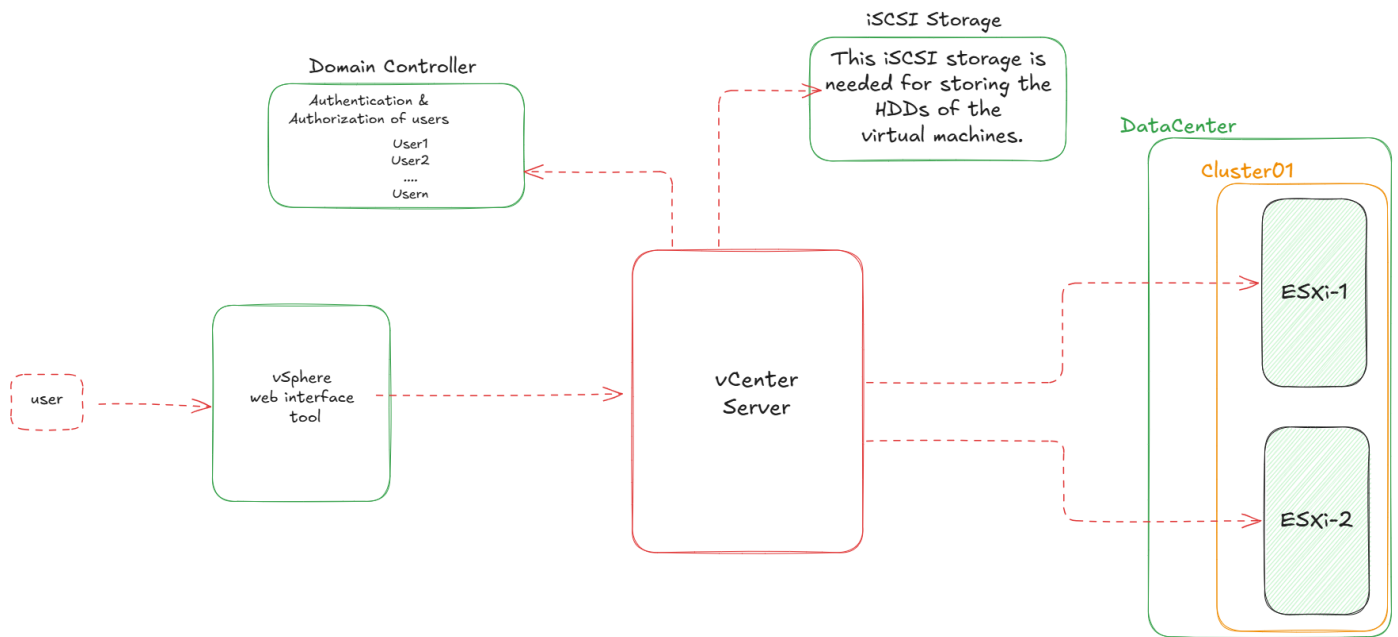
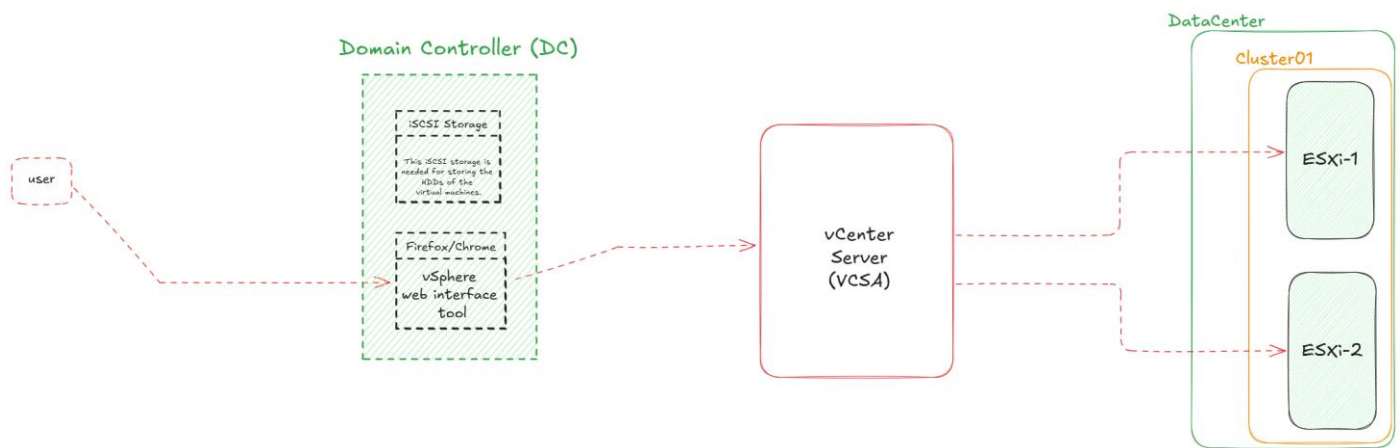


Architectural Diagram:



Lab setup:



Requirements of this lab setup:

- ✓ Total machine required: 4 VM
 - 1 Domain controller
 - 1 vCenter Server Appliance (VCSA)
 - 2 ESXi hosts/servers
- ✓ iSCSI storage created on domain controller (DC) machine.
- ✓ Updated web browser on DC machine.
- ✓ Domain administrator privileges.

Domain Controller (DC):

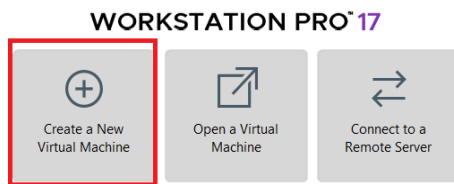
The screenshot displays the Windows Server Manager interface for a local server named 'dc'. The left-hand navigation pane shows the 'Local Server' tab selected, with a list of roles and features including AD CS, AD DS, DNS, File and Storage Services, and IIS. The main area is titled 'PROPERTIES For dc' and contains a table of system information. Below this table is an 'EVENTS' section showing 7 total events.

PROPERTIES For dc			
Computer name	dc	Last installed updates	Never
Domain	training.in	Windows Update	Download updates only, using Windows Up
		Last checked for updates	Never
Windows Firewall	Public: Off	Windows Defender	Real-Time Protection: On
Remote management	Enabled	Feedback & Diagnostics	Settings
Remote Desktop	Disabled	IE Enhanced Security Configuration	Off
NIC Teaming	Disabled	Time zone	(UTC-08:00) Pacific Time (US & Canada)
Ethernet0	192.168.10.10	Product ID	Not activated
Operating system version	Microsoft Windows Server 2016 Datacenter Evaluation	Processors	Intel(R) Core(TM) i7-10750H CPU @ 2.60GHz
Hardware information	VMware, Inc. VMware20,1	Installed memory (RAM)	2 GB
		Total disk space	59.45 GB

EVENTS
All events | 7 total

- ✓ Hostname: **DC**
- ✓ IP Address: **192.168.10.10/24 (IPv4 Static)**
- ✓ IP Range: **192.168.10.0/24**
- ✓ Domain Name: **Training.in**

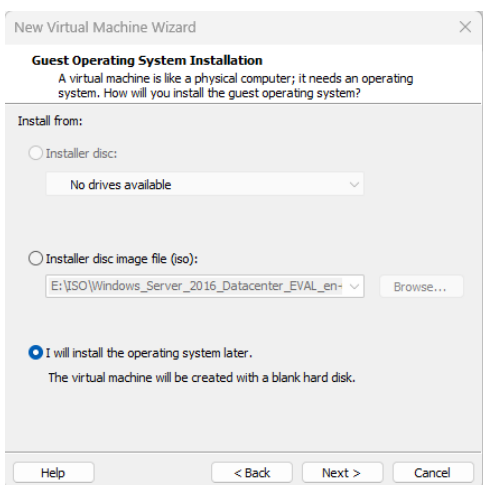
Select “Create a New Virtual Machine”



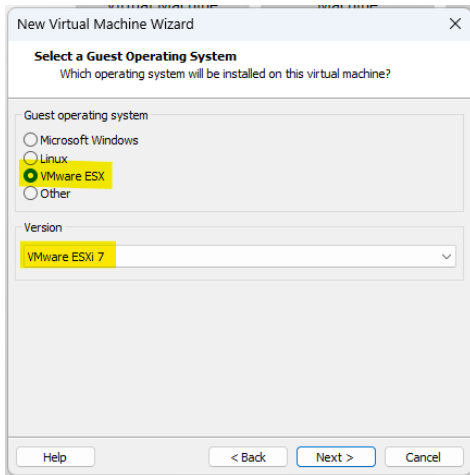
Select “Typical” and click “Next”



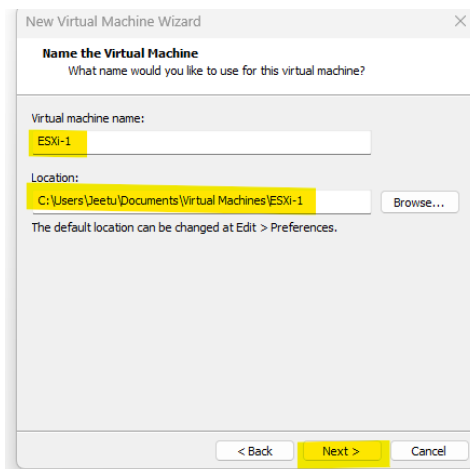
Select “I will install the Operating System later”:



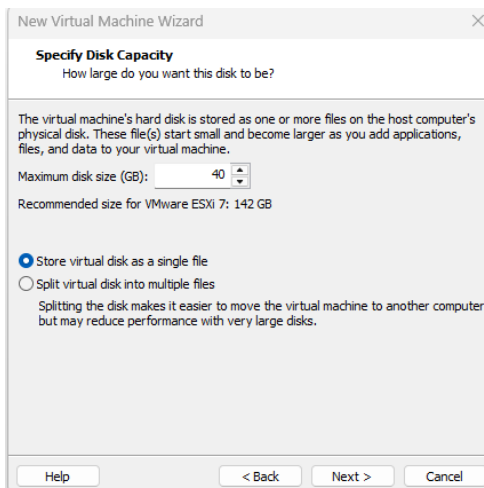
Select the appropriate VMWare ESX version:



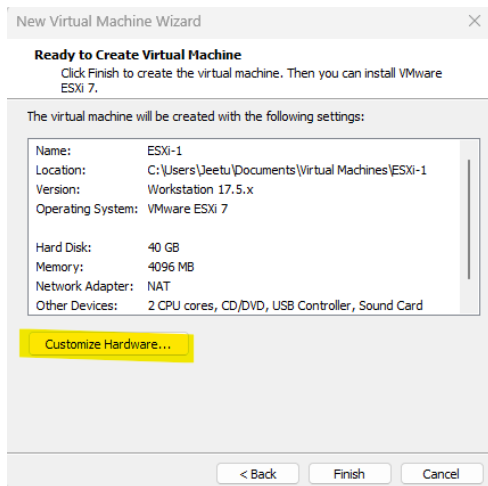
Provide a name for this ESXi server:



Specify disk capacity as 40GB (minimum disk requirement for ESXi):



