



# CONESTOGA

Connect Life and Learning

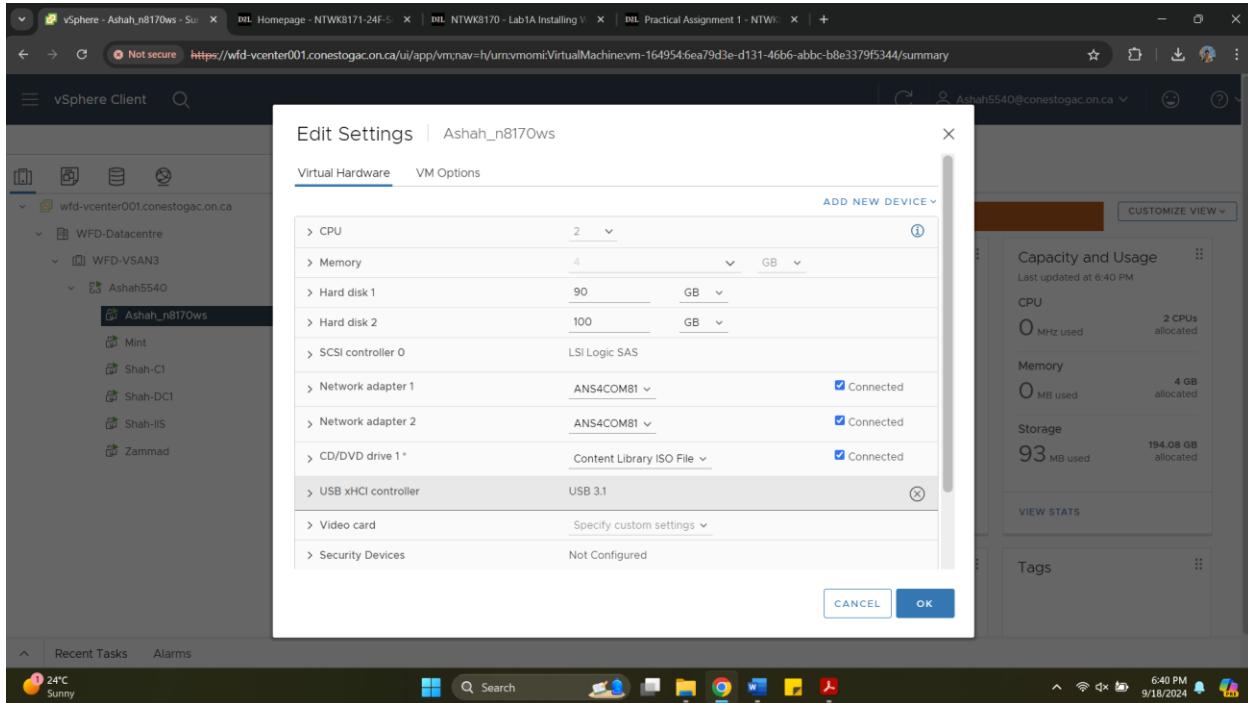
Student Name:	Aagam Sanjay Shah
Deliverable:	In-Class Tasks Week 4 Assignment
Course Name:	NTWK8171-24S-Sec1-Virtualization with VMware VSphere

Date Assigned:	09/03/2024
Date Due:	09/19/2024
Rules:	<ul style="list-style-type: none"><li>• Individual.</li><li>• Cheating is not allowed.</li><li>• Plagiarism counts as cheating!</li><li>• That FAILURE to submit work in the course can result in a grade of 'F' or 'I' for failure to complete the course!</li></ul>

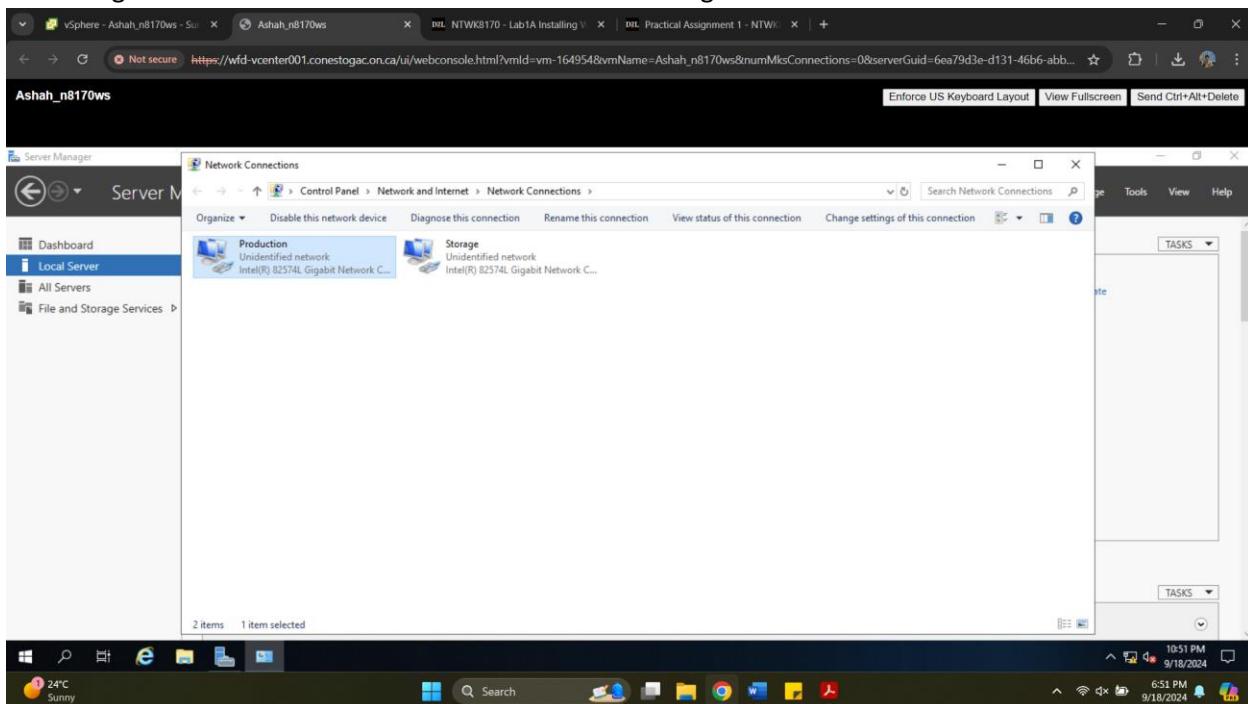
## LAB1A

Installing the latest version of Windows Server in the virtual environment with a second network card has been added. A second Hard drive has been added at 100GB. Installing Windows on the 90GB drive.

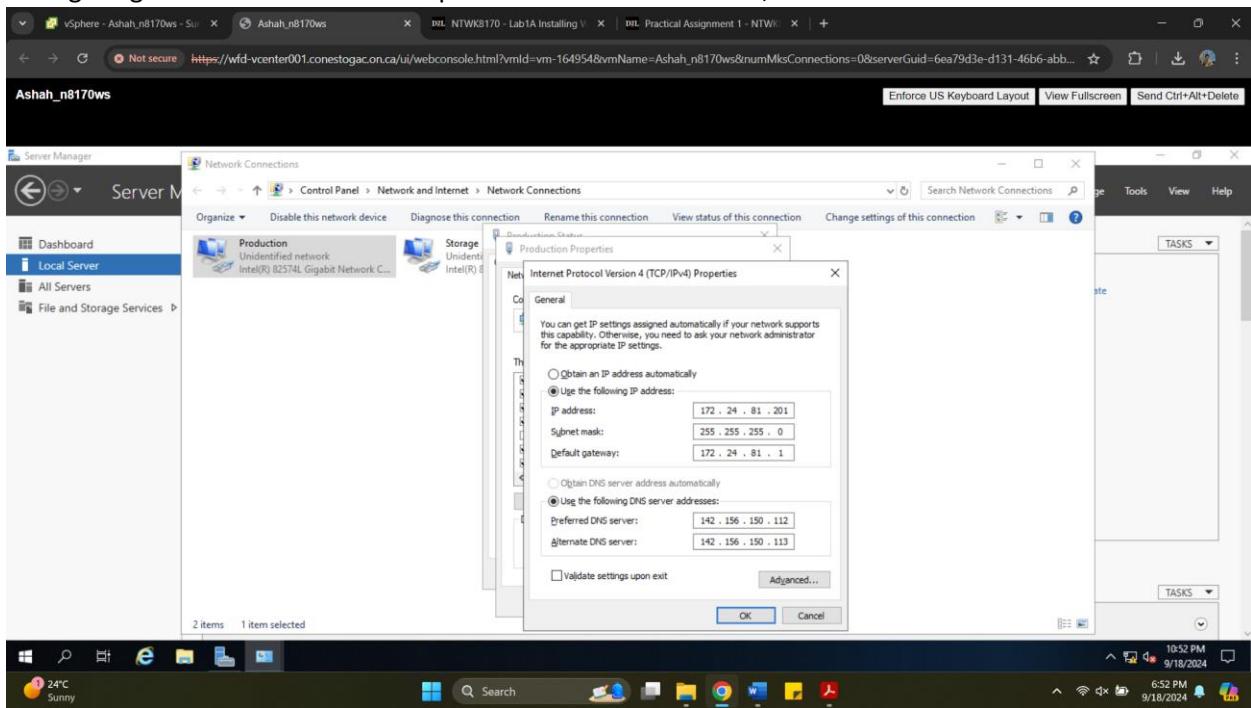
Hostname: Ashah-n8170ws



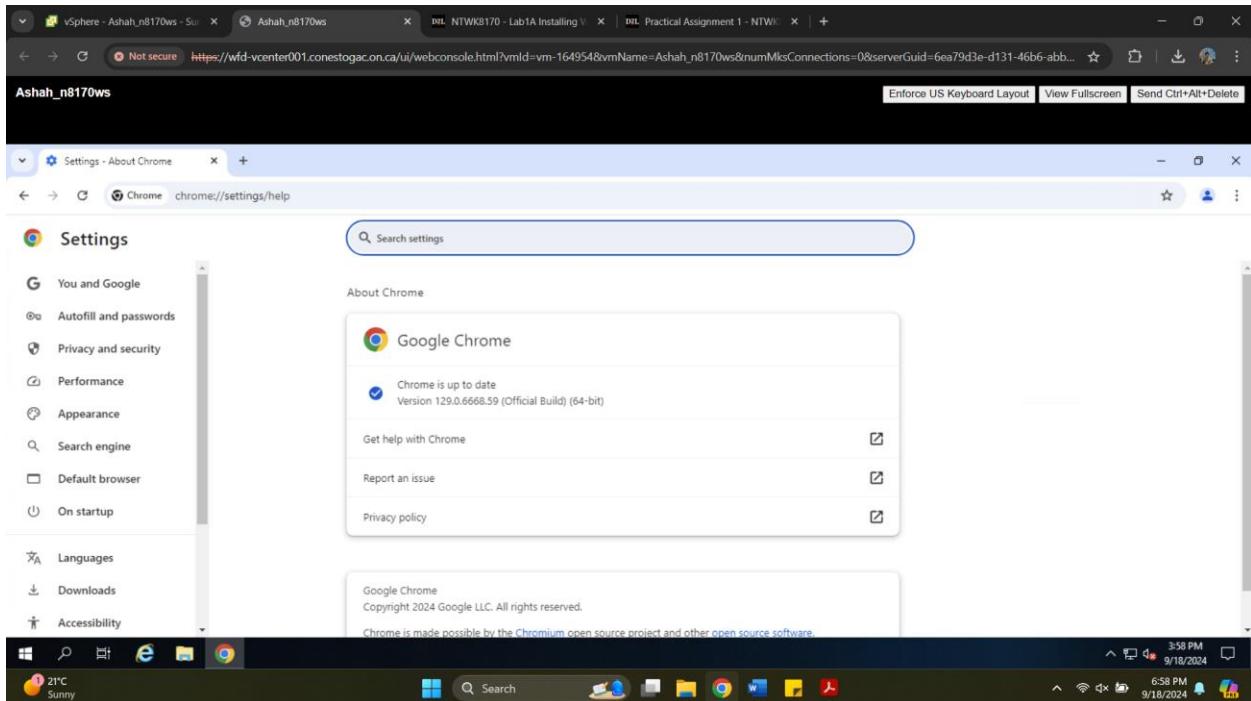
Renaming Ethernet1 to Production and Ethernet2 to Storage.



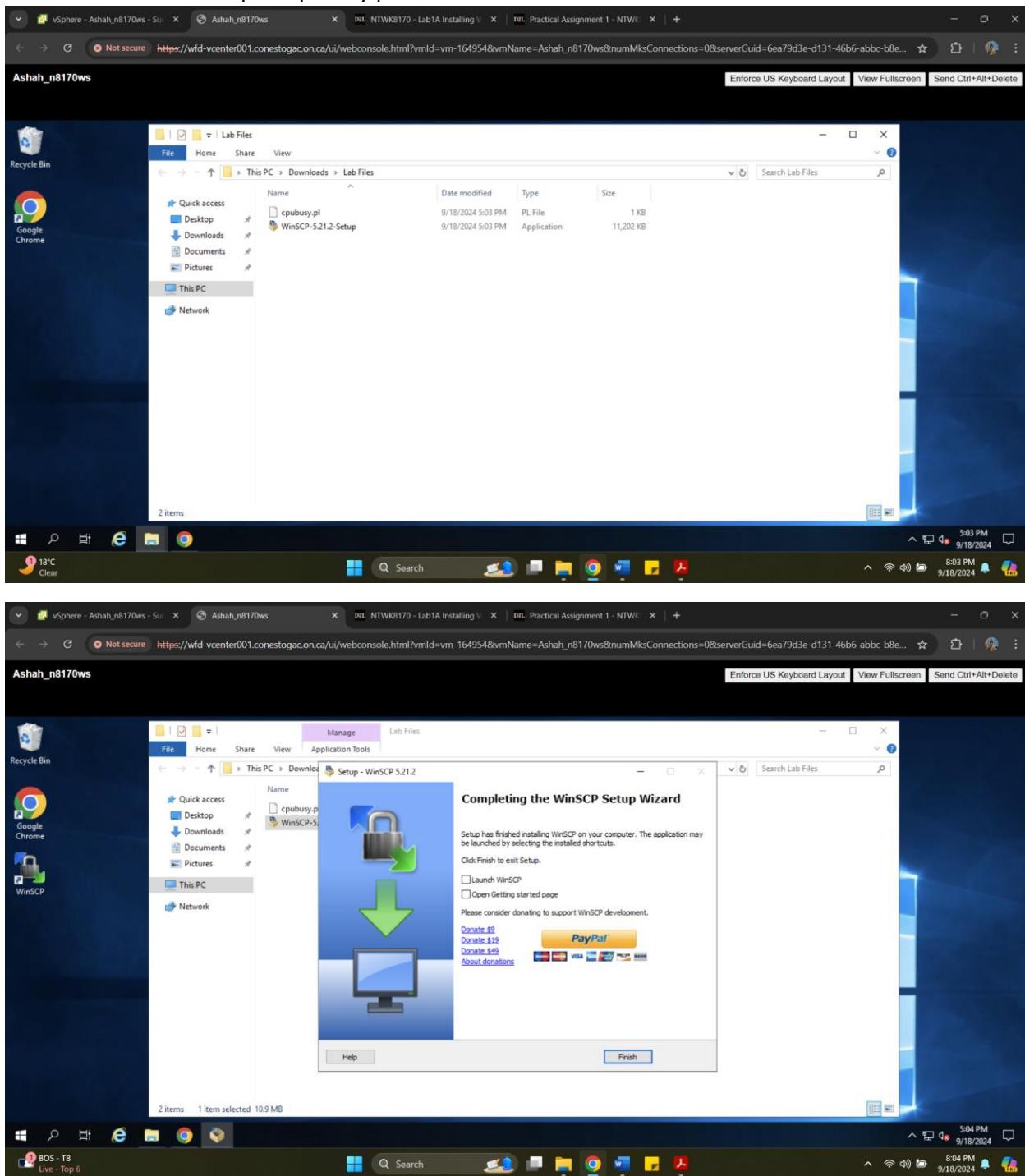
## Configuring Production network adapter with IP: 172.24.81.201, DNS Server: 142.156.150.112



## Installed Google Chrome on Server



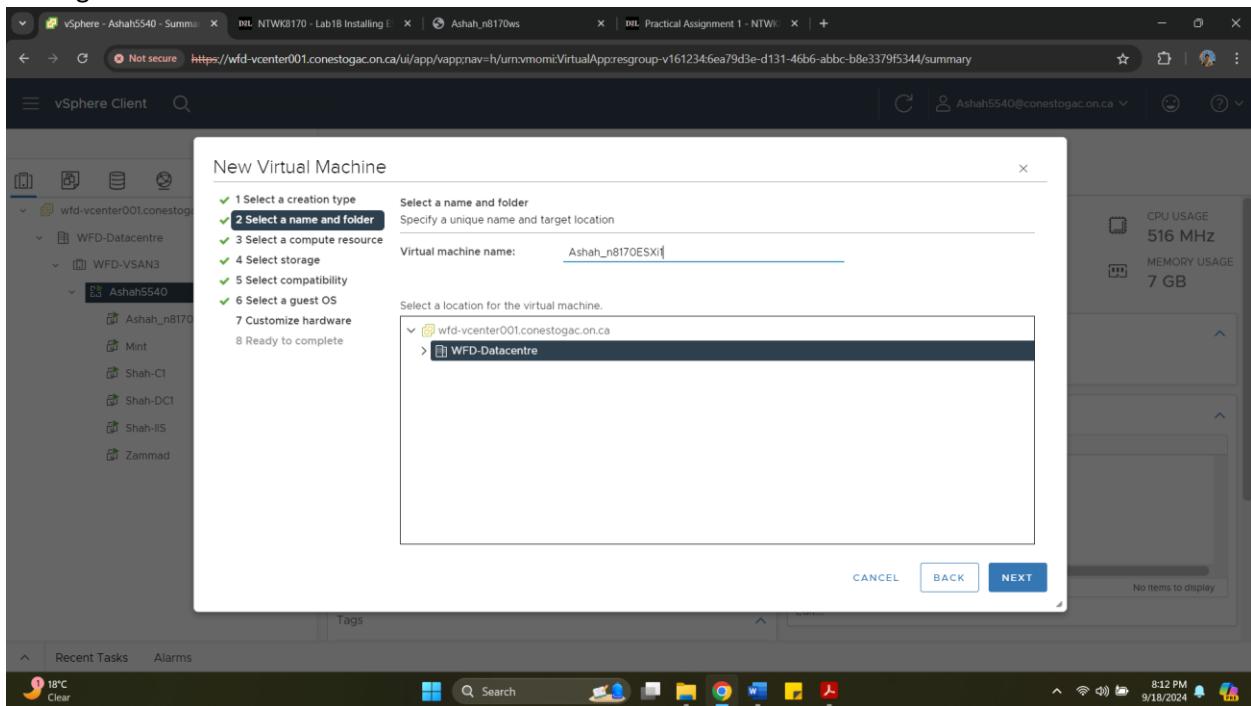
## Installed WinSCP and copied cpibusy.pl.



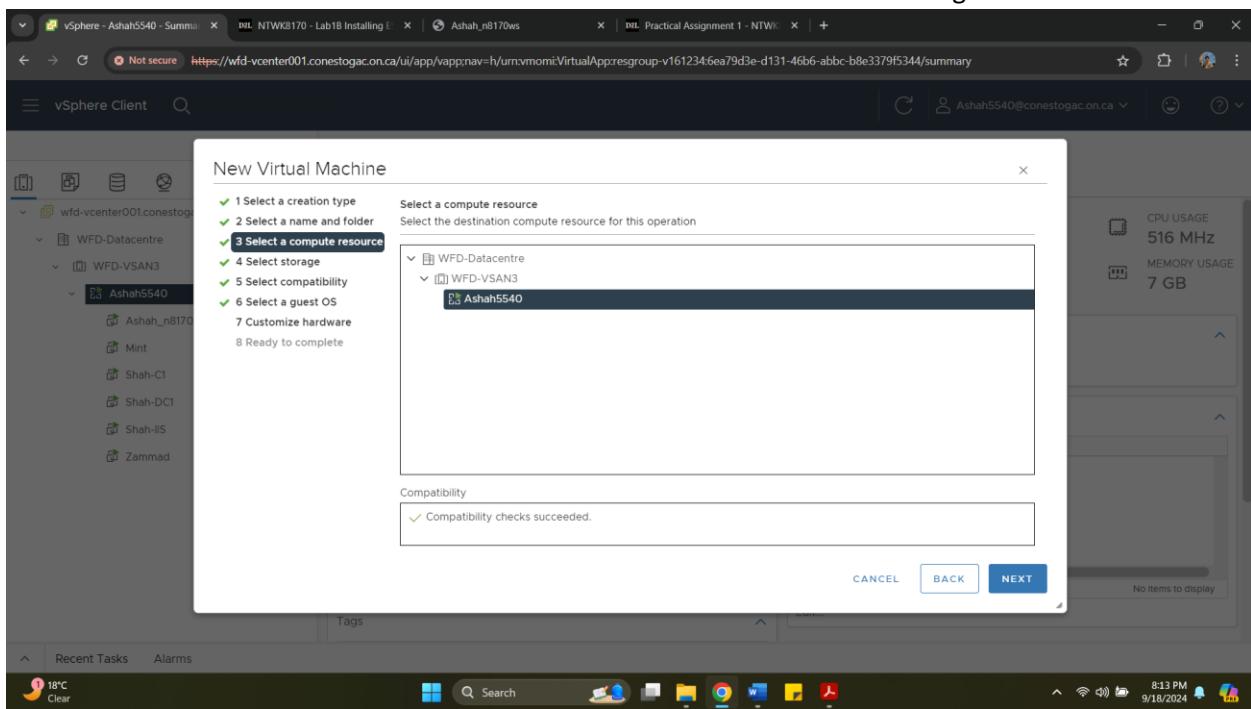
## LAB1B

### Section 1: Creating the ESXi VMs

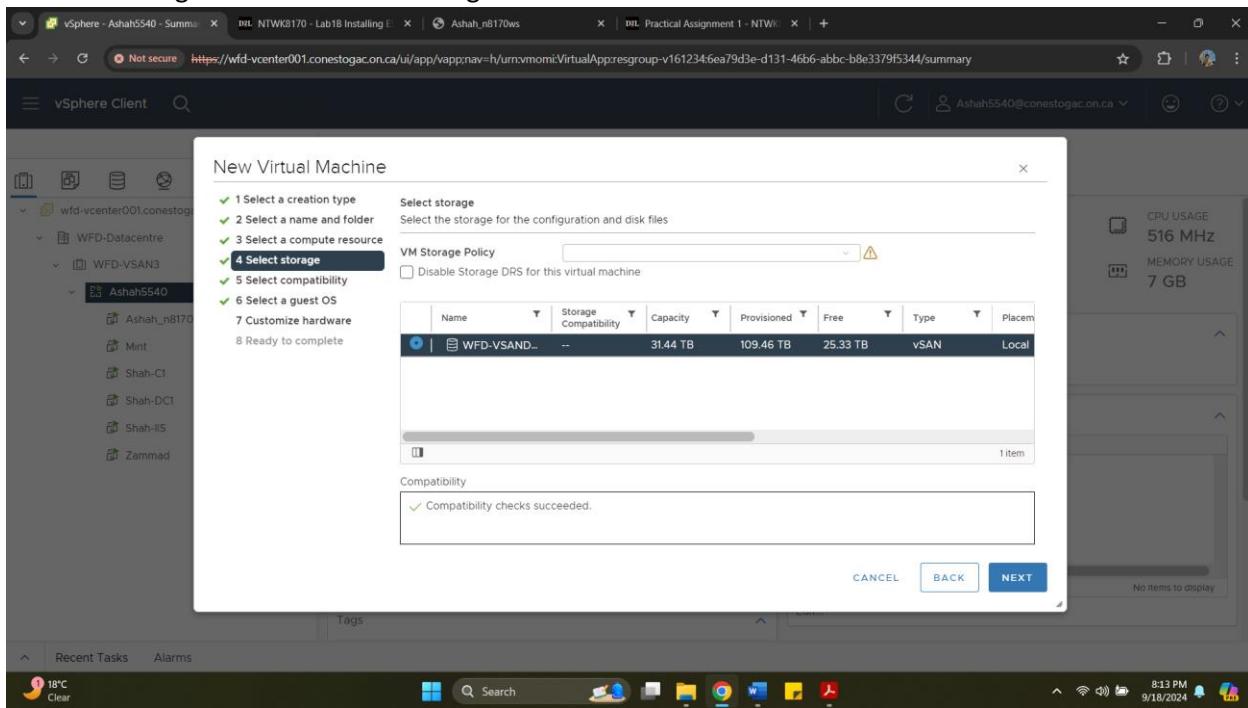
## Setting the Hostname: Ashah-n8170ESXi1



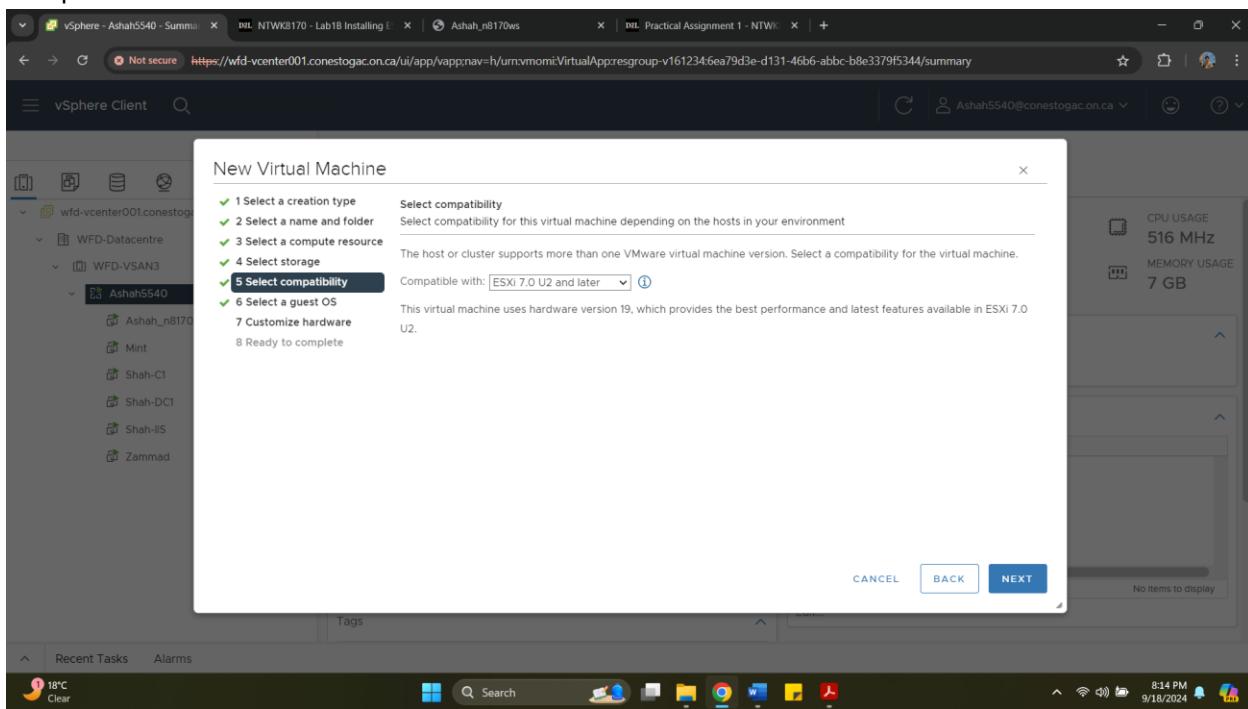
Under Select a location for the virtual machine select WFD-Datacentre. Selecting Ashah5540



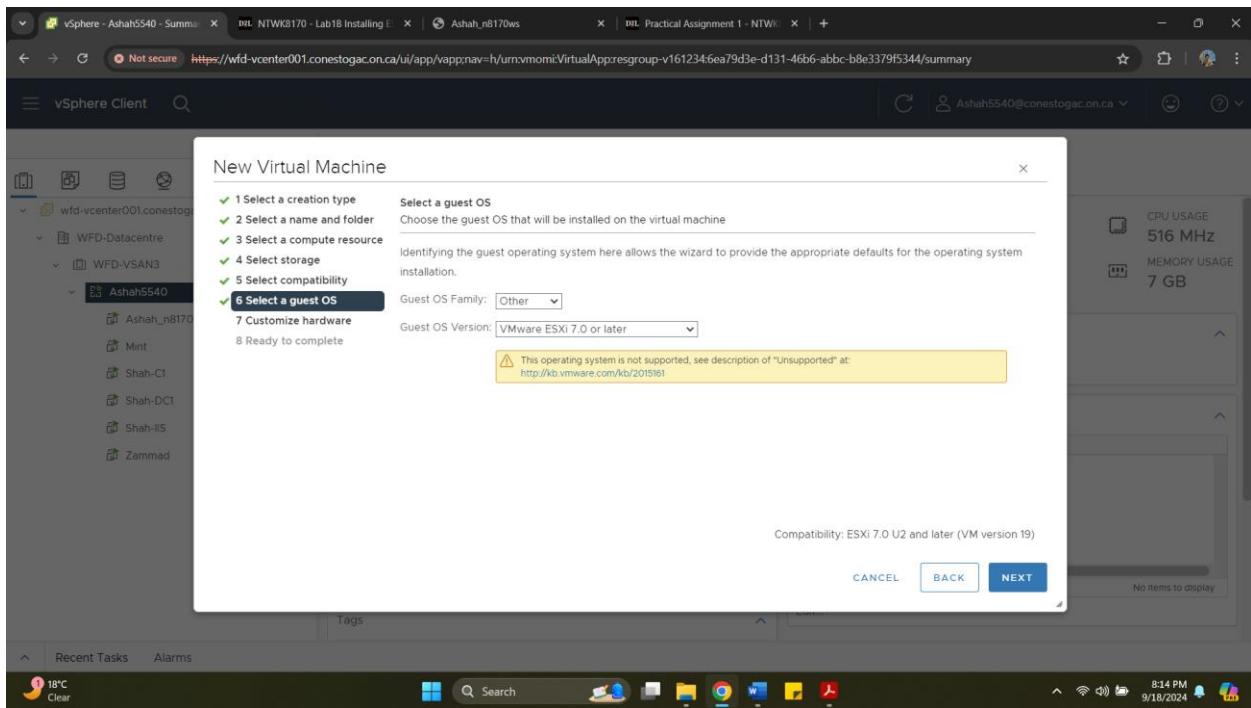
## In Select storage select the VSAN storage



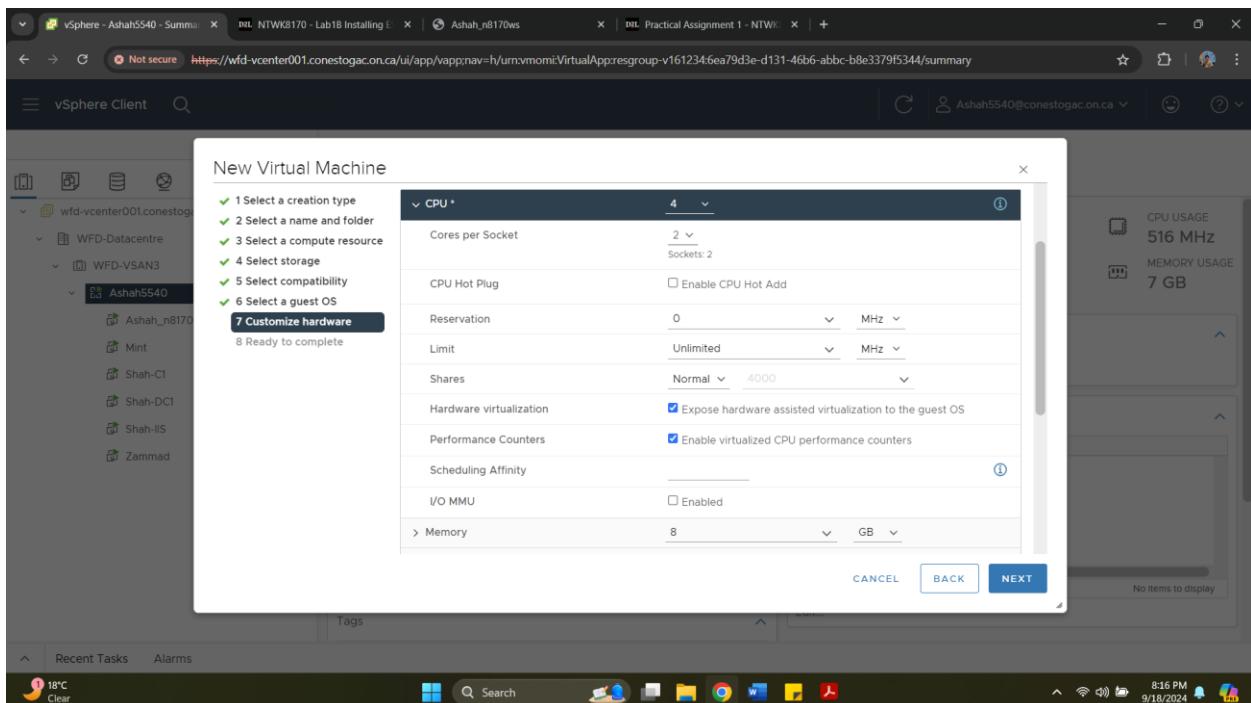
Compatible selected as ESXi7 U2 or later.



