

WIPRO NGA Program – Datacenter Batch

Capstone Project Presentation – 06 April 2024

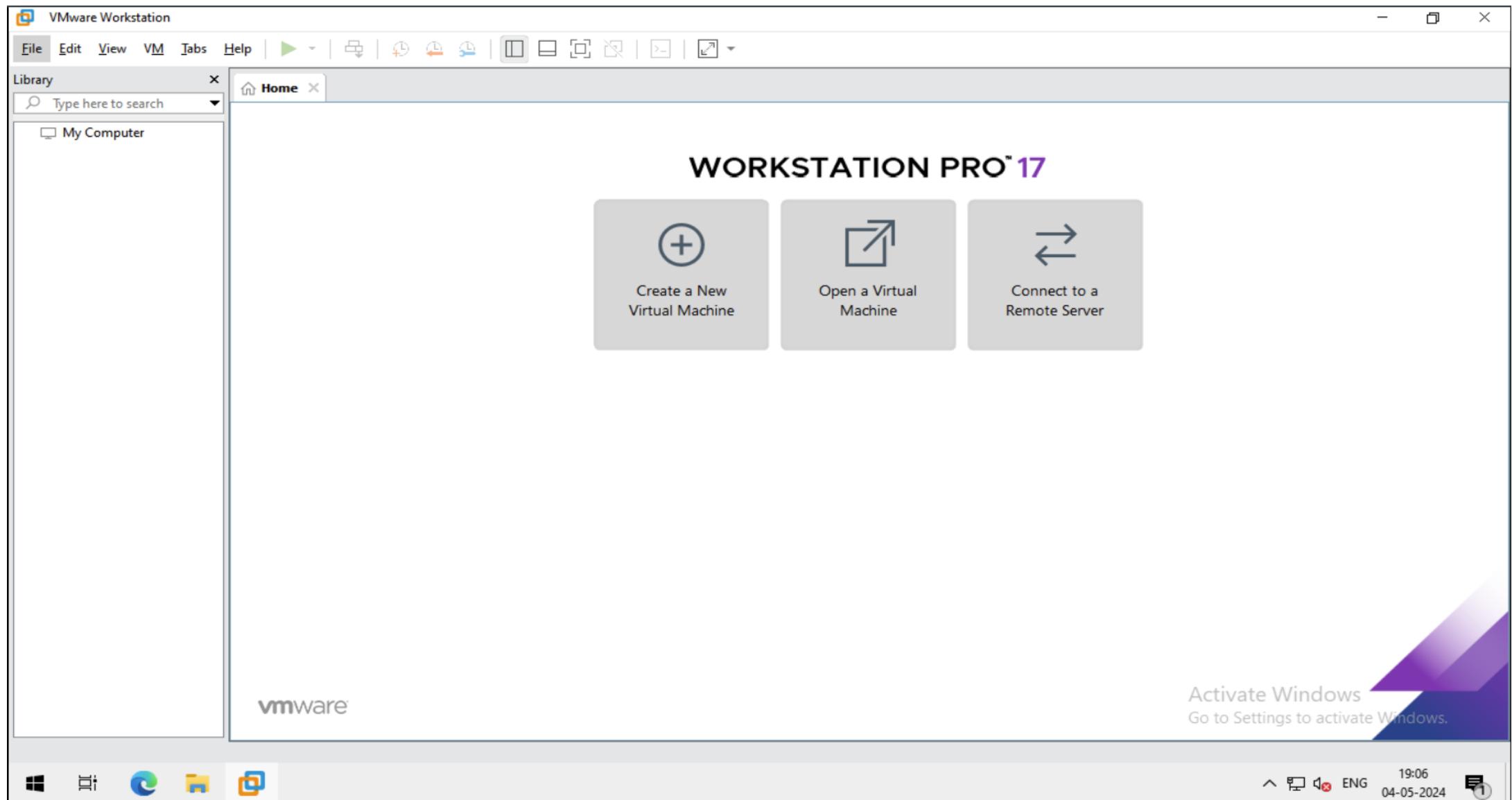