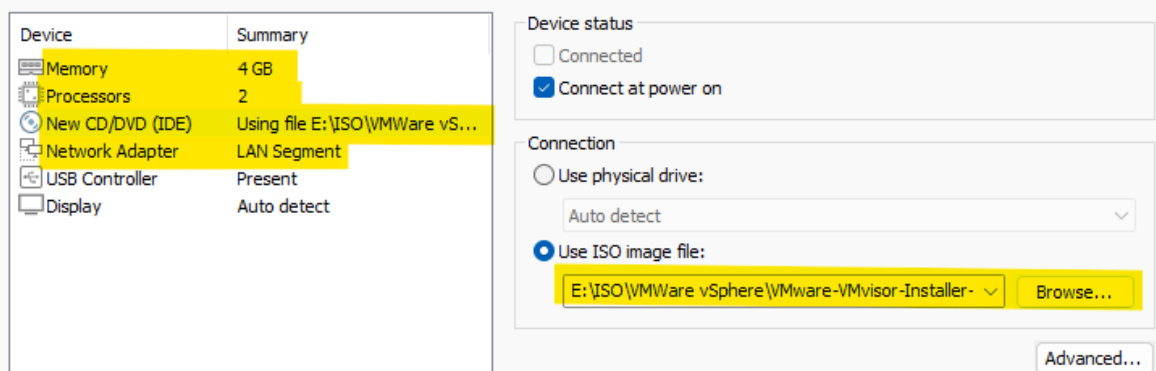
Select the “Customize Hardware”:



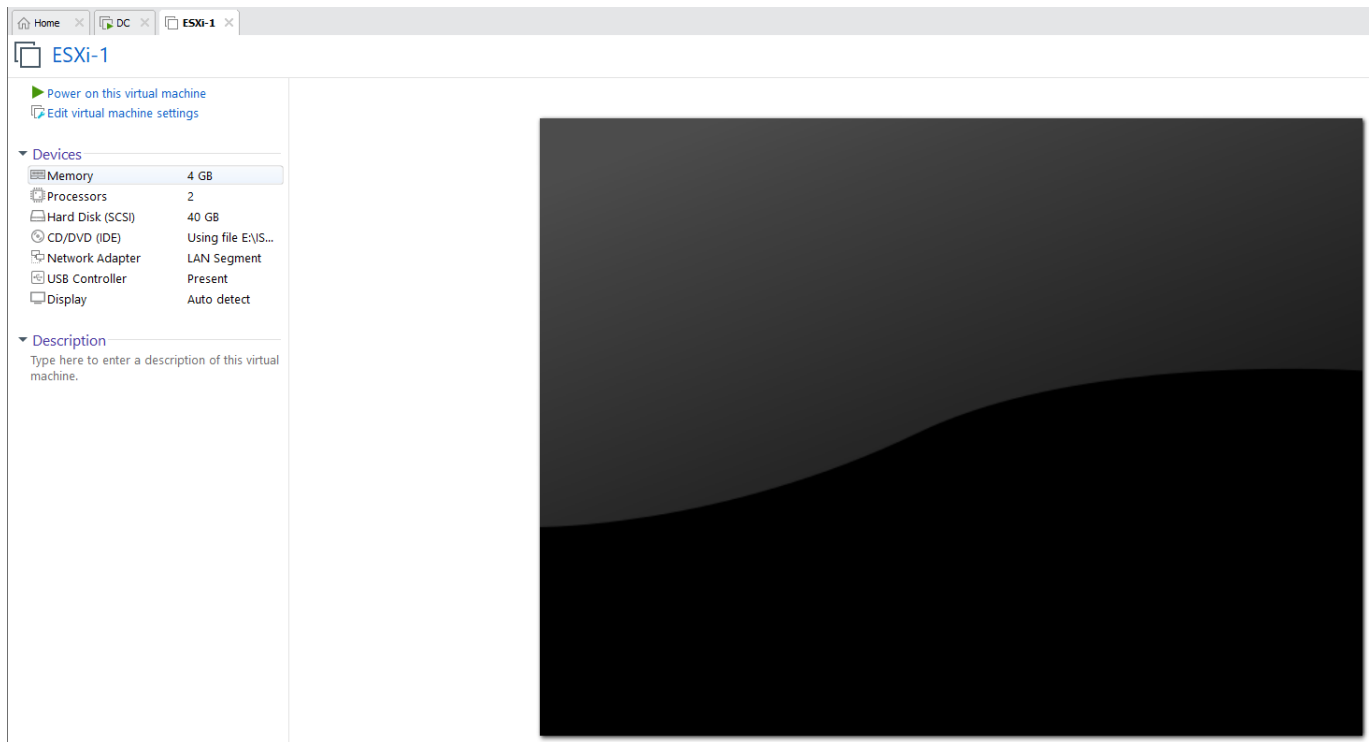
Provide the following details

- Memory: **4GB** (later I will increase this to 6 GB or 8GB).
- Processor: **2**
 - o Number of processors: 1
 - o Number of cores per processors: 2
- New CD/DVD (IDE): **<browse VMware-VMvisor-Installer-7.0U3n-21930508.x86_64.iso file>**
- Network Adapter: **<Lan Segment> (create one if it's not there)**

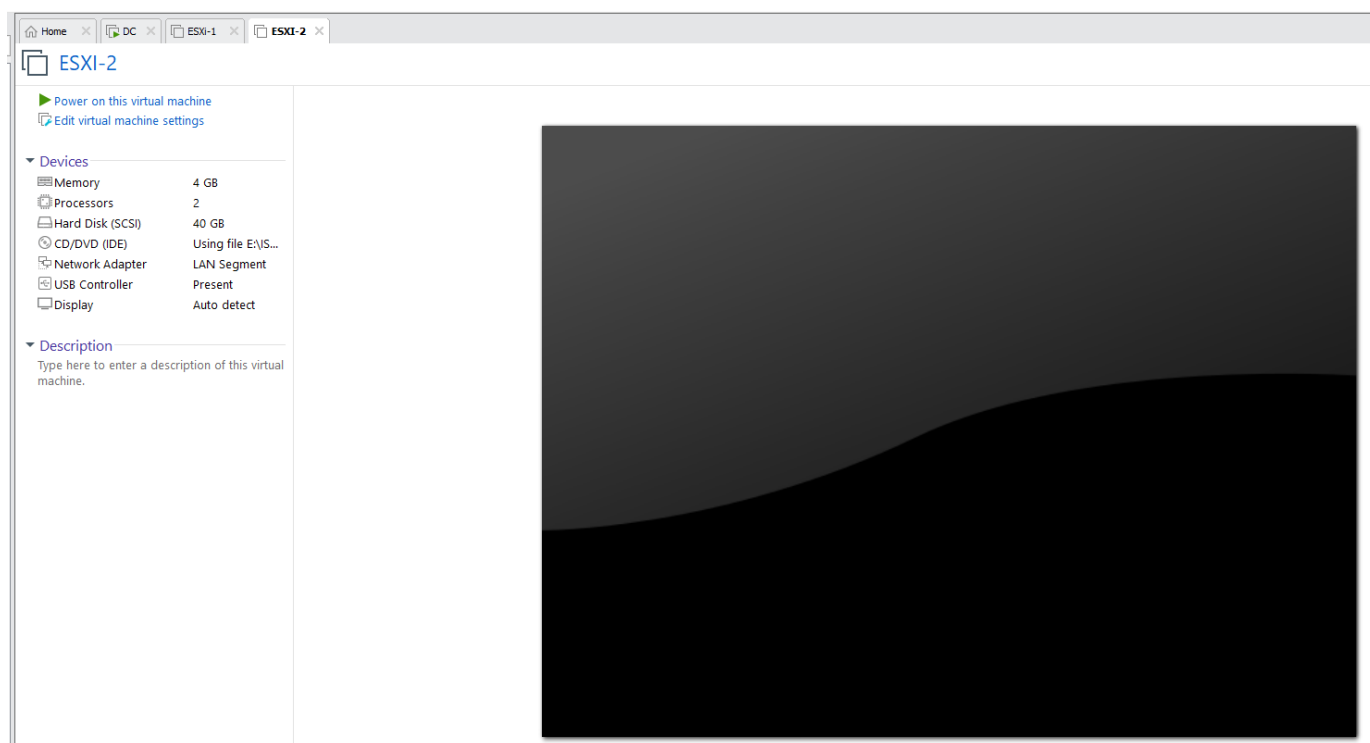
Then click on “Close”



- ✓ Then click on “Finish”.



Similarly create another ESXi-2 configuration:



INSTALLING ESXi 7.0.3 SERVER

Power On this VM:

ESXi-1

▶ Power on this virtual machine

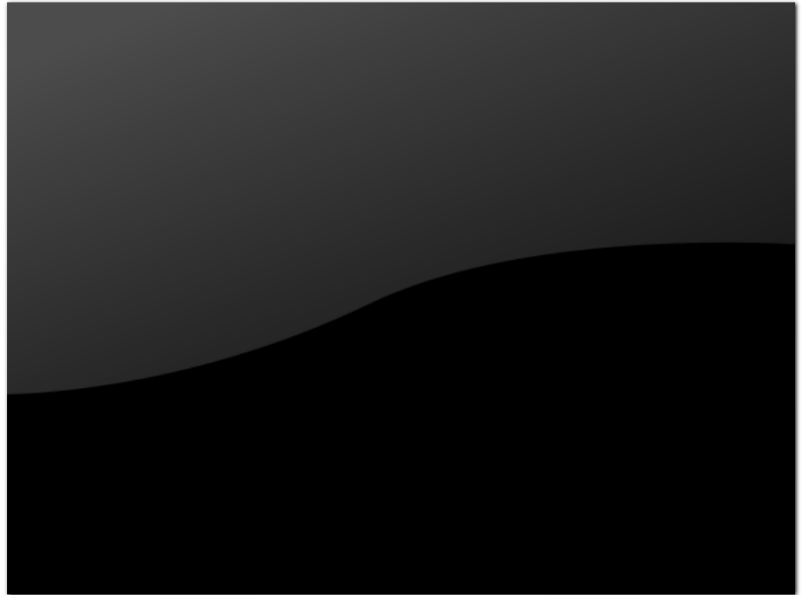
🔗 Edit virtual machine settings

▼ Devices

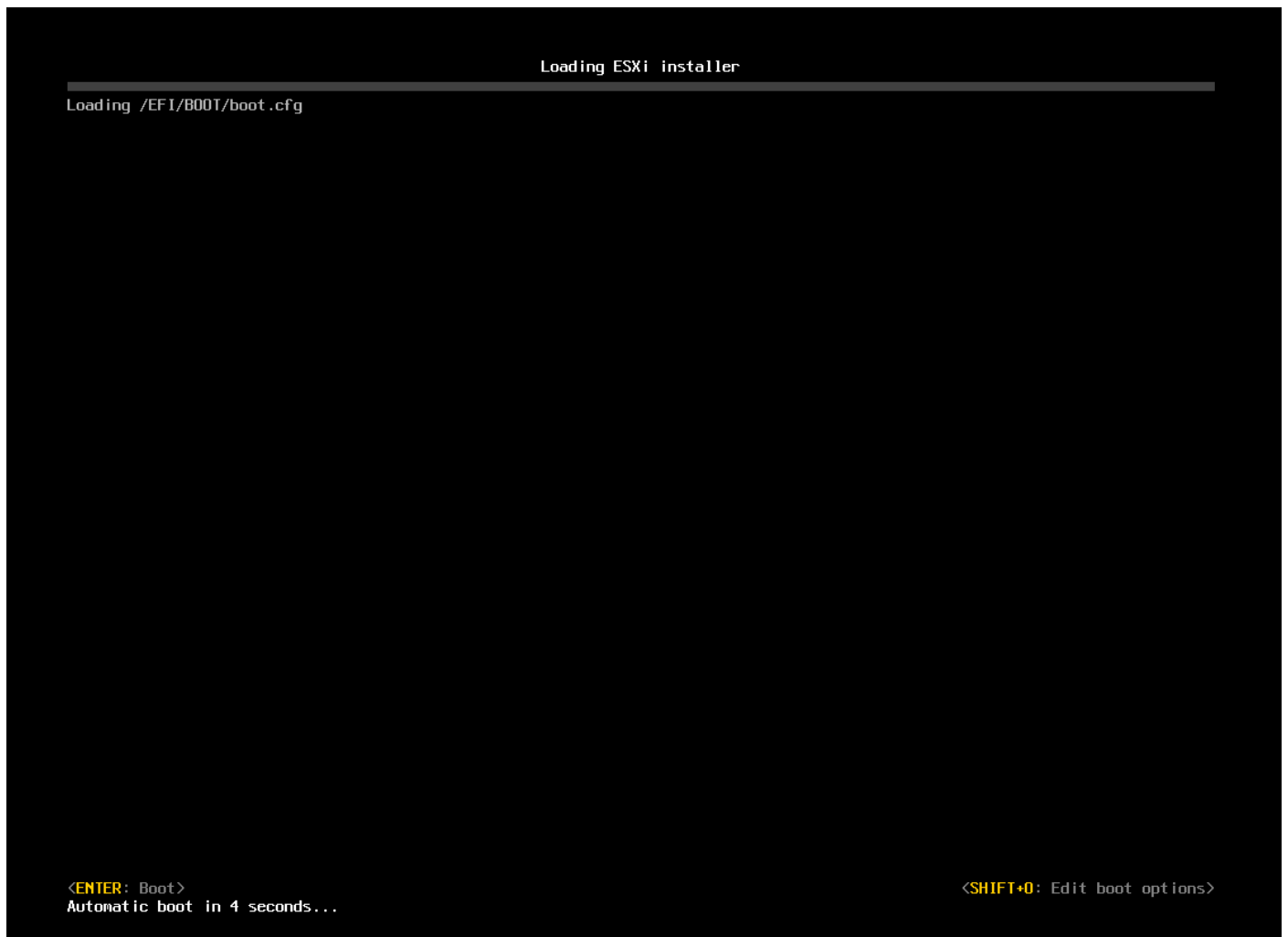
Memory	4 GB
Processors	2
Hard Disk (SCSI)	40 GB
CD/DVD (IDE)	Using file E:\S...
Network Adapter	LAN Segment
USB Controller	Present
Display	Auto detect

▼ Description

Type here to enter a description of this virtual machine.



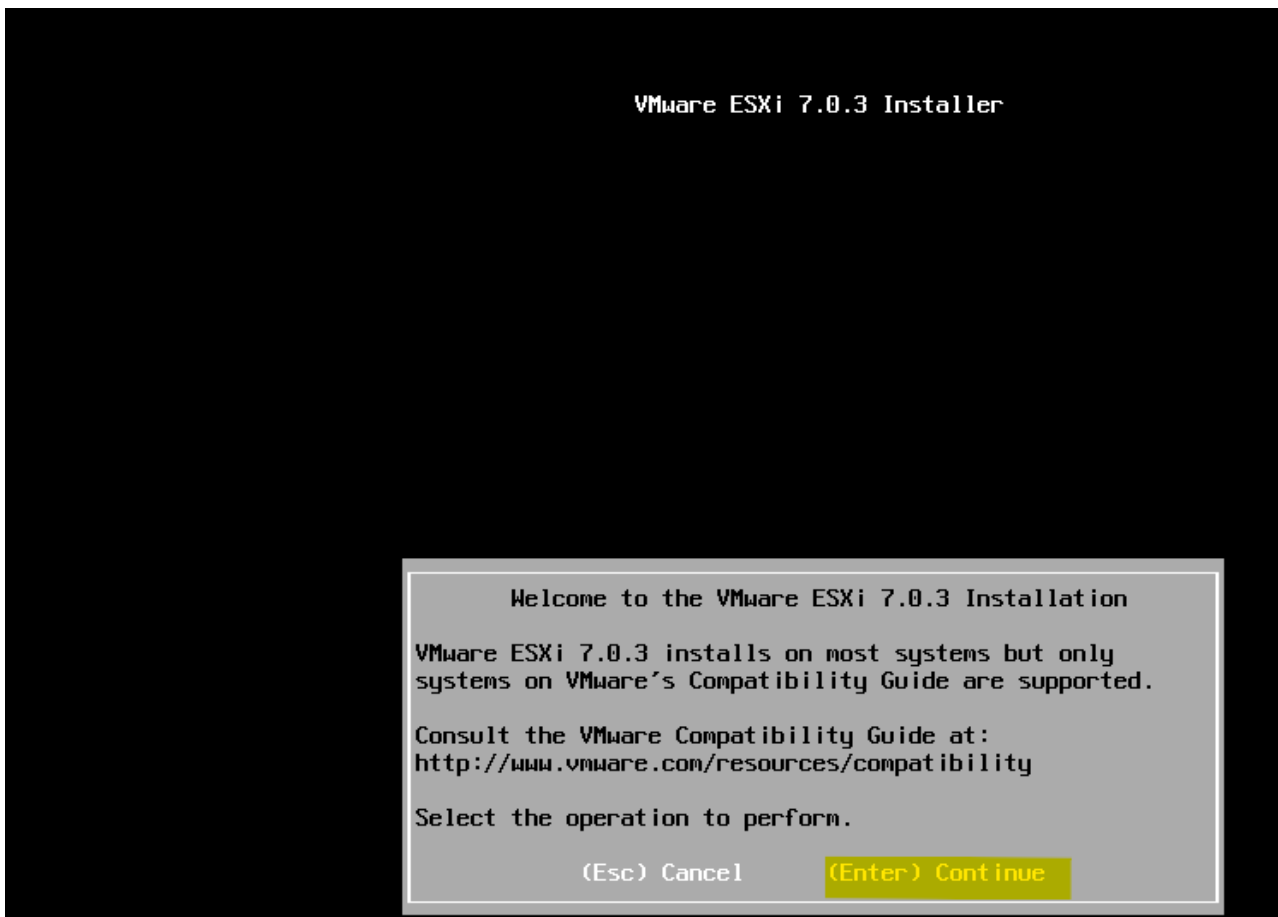
Wait for few seconds, until you get this screen:



After few seconds, you will have below screen:

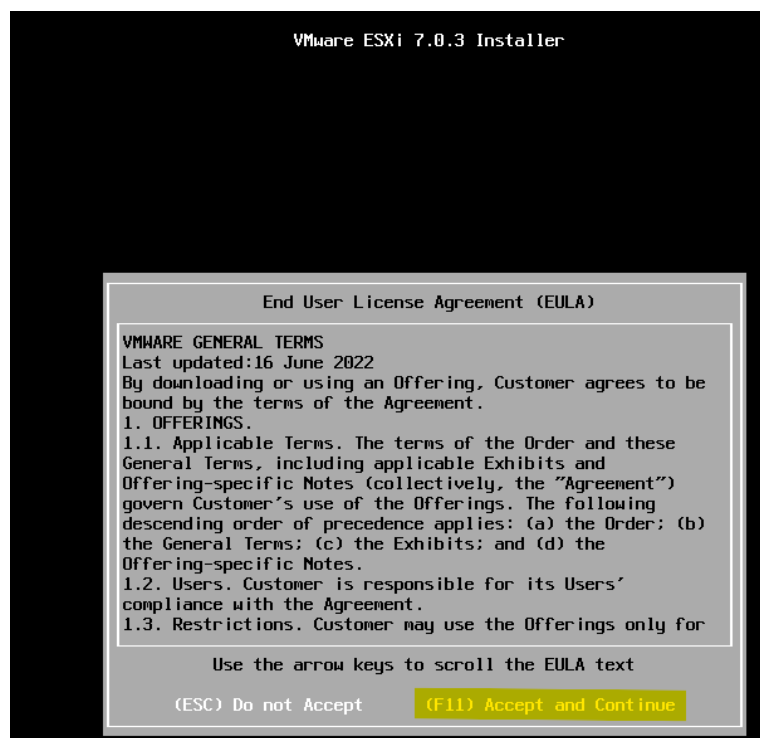


This might take some time. Then after that, you will get the installer page:

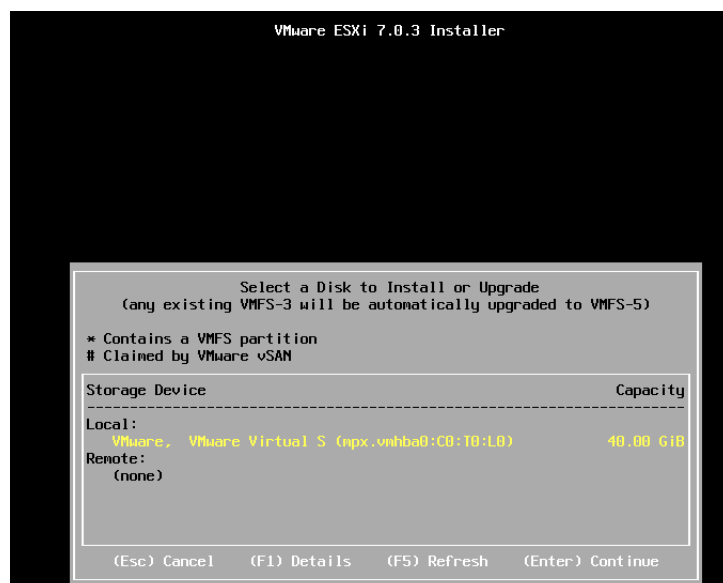


So, click “Enter” to start installation.

Accept the End User License Agreement (EULA) by pressing/clicking “F11”:



Select the required disk to install the OS and press “Enter”



Select your language for keyboard (US Default in this case).



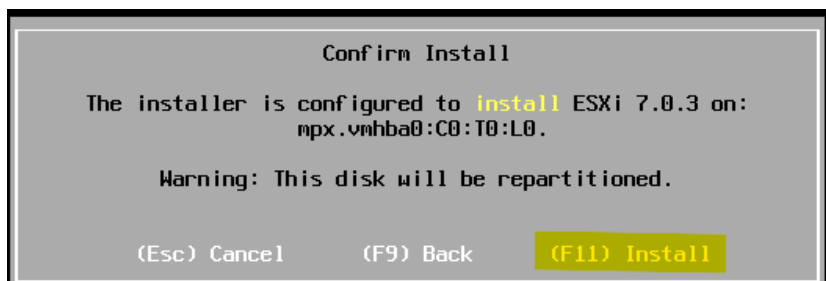
And press "Enter" to Continue.

Type Root's password for this ESXi (as root is the 1st user that gets installed and give admin-level privileges)



After typing complex password (at least 12 char long), press "Enter" to continue.

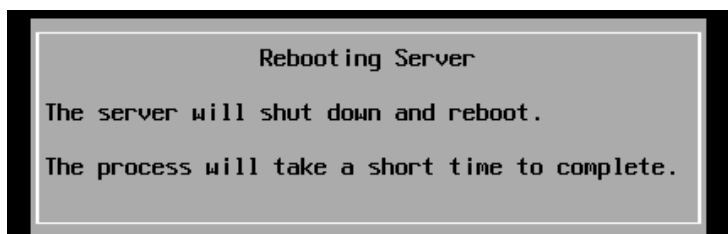
Final confirmation page, press F11 (FN+F11 in case of laptop) to start the installation of ESXi server.