For Guest OS version: select VMware ESXi 7.0 or later.

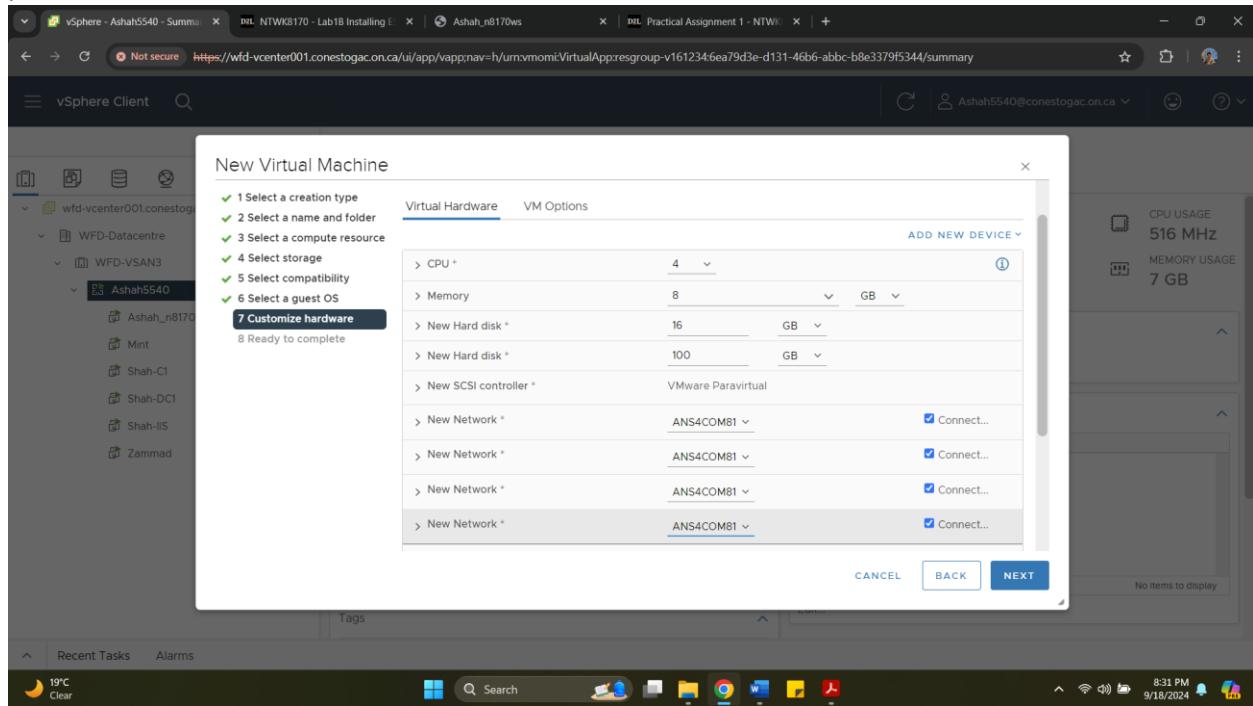


In Customize Hardware set the CPU to 4, Under CPU enable Expose Hardware Assisted Virtualization to the guest OS and Enable virtualized CPU performance counters (Important) and Setting the Memory to 8GB.

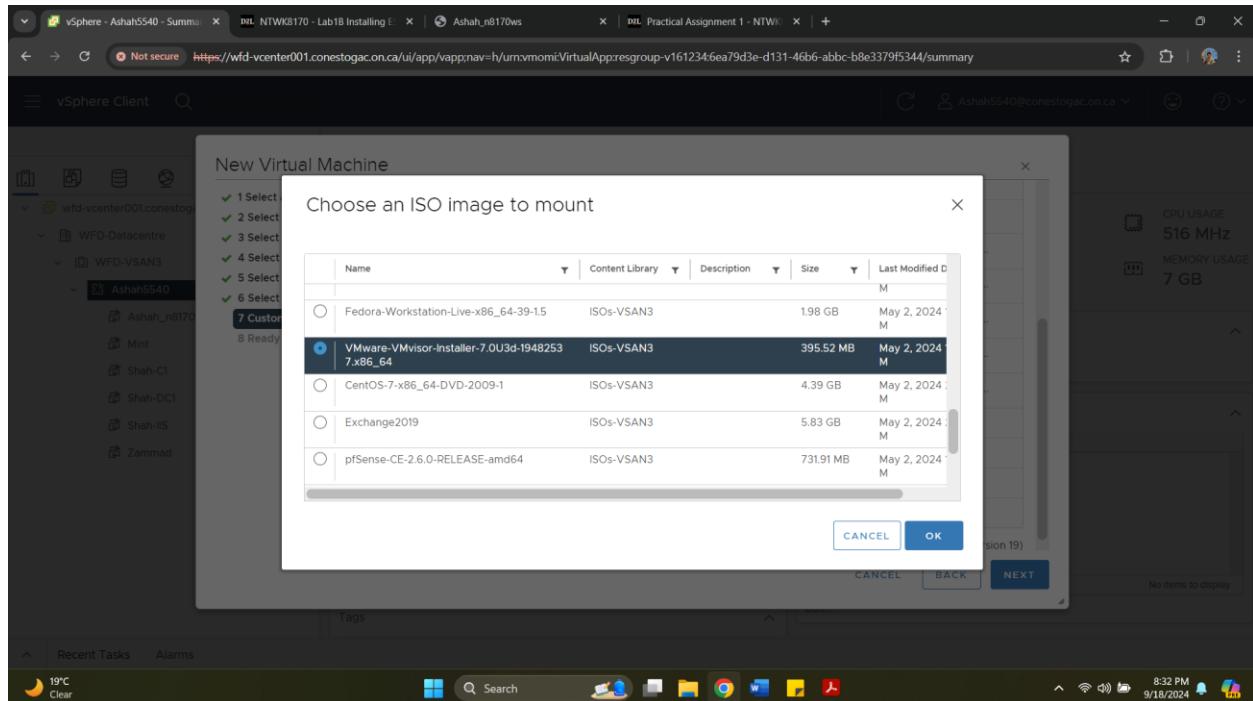


Setting the first hard disk to 16GB (ESXi OS install), Adding an additional hard drive with 100GB of storage. (For VM storage), Adding three additional network adapters (total 4) and assign them to COM

## port network

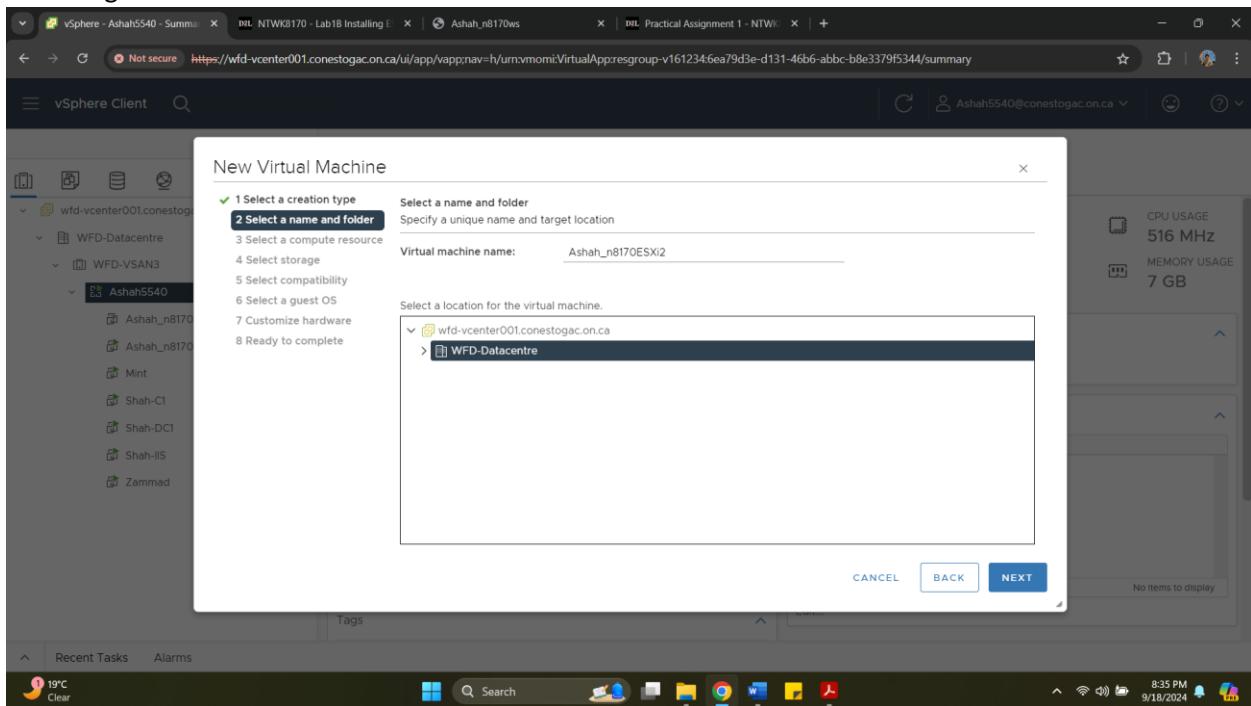


For CD/DVD drive select the ESXi Installer ISO from the Content Library that is VMware-VMvisor

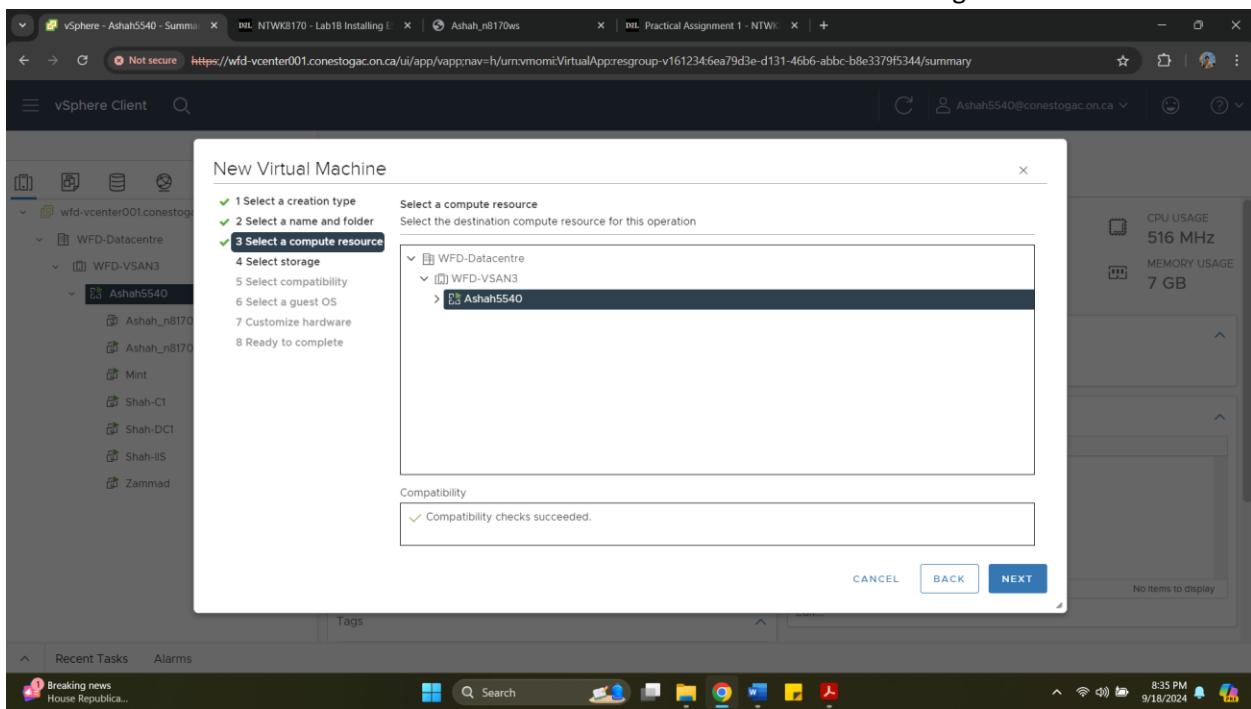


Similarly, creating Ashah-n8170ESXi2

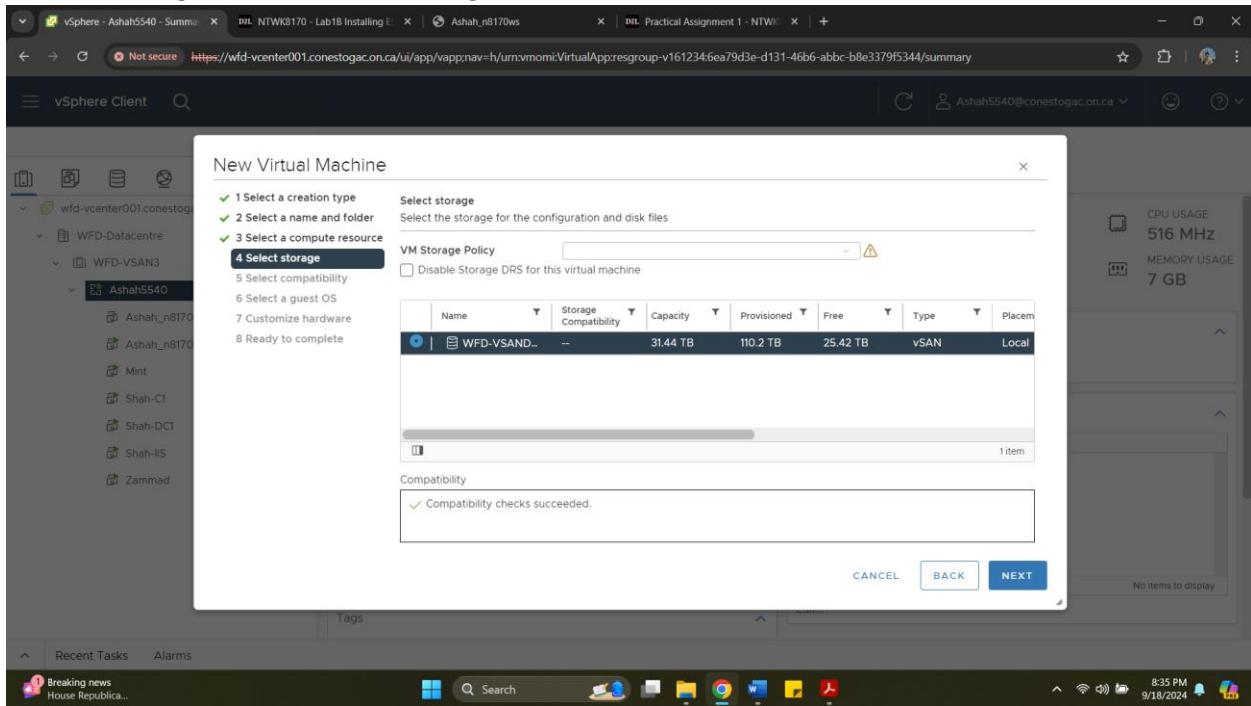
## Providing VM name as Ashah-n8170ESXi2



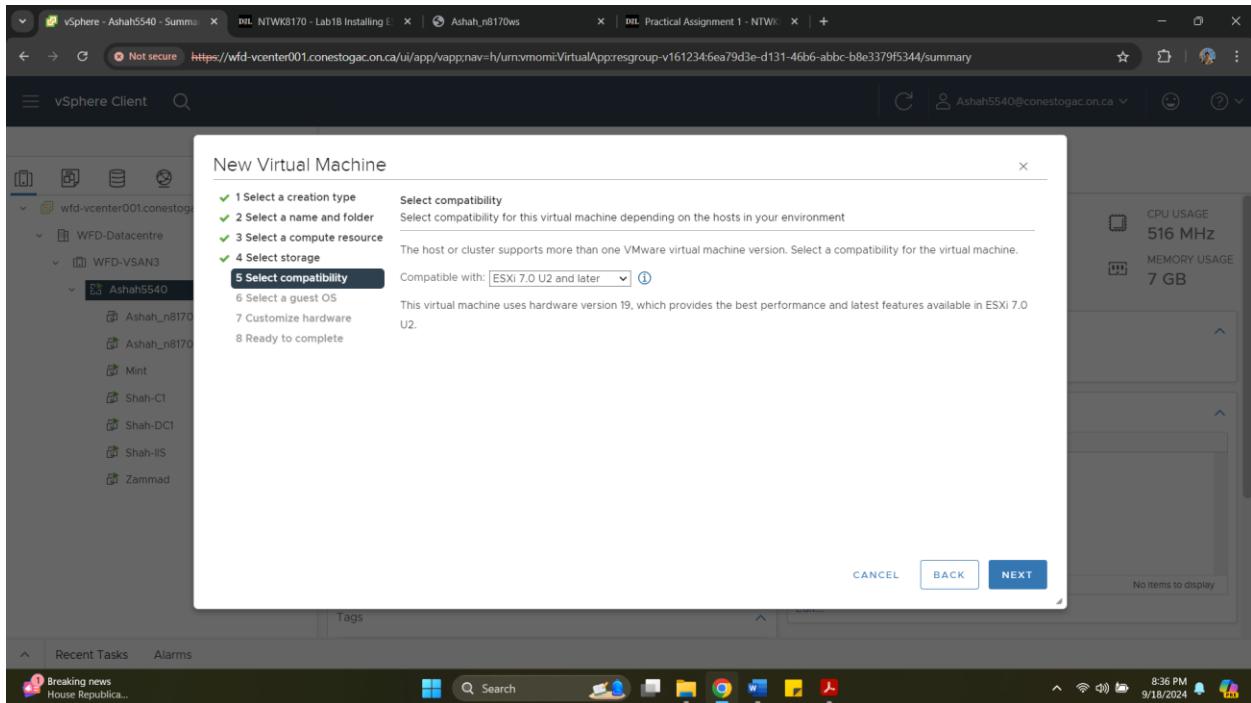
Under Select a location for the virtual machine select WFD-Datacentre. Selecting Ashah5540



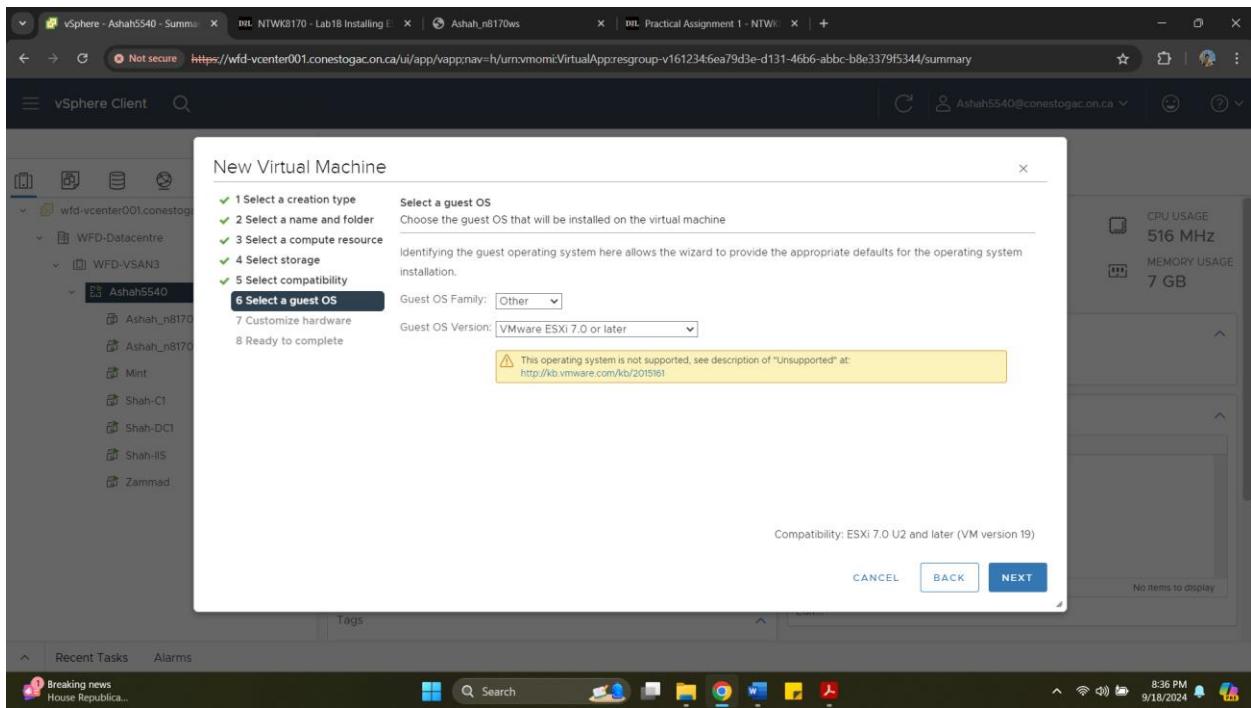
## In Select storage select the VSAN storage



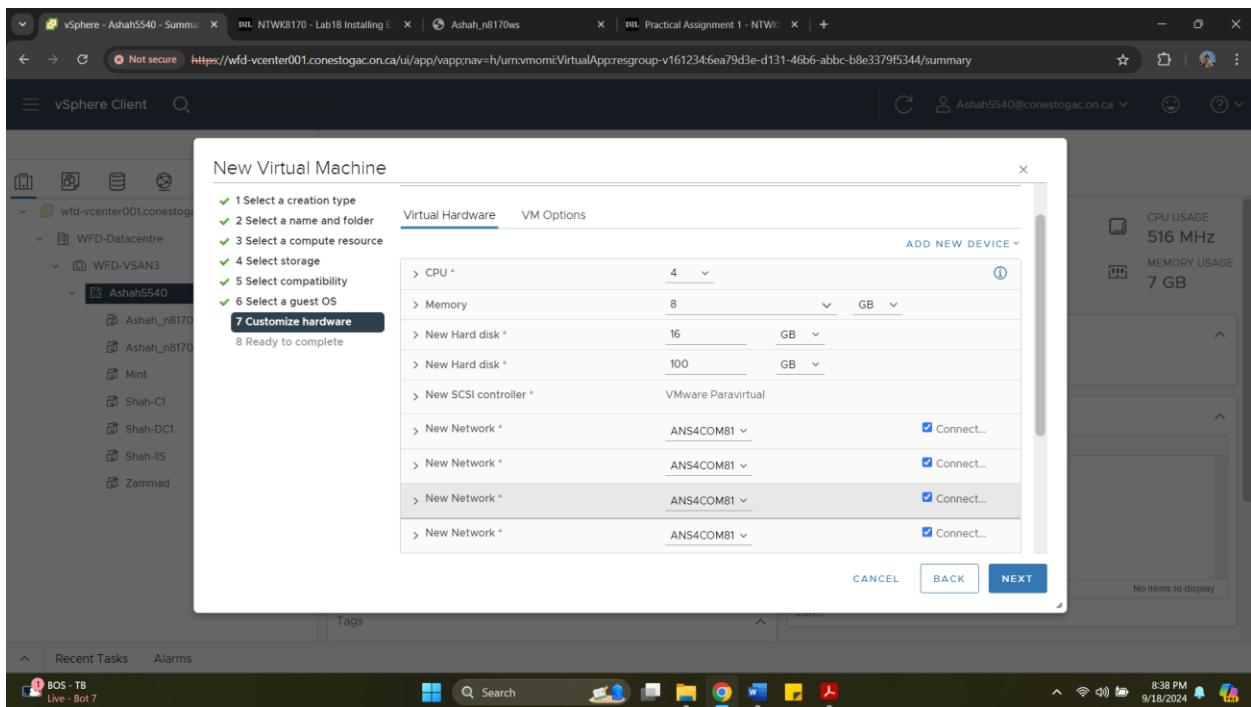
## Selecting the compatible as ESXi 7.0 U2 and Later



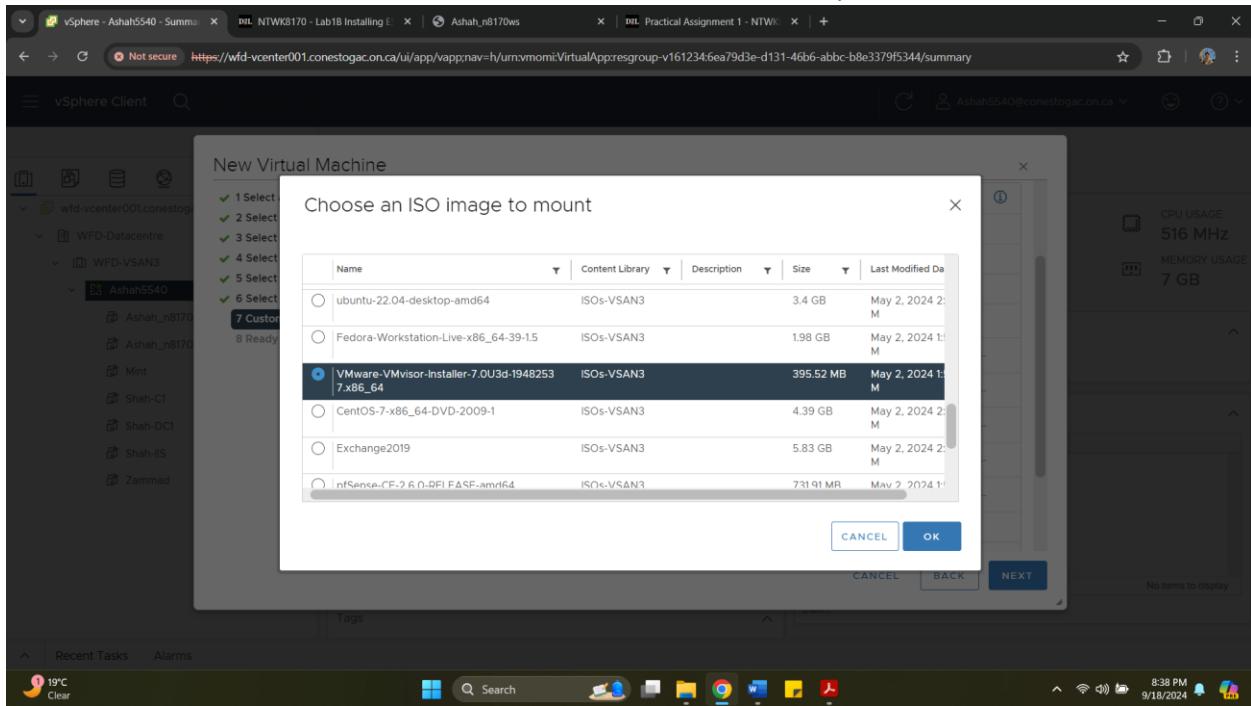
For Guest OS version: select VMware ESXi 7.0 or later.



In Customize Hardware set the CPU to 4, Under CPU enable Expose Hardware Assisted Virtualization to the guest OS and Enable virtualized CPU performance counters (Important) and Setting the Memory to 8GB.