Project Title Here – Capstone Project

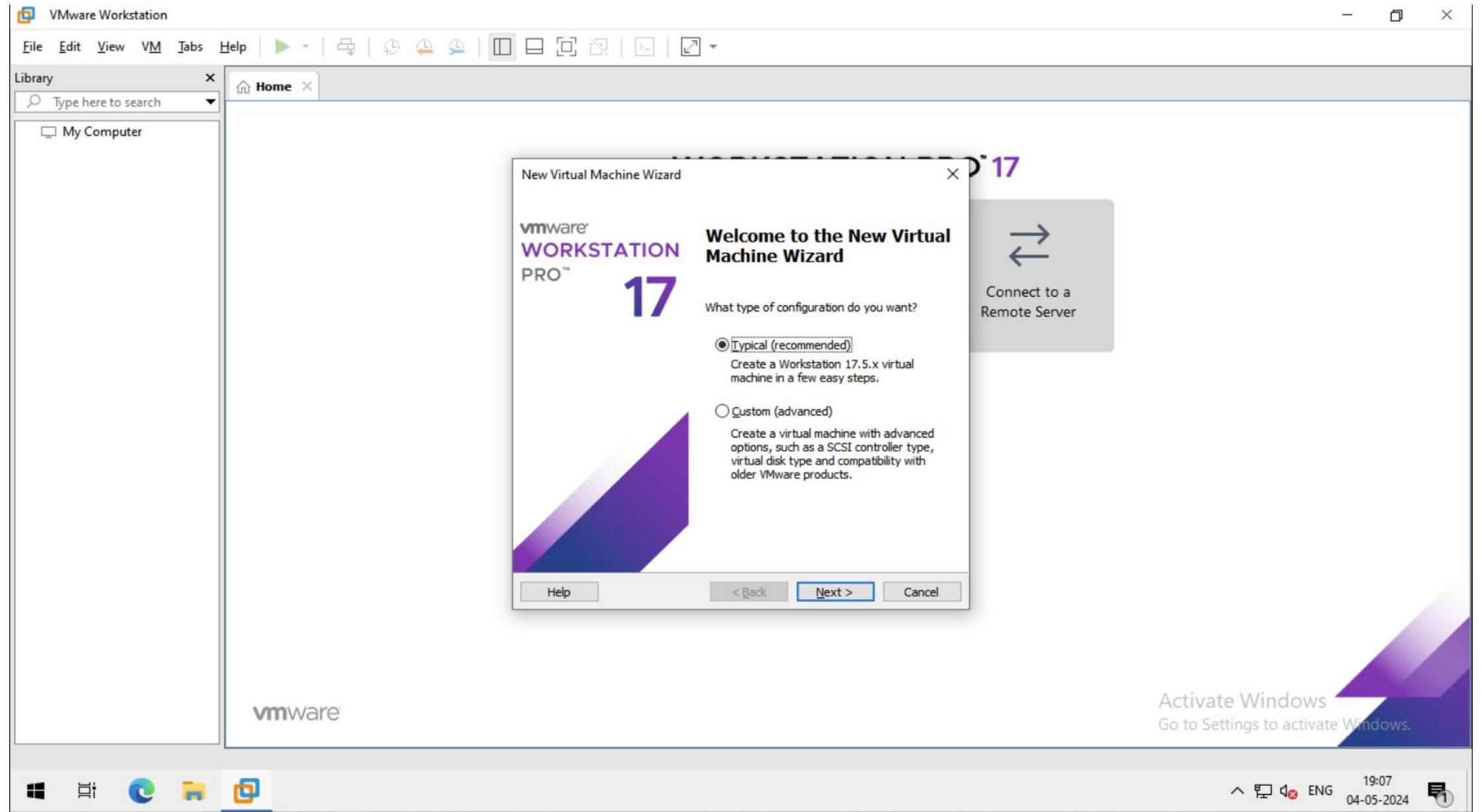
Presented by – Ashutosh Nayak

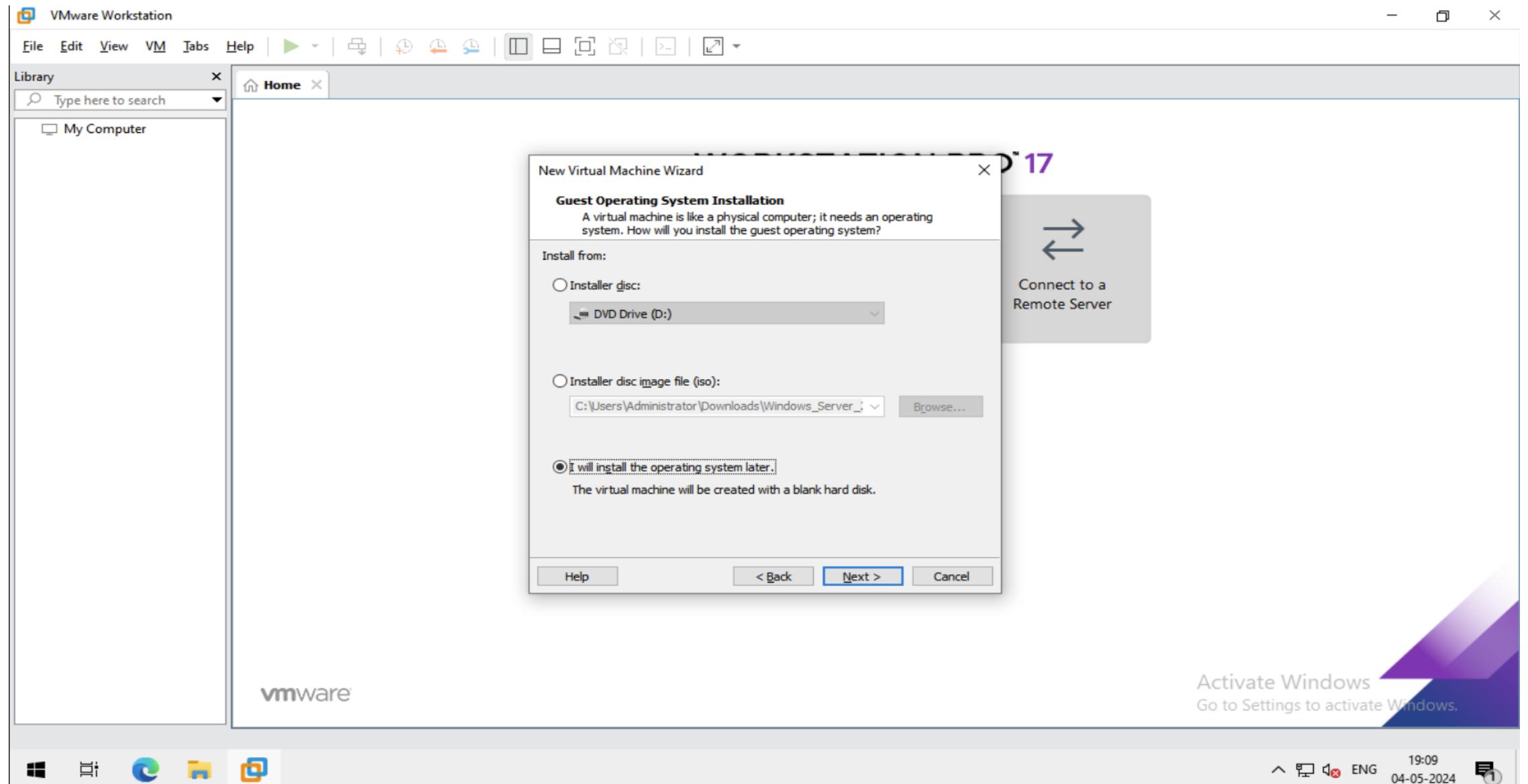
