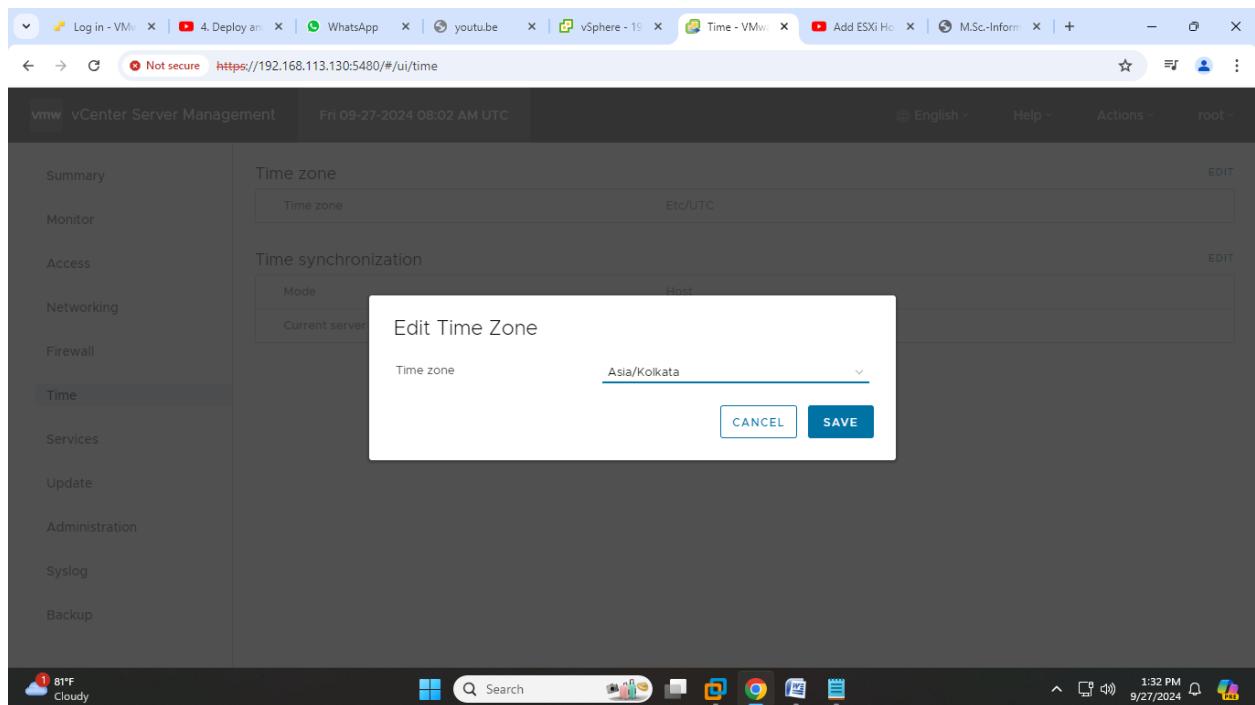
All More Tasks

1 item

MSC IT Sem-3 (Part-2)







MSC IT Sem-3 (Part-2)

The screenshot shows the vSphere Client interface. A modal dialog box is open in the center, titled "New Folder | datadotcom". It contains a single input field labeled "Enter a name for the folder:" with the text "lab host" typed into it. Below the input field are two buttons: "CANCEL" on the left and "OK" on the right. In the background, the main vSphere Client window displays a summary of resources under the "datadotcom" folder. The summary includes:

Clusters:	0
Networks:	1
Datastores:	1
Memory	14.29 GB used, 16 GB allocated

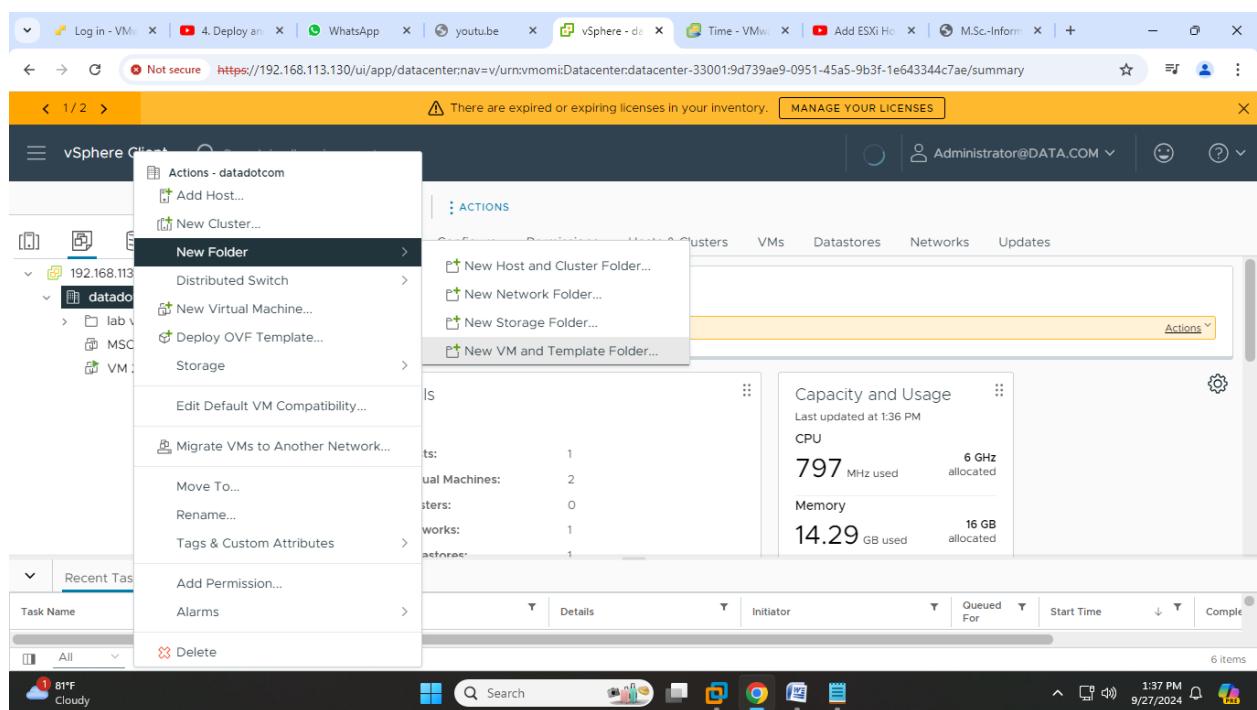
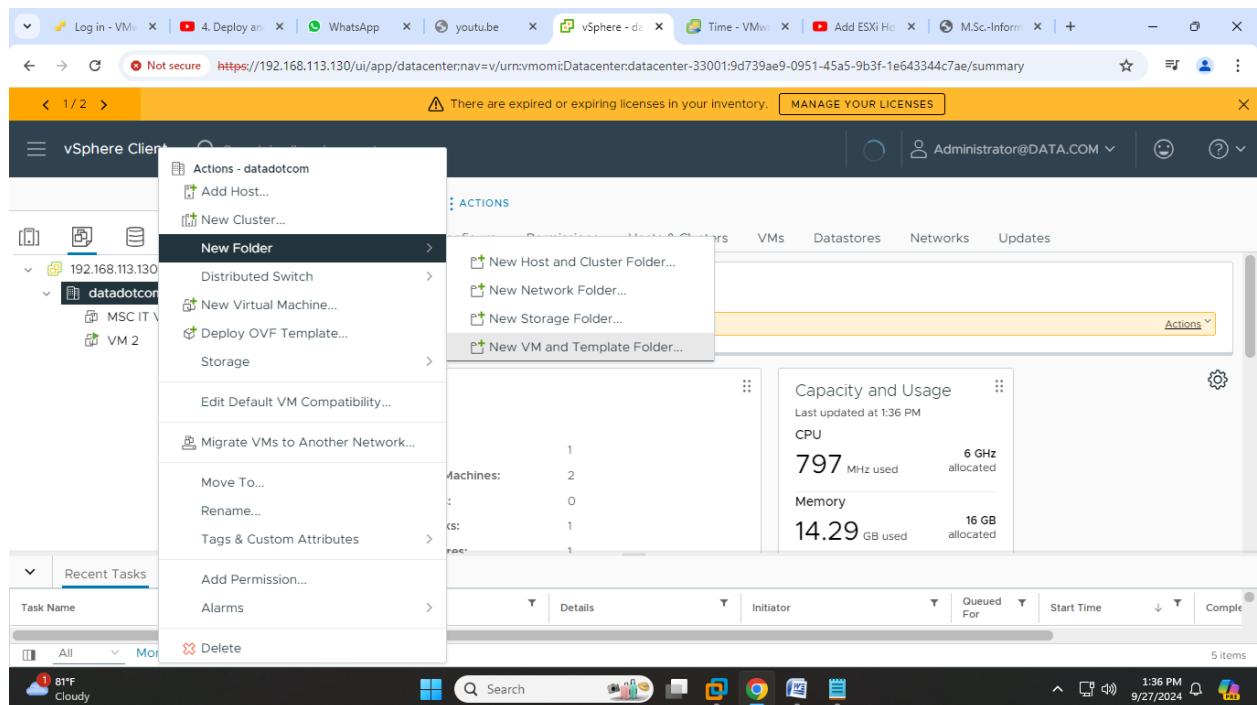
At the bottom of the client window, there is a task bar showing various icons and system status.