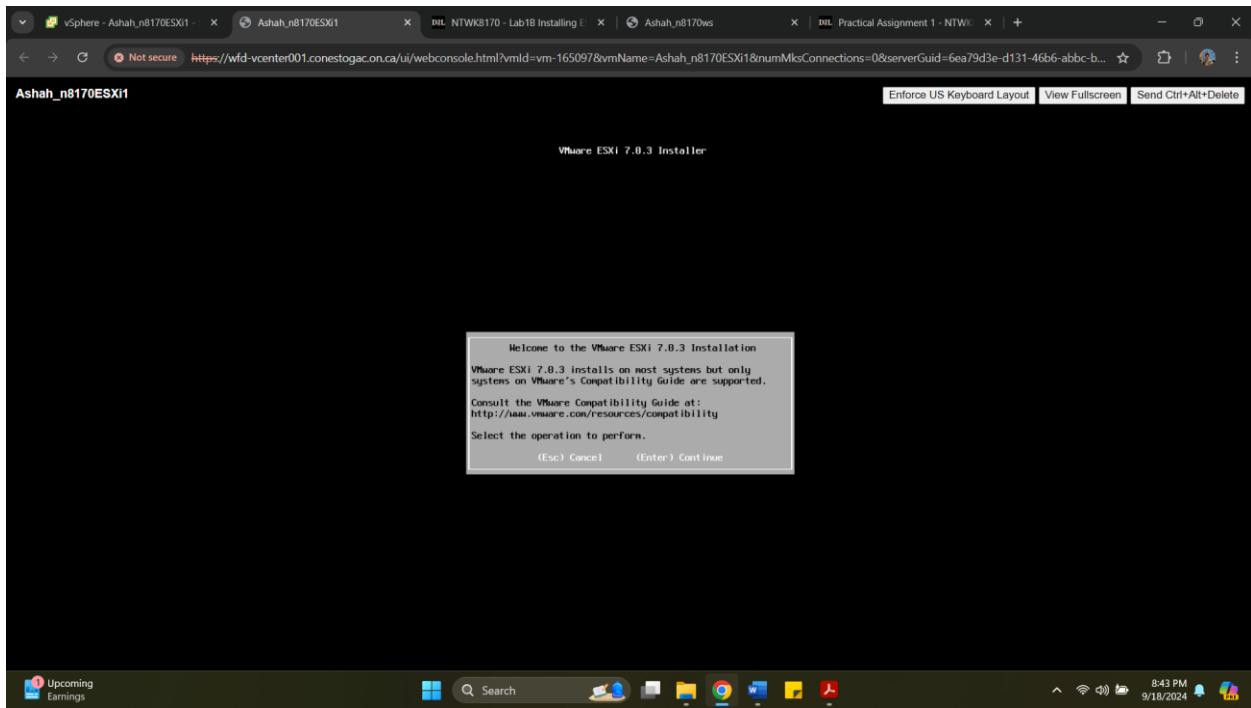


For CD/DVD drive select the ESXi Installer ISO from the Content Library that is VMware-VMvisor

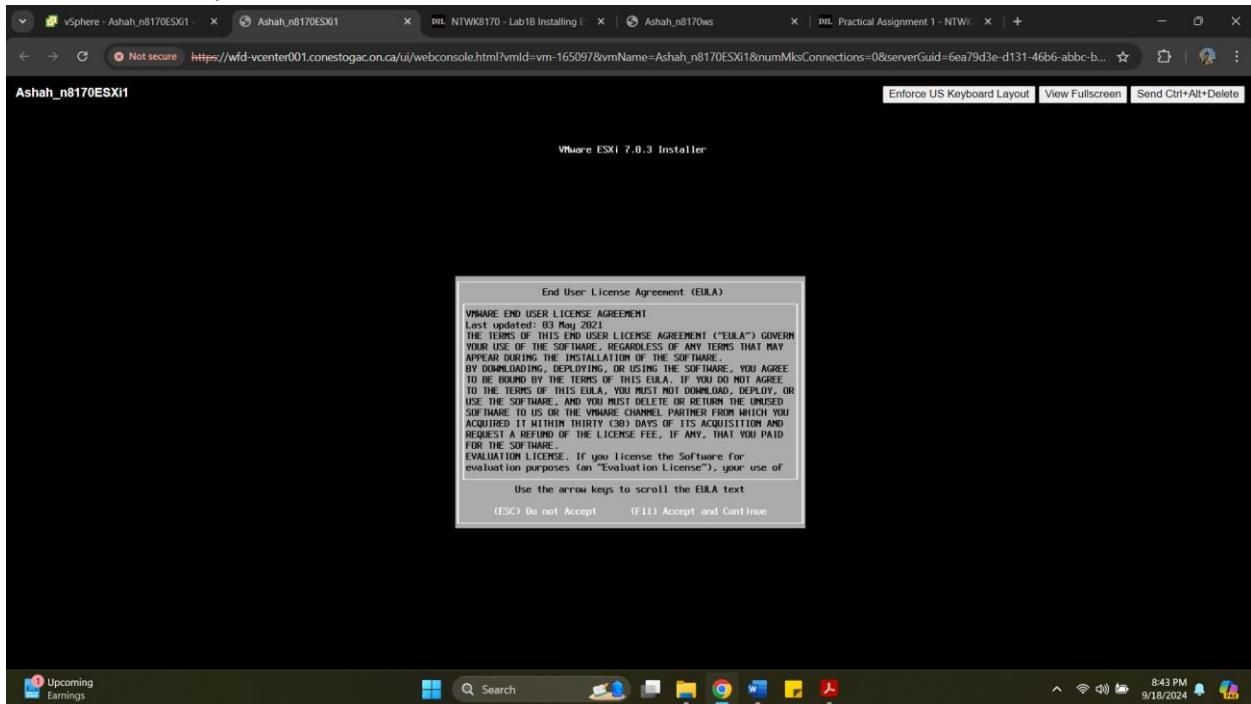


## Section 2: Installing ESXi

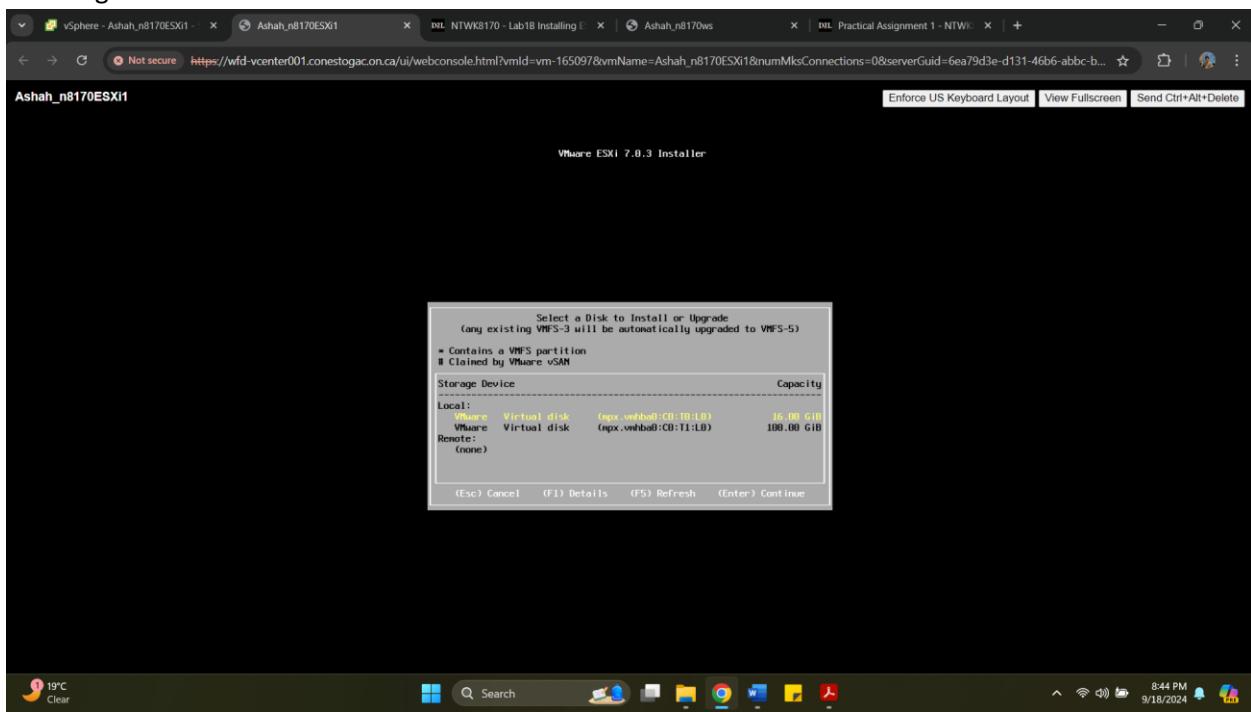
Powering On the ESXi1 Virtual Machine. The VM will load into the installer, Pressing Enter to continue on the Installation Screen.



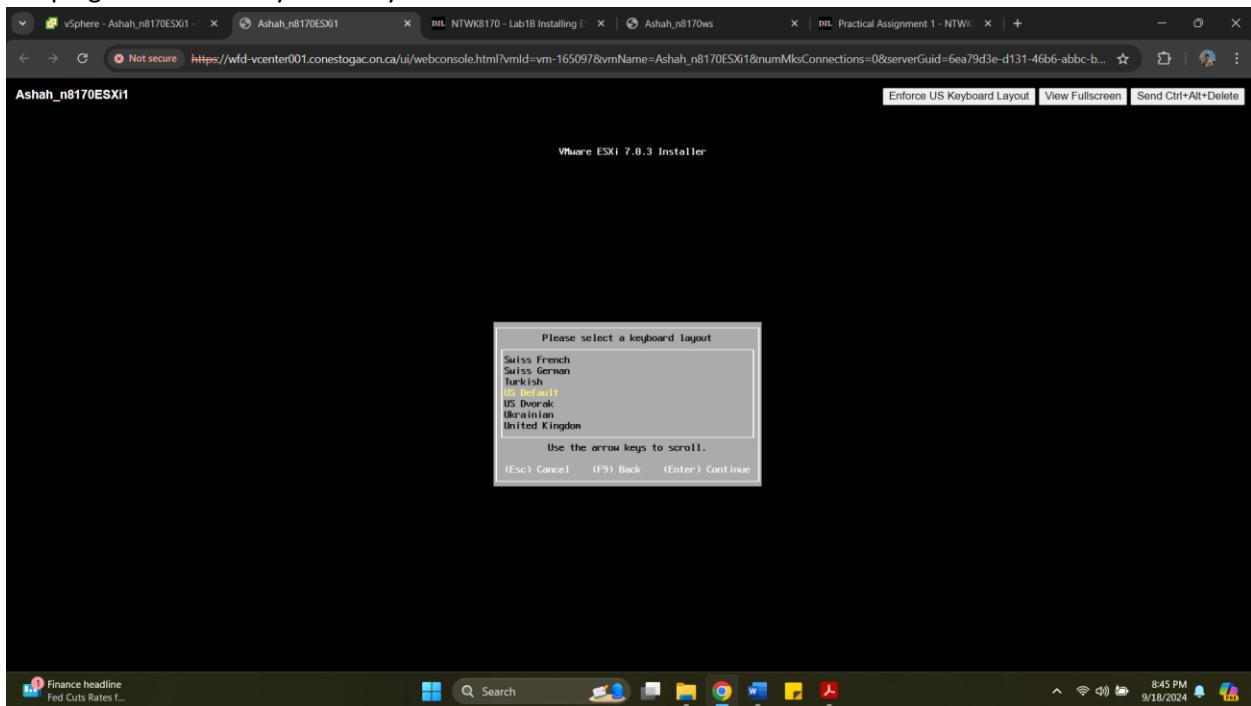
Press F11 to Accept and Continue to installation



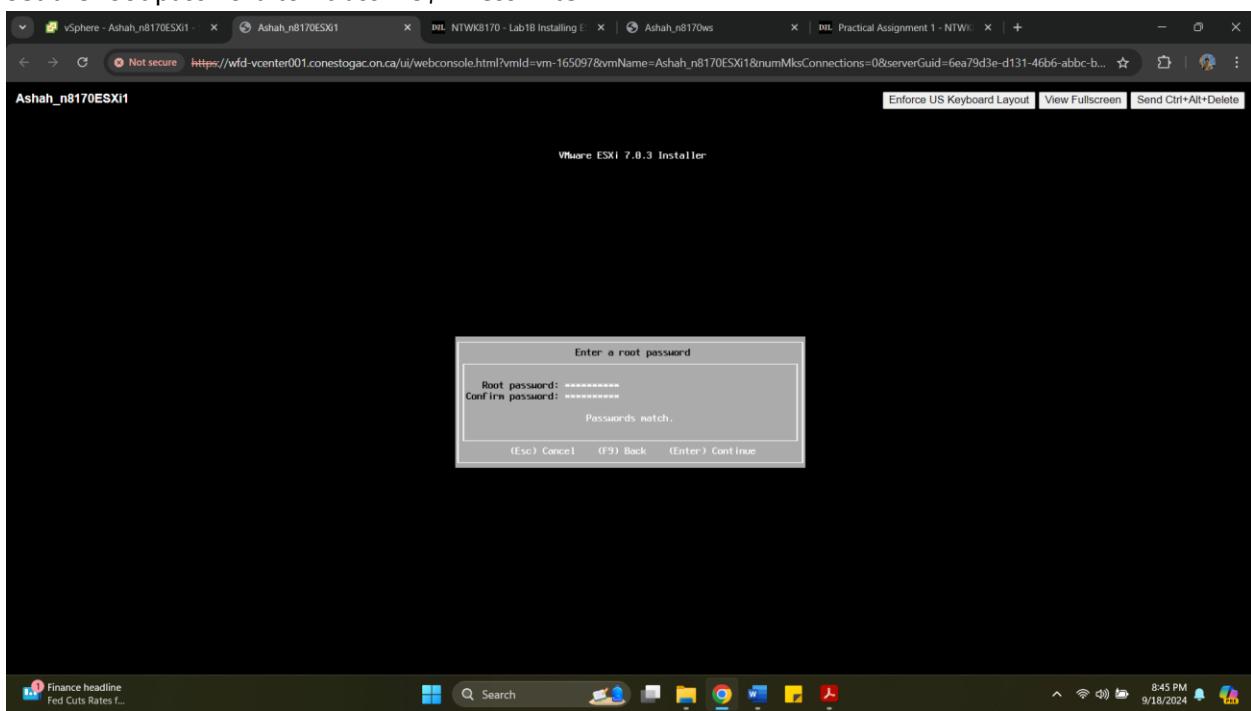
Ensuring the 16GB Virtual disk is selected. Press Enter



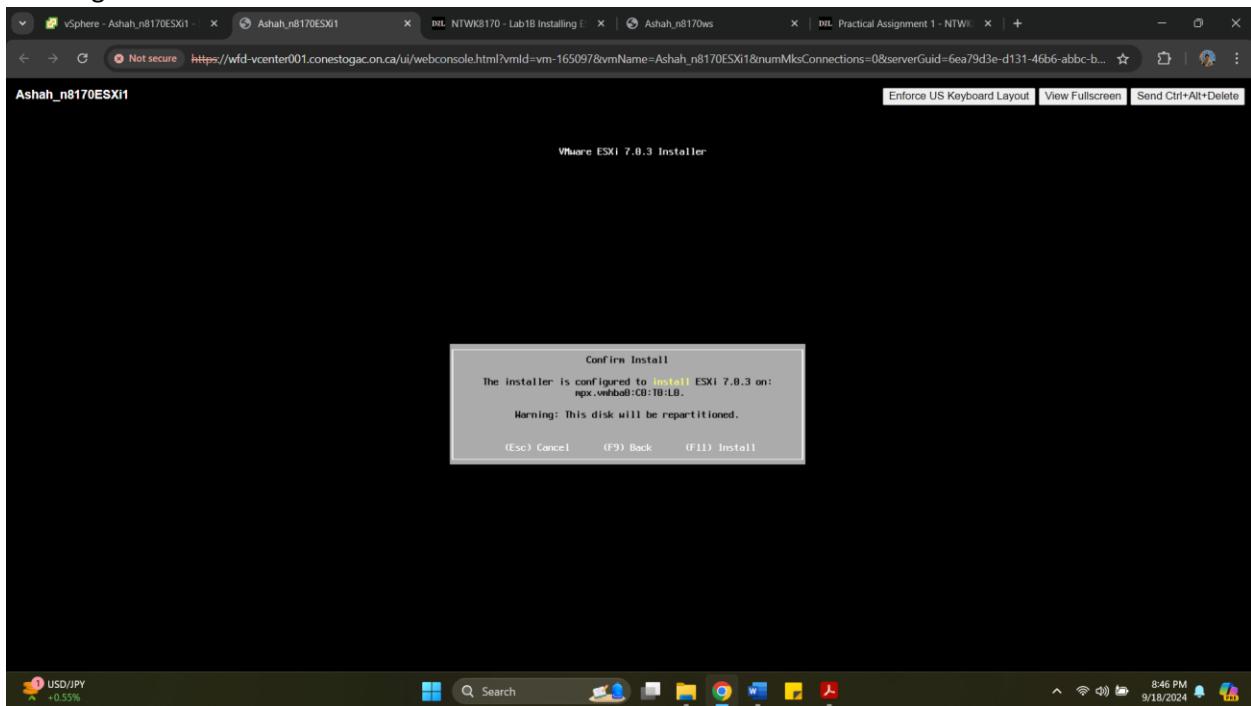
Keeping the default keyboard layout as US Default. Press Enter



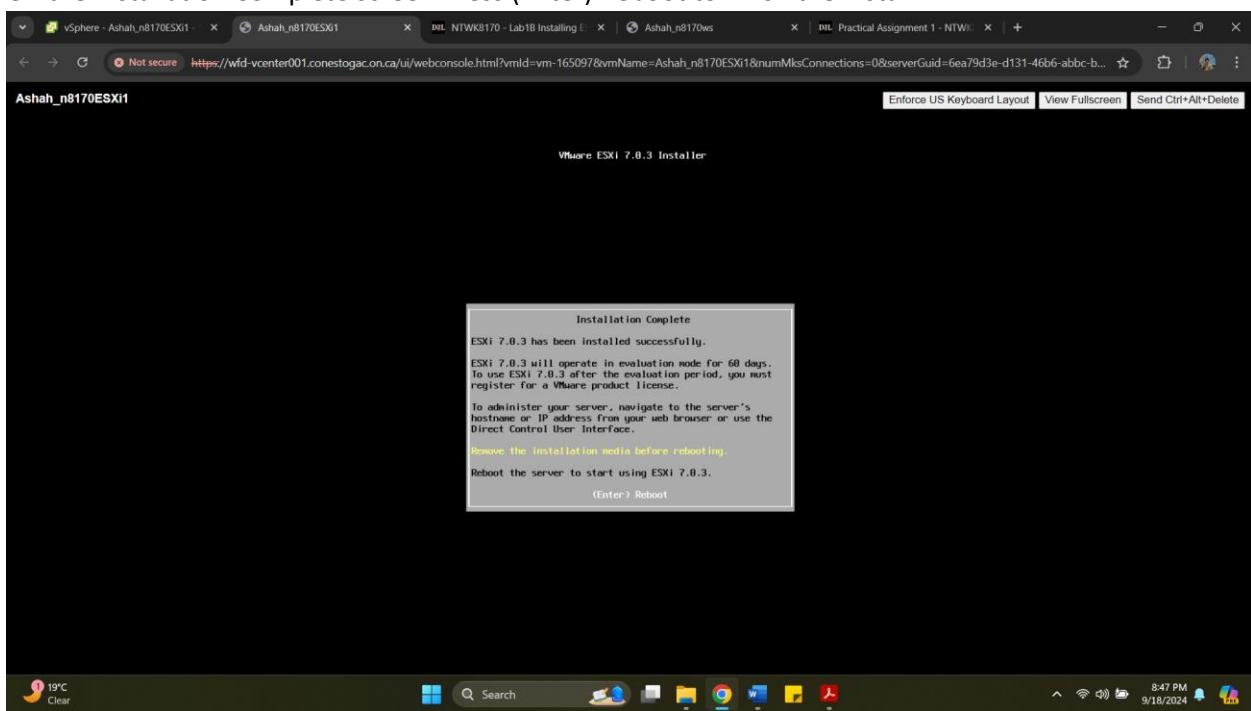
Set the root password to Vclass123\$. Press Enter



## Pressing F11 to start the Installation

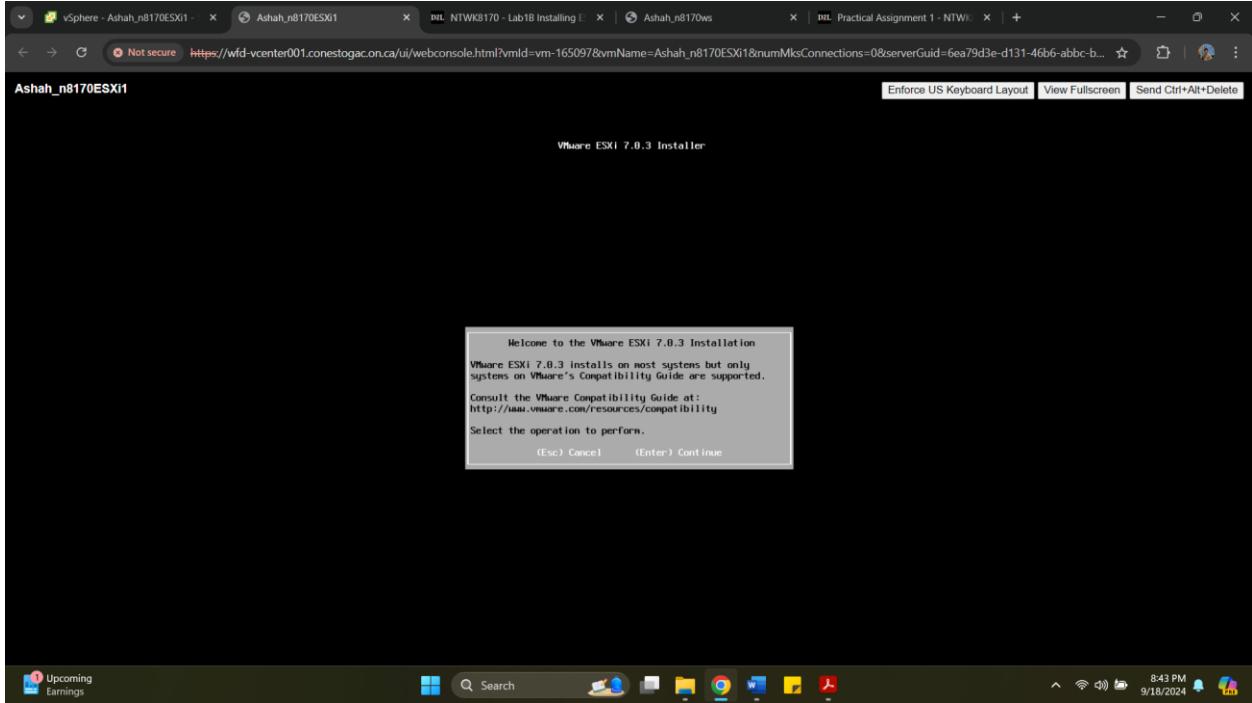


On the Installation Complete screen Press (Enter) Reboot to finish the install.

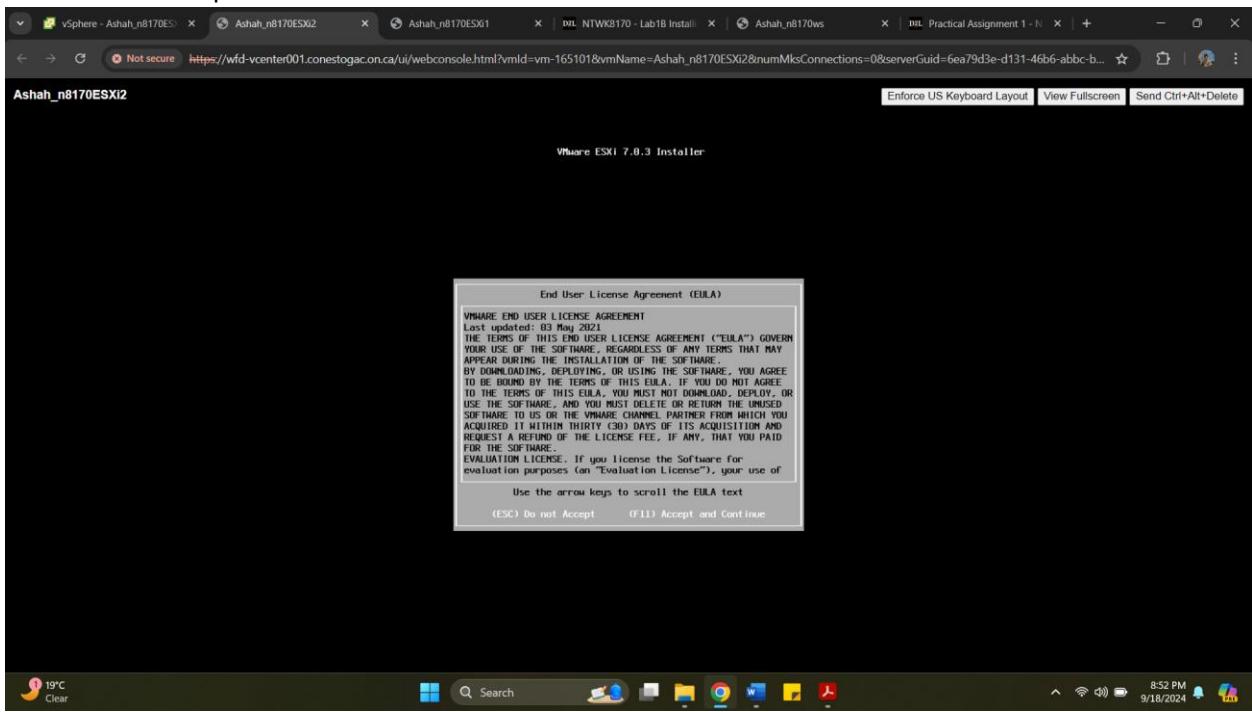


Similarly, installing ESXi2

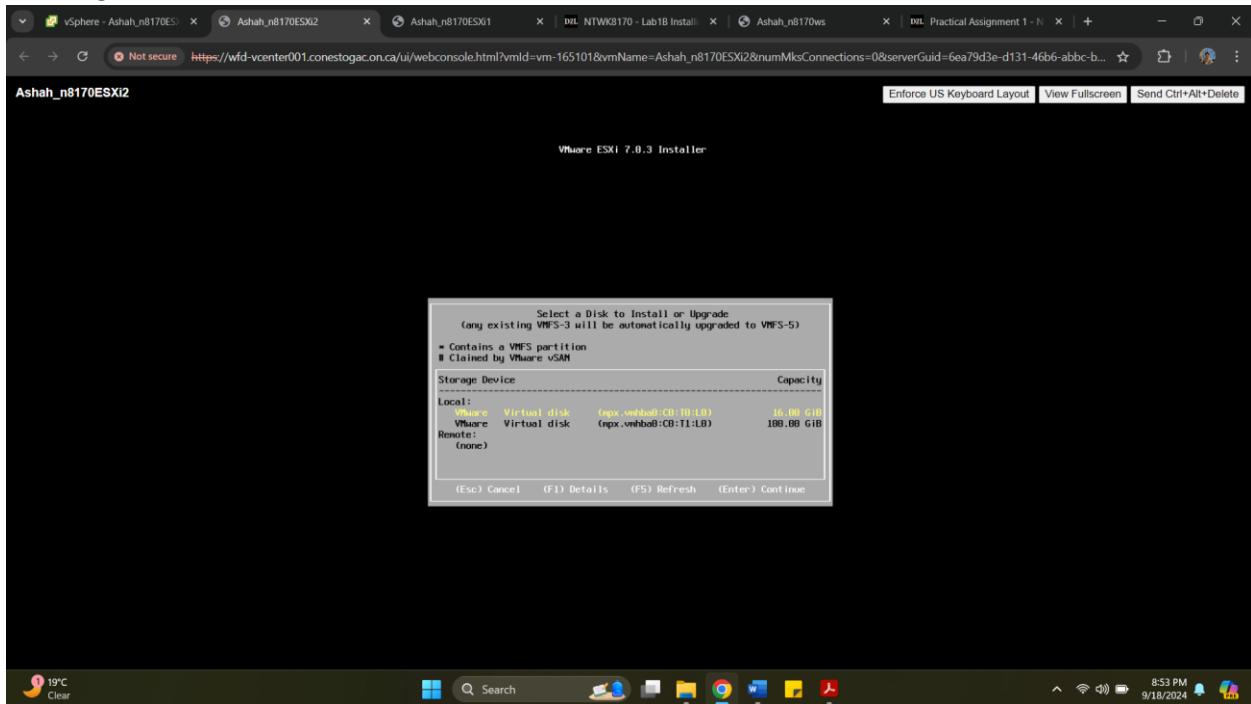
Powering On the ESXi2 Virtual Machine. The VM will load into the installer, Pressing Enter to continue on the Installation Screen



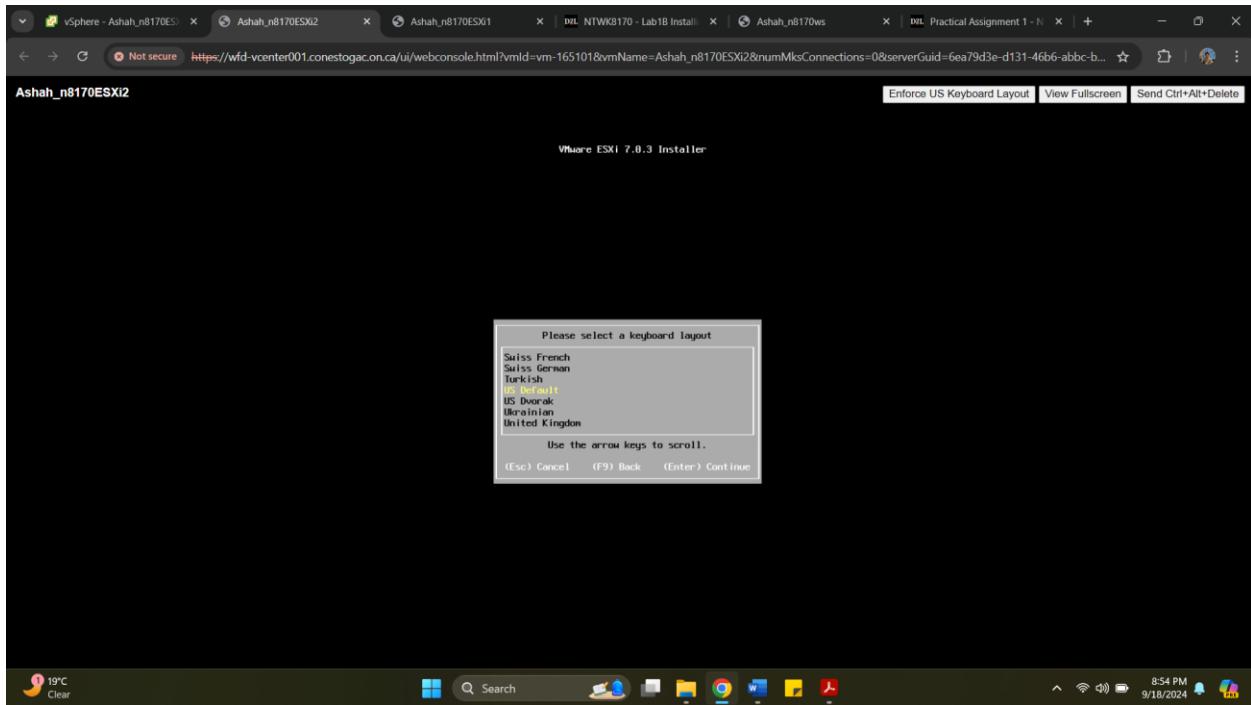
Press F11 to Accept and Continue to installation



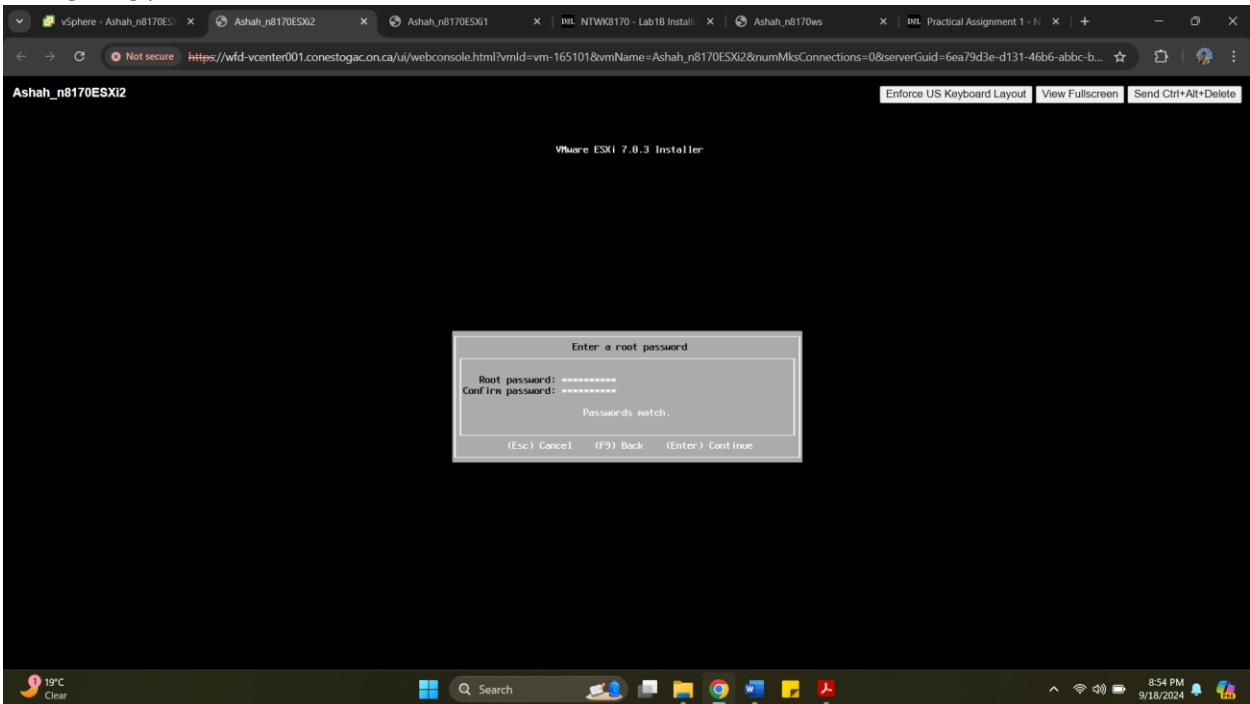
Ensuring the 16GB Virtual disk is selected. Press Enter