Project Task 1

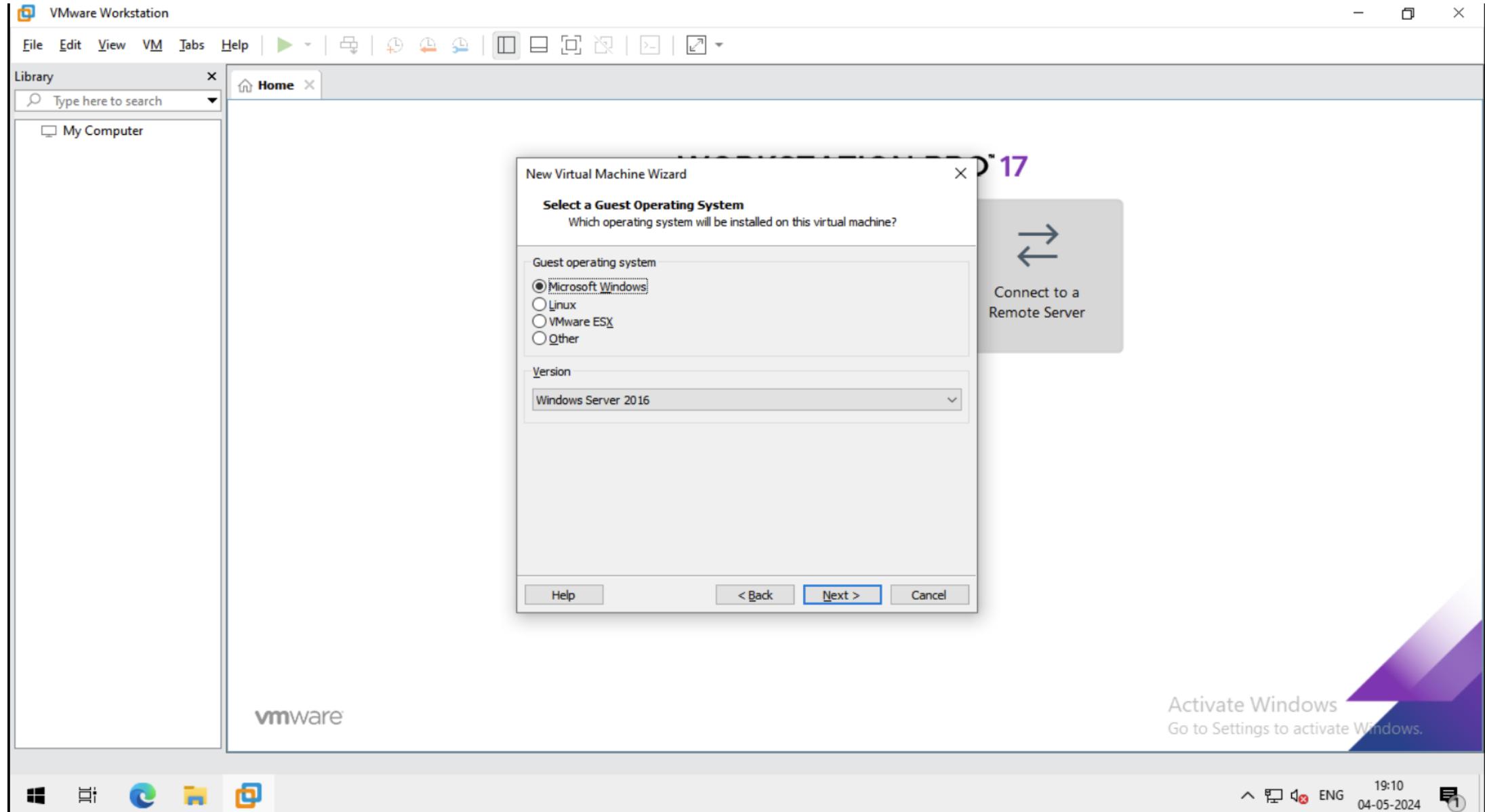
Objective: Create a domain controller using domain name as <your-name>.training and create a shared NFS folder (c:\sharables) on domain controller machine with read-only permissions and access this folder on the member machine.