Wait for the installation to get over (it will be soon):



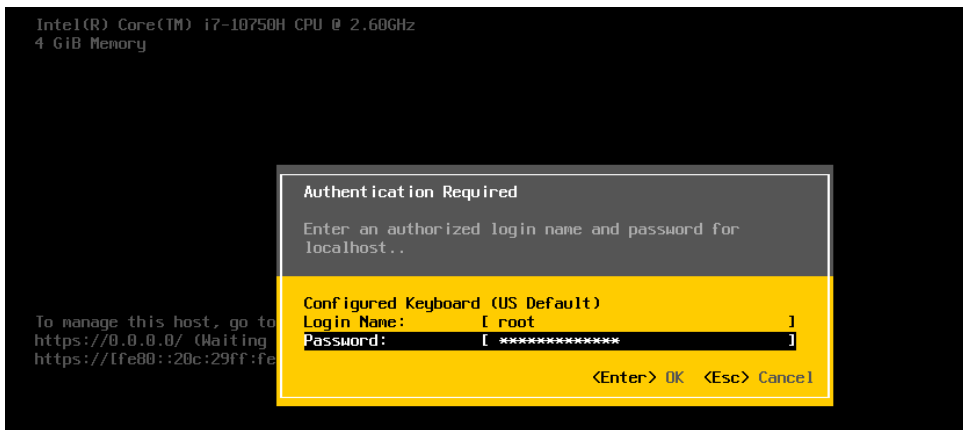
Press "Enter" to reboot:



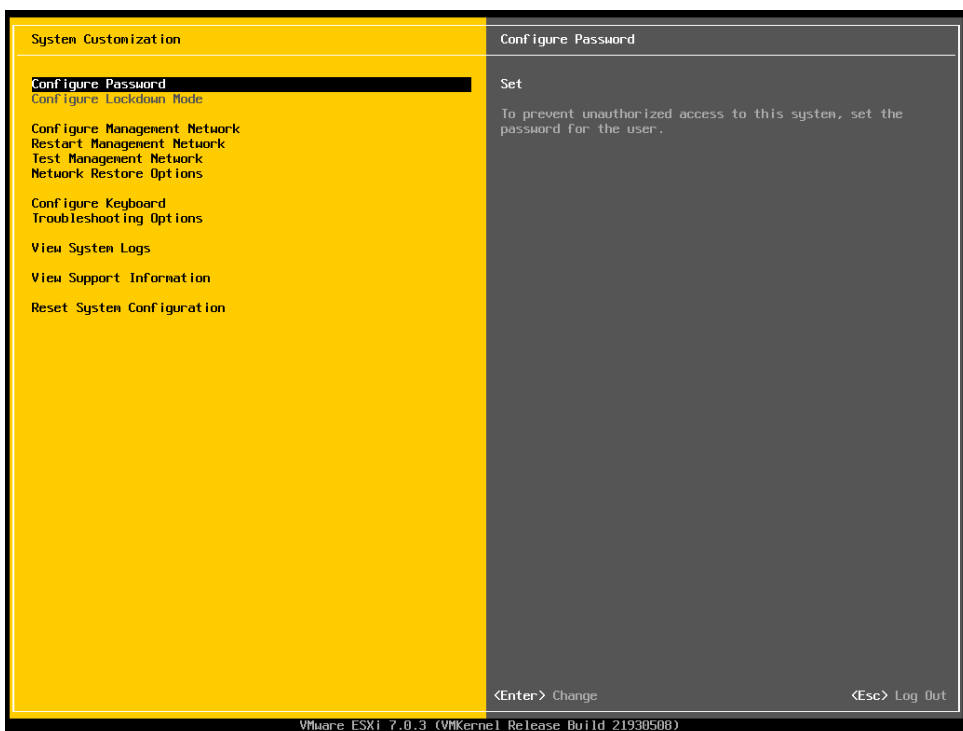
Press “FN+F2” to login:



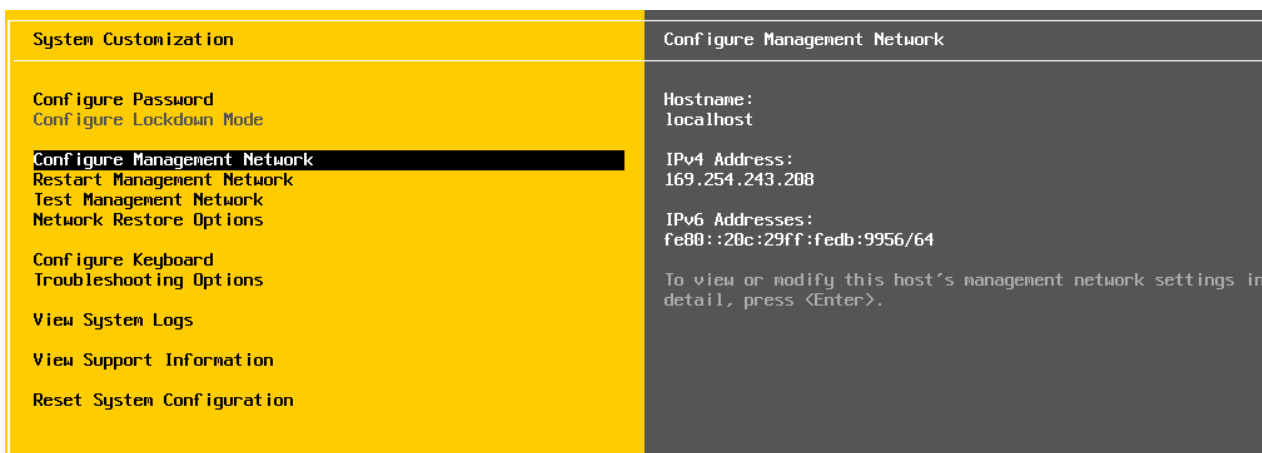
Login using root and password:



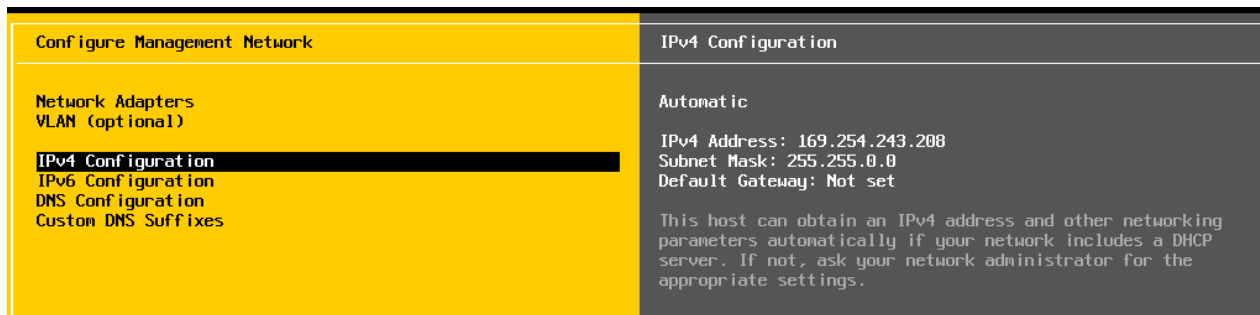
Edit IP address, subnet mask, hostname and DNS using DCUI console.



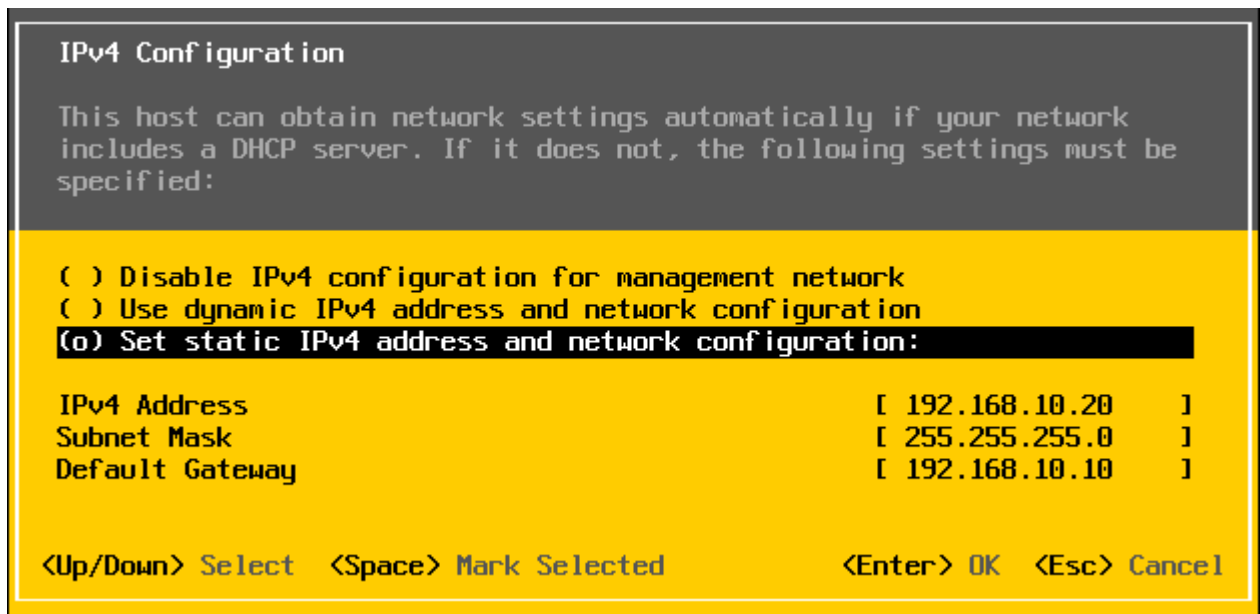
Select “Configure Management Network” and press ‘enter’ to change IP address:



Select IPv4 configuration and set IP address with subnet mask and default gateway:



Select "Set static IPv4 address and network configuration"



- ✓ IP Address: 192.168.10.20
- ✓ Subnet Mask: 255.255.255.0
- ✓ Default Gateway: 192.168.10.10 (IP address of DC)

And press "Enter"

Then, select “DNS Configuration” to set the Primary DNS Server and Hostname.

Configure Management Network	DNS Configuration
Network Adapters VLAN (optional) IPv4 Configuration IPv6 Configuration DNS Configuration Custom DNS Suffixes	Automatic Primary DNS Server: Not set Alternate DNS Server: Not set Hostname localhost

Select “Use the following DNS server addresses and hostname” and press “SPACE” button to enable the options and fill Primary DNS and Hostname (FQDN)

DNS Configuration

This host can only obtain DNS settings automatically if it also obtains its IP configuration automatically.