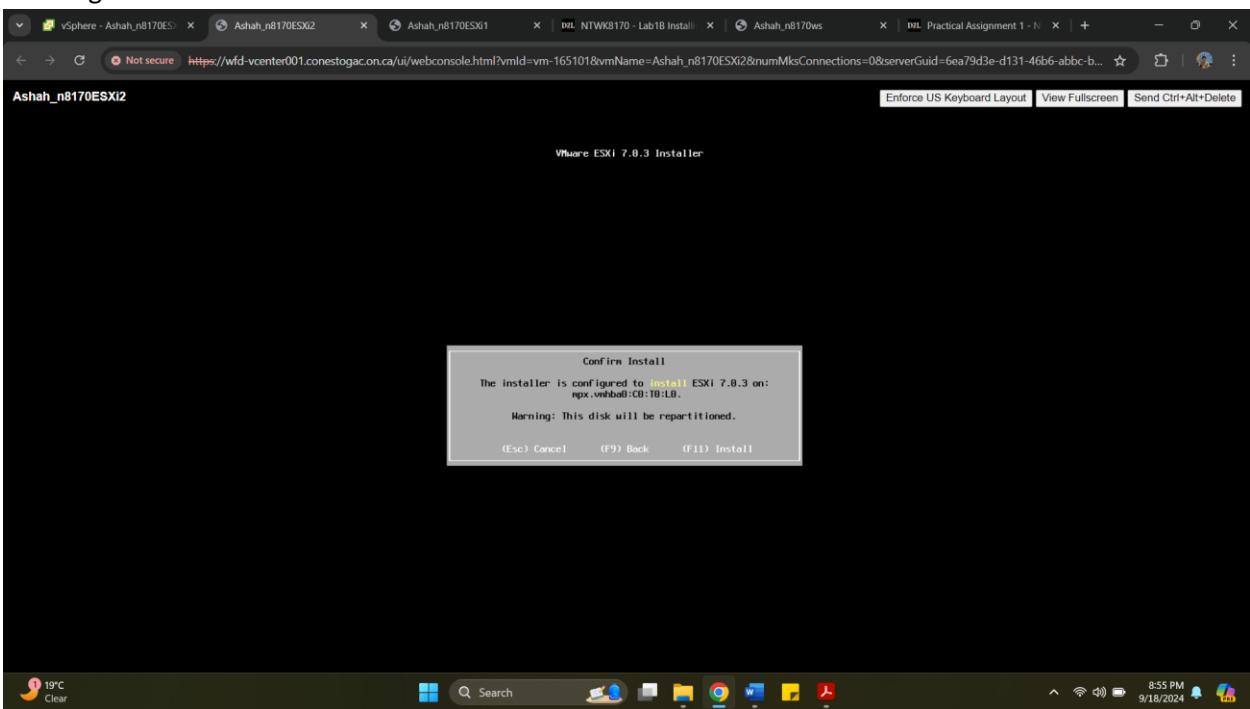
Keeping the keyboard layout as US Default



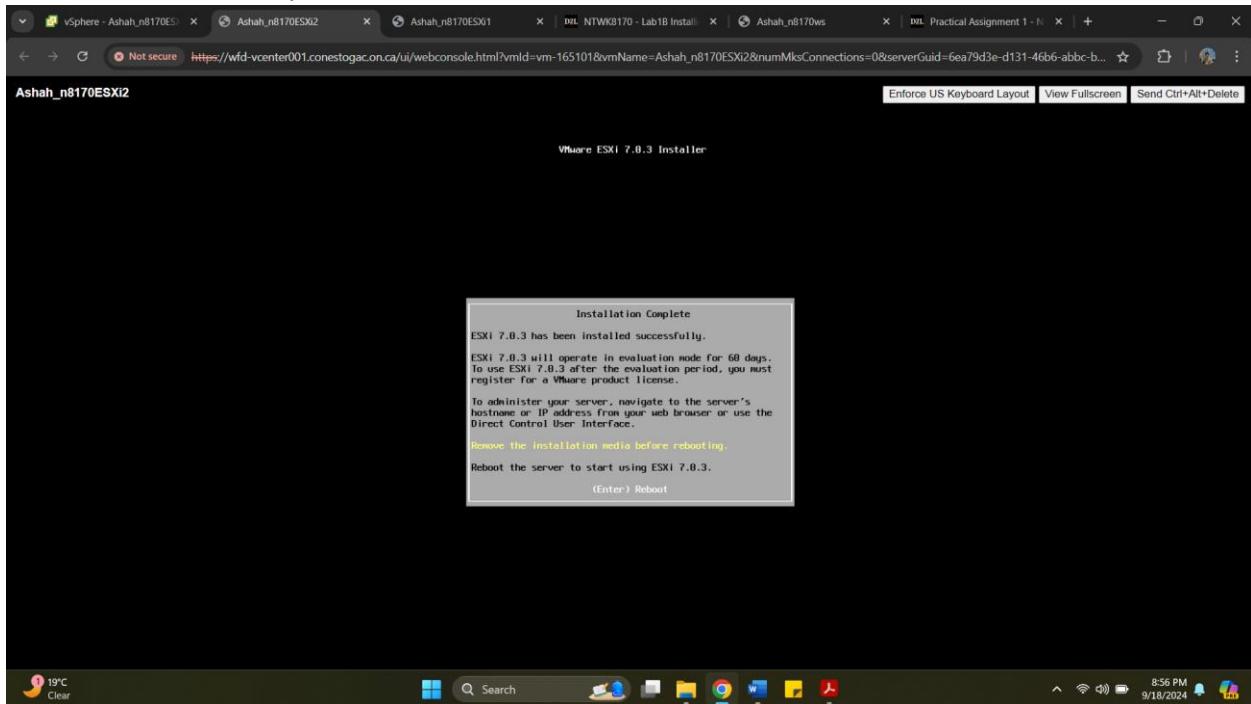
## Configuring password as “Vclass123\$”



## Pressing F11 to start the Installation

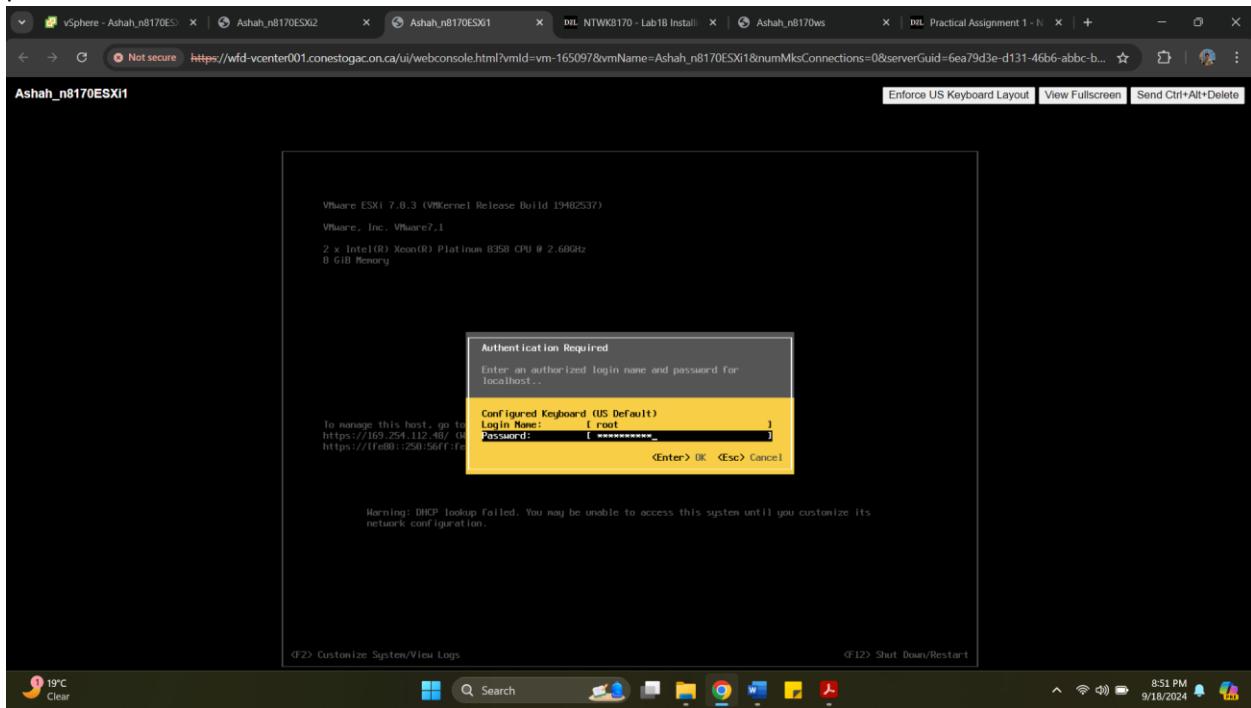


On the Installation Complete screen Press (Enter) Reboot to finish the install.

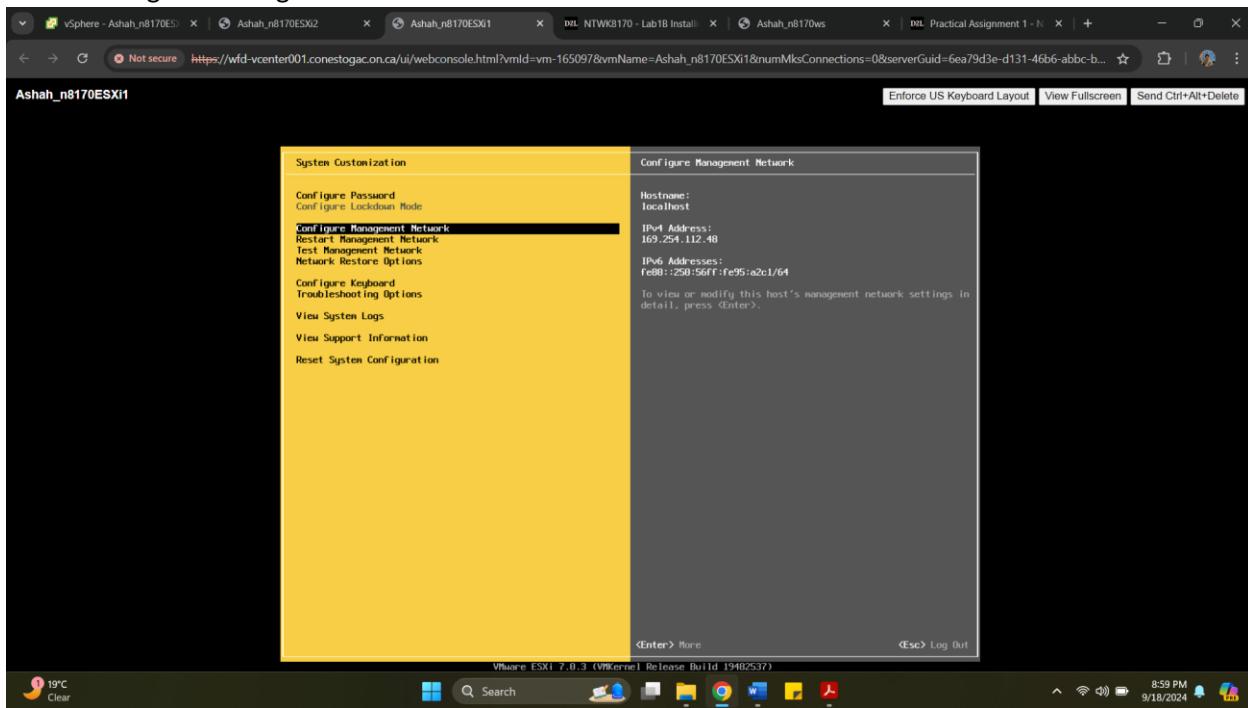


### Section 3: Initial ESXi Configuration

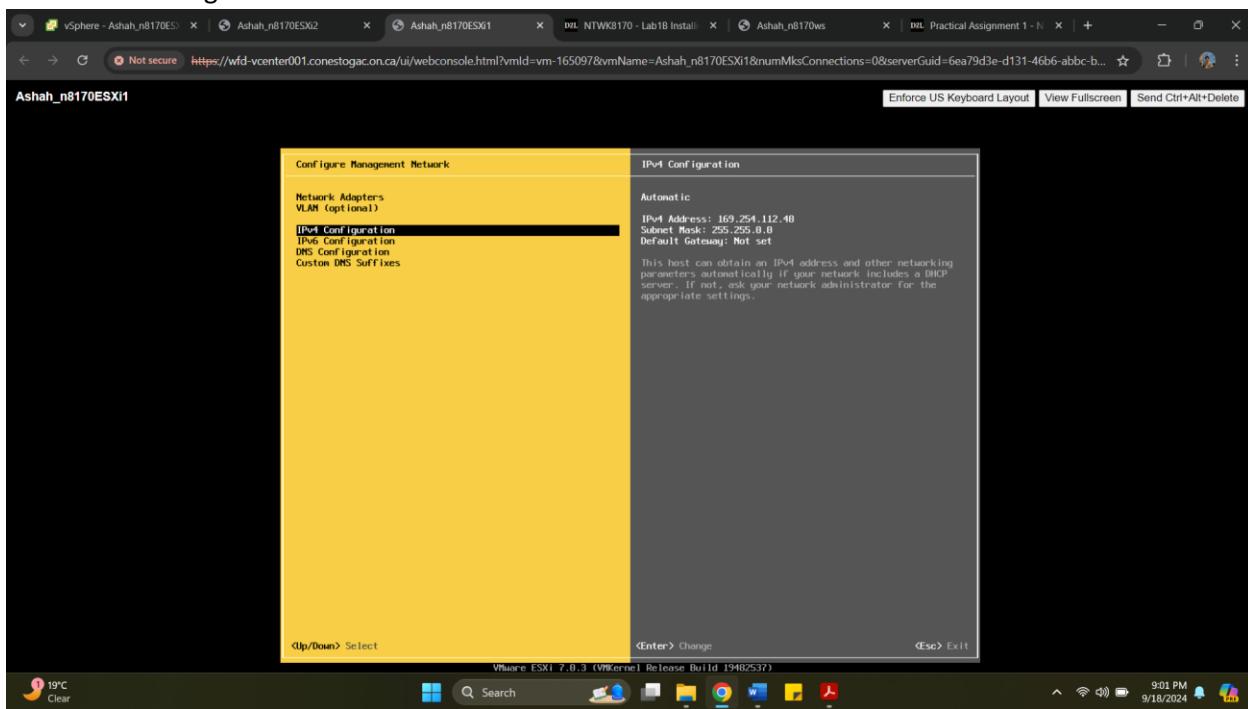
Once Rebooted ESXi1 on the main screen, Press F2 to Customize the system. The username is root the password is Vclass123\$.



## Select Configure Management Network.

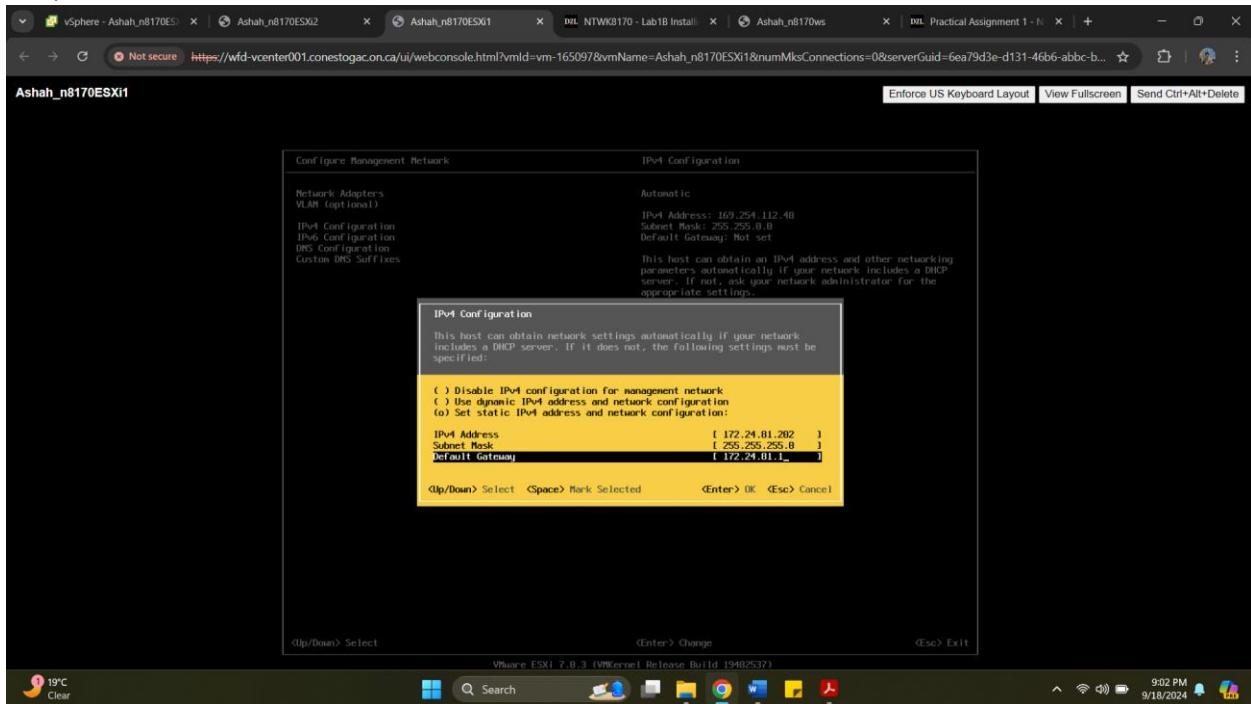


## Select IPv4 Configuration.

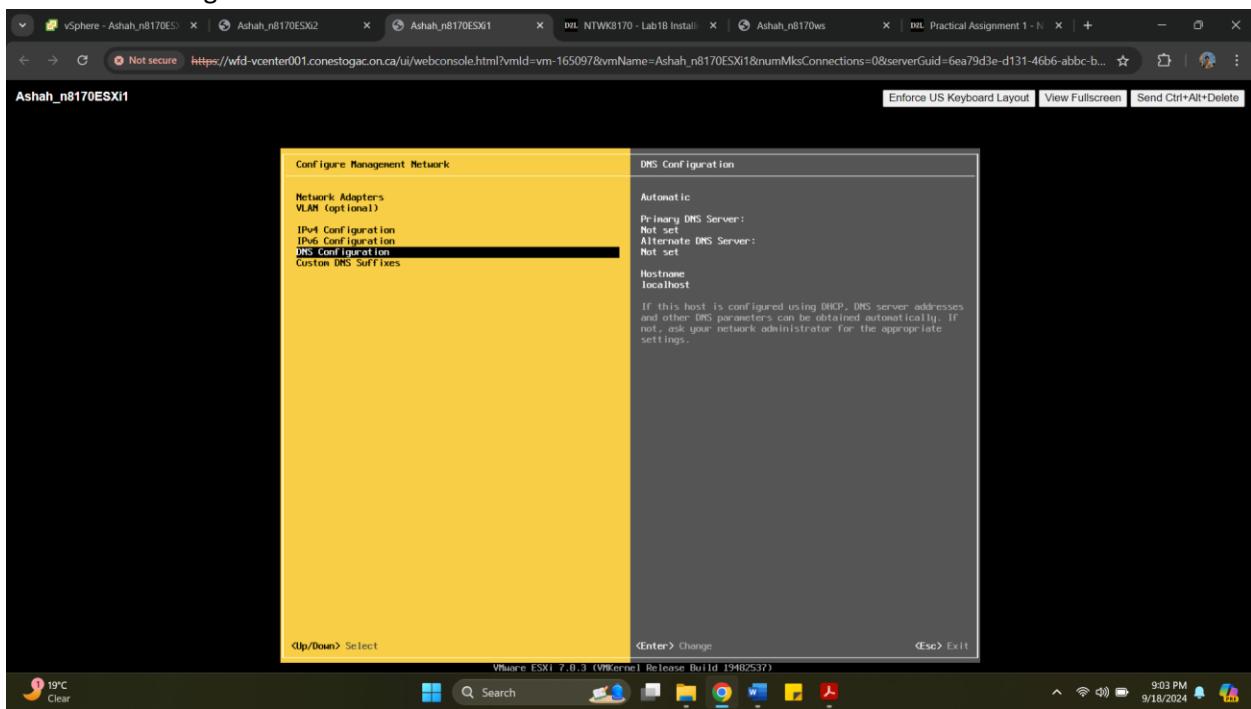


Select Set static IP address and network configuration, For IPv4 address Enter IP: 172.24.81.202, Subnet Mask Enter 255.255.255.0, Default Gateway Enter 172.24.81.1, Press Enter to confirm and go back to

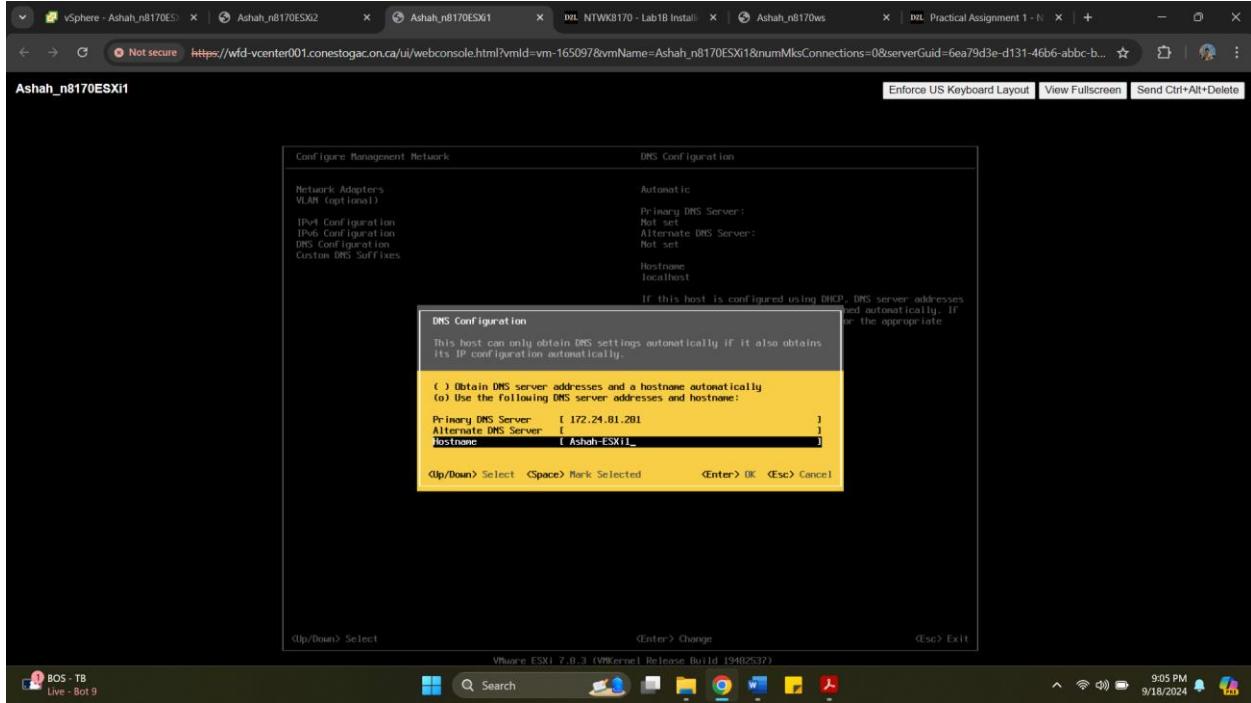
the previous menu.



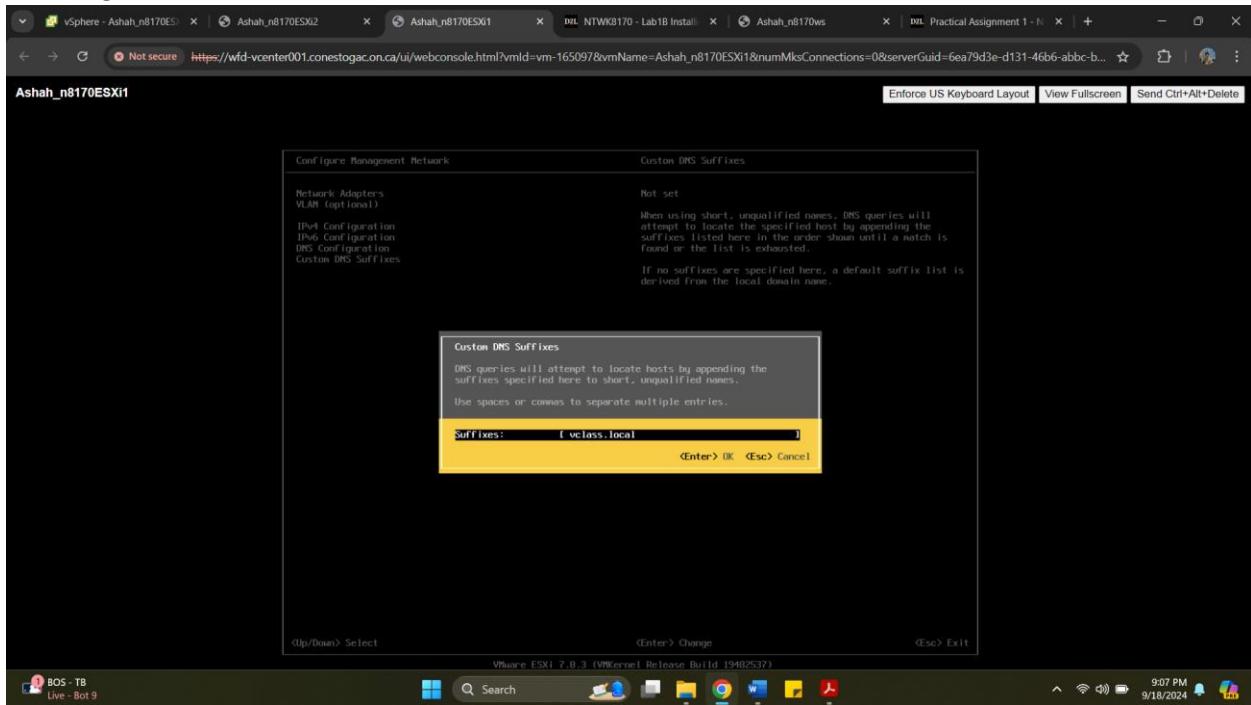
### Select DNS Configuration.



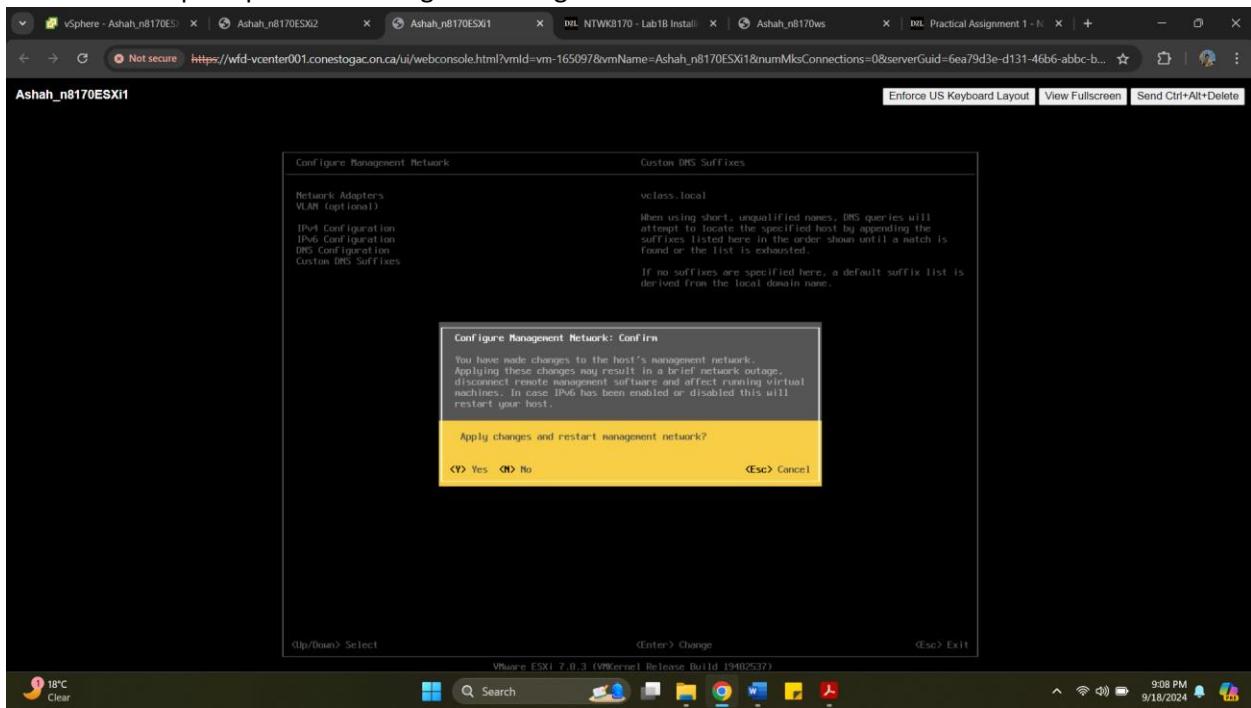
For Primary DNS server enter 172.24.81.201 (Windows Server VM), Leave Alternate DNS server blank,  
For Hostname enter Ashah-ESXi1. Press Enter to confirm and go back to the previous menu



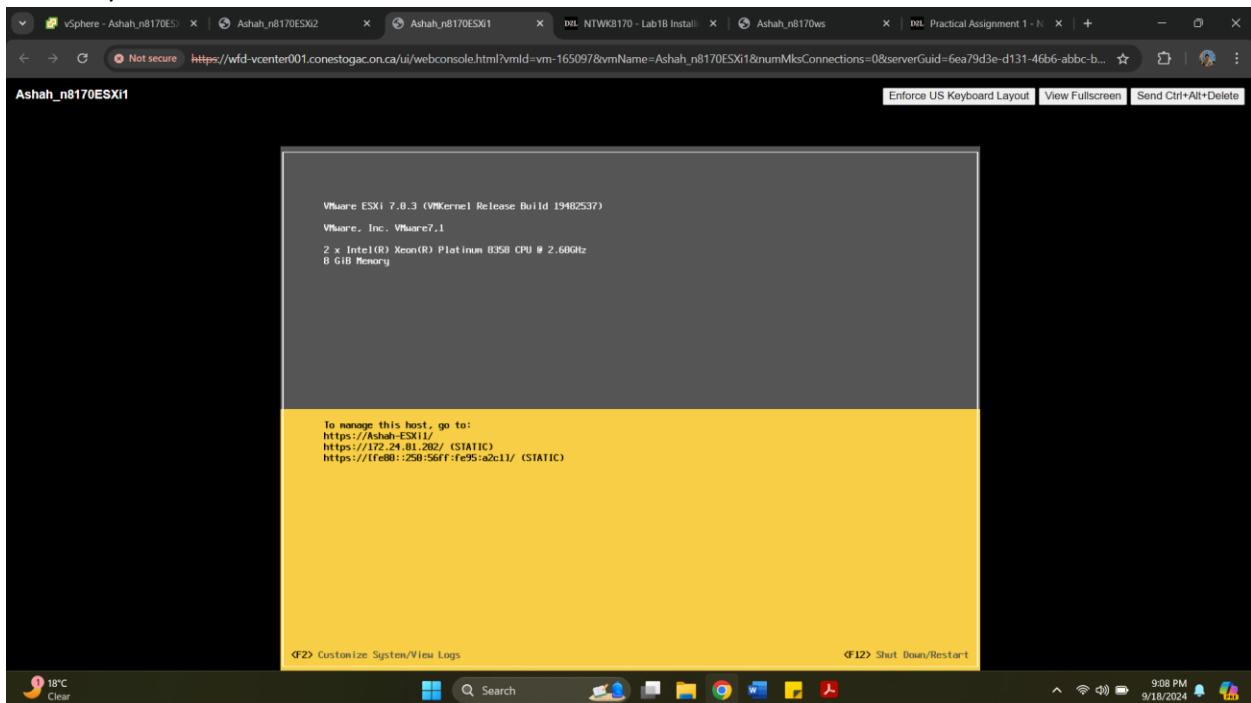
Selecting Custom DNS Suffixes, Enter "vclass.local", Press Enter to confirm.