- Creation of VM:



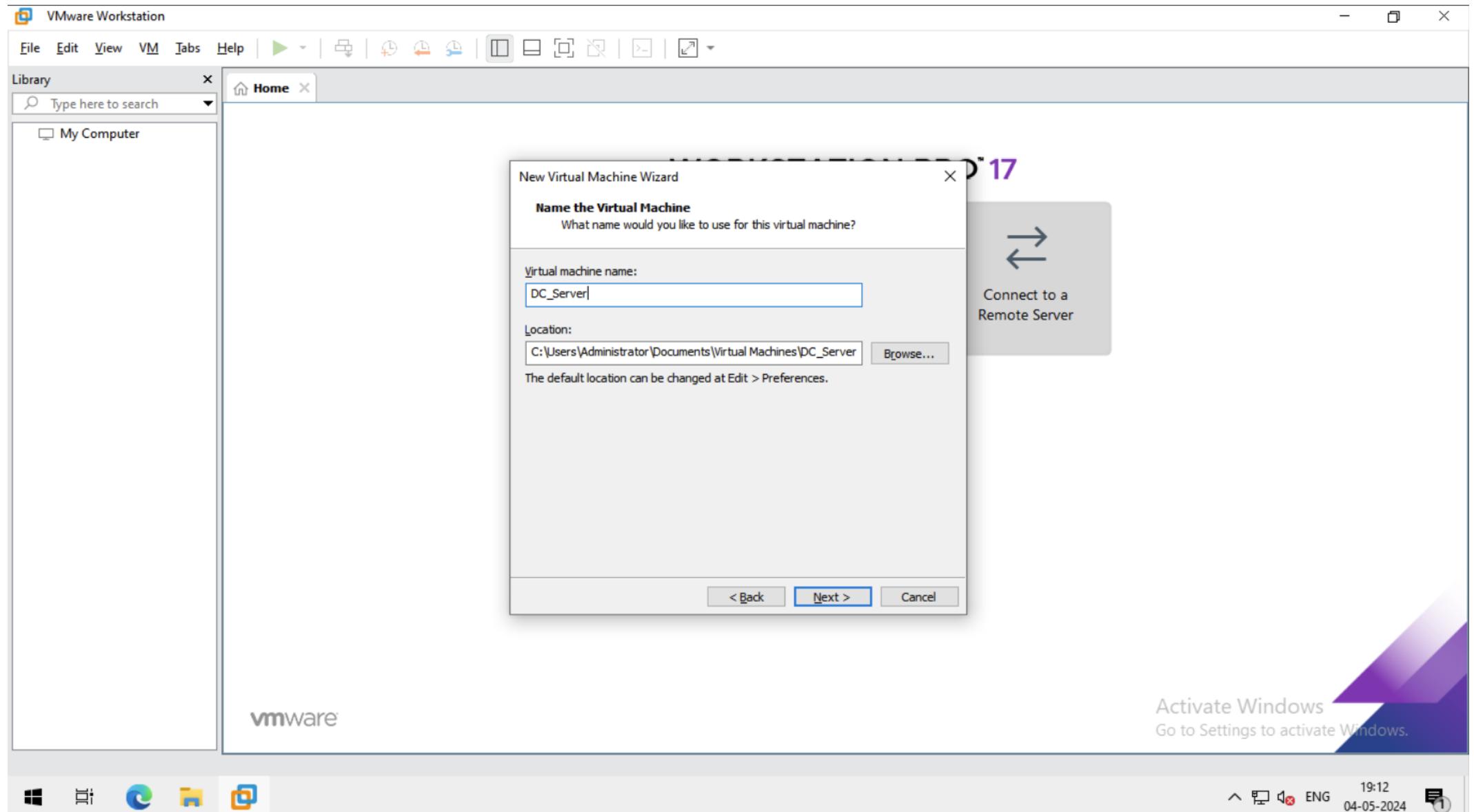