() Obtain DNS server addresses and a hostname automatically
(o) Use the following DNS server addresses and hostname:

Primary DNS Server [192.168.10.10]
 Alternate DNS Server []
 Hostname [esxi1.training.in]

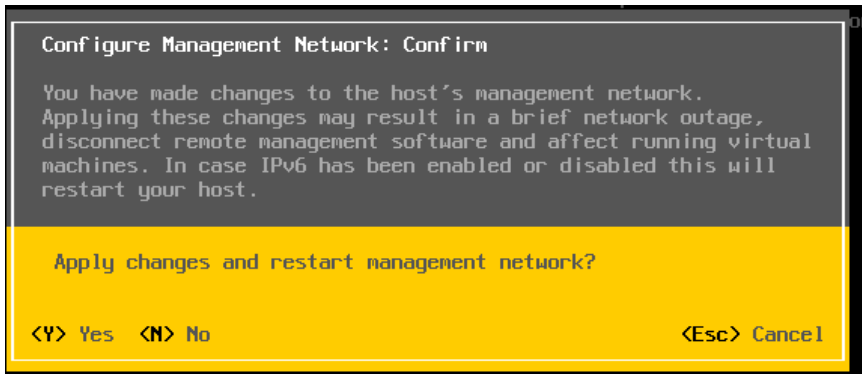
<Up/Down> Select <Space> Mark Selected <Enter> OK <Esc> Cancel

- ✓ Primary DNS: 192.168.10.10
- ✓ Hostname: esxi1.training.in

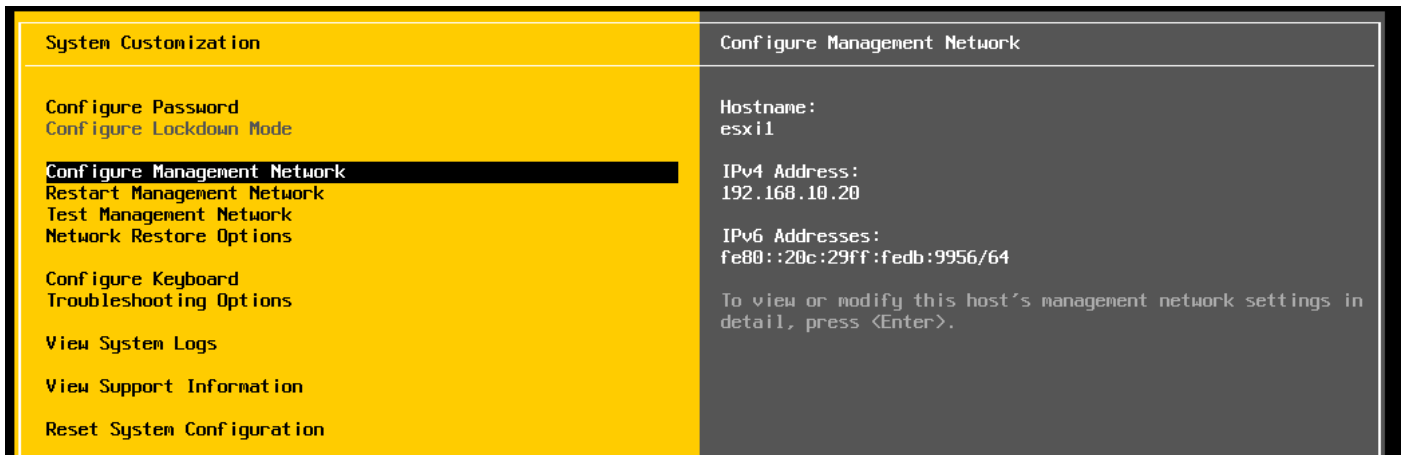
And verify:

Configure Management Network	DNS Configuration
Network Adapters VLAN (optional) IPv4 Configuration IPv6 Configuration DNS Configuration Custom DNS Suffixes	Manual Primary DNS Server: 192.168.10.10 Alternate DNS Server: Not set Hostname esxi1.training.in If this host is configured using DHCP, DNS server addresses and other DNS parameters can be obtained automatically. If not, ask your network administrator for the appropriate settings.

Press “ESC button” to press “Y” to save and restart network management.



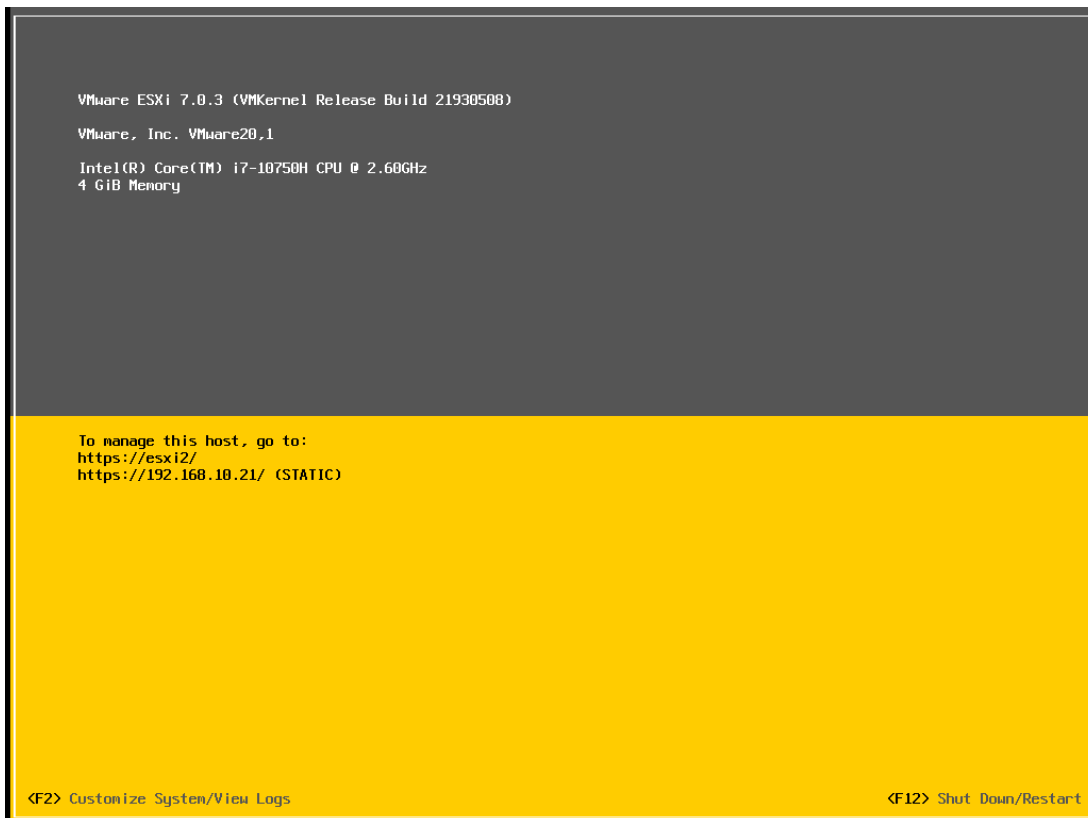
Verify:



Similarly, install 2nd ESXi host/server and set the IP address, subnet mask, default gateway and DNS.

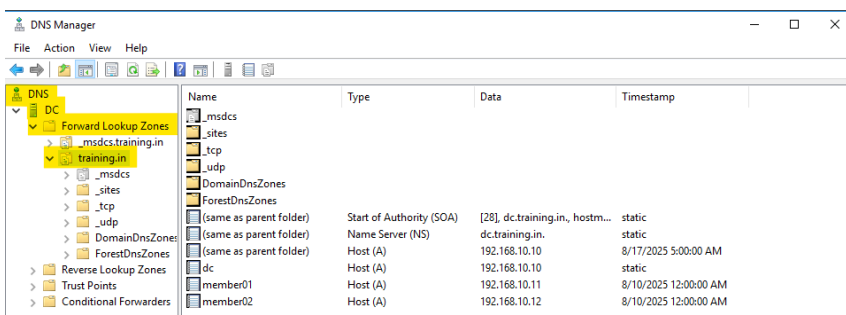
- ✓ Hostname: **esxi2.training.in**
- ✓ IP Address: **192.168.10.21**
- ✓ Subnet mask: **255.255.255.0**
- ✓ Default gateway: **192.168.10.10**
- ✓ Primary DNS Address: **192.168.10.10**



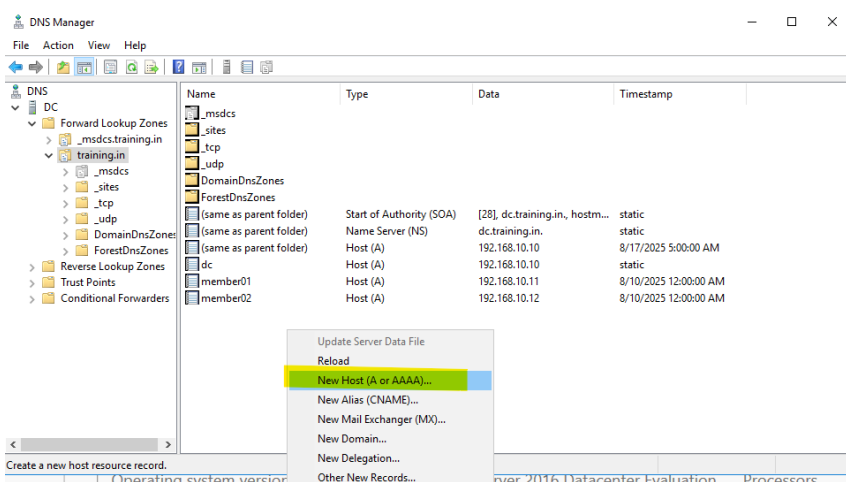


NOW ADDING ESXi1 AND ESXi2 RECORDS (A-RECORD) IN DC'S DNS SERVER.

Go to Server Manager Dashboard page → Tools → DNS

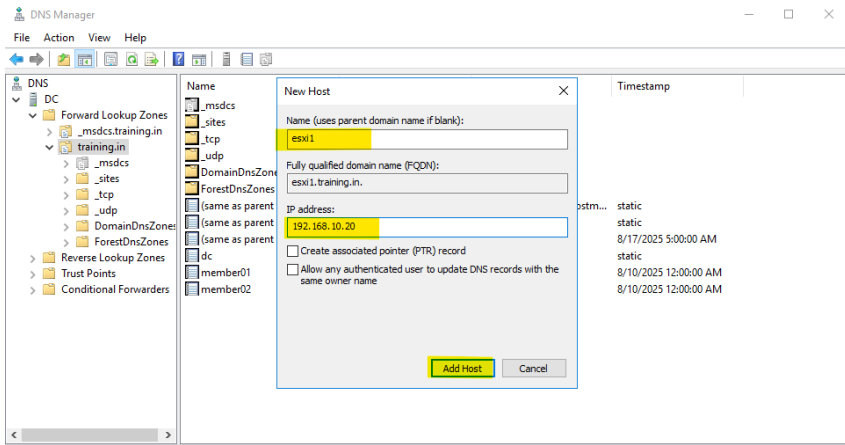


Adding A records for both ESXi servers.