Press Y on the prompt for restarting the management network

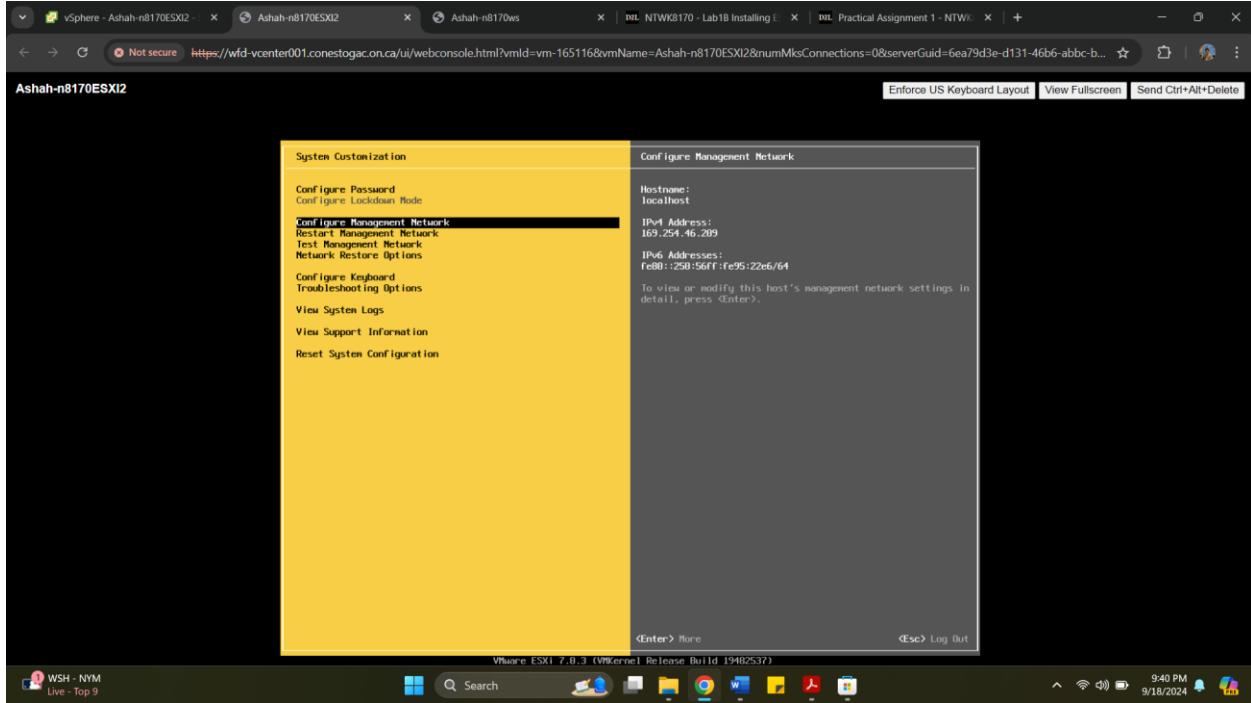


## Summary of Ashah-ESXi1

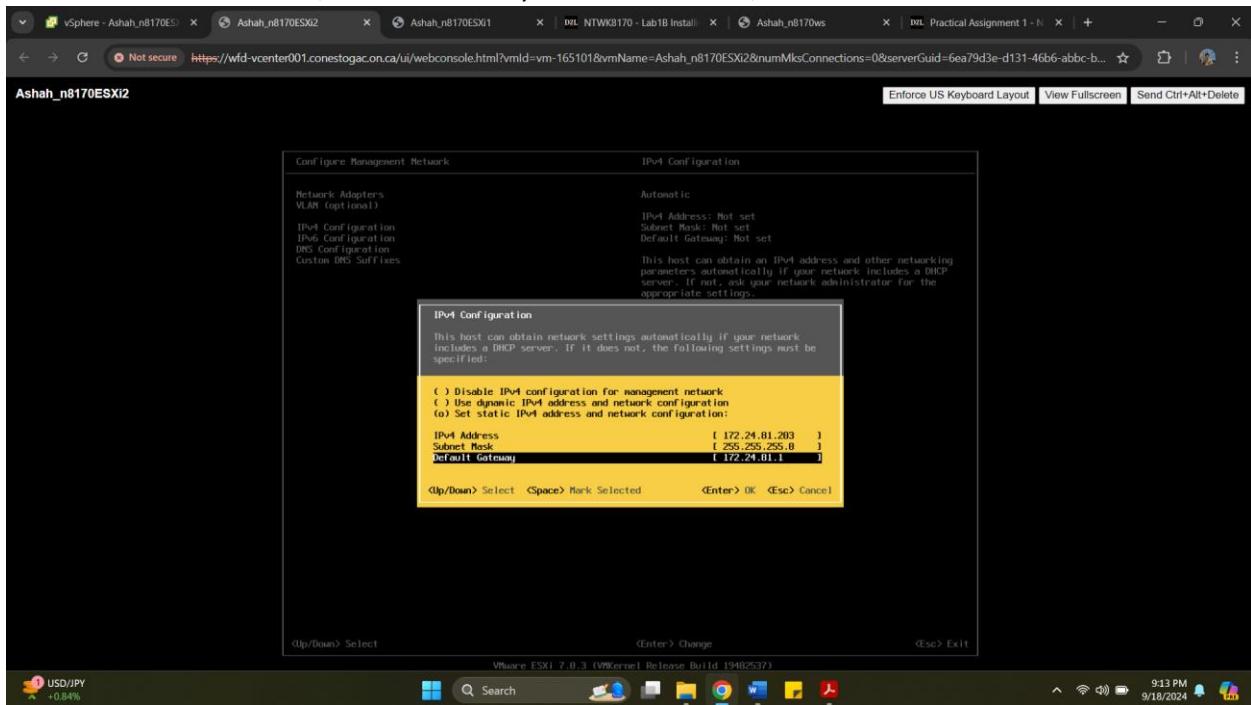


Similarly, configuring ESXi2

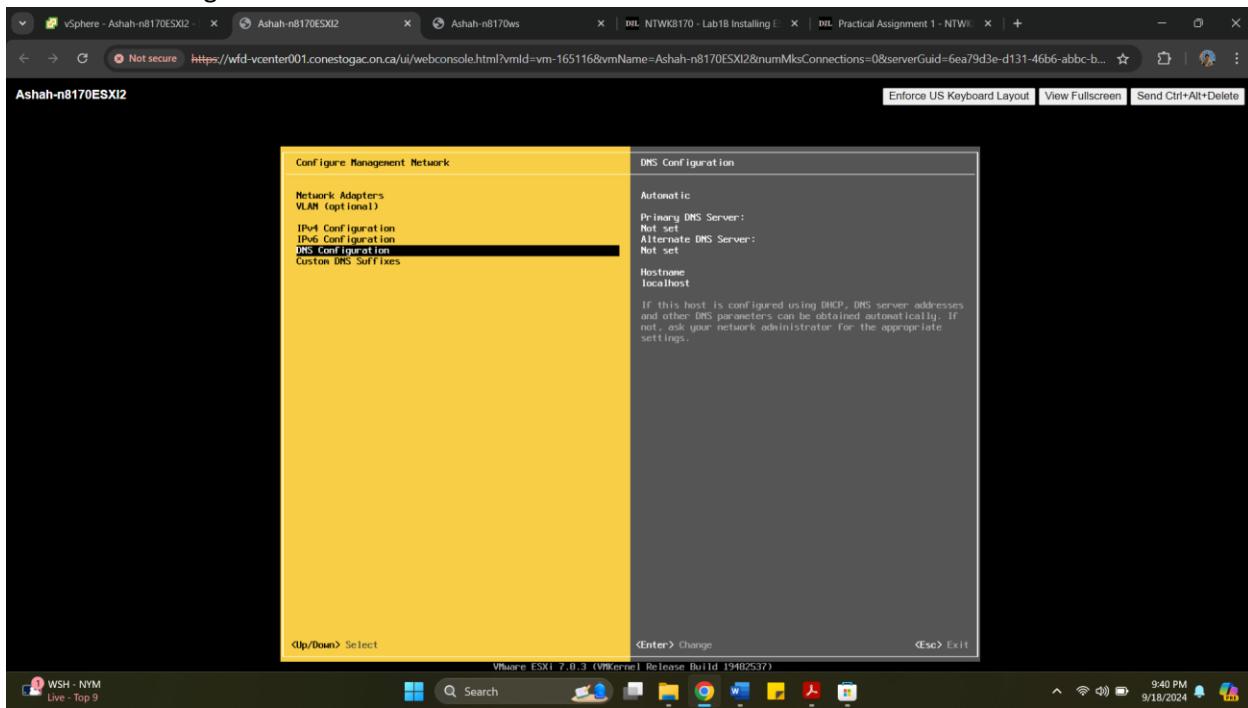
Once Rebooted ESXi2 on the main screen, Press F2 to Customize the system. The username is root the password is Vclass123\$.



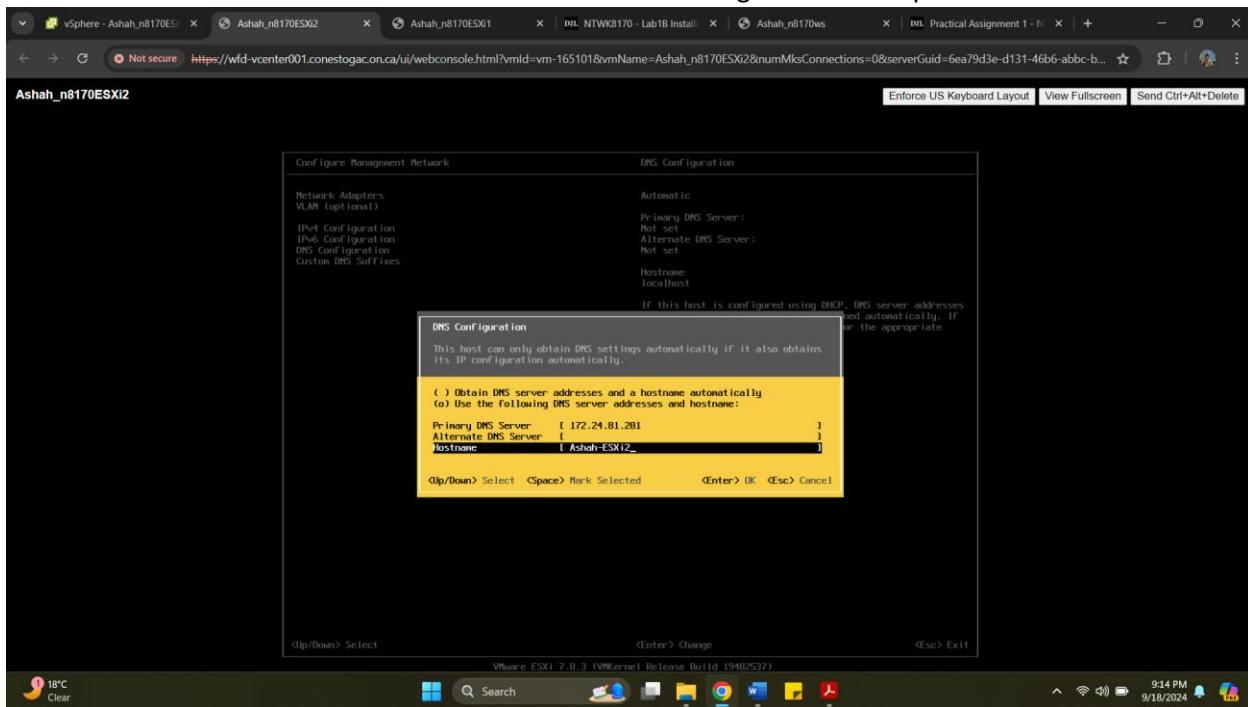
Select Set static IP address and network configuration, For IPv4 address Enter IP: 172.24.81.203, Subnet Mask Enter 255.255.255.0, Default Gateway Enter 172.24.81.1, Press Enter to confirm.



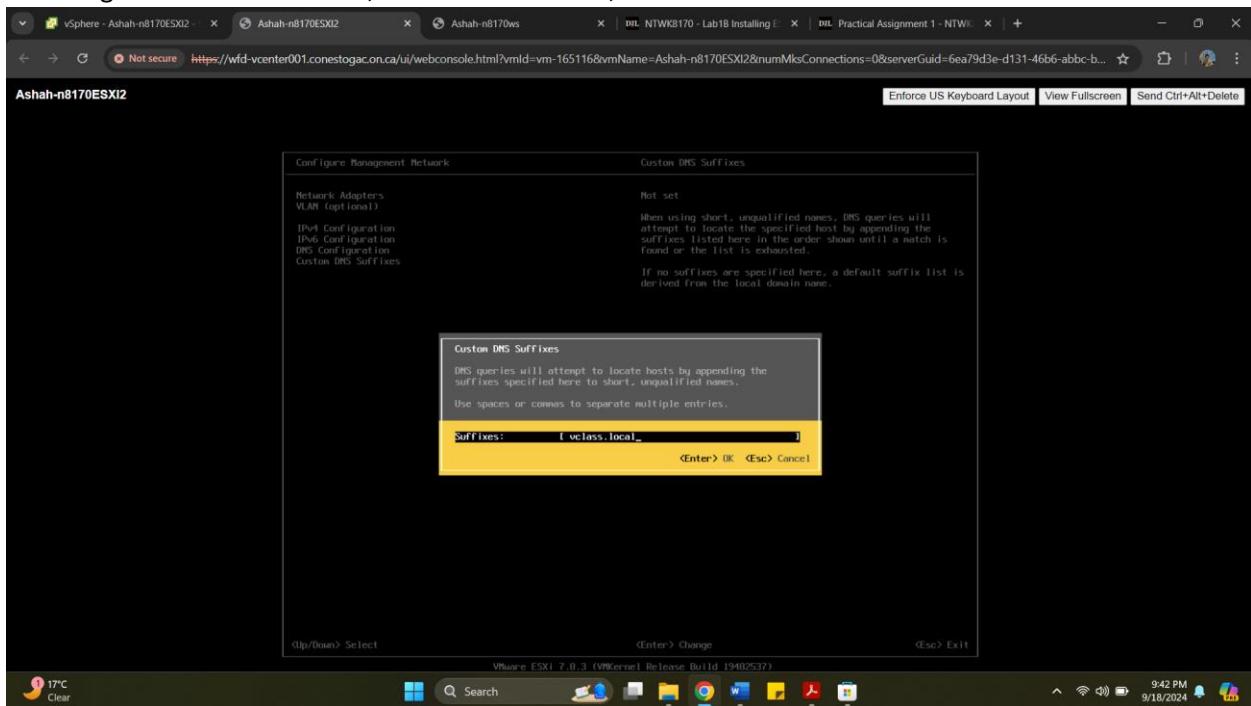
## Select DNS Configuration



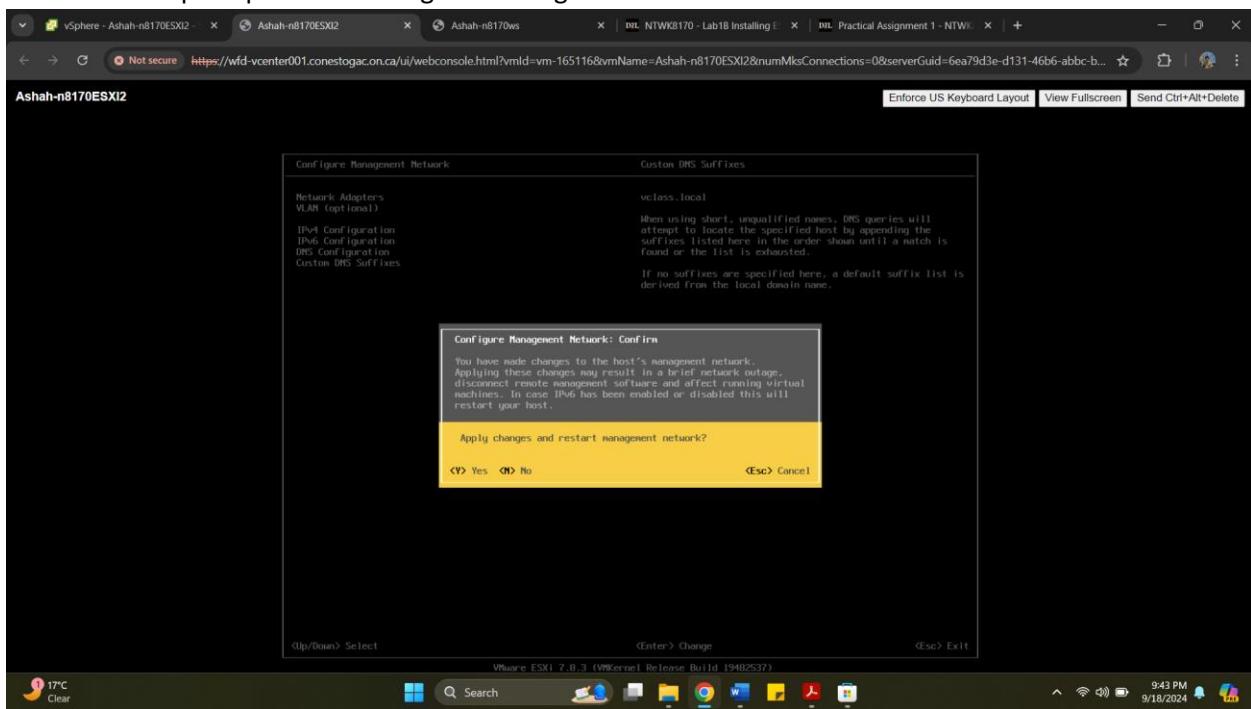
For Primary DNS server enter 172.24.81.201 (Windows Server VM), Leave Alternate DNS server blank,  
For Hostname enter Ashah-ESXi2. Press Enter to confirm and go back to the previous menu



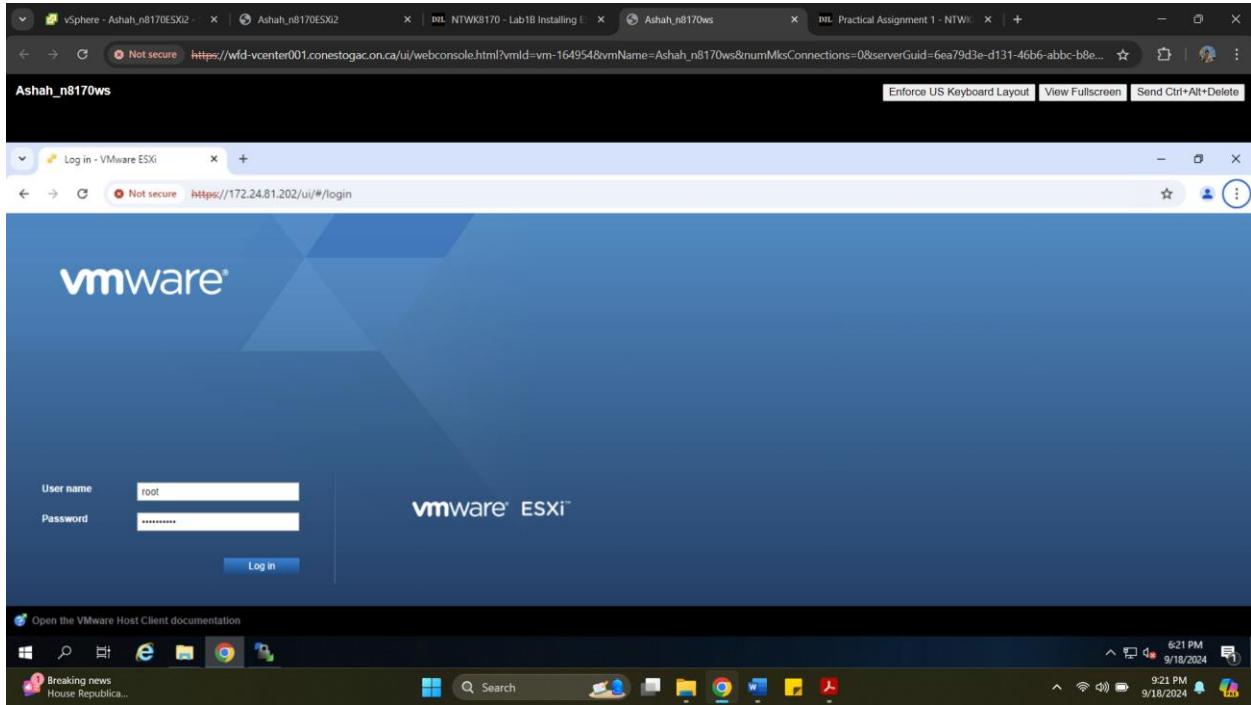
Selecting Custom DNS Suffixes, Enter “vclass.local”, Press Enter to confirm.



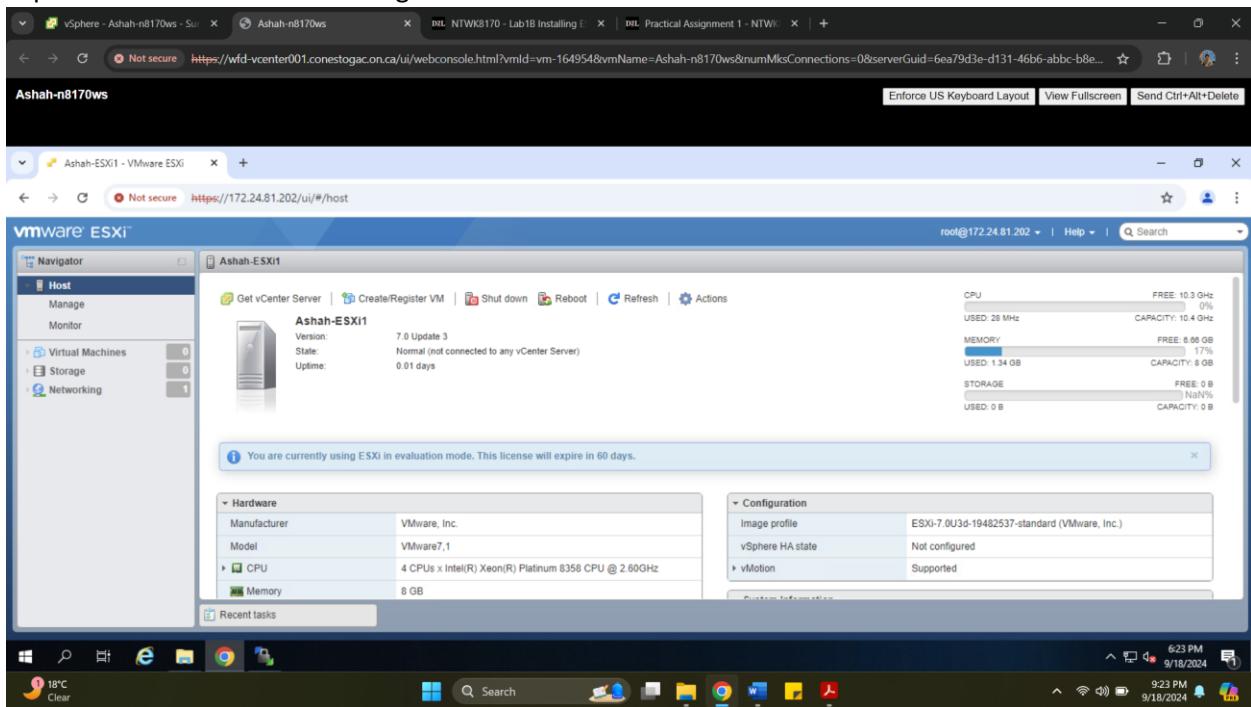
Press Y on the prompt for restarting the management network



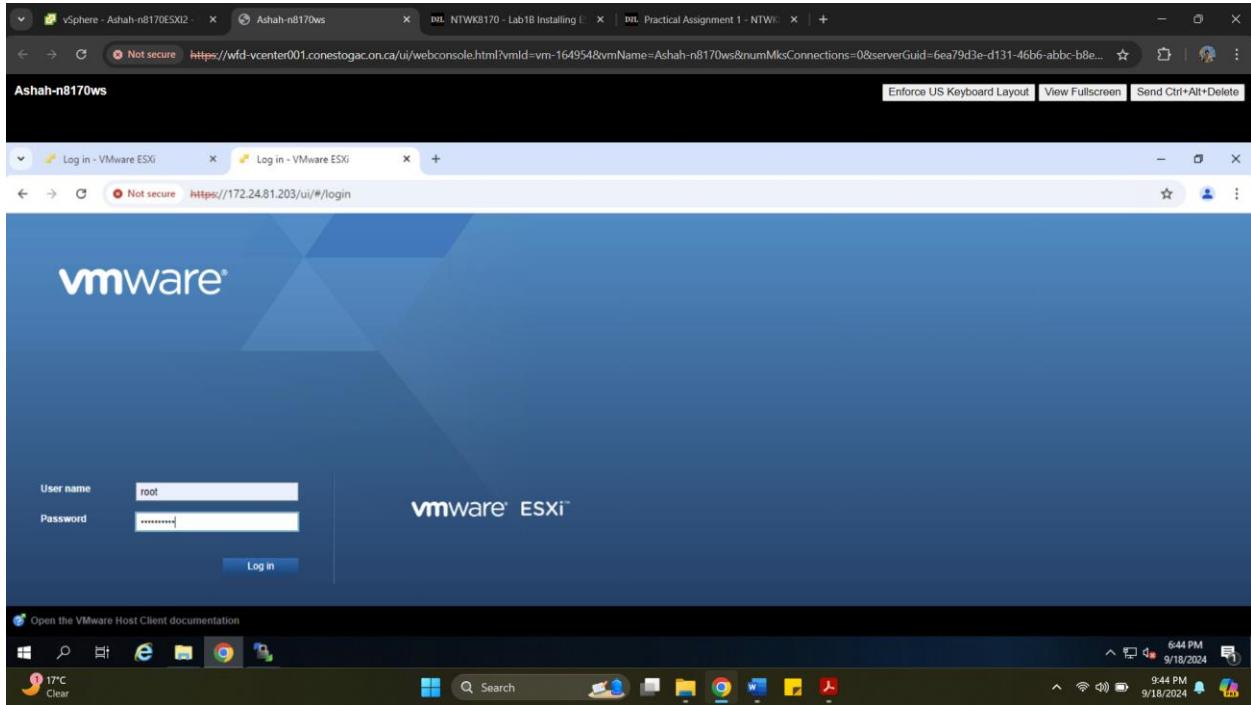
Navigating to the IP addresses (Ashah-ESXi1:172.24.81.202) using web browser and login with the root account to confirm the setups completed successfully.



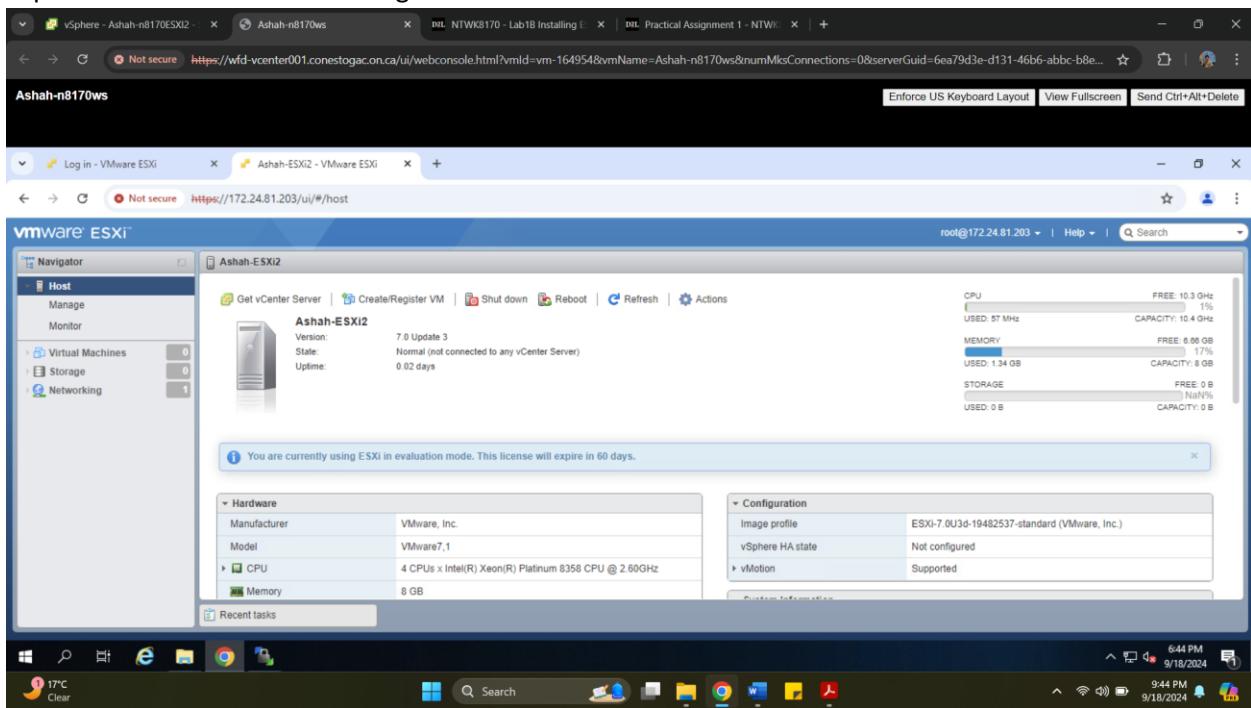
Explore the various areas after signed in



Navigating to the IP addresses (Ashah-ESXi2:172.24.81.203) using web browser and login with the root account to confirm the setups completed successfully.