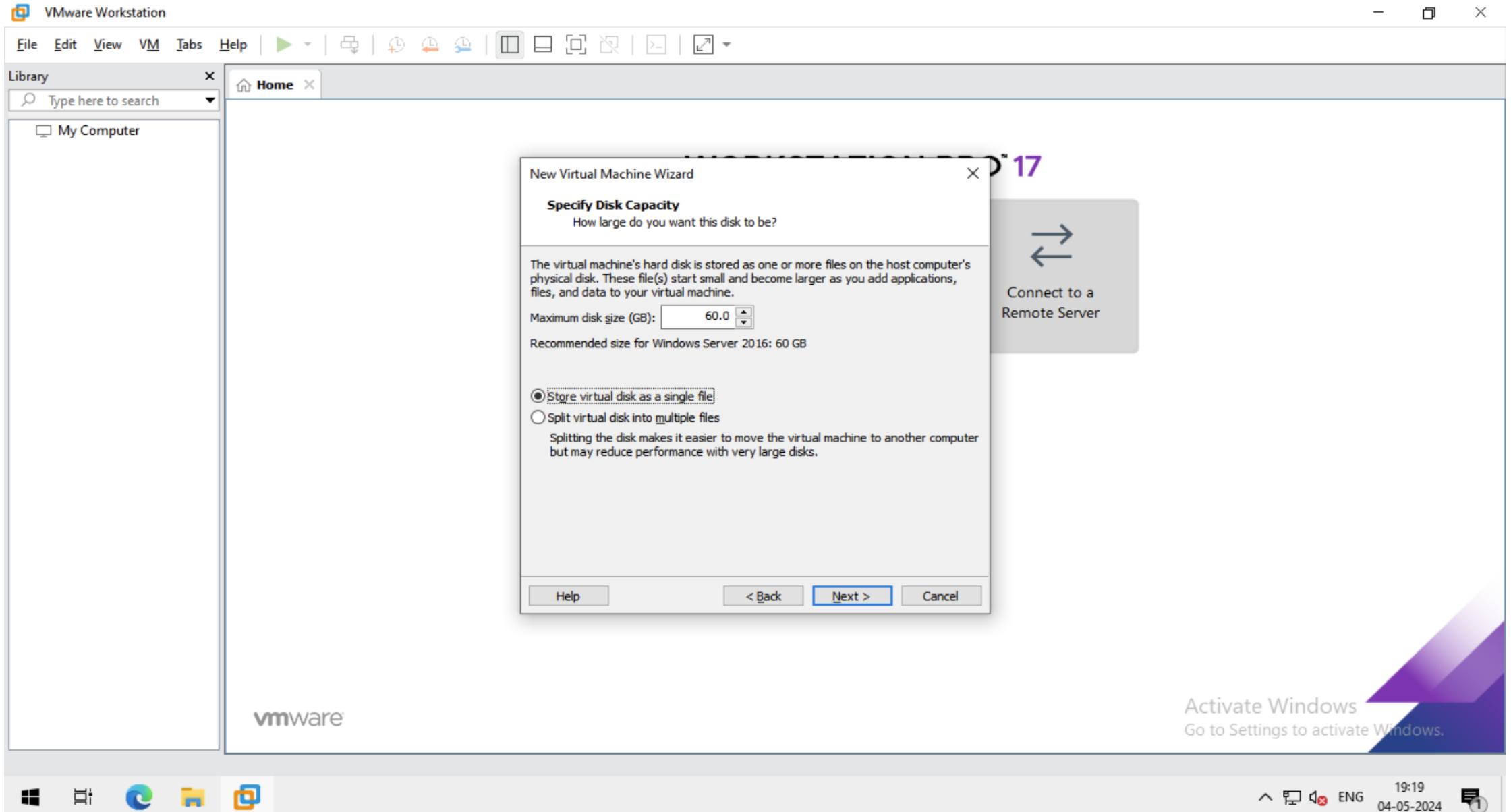




Activate Windows
Go to Settings to activate Windows.