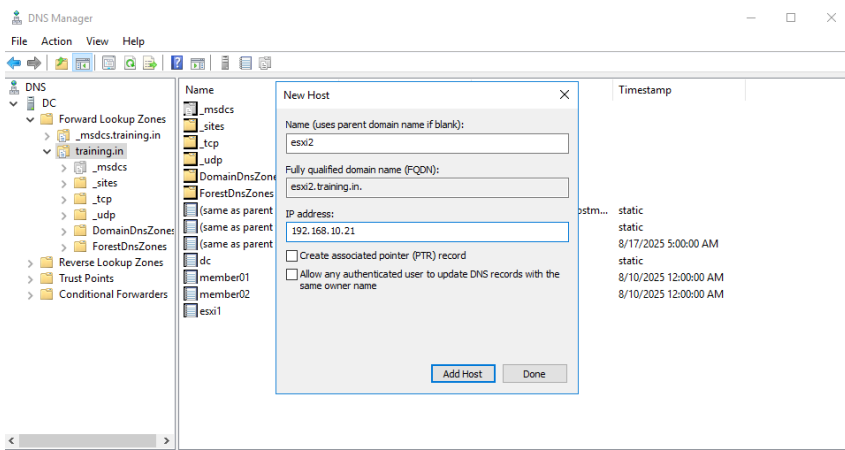


Adding 1st host:





Adding 2nd host:



Verify:

Name	Type	Data	Timestamp
dc.training.in	Start of Authority (SOA)	[28] dc.training.in, hostm...	static
dc.training.in	Name Server (NS)	dc.training.in	static
192.168.10.10	Host (A)	192.168.10.10	8/17/2025 5:00:00 AM
192.168.10.10	Host (A)	192.168.10.10	static
192.168.10.11	Host (A)	192.168.10.11	8/10/2025 12:00:00 AM
192.168.10.12	Host (A)	192.168.10.12	8/10/2025 12:00:00 AM
esxi1	Host (A)	192.168.10.20	
esxi2	Host (A)	192.168.10.21	

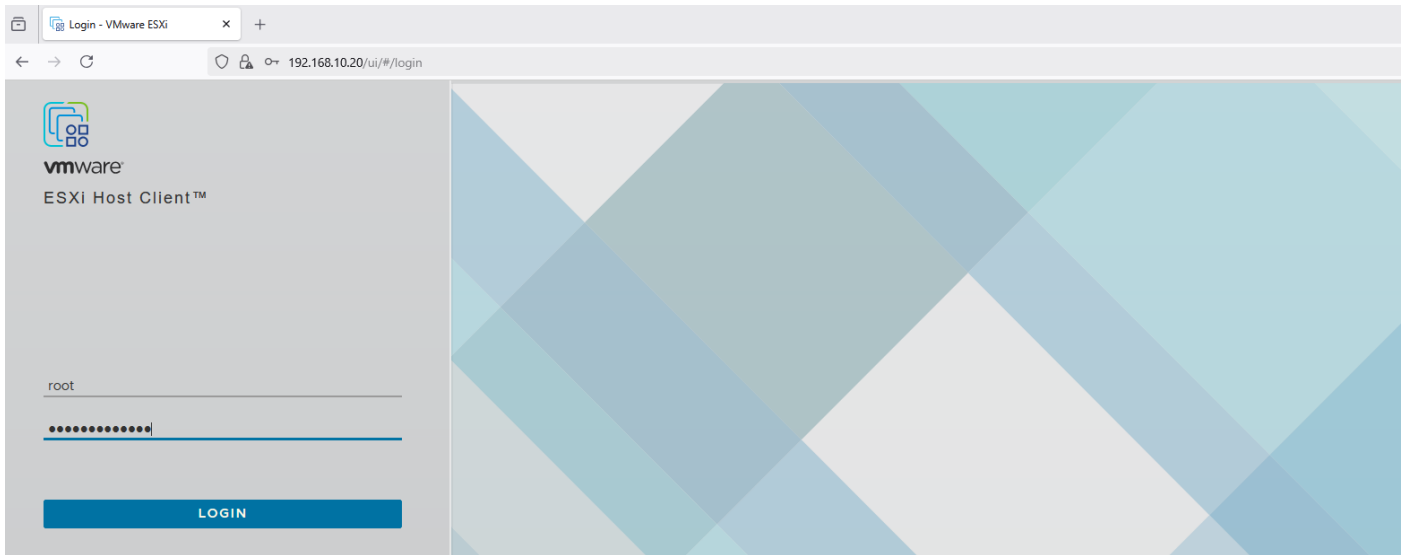
Ping both ESXi servers using name:

```
PS C:\Users\Administrator> ping esxi1
Pinging esxi1.training.in [192.168.10.20] with 32 bytes of data:
Reply from 192.168.10.20: bytes=32 time=1ms TTL=64
Reply from 192.168.10.20: bytes=32 time<1ms TTL=64
Reply from 192.168.10.20: bytes=32 time<1ms TTL=64
Reply from 192.168.10.20: bytes=32 time<1ms TTL=64

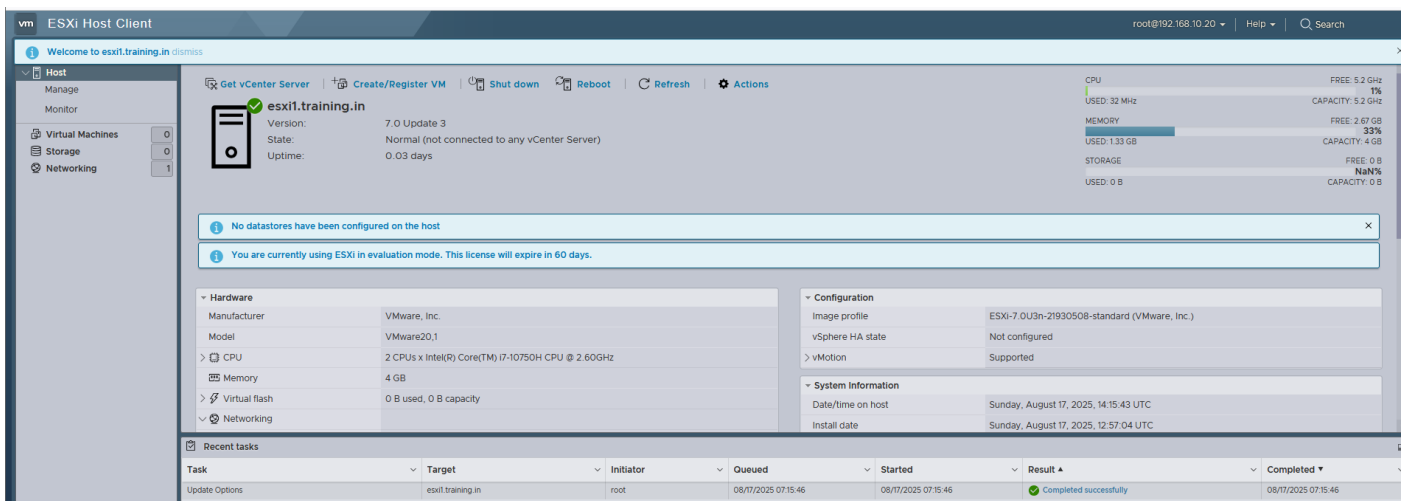
Ping statistics for 192.168.10.20:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
PS C:\Users\Administrator> ping esxi2
Pinging esxi2.training.in [192.168.10.21] with 32 bytes of data:
Reply from 192.168.10.21: bytes=32 time=1ms TTL=64
Reply from 192.168.10.21: bytes=32 time<1ms TTL=64
Reply from 192.168.10.21: bytes=32 time<1ms TTL=64
Reply from 192.168.10.21: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.10.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
PS C:\Users\Administrator>
```

Accessing ESXi server using web browser (<https://192.168.10.20>) from DC:



Browse through the options:

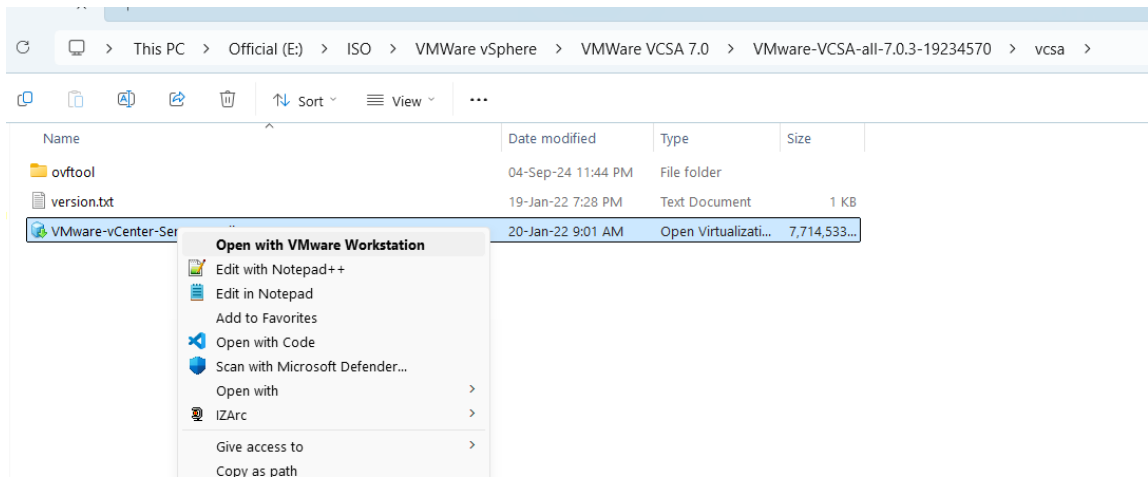


INSTALLING VMWARE vCENTER SERVER:

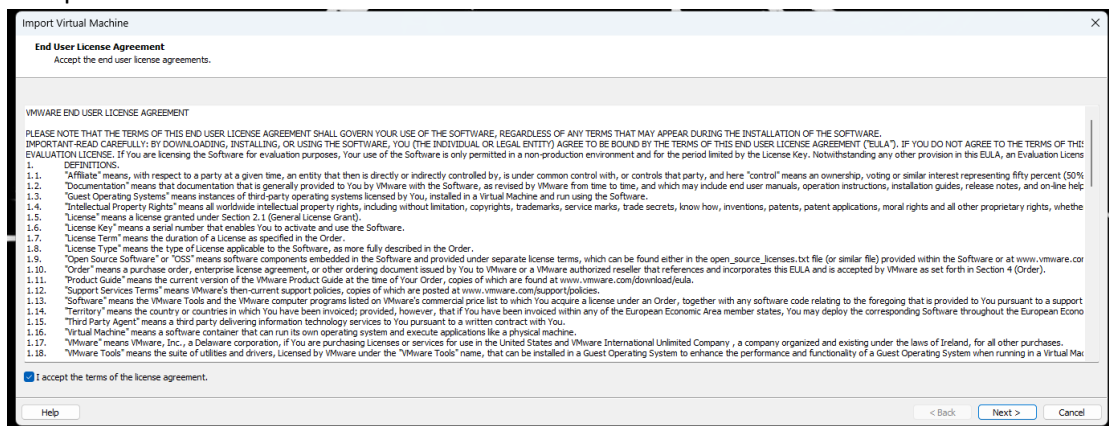
- ✓ For vCenter server installation, we will be using Appliance (VSCA), a linux-based vCenter server.
- ✓ There are 2 stages for installing center server.
 - Stage 1 – Deploy vCenter server
 - Stage 2 – Setting up vCenter server
- ✓ Follow [this URL](#) to follow detailed steps to install vCenter Server 8.0

Stage 1: Deploy vCenter server

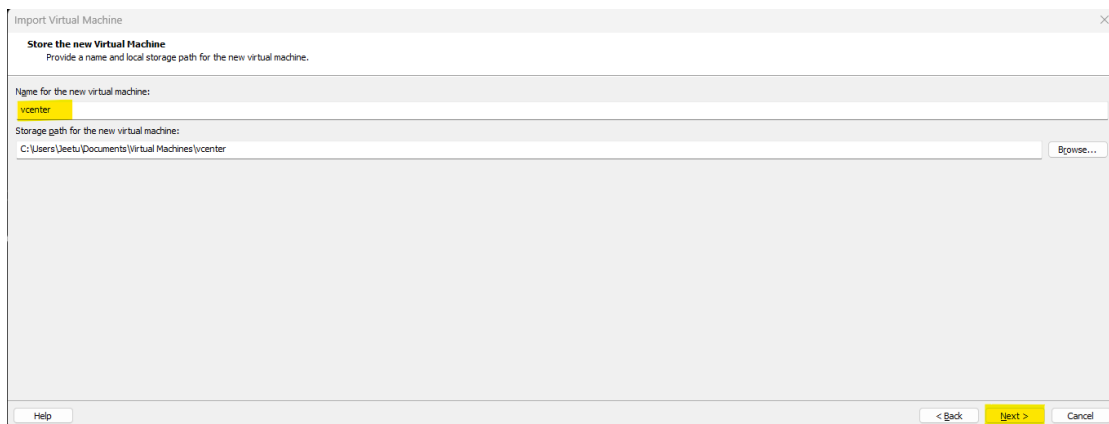
1. Import vCenter server using the installer ISO file.
 - Extract the ISO file and go to “VMWare VCSA 7.0\VMware-VCSA-all-7.0.3-19234570\vcsa” path. And right-click on it and open it in VMWare workstation.