Explore the various areas after signed in

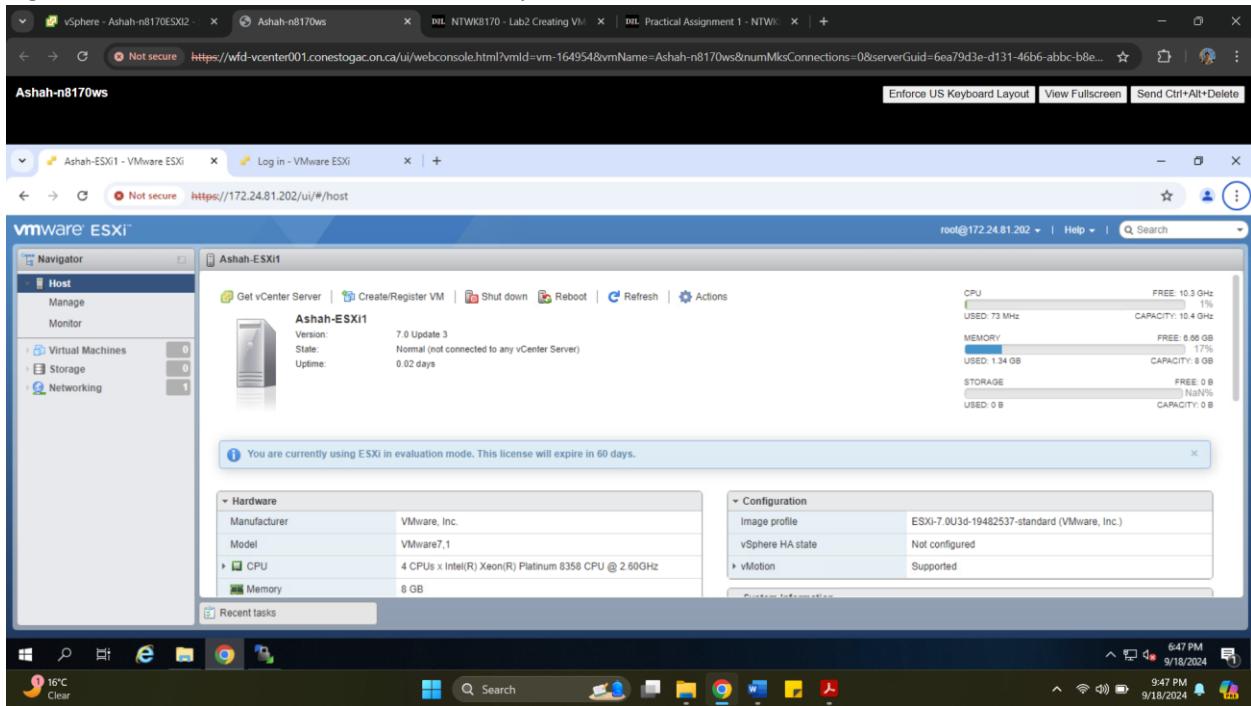


Week2

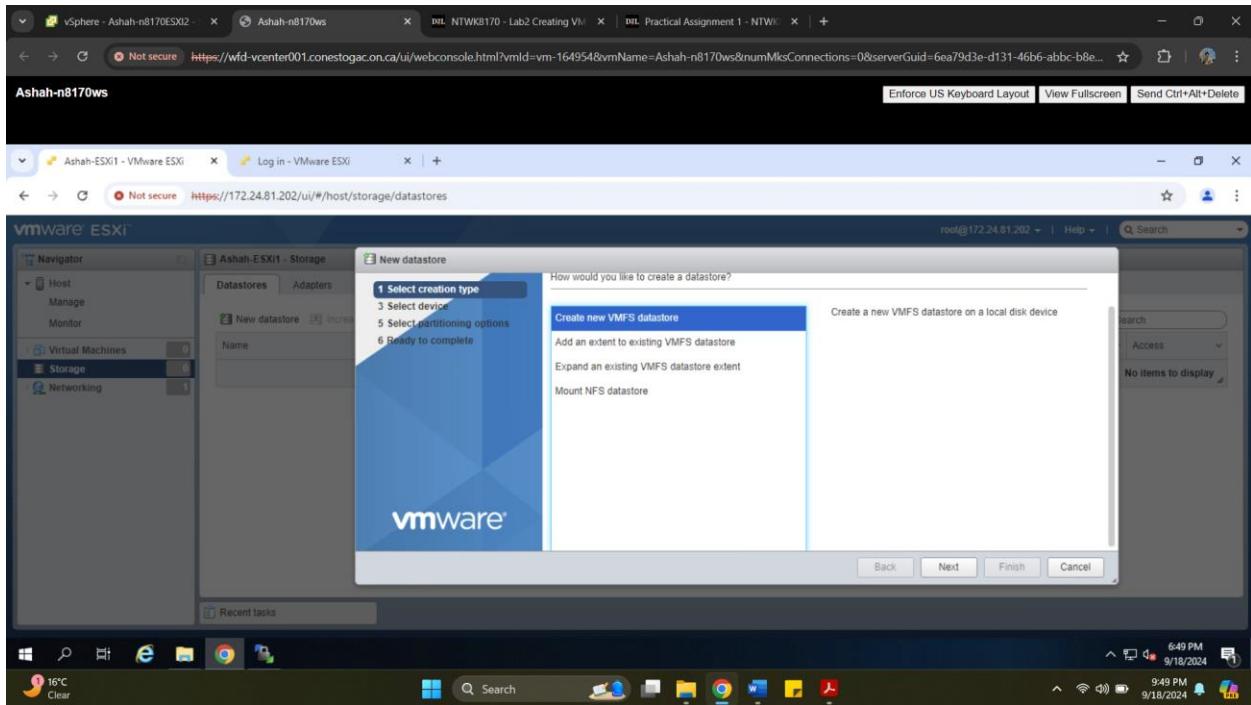
## Lab2 Creating VMs in ESXi

Section 1: Creating a local datastore on both ESXi hosts

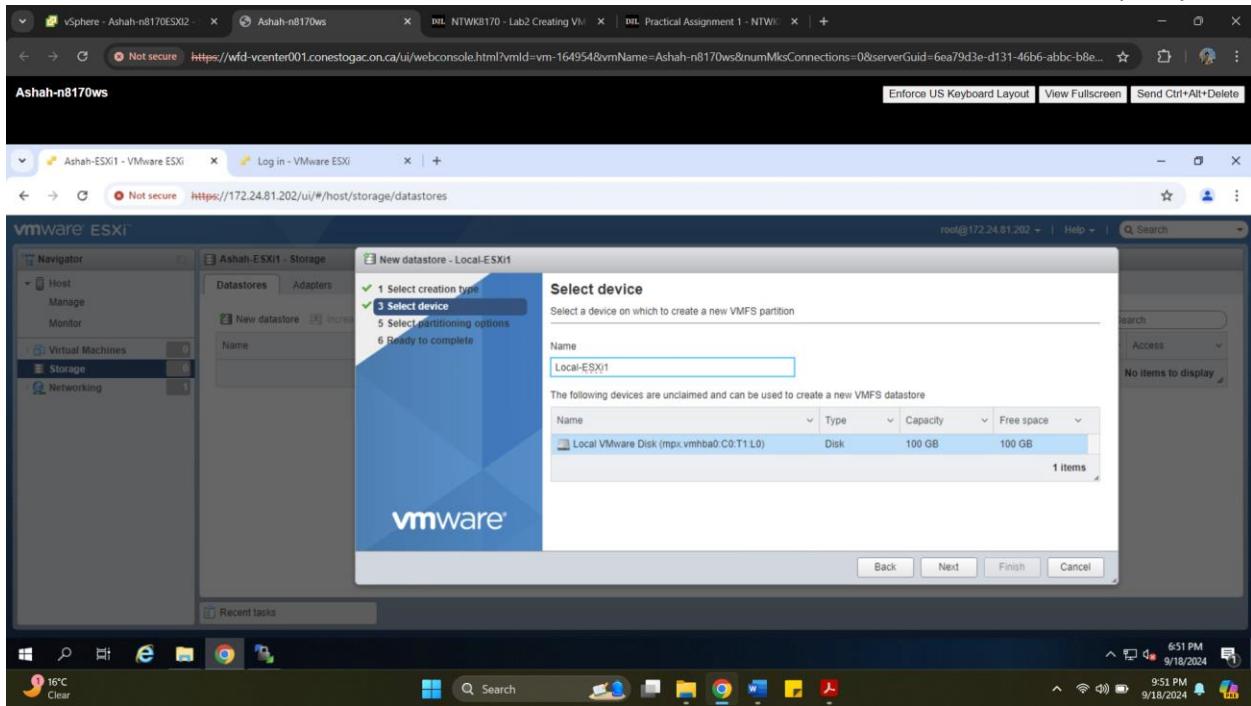
Sign in to Ashah-ESXi1 with username root password Vclass123\$.



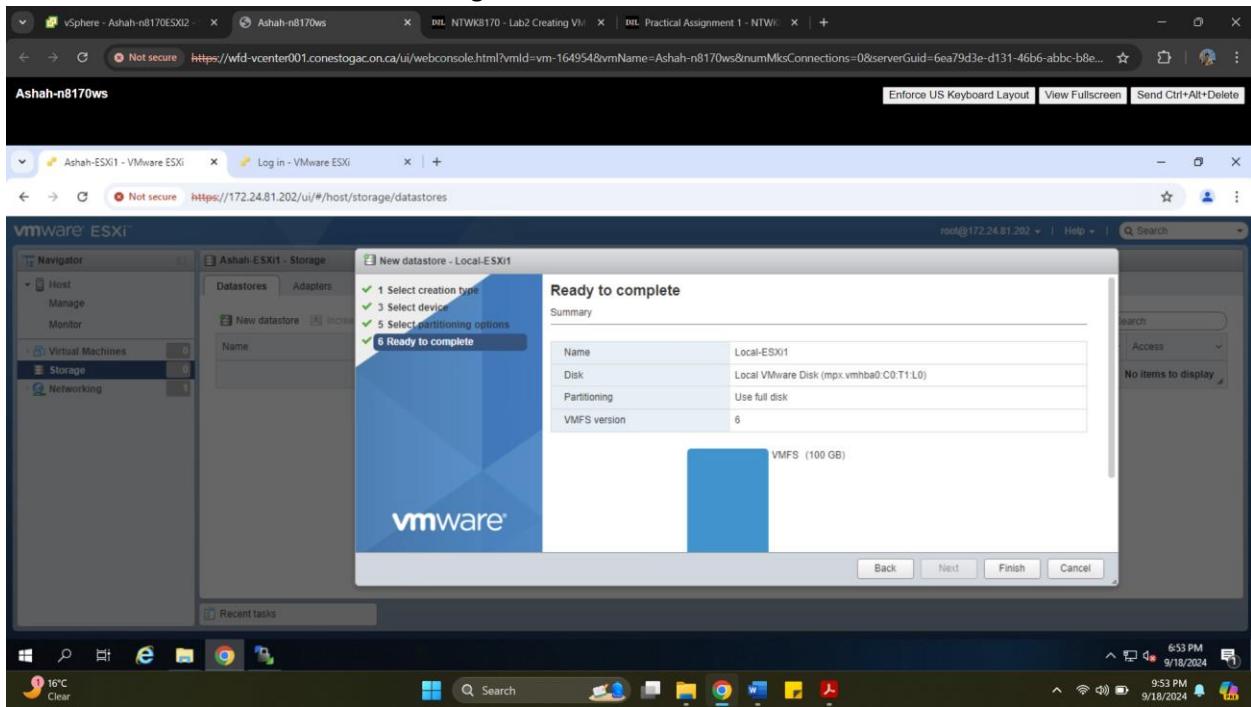
Click Storage on the left, In the Datastores Menu Selecting New Datastore, On Select Creation type ensure Create new VMFS datastore is selected. Click Next

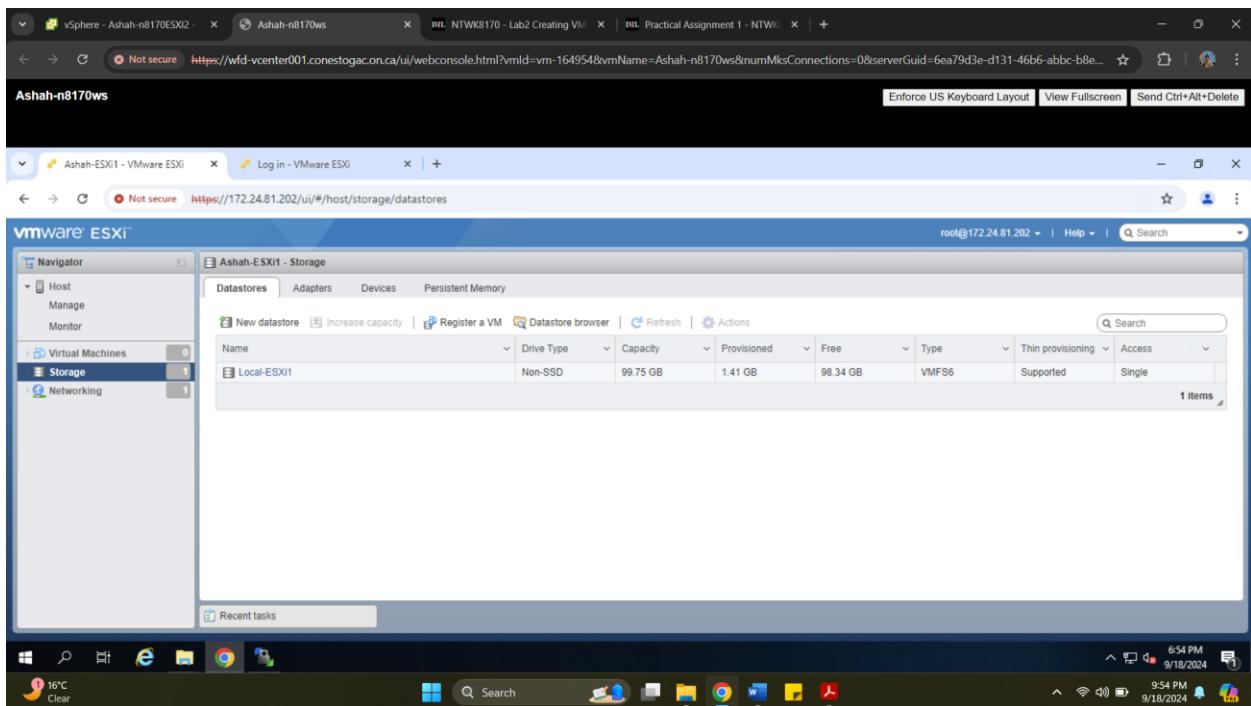


On Select Device, enter “Local-ESXi1”. Ensure Local VMware Disk is selected with 100GB of capacity.



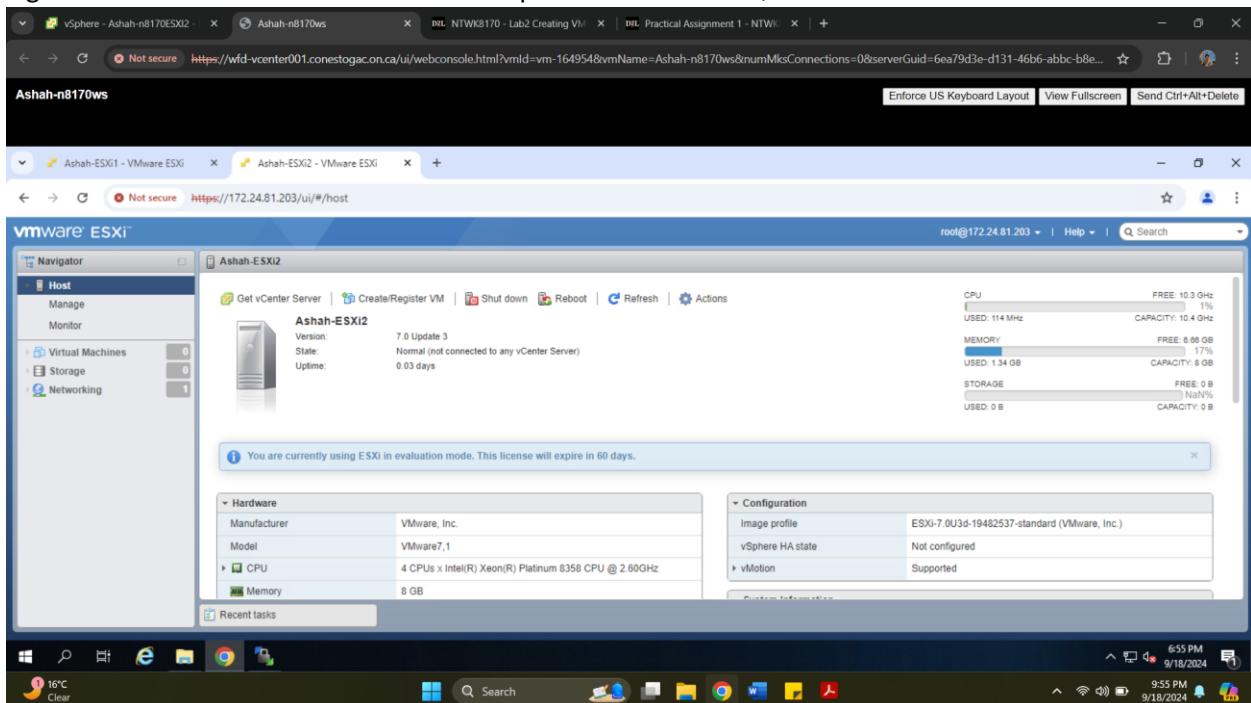
Click Finish and Click Yes on the warning.



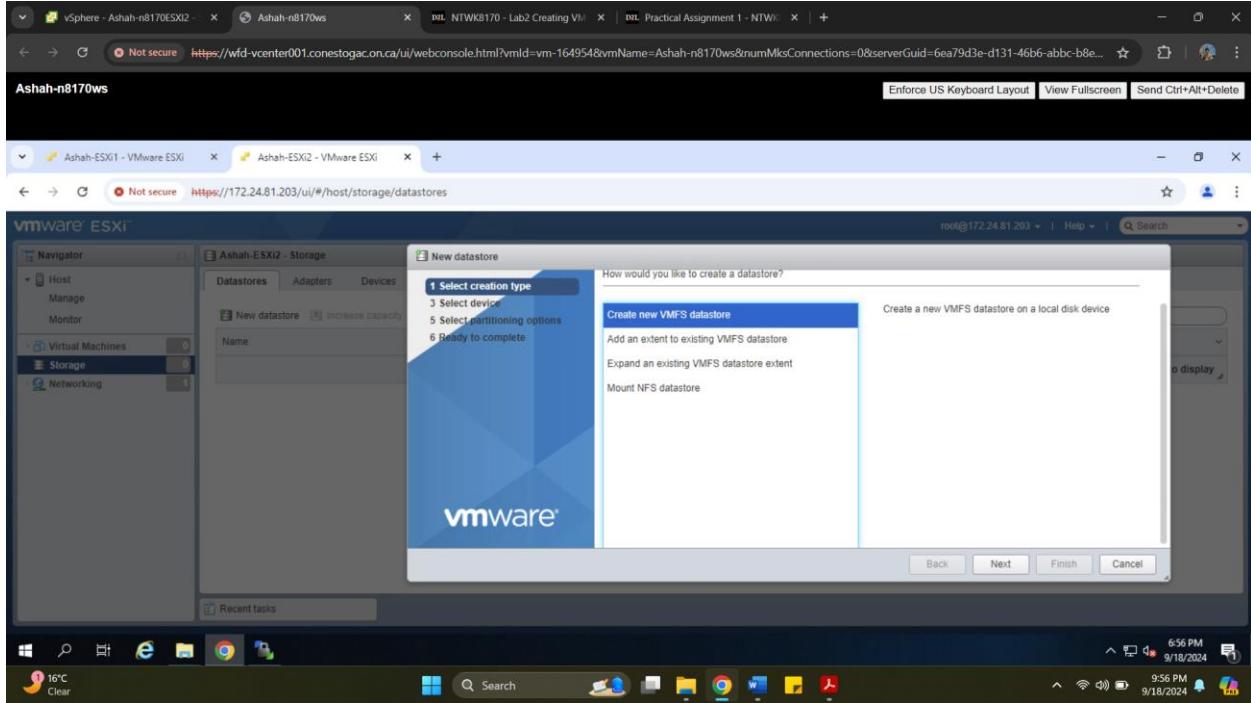


Similarly, creating Local Datastore on Ashah-ESXi2

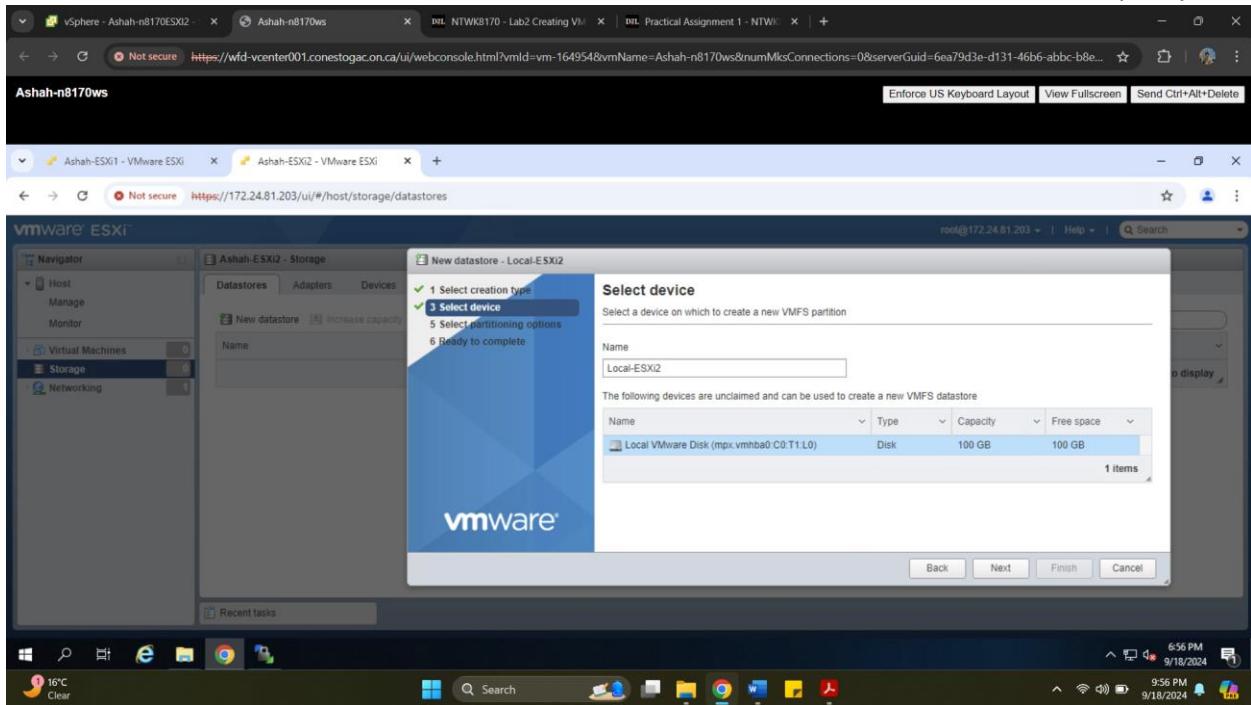
Sign in to Ashah-ESXi2 with username root password Vclass123\$.



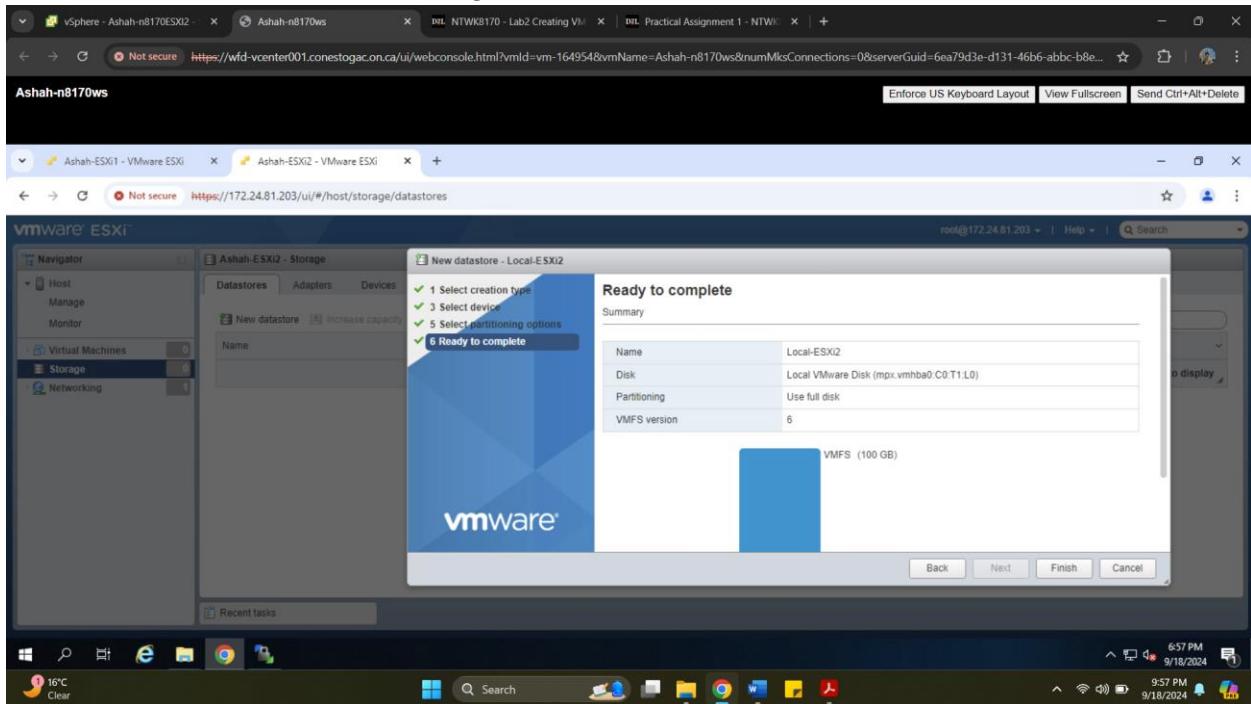
Click Storage on the left, In the Datastores Menu Selecting New Datastore, On Select Creation type ensure Create new VMFS datastore is selected. Click Next



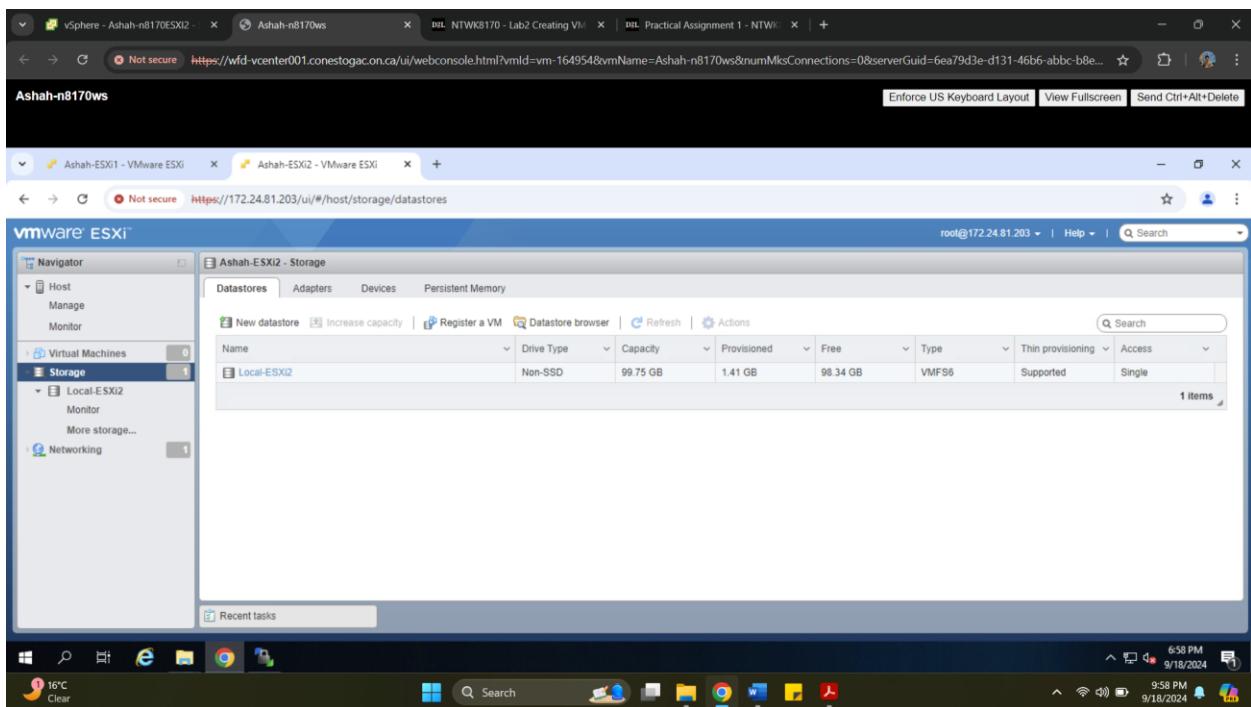
On Select Device, enter “Local-ESXi2”. Ensure Local VMware Disk is selected with 100GB of capacity.



Click Finish and Click Yes on the warning.

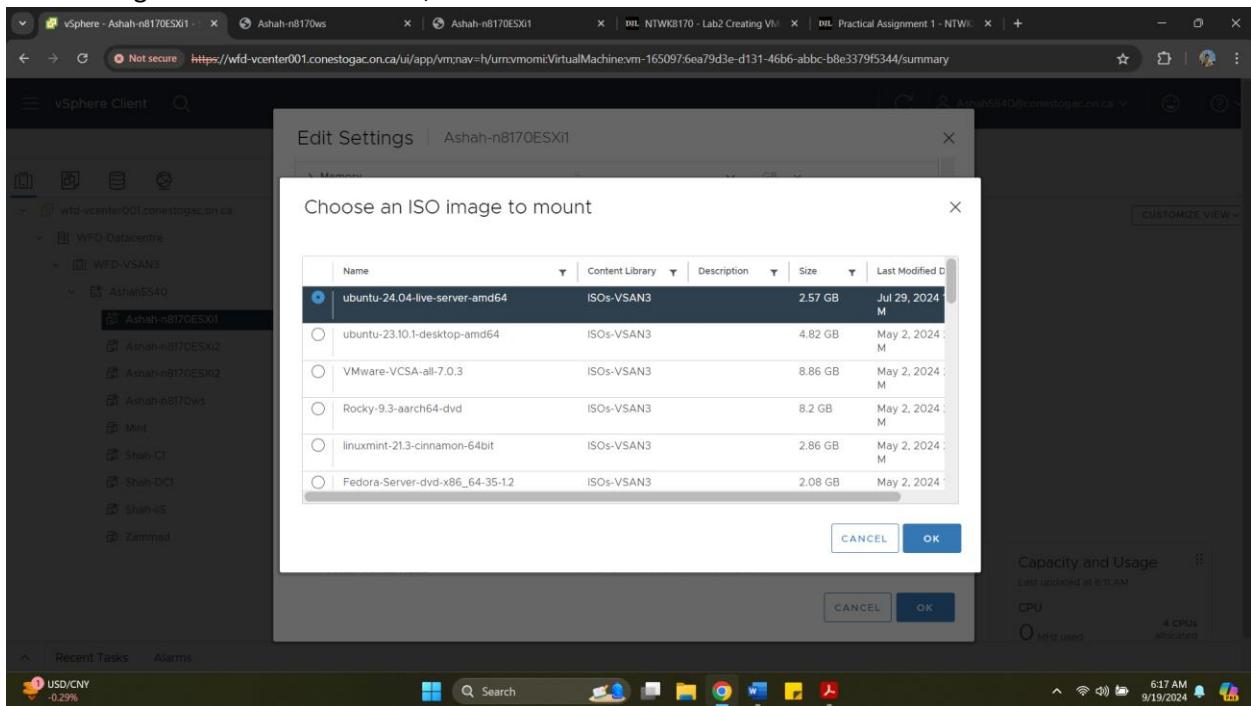


New Datastore created with name Local-ESXi2

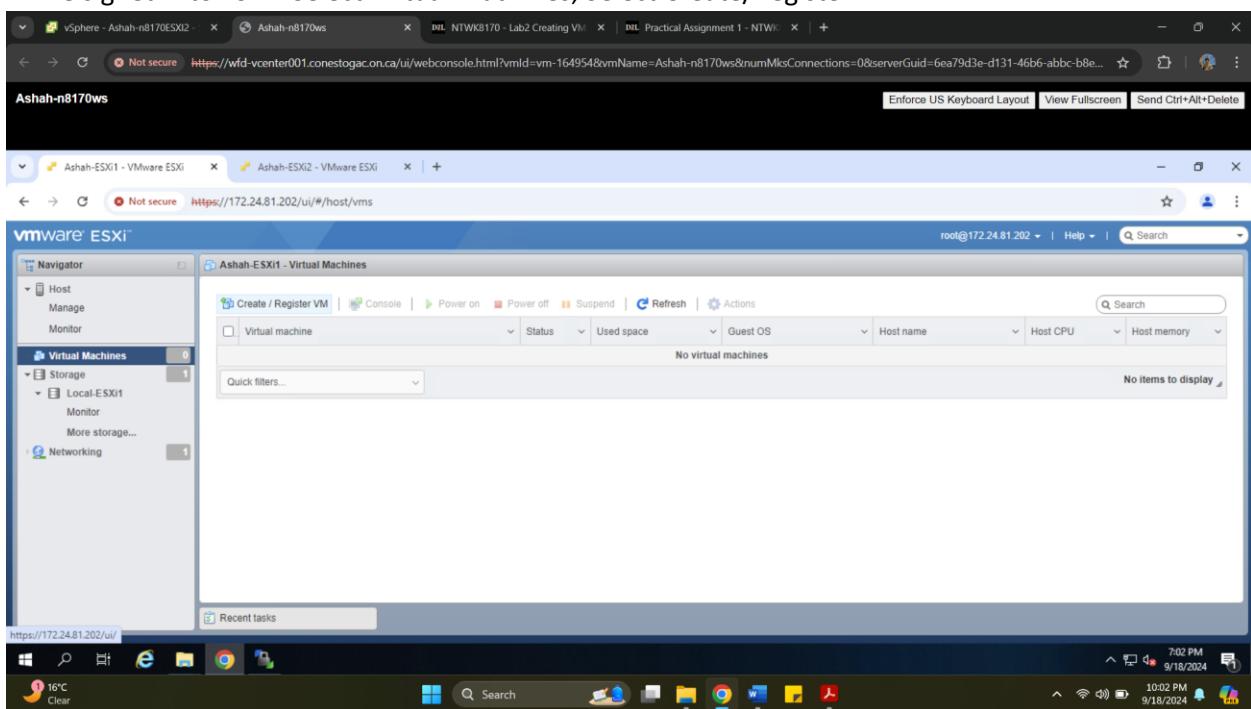


Section 2: Creating a Ubuntu Server Virtual Machine on ESXi1

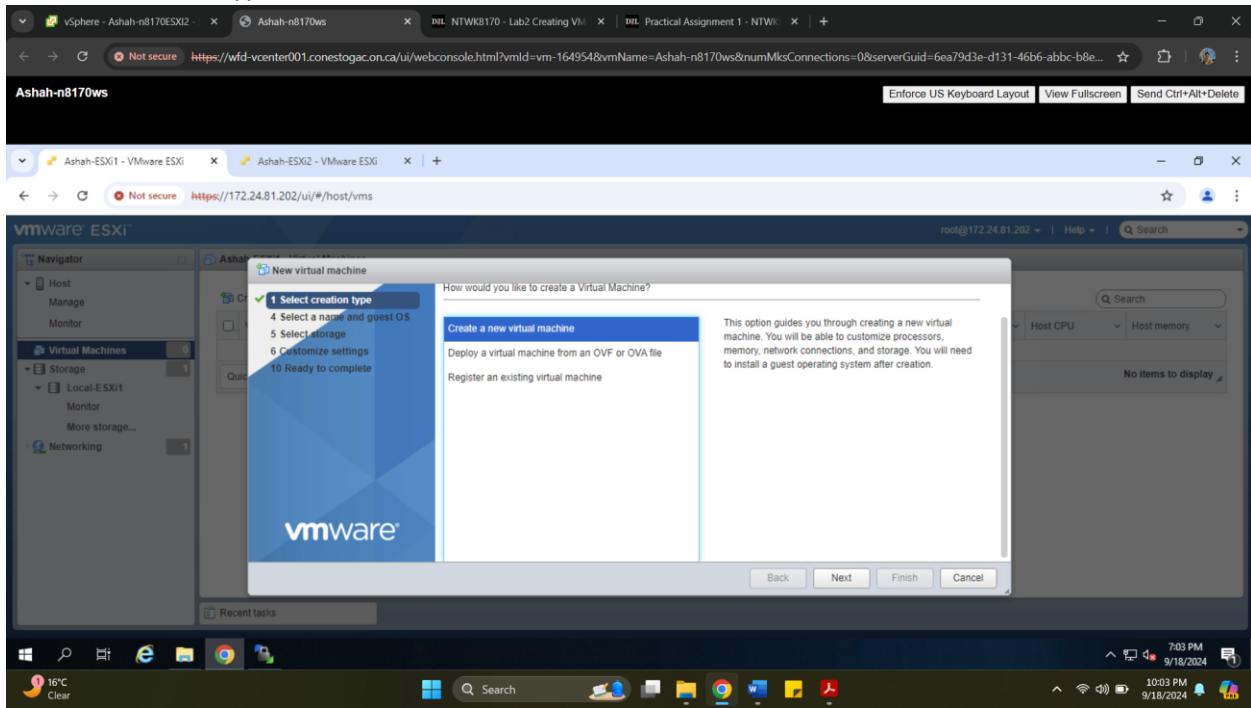
In Conestoga's virtual environment, Connect the Ubuntu Server ISO to Ashah-n8170ESXi1.