The screenshot shows the vSphere Client interface. The main pane displays the "lab host" folder under the "datadotcom" folder. The "Summary" tab is selected. On the right side, there is a detailed "Capacity and Usage" section with the following data:

Capacity and Usage	
Last updated at 1:35 PM	
CPU	1.358 GHz used, 6 GHz allocated
Memory	14.28 GB used, 16 GB allocated
Storage	70.65 GB used, 93.5 GB allocated

At the bottom of the client window, there is a task bar showing various icons and system status.

MSC IT Sem-3 (Part-2)



MSC IT Sem-3 (Part-2)

The screenshot shows the vSphere Client interface. A modal dialog box titled "New Folder | datadotcom" is open in the center. It contains a single input field labeled "Enter a name for the folder:" with the text "lab templates" typed into it. Below the input field are two buttons: "CANCEL" on the left and "OK" on the right. In the background, the main vSphere Client window displays the "datadotcom" datacenter summary. The summary card shows the following statistics: Clusters: 0, Networks: 1, Datastores: 1, Memory: 14.29 GB used, and 16 GB allocated.

The screenshot shows the vSphere Client interface. The main pane displays the "Issues and Alarms" section. A single warning message is listed: "datastore2 Datastore usage on disk". Below this, there are two cards: "Datacenter Details" and "Capacity and Usage". The "Datacenter Details" card shows the following counts: Hosts: 1, Virtual Machines: 2, Clusters: 0, Networks: 1, and Datastores: 1. The "Capacity and Usage" card shows the following resource usage: Last updated at 1:36 PM, CPU: 797 MHz used, 6 GHz allocated, and Memory: 14.29 GB used, 16 GB allocated.

MSC IT Sem-3 (Part-2)

The screenshot shows the vSphere Client interface for the MSC IT VM. The left sidebar shows a tree view of the environment, with the MSC IT VM selected. The main pane displays the 'Virtual Machine Details' for the MSC IT VM, which is currently Powered Off. The guest OS is listed as Other 3.x or later Linux (64-bit). VMware Tools are not running, and the DNS Name is listed as 'Guest Managed'. The IP Addresses and Encryption status are also shown. Below the details, there are buttons for 'LAUNCH REMOTE CONSOLE' and 'LAUNCH WEB CONSOLE'. At the bottom, there is a table for 'Recent Tasks' and a task bar with various icons.

The screenshot shows the vSphere Client interface for the lab host. The left sidebar shows a tree view of the environment, with the lab host selected. The main pane displays the 'Events' section, showing a list of recent events. The events listed are:

Description	Type	Date Time	Target
Alarm 'Virtual machi...	infor...	09/27/2024, 1...	VM 2
Alarm 'Virtual machi...	infor...	09/27/2024, 1...	VM 2
User dcui@127.0.0.1...	infor...	09/27/2024, 1...	192.16... dcui
User dcui@127.0.0.1...	infor...	09/27/2024, 1...	192.16... dcui
Firewall configuratio...	infor...	09/27/2024, 1...	192.16...
Firewall configuratio...	infor...	09/27/2024, 1...	192.16...

Below the events, there is a table for 'Recent Tasks' and a task bar with various icons.

MSC IT Sem-3 (Part-2)

The screenshot shows the vSphere Client interface with two main windows side-by-side.

Left Window (Summary View):

- Folder Details:**
 - Clusters: 0
 - Hosts: 1
 - Virtual Machines: 2
- Capacity and Usage:**
 - CPU: 944 MHz used (6 GHz allocated)
 - Memory: 14.22 GB used (16 GB allocated)
 - Storage: 70.65 GB used (93.5 GB allocated)

Bottom Navigation: Recent Tasks, Alarms, Task List (6 items), and a system tray showing the date and time (9/27/2024, 1:41 PM).

Right Window (Hosts Tab):

- Hosts:** 192.168.113.128 (Connected, Warning status, 12% CPU, 88% Memory)

Bottom Navigation: Recent Tasks, Alarms, Task List (6 items), and a system tray showing the date and time (9/27/2024, 1:42 PM).