2. Accept the EULA and click “Next”:



3. Provide a name for the vCenter VM:



And then click “Next”.

4. Select the deployment option as “Tiny vCenter Server”:

Deployment Options

Select deployment options.

Deployment Options

Tiny vCenter Server with Embedded PSC
Small vCenter Server with Embedded PSC
Medium vCenter Server with Embedded PSC
Large vCenter Server with Embedded PSC
X-Large vCenter Server with Embedded PSC
Tiny vCenter Server with Embedded PSC (large storage)
Small vCenter Server with Embedded PSC (large storage)
Medium vCenter Server with Embedded PSC (large storage)
Large vCenter Server with Embedded PSC (large storage)
X-Large vCenter Server with Embedded PSC (large storage)
Tiny vCenter Server with Embedded PSC (x-large storage)
Small vCenter Server with Embedded PSC (x-large storage)
Medium vCenter Server with Embedded PSC (x-large storage)
Large vCenter Server with Embedded PSC (x-large storage)
X-Large vCenter Server with Embedded PSC (x-large storage)

Option Description

This will deploy a Tiny VM configured with 2 vCPUs and 10 GB of memory and requires 579 GB of disk space. This option contains vCenter Server with an embedded Platform Services Controller for managing up to 10 hosts and 100 VMs.

Help

< Back

Next >

Cancel

5. Fill the Networking configuration properties properly:

Import Virtual Machine

Properties

Additional properties for this Virtual Machine.

Networking Configuration

SSO Configuration

System Configuration

Upgrade Configuration

Miscellaneous

Networking Properties

Networking Configuration

Host Network IP Address Family

IPv4

Host Network Mode

static

Host Network IP Address

192.168.10.30

Host Network Prefix

24

Host Network Default Gateway

192.168.10.10

Host Network DNS Servers

192.168.10.10

Host Network Identity

vcenter.training.in

⚠ The virtual machine will be powered on after deployment.

These properties may need some time to take effect after the vCenter appliance first power on, so please wait and do not shutdown the appliance.

Help

< Back

Import

Cancel

6. Now go to “System Configuration” properties and fill the password for vCenter server:

Import Virtual Machine

Properties

Additional properties for this Virtual Machine.

Networking Configuration

SSO Configuration

System Configuration

Upgrade Configuration

Miscellaneous

Networking Properties

System Configuration

Root Password

Confirm Root Password

⚠ The virtual machine will be powered on after deployment.

These properties may need some time to take effect after the vCenter appliance first power on, so please wait and do not shutdown the appliance.

Help

< Back

Import

Cancel

7. Now go to “Networking Properties” and type domain name:

Properties

Additional properties for this Virtual Machine.

Networking Configuration

SSO Configuration

System Configuration

Upgrade Configuration

Miscellaneous

Networking Properties

Networking Properties

Domain Name

training.in

Domain Search Path

training.in

⚠ The virtual machine will be powered on after deployment.

These properties may need some time to take effect after the vCenter appliance first power on, so please wait and do not shutdown the appliance.

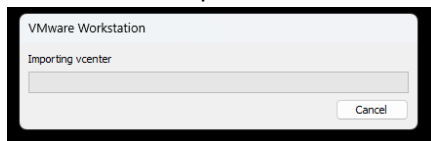
Help

< Back

Import

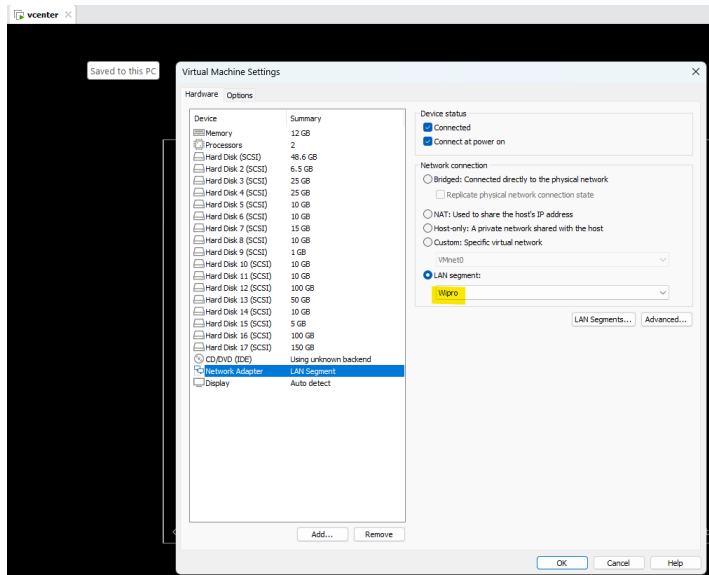
Cancel

8. Then click on import and wait.

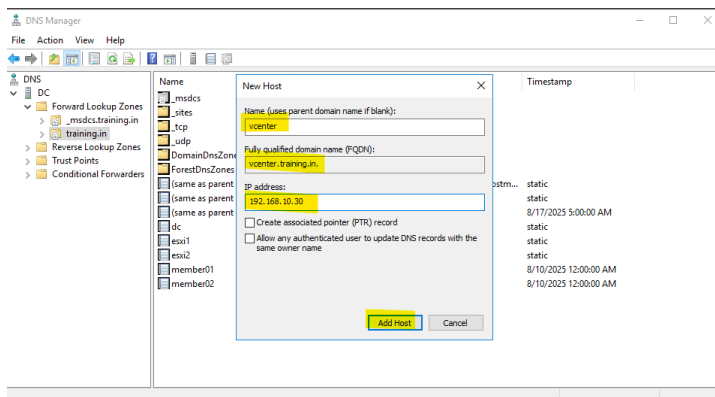


Note:

- ✓ Ensure that vCenter server is in the same Lan Segment as DC and ESXi.



- ✓ Create a DNS record for vCenter server within DC.



- ✓ Now access the vCenter server using the management port (https://vcenter.training.in:5480) for stage 2



Warning: Potential Security Risk Ahead

Firefox detected a potential security threat and did not continue to **vcenter.training.in**. If you visit this site, attackers could try to steal information like your passwords, emails, or credit card details.

[Learn more...](#)

[Go Back \(Recommended\)](#)

[Advanced...](#)

vcenter.training.in:5480 uses an invalid security certificate.

The certificate is not trusted because it is self-signed.

Error code: [MOZILLA_PKIX_ERROR_SELF_SIGNED_CERT](#)

[View Certificate](#)

[Go Back \(Recommended\)](#)

[Accept the Risk and Continue](#)



Type the password give during the installation:

Login to vCenter Server Appliance

Username

root

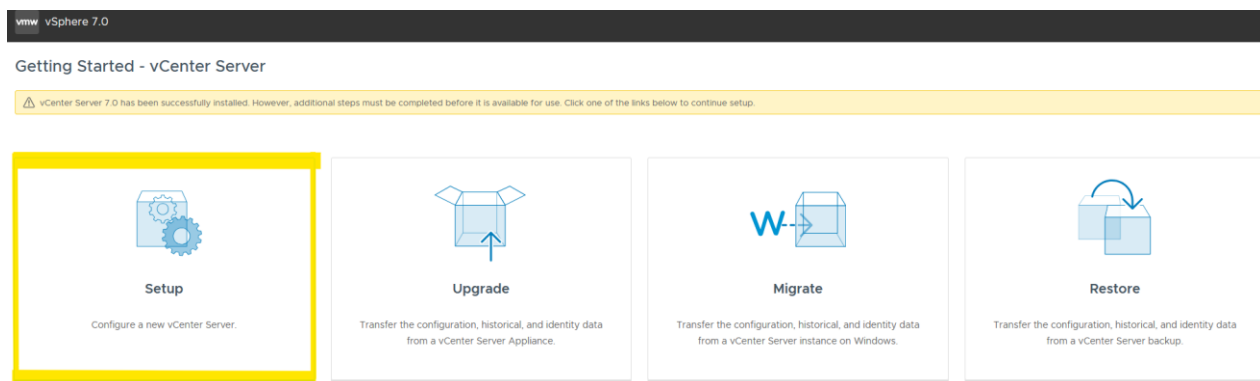
Password

.....

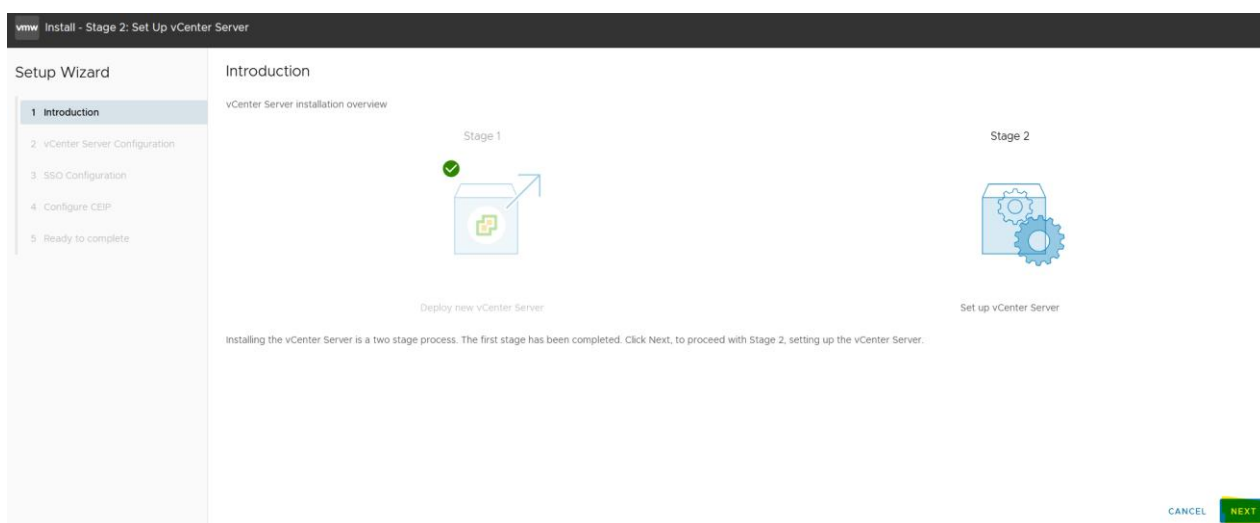
👁

LOGIN

Now, to install/setup vCenter server select “Setup”:



Click “Next” to start stage 2:



Verify all details and click Next:

Setup Wizard

1 Introduction

2 vCenter Server Configuration

3 SSO Configuration

4 Configure CEIP

5 Ready to complete

vCenter Server Configuration

Network configuration

Assign static IP address

IP version

IPv4

System name

vcenter.training.in

IP address

192.168.10.30

Subnet mask or prefix length

24

Default gateway

192.168.10.10

DNS servers

192.168.10.10

Time synchronization mode

Disabled

SSH access

Disabled

For vCenter Server High Availability (HA), enable SSH access.