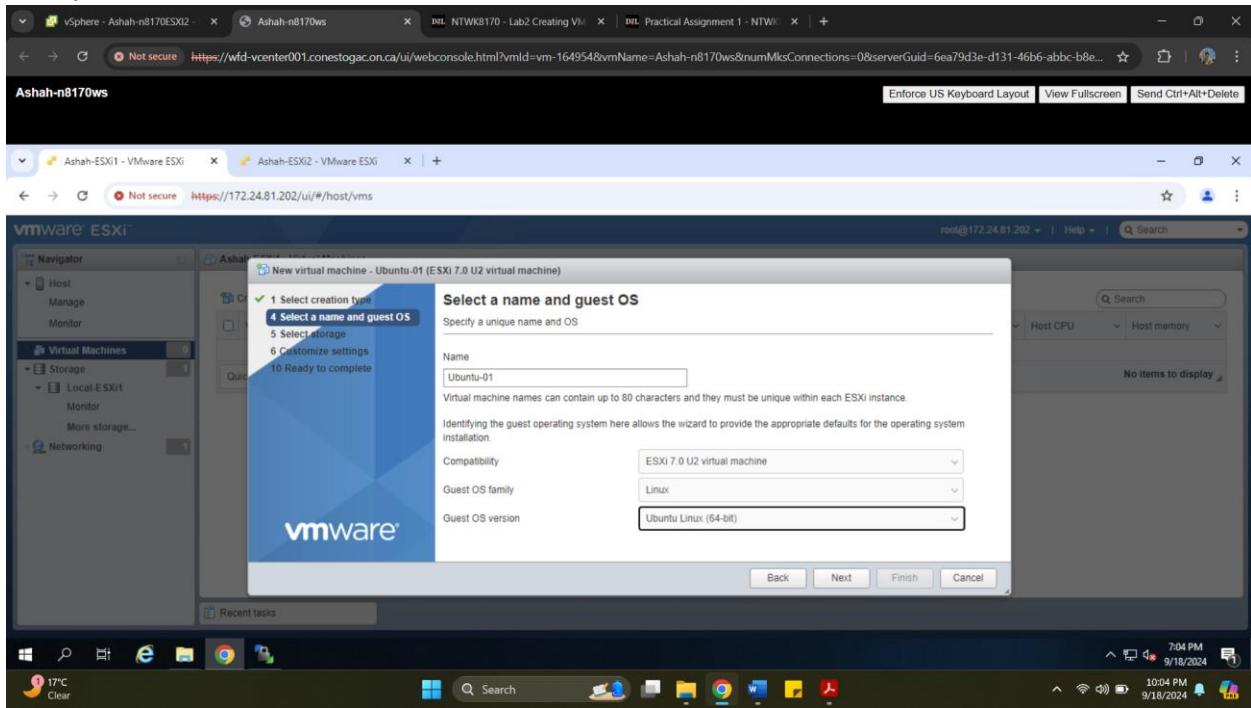
While signed into ESXi1 Select Virtual Machines, Select Create/Register VM



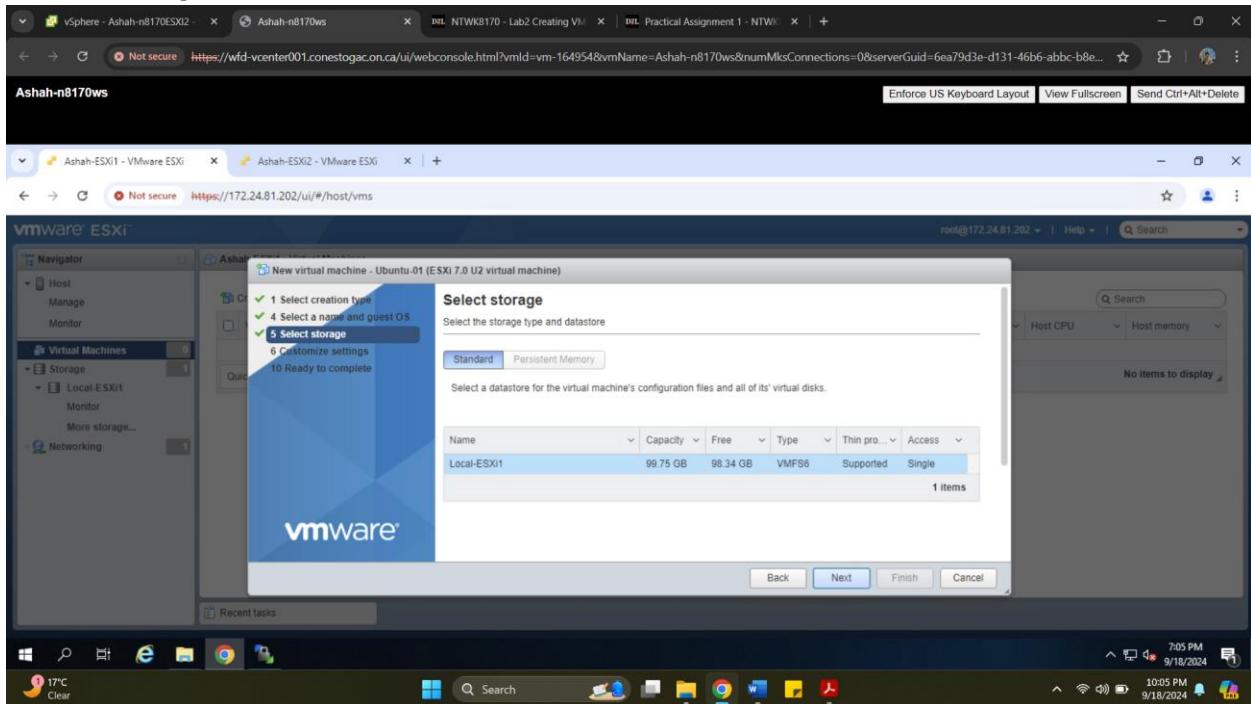
In Select Creation type ensure Create a Virtual Machine is selected. Click Next



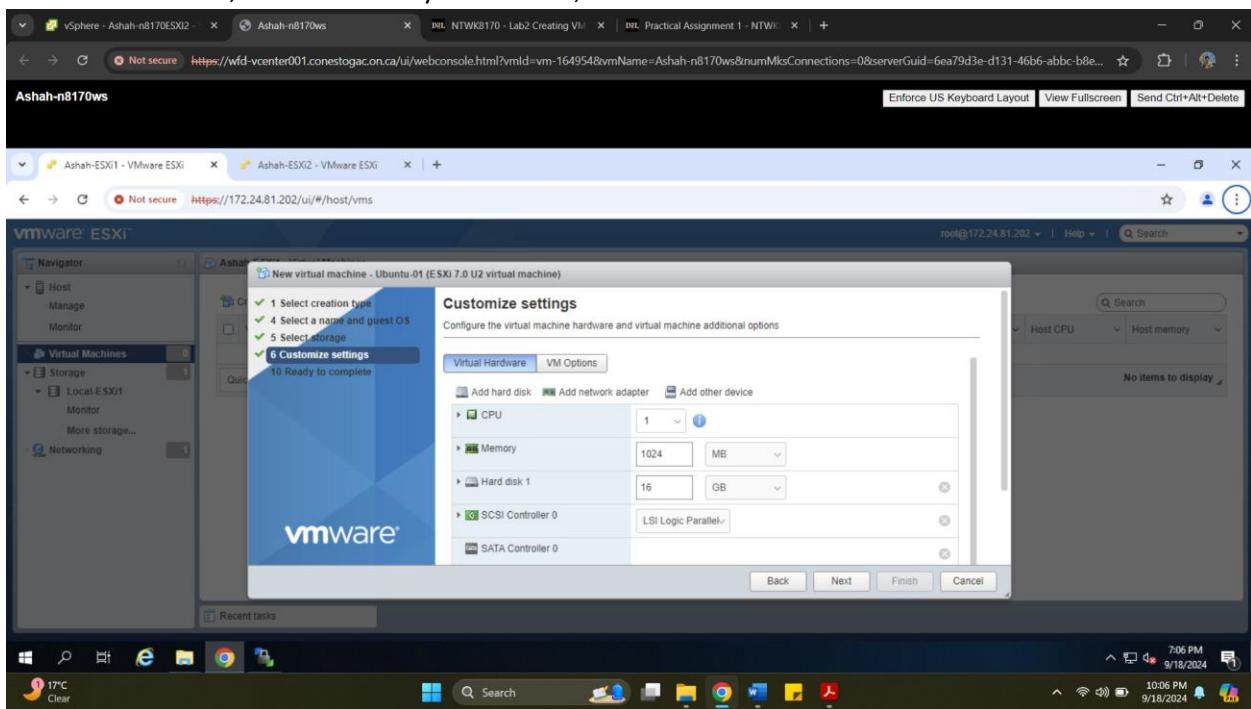
In Select a name and Guest OS for name enter Ubuntu-01. Leave compatibility as default, For GuestOS Family select Linux, For GuestOS version select Ubuntu Linux (64-bit). Click Next.



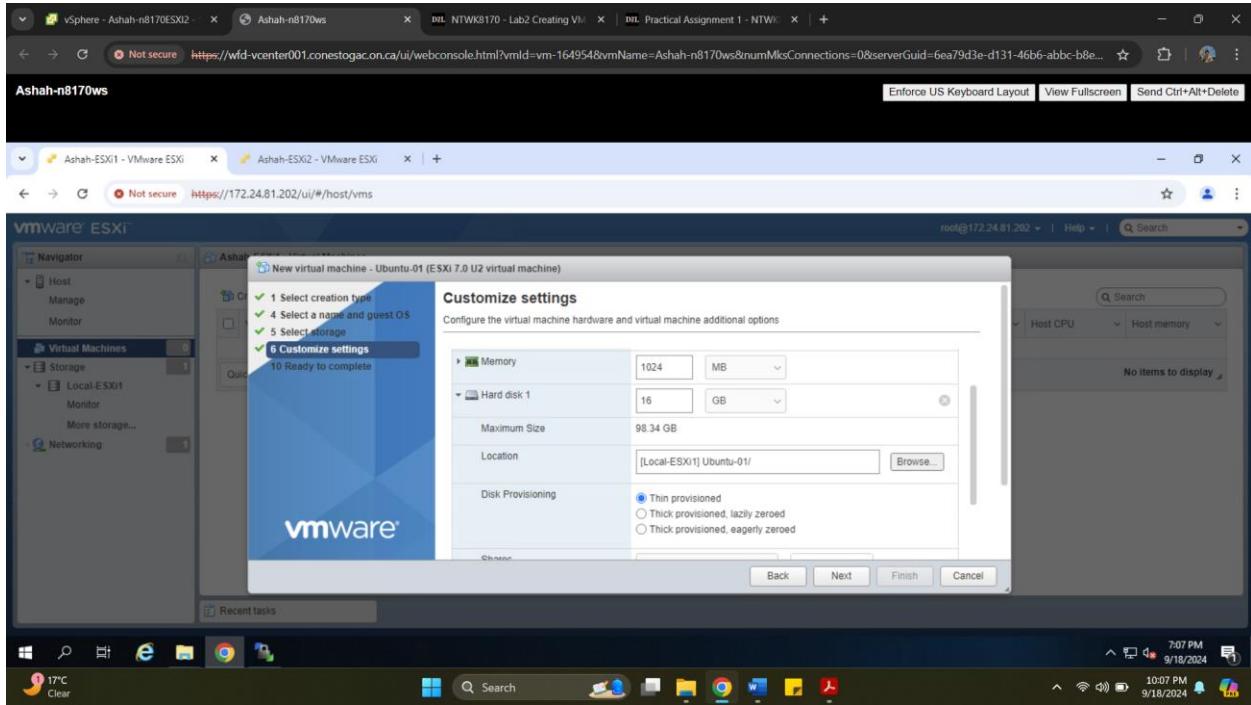
In Select Storage ensure Local-ESXi1 is selected. Click Next



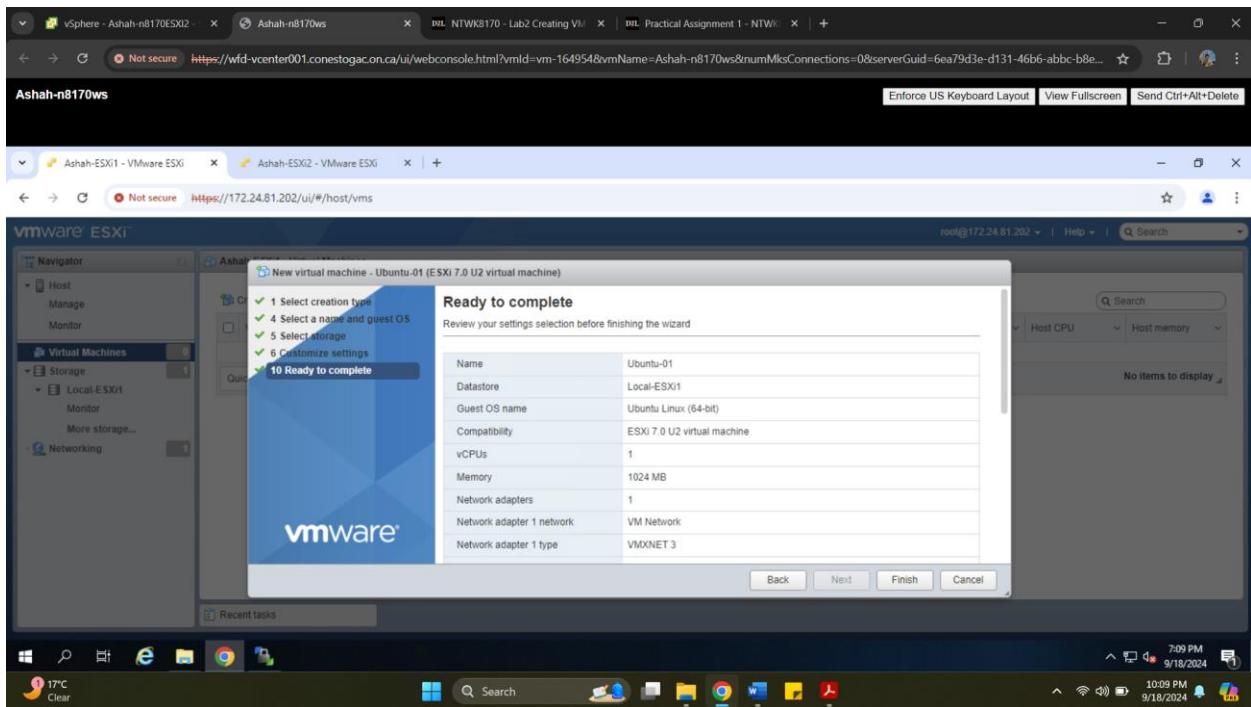
Leave the CPU at 1, Set the memory to 1024MB, Click the arrow next to Hard Disk 1.



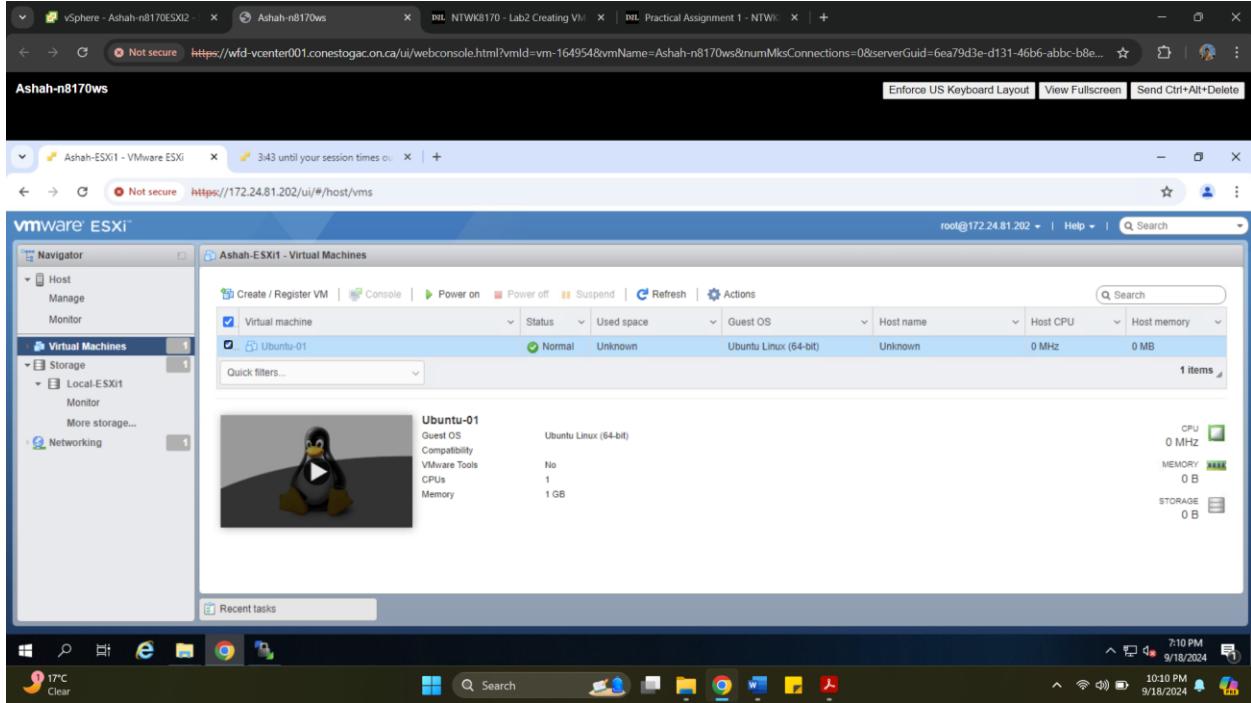
Under Disk Provisioning set Thin Provisioned (very important), Leave the other settings as default. Click Next.



Click Finish.

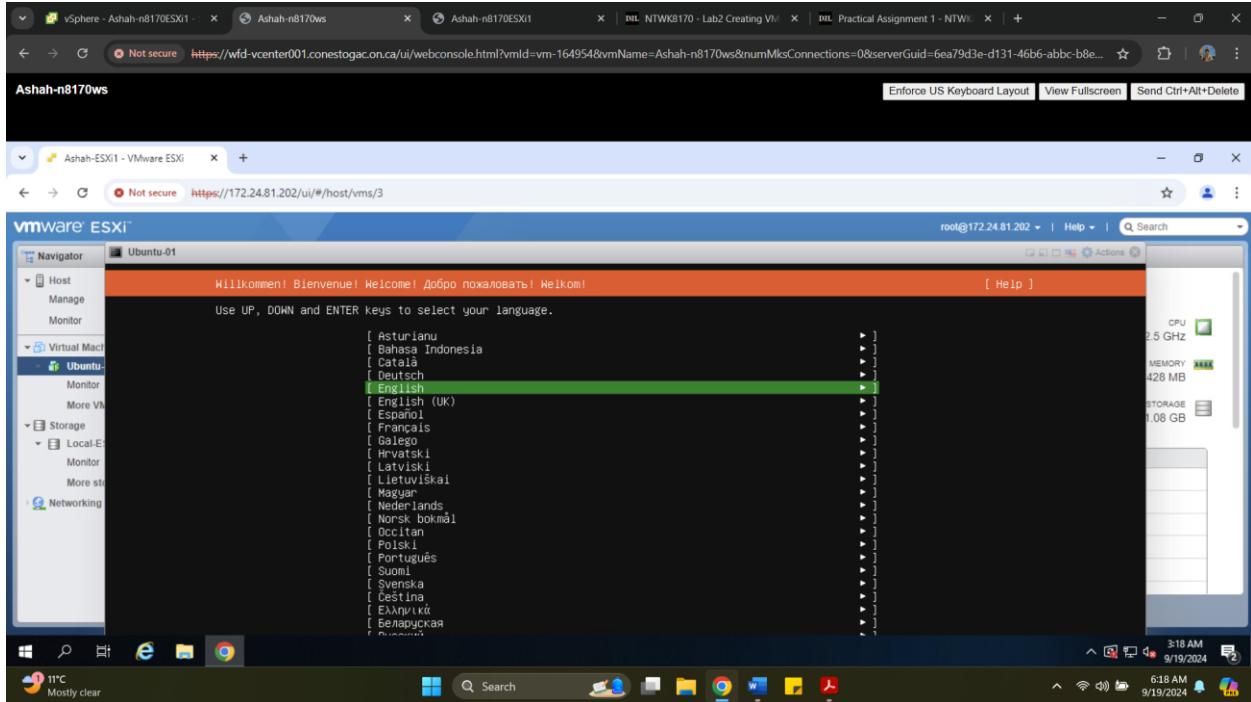


Select the Ubuntu-01 virtual machine and Click PowerOn, Open the Console to begin the install process for Ubuntu Server

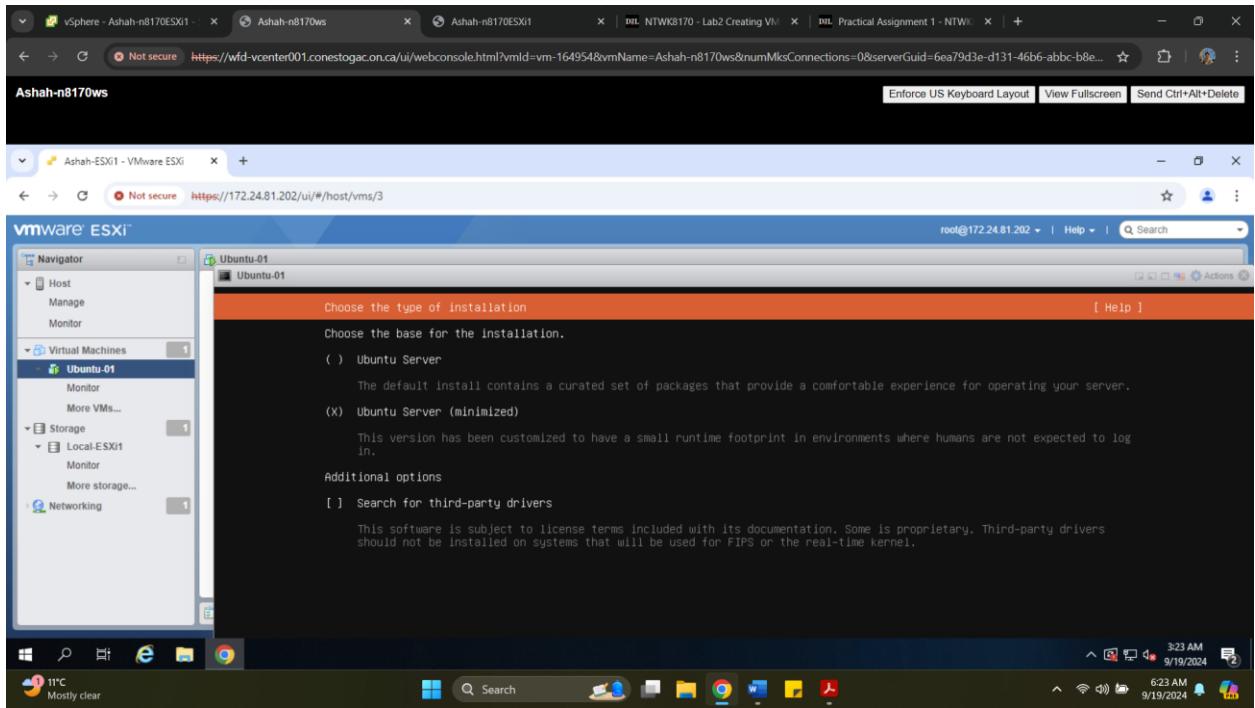


### Section 3: Ubuntu-01 VM Configuration

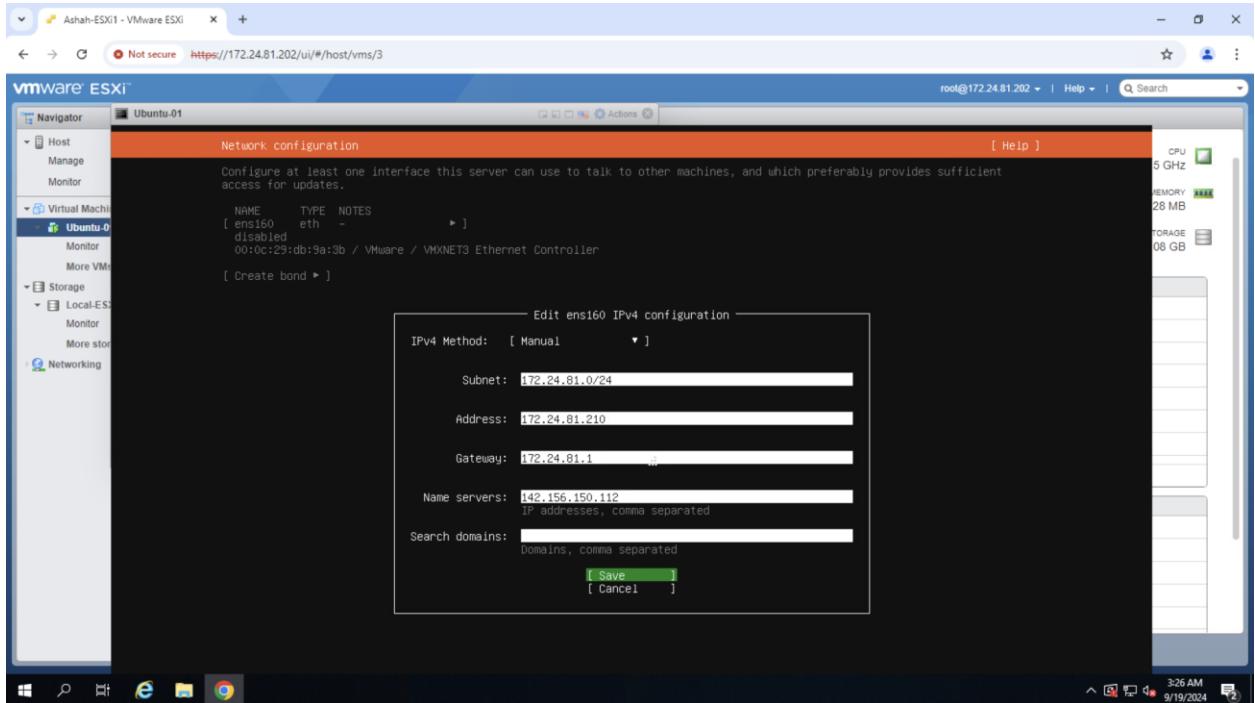
Installing Ubuntu on the installer.



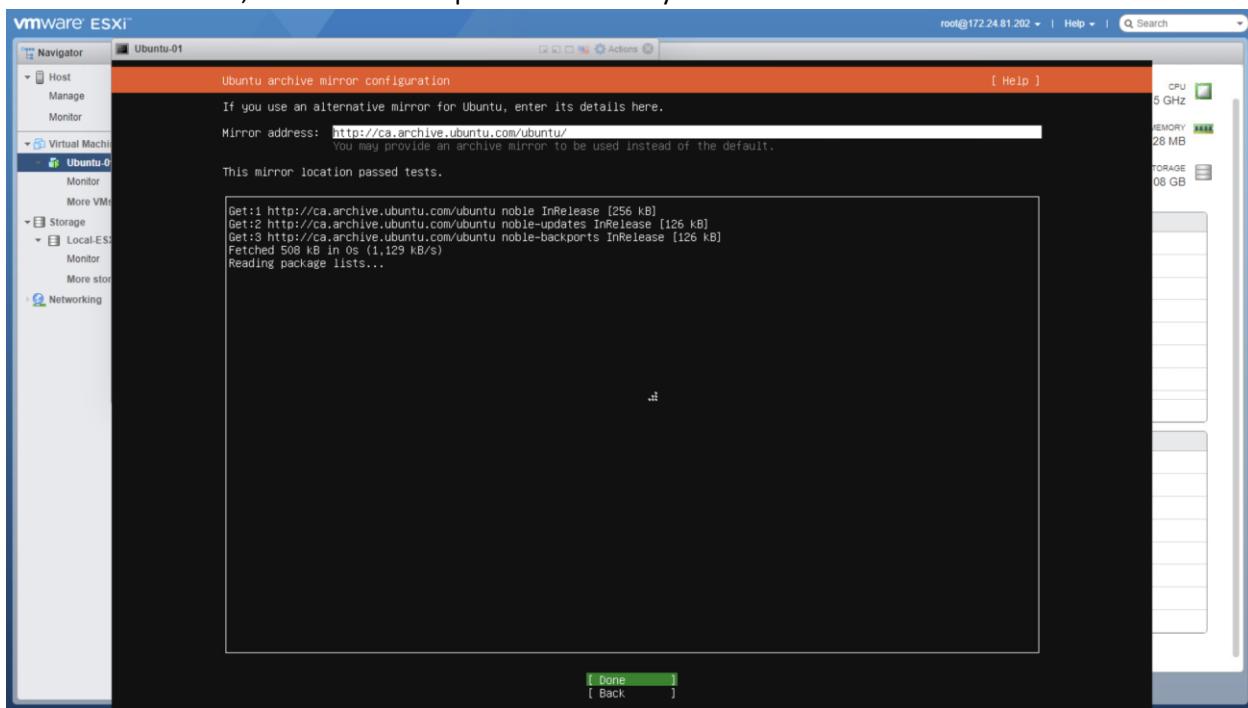
Select Ubuntu Server (Minimized) for installation (The full install won't work).