CANCEL

BACK

NEXT

To configure SSO, provide a SSO domain name and a strong password.

Select “Create a new SSO domain”:

vmw

Install - Stage 2: Set Up vCenter Server

Setup Wizard

1 Introduction

2 vCenter Server Configuration

3 SSO Configuration

4 Configure CEIP

5 Ready to complete

SSO Configuration

Create a new SSO domain

Single Sign-On domain name

vsphere.local

Single Sign-On username

administrator

Single Sign-On password

Confirm password

Join an existing SSO domain

vCenter Server

CANCEL

BACK

NEXT

- ✓ SSO domain name: **vsphere.local** (default domain)
- ✓ User name: **Administrator** (default)
- ✓ Password: **Pa##w0rd12345** (type ant pwd of your choice)

Untick “Join CEIP program” (optional) and click Next:

Setup Wizard

1 Introduction
2 vCenter Server Configuration
3 SSO Configuration
4 **Configure CEIP**
5 Ready to complete

Configure CEIP

Join the VMware Customer Experience Improvement Program

Participating in VMware's Customer Experience Improvement Program ("CEIP") enables VMware to provide you with a proactive, reliable, and consistent vSphere environment and experience. Examples of such enhancements can be seen in the following features:

- vSphere Health
- vSAN Online Health
- vCenter Server Update Planner
- vSAN Performance Analytics
- Host Hardware Compatibility
- vSAN Support Insight

CEIP collects configuration, feature usage, and performance information. No personally identifiable information is collected. All data is sanitized and obfuscated prior to being received by VMware.

For additional information on CEIP and the data collected, please see VMware's [Trust & Assurance Center](#).

Data collection can be enabled or disabled at any time.

☒ Join the VMware's Customer Experience Improvement Program (CEIP)

CANCEL
BACK
NEXT

Verify all the details and click “Finish”

vmw
Install - Stage 2: Set Up vCenter Server

Setup Wizard

1 Introduction
2 vCenter Server Configuration
3 SSO Configuration
4 Configure CEIP
5 **Ready to complete**

Ready to complete

Review your settings before finishing the wizard.

Network Details	
Network configuration	Assign static IP address
IP version	IPv4
IP address	192.168.10.30
Subnet mask	24
Host name	vcenter.training.in
Gateway	192.168.10.10
DNS servers	192.168.10.10
vCenter Server Details	
Time synchronization mode	Disabled
SSH access	Disabled
SSO Details	
SSO Details	vsphere.local
Username	administrator
Customer Experience Improvement Program	

CANCEL
BACK
FINISH

Click “OK”:

Warning

You will not be able to pause or stop the install from completing once its started. Click OK to continue, or Cancel to stop the install.

CANCEL
OK

Installation starts (wait until its done):

Install - Stage 2: vCenter Server setup is in progress

0%

CLOSE

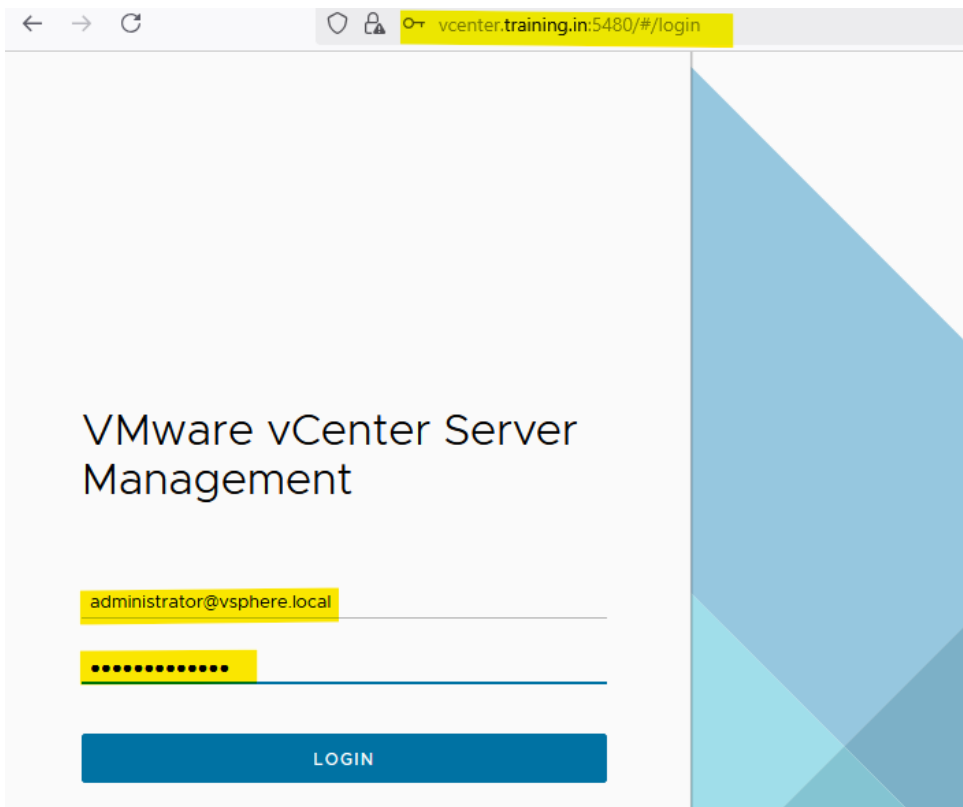
Install - Stage 2: vCenter Server setup is in progress

Starting VMware Authentication Framework... 4%

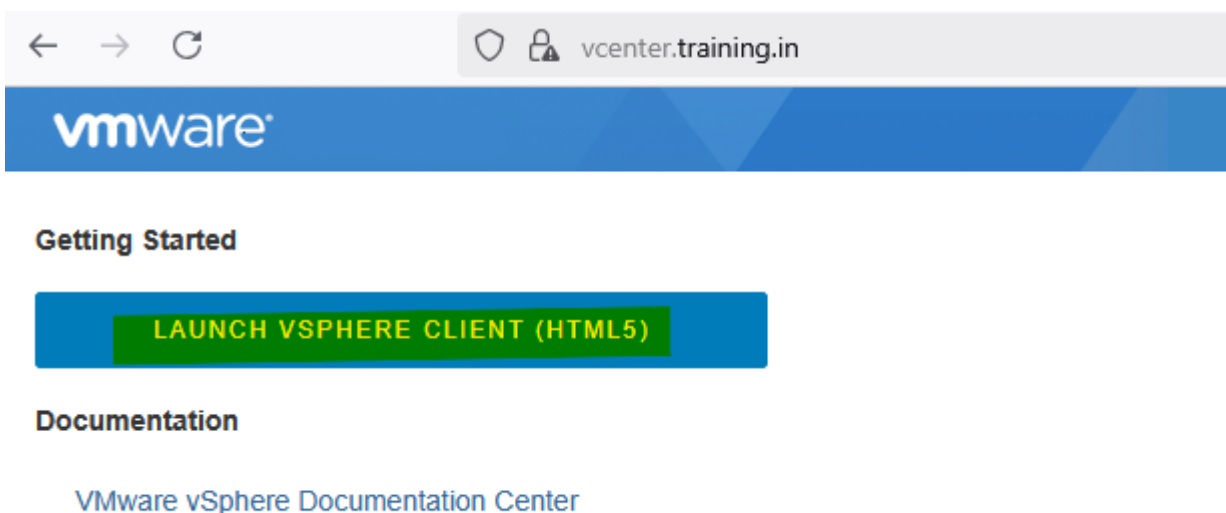
CLOSE

Note: if it fails at any stage, complete stage 1 and 2 are to repeat again.

After successful installation, login with SSO username and password.

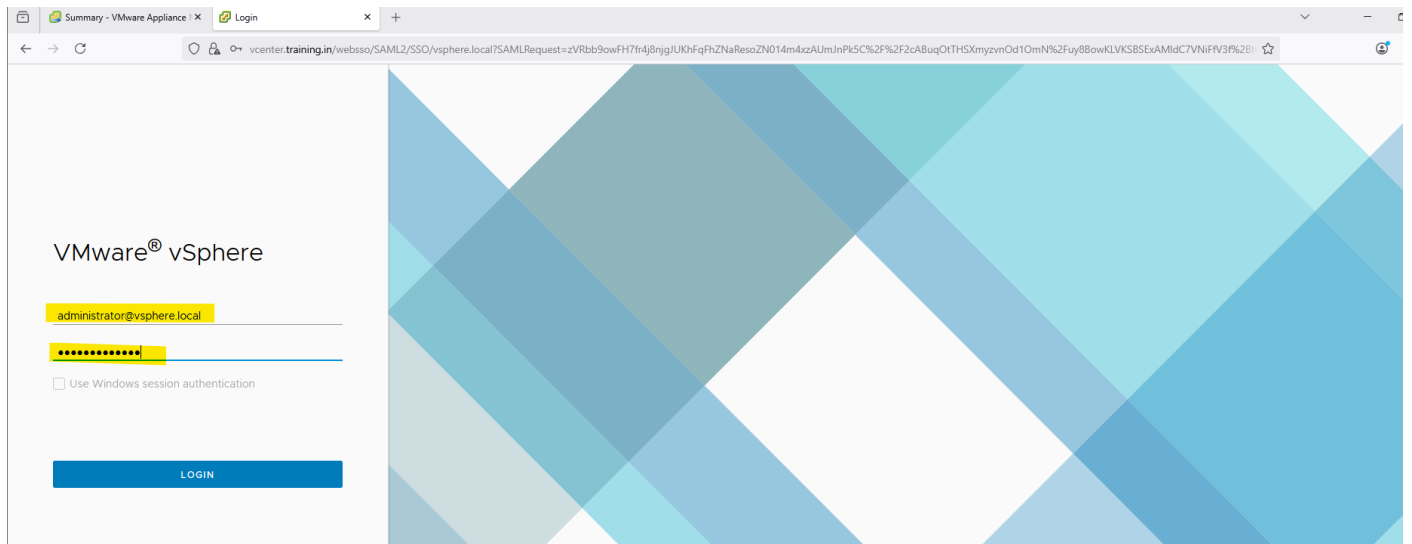


Now login to <https://vcenter.training.in:443> to manage the vCenter environment.



Login with same credentials:





Dashboard:

Summary Monitor Configure Permissions Datacenters Hosts & Clusters VMs Datastores Networks Linked vCenter Server Systems Extensions Updates

Version: 7.0.3
Build: 19234570
Last Updated: Aug 17, 2025, 2:32 PM
Last File-Based Backup: Not scheduled

Clusters: 0
Hosts: 0
Virtual Machines: 0

Health Status
Overall Health: Good

APPLIANCE MANAGEMENT

vCenter HA
Mode: --

Task Name	Target	Status	Details	Initiator	Queued For	Start Time	Completion Time	Server
Deploy plug-in	vcenter.training.in	Completed	com.vmware.vum.client.7.0...	VSPHERE.LOCAL\vSphere-web...	23 ms	08/17/2025, 2:48:43 P...	08/17/2025, 2:48:45 P...	vcenter.training.in