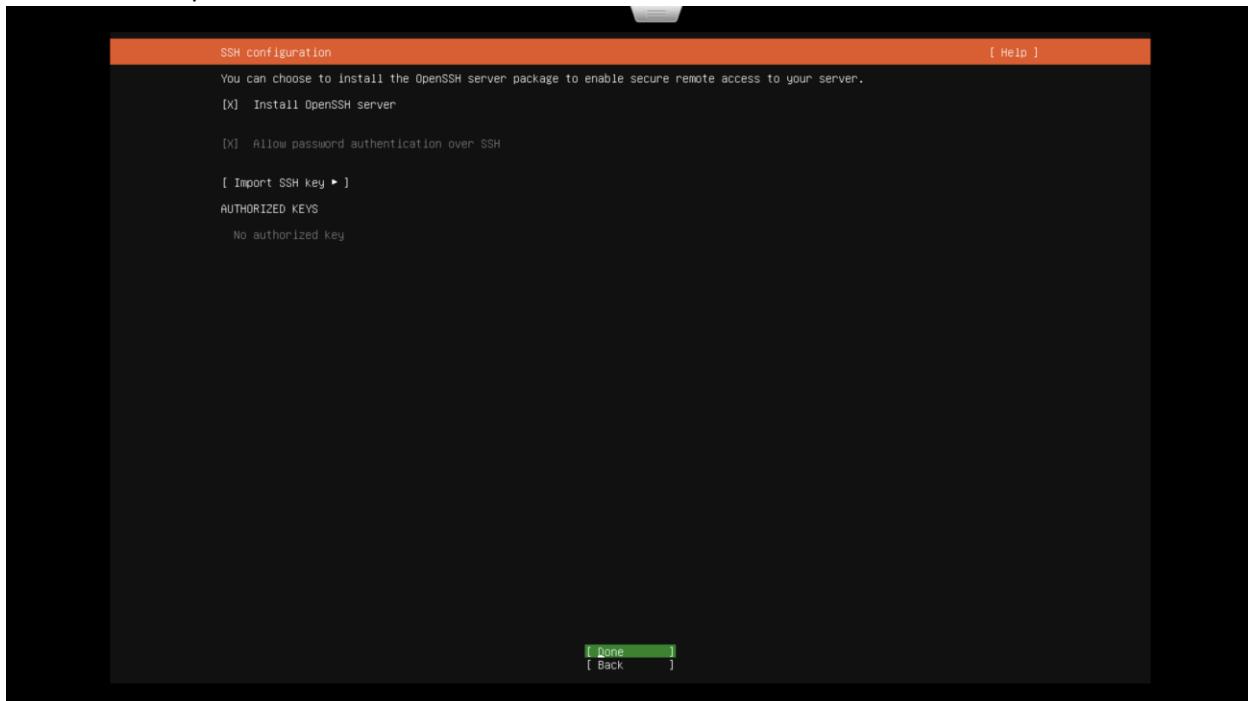
Configuring the IP address to 172.24.81.210, DNS enter Conestoga's DNS server (142.156.150.112)



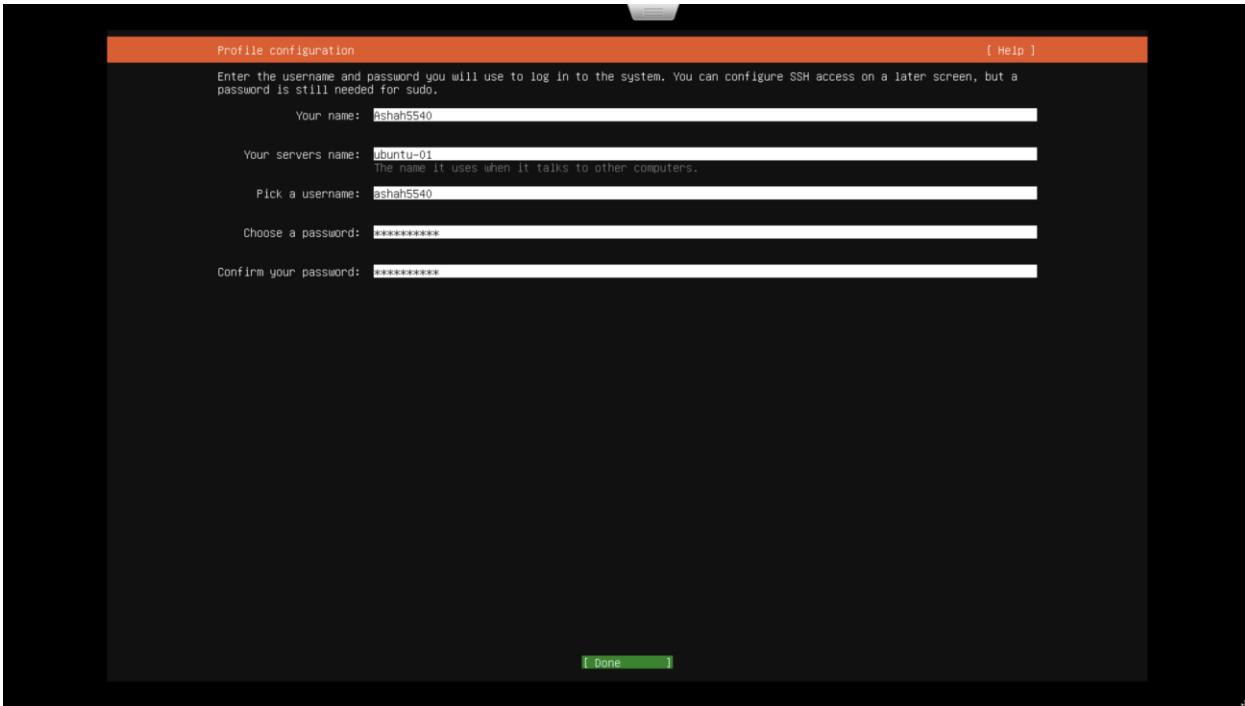
On Mirror Selection, wait until in completes successfully than click Next



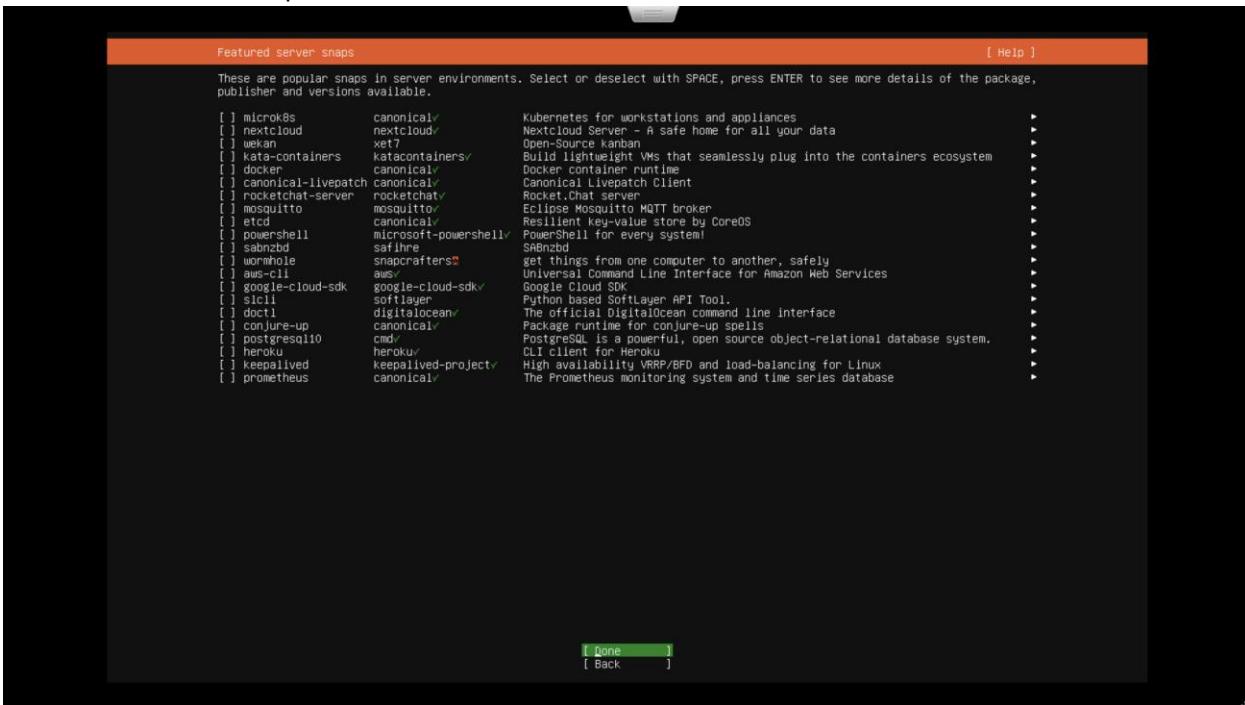
Ensure install OpenSSH is Server is selected.



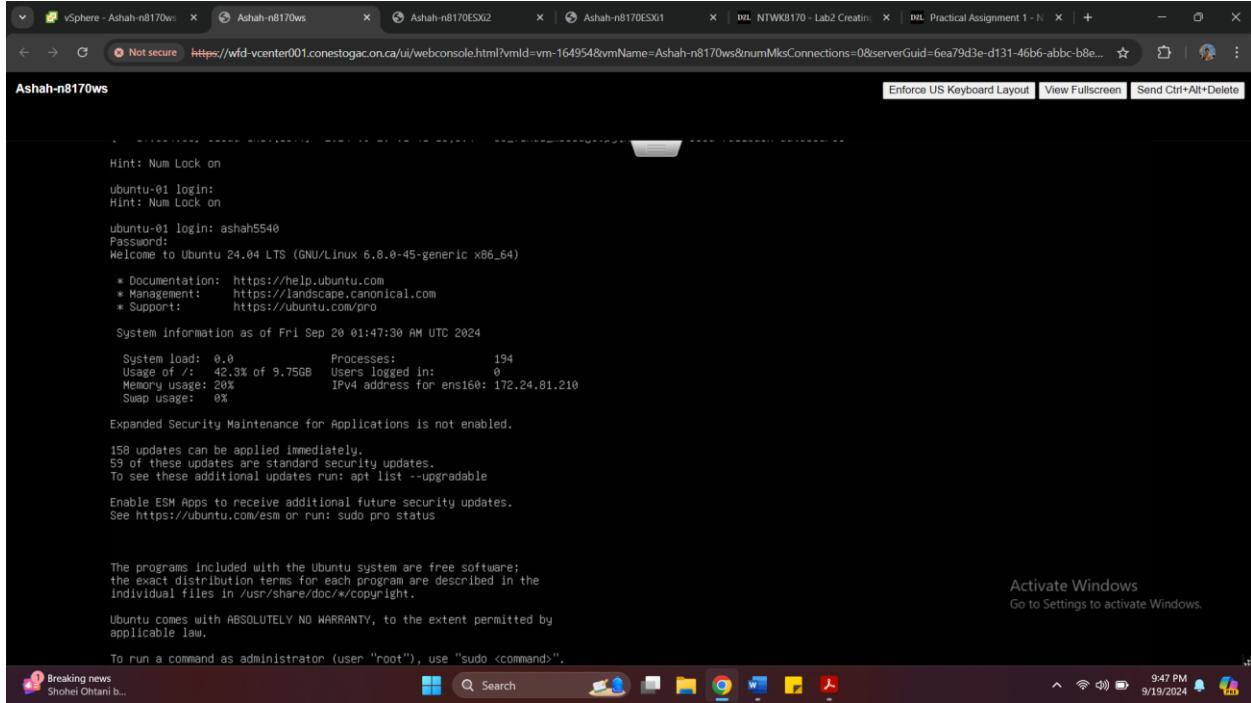
Create your account conestogausername (ashah5540) and set the password to Vclass123\$ and providing Server Name as Ubuntu-01



On Featured Server Snaps click Done.



Once the installer is complete click Reboot Now, Sign in to the VM with username Ashah5540, password Vclass123\$.



```
Ashah-n8170ws

Hint: Num Lock on
ubuntu-01 login:
Hint: Num Lock on
ubuntu-01 login: ashah5540
Password:
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-45-generic x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/pro

System information as of Fri Sep 20 01:47:30 UTC 2024

System load: 0.0      Processes:          194
Usage of /: 42.3% of 9.75GB   Users logged in: 0
Memory usage: 20%      IPv4 address for ens160: 172.24.81.210
Swap usage: 0%         

Expanded Security Maintenance for Applications is not enabled.

158 updates can be applied immediately.
59 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

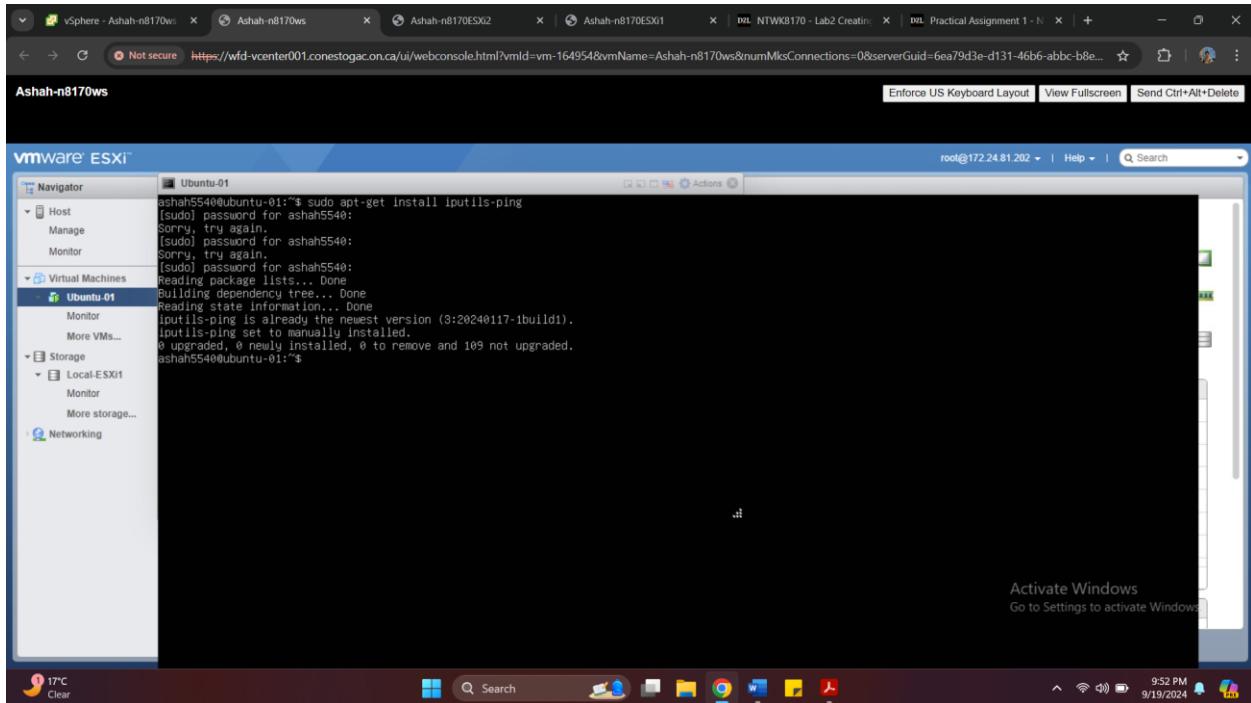
To run a command as administrator (user "root"), use "sudo <command>".

Activate Windows
Go to Settings to activate Windows.

Breaking news
Shohei Ohtani b...
9:47 PM 9/19/2024
```

## Section 5: Ubuntu-01 Preparation for future labs

Install ping with sudo apt-get install iputils-ping

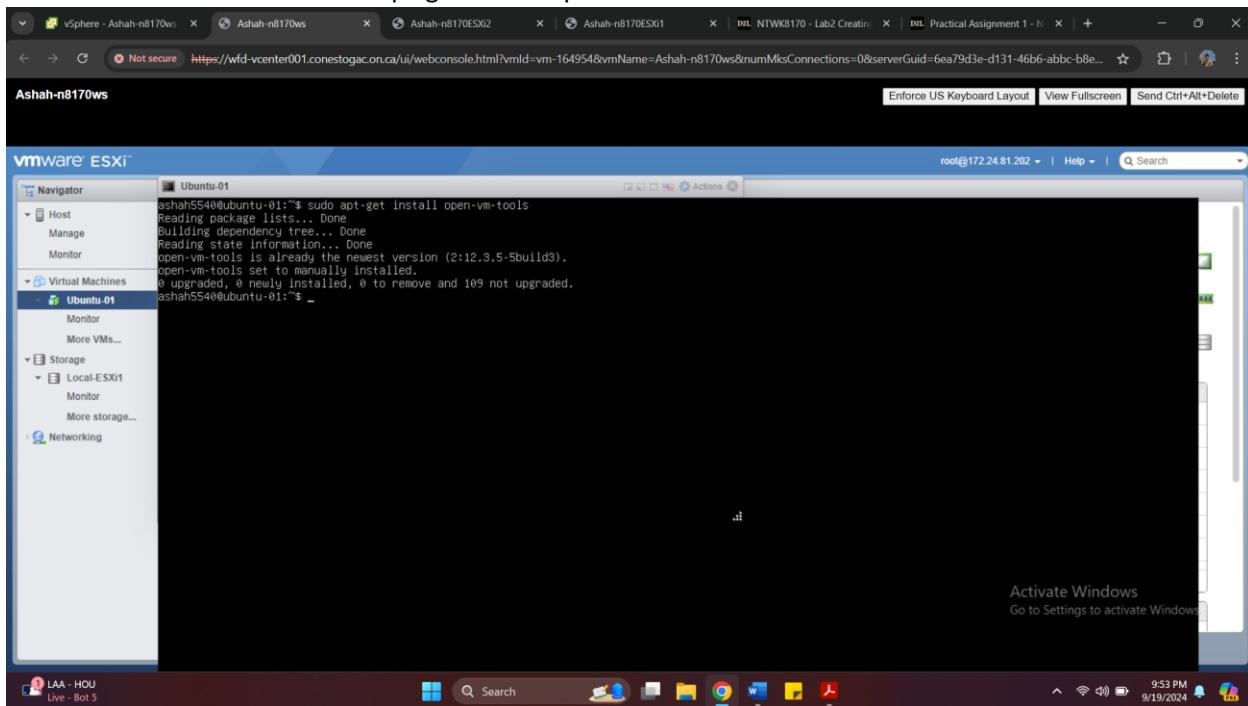


```
Ashah-n8170ws

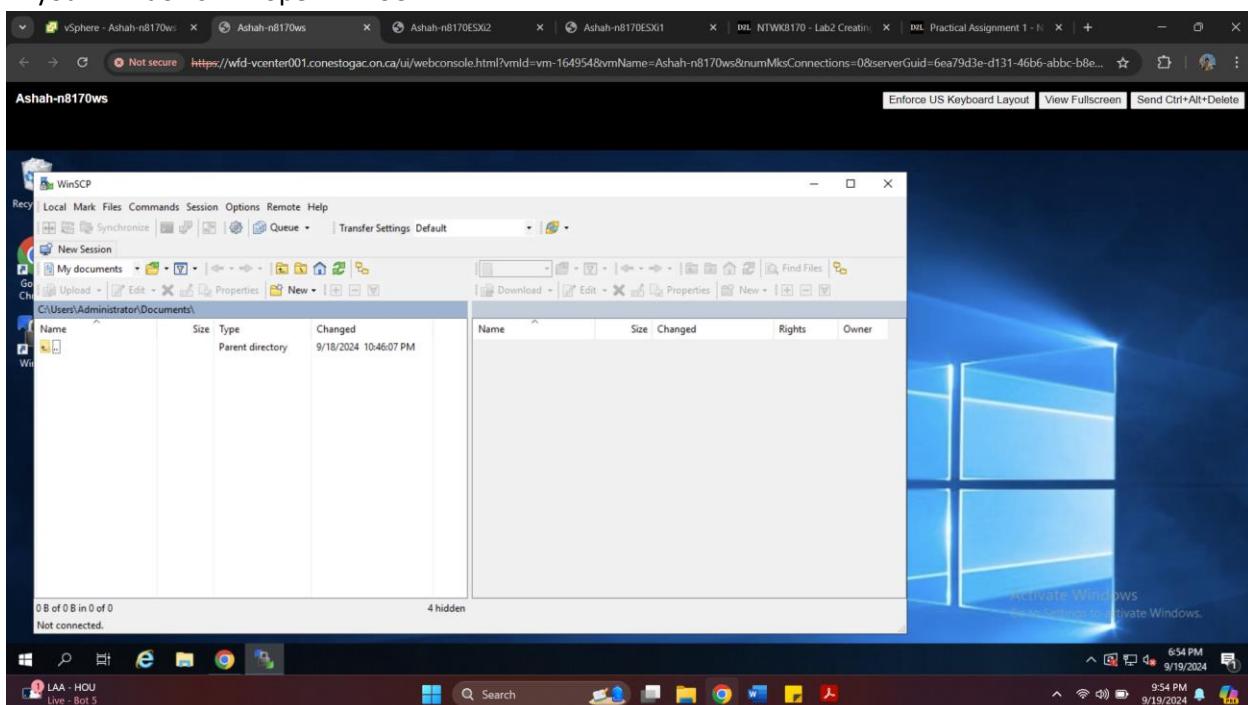
Ubuntu-01

ashah5540@ubuntu-01:~$ sudo apt-get install iputils-ping
[sudo] password for ashah5540:
[sudo] password for ashah5540:
Sorry, try again.
[sudo] password for ashah5540:
Reading package lists... done
Building dependency tree... done
Reading state information... done
iputils-ping is already the newest version (3:20240117-1build1).
iputils-ping set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 109 not upgraded.
ashah5540@ubuntu-01:~$
```

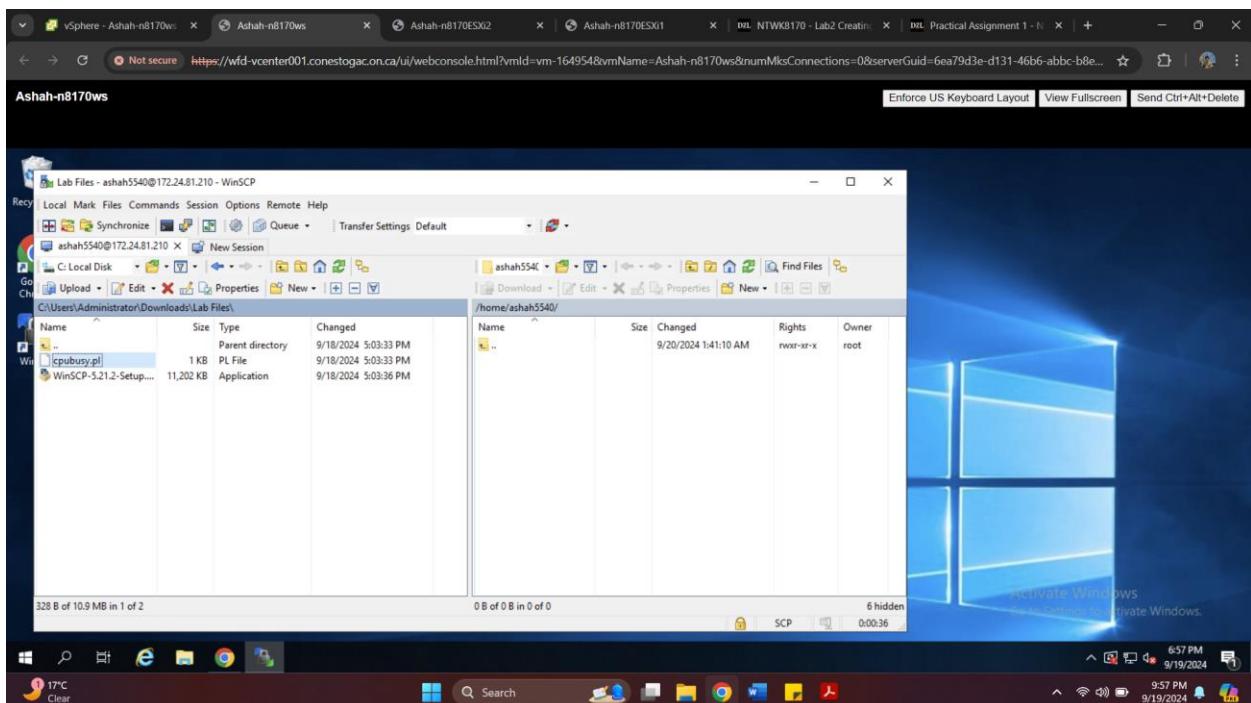
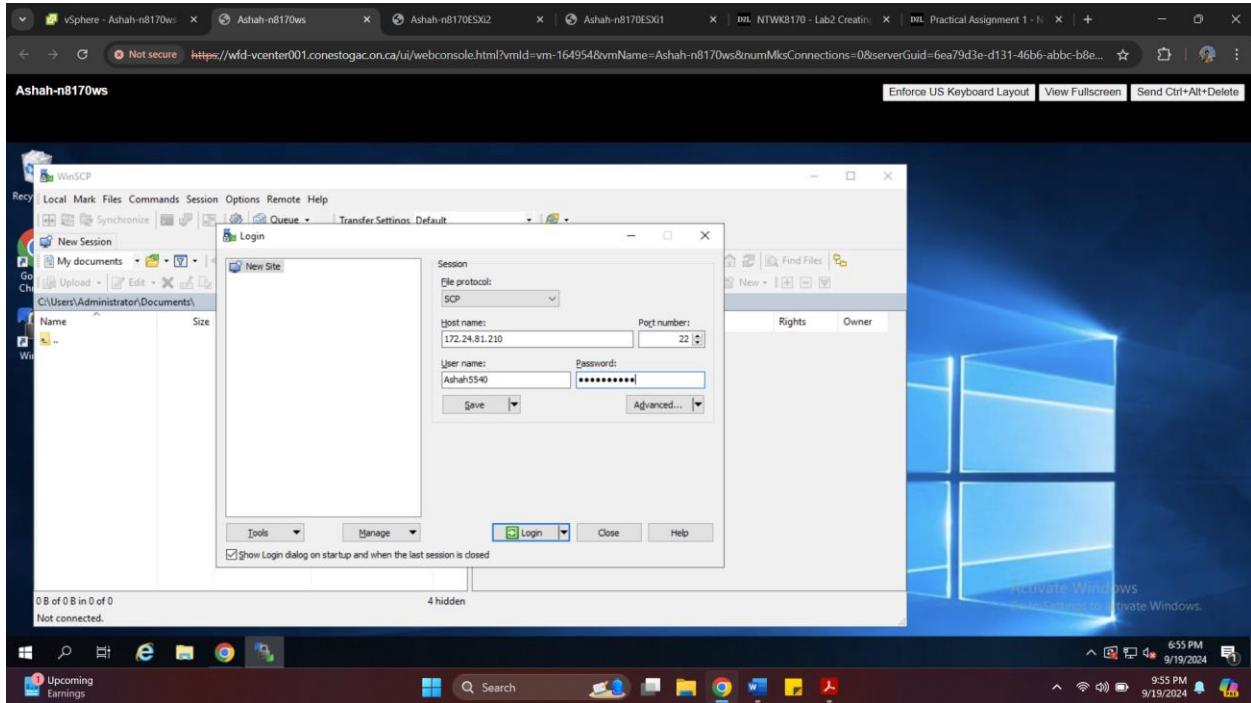
## Install vmware tools with sudo apt-get install open-vm-tools



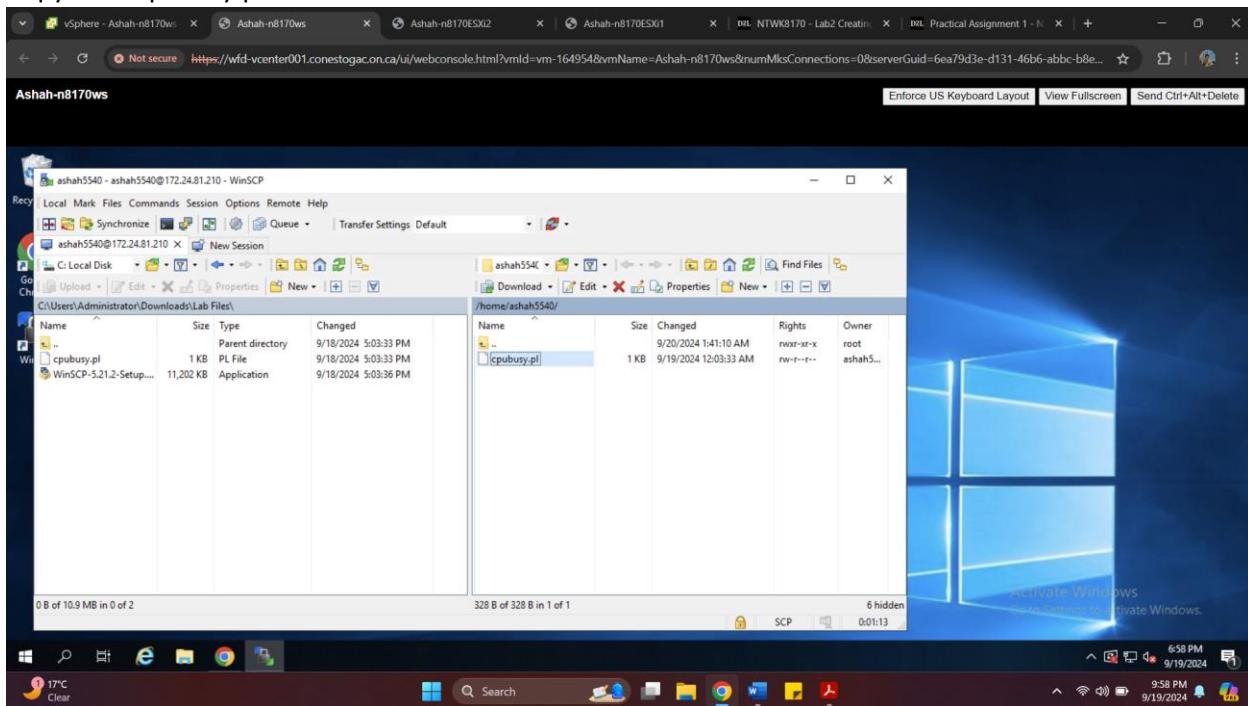
## In your Windows VM open WinSCP.



In Session set the File protocol to SCP, For Hostname enter the IP address:172.24.81.210 of Ubuntu-01, For Username enter ashah5540. For Password enter Vclass123\$. Click Login.



## Copy over Cpubusy.pl.



## Checking on Ubuntu-01, cpibusy.pl is available.