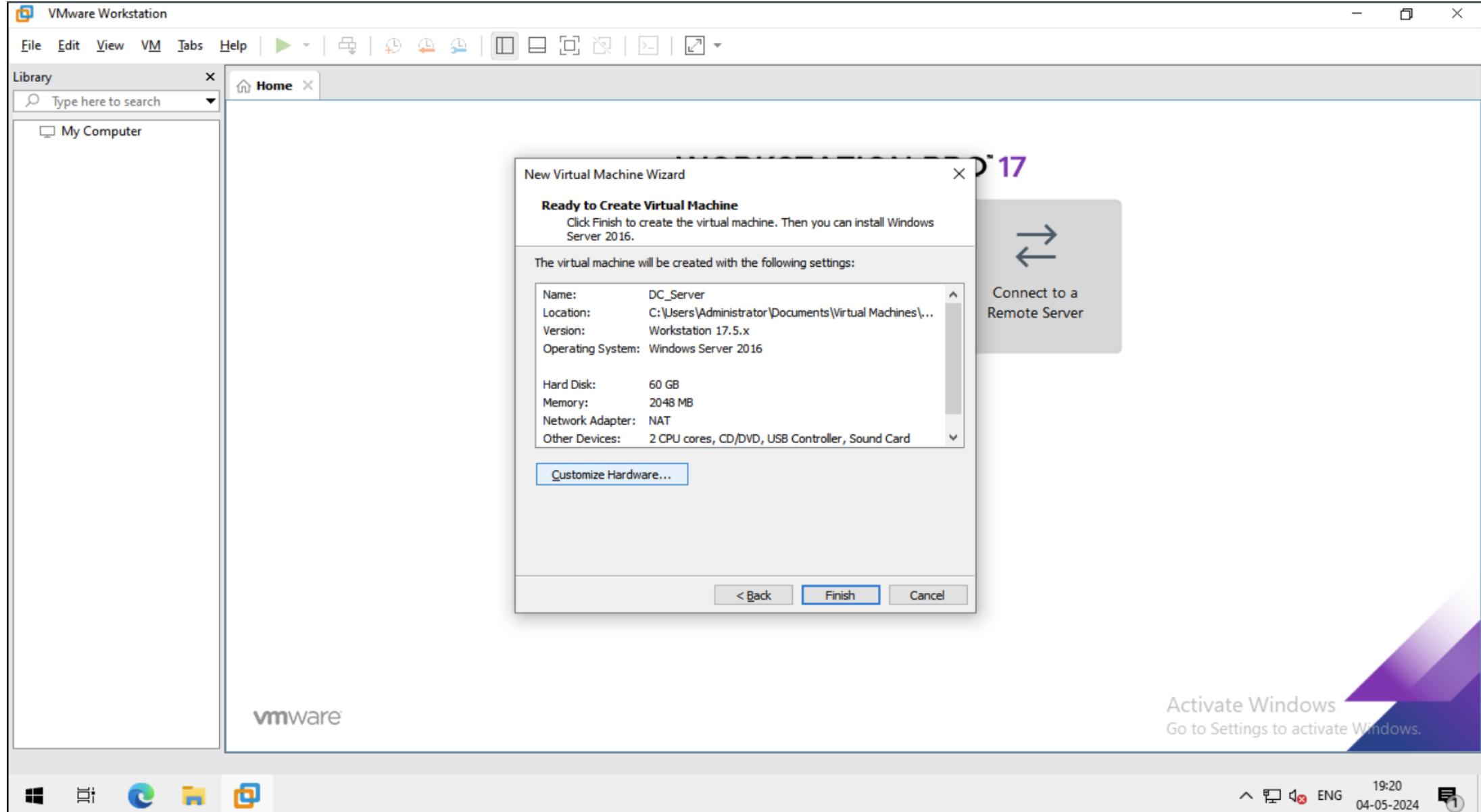
19:10
04-05-2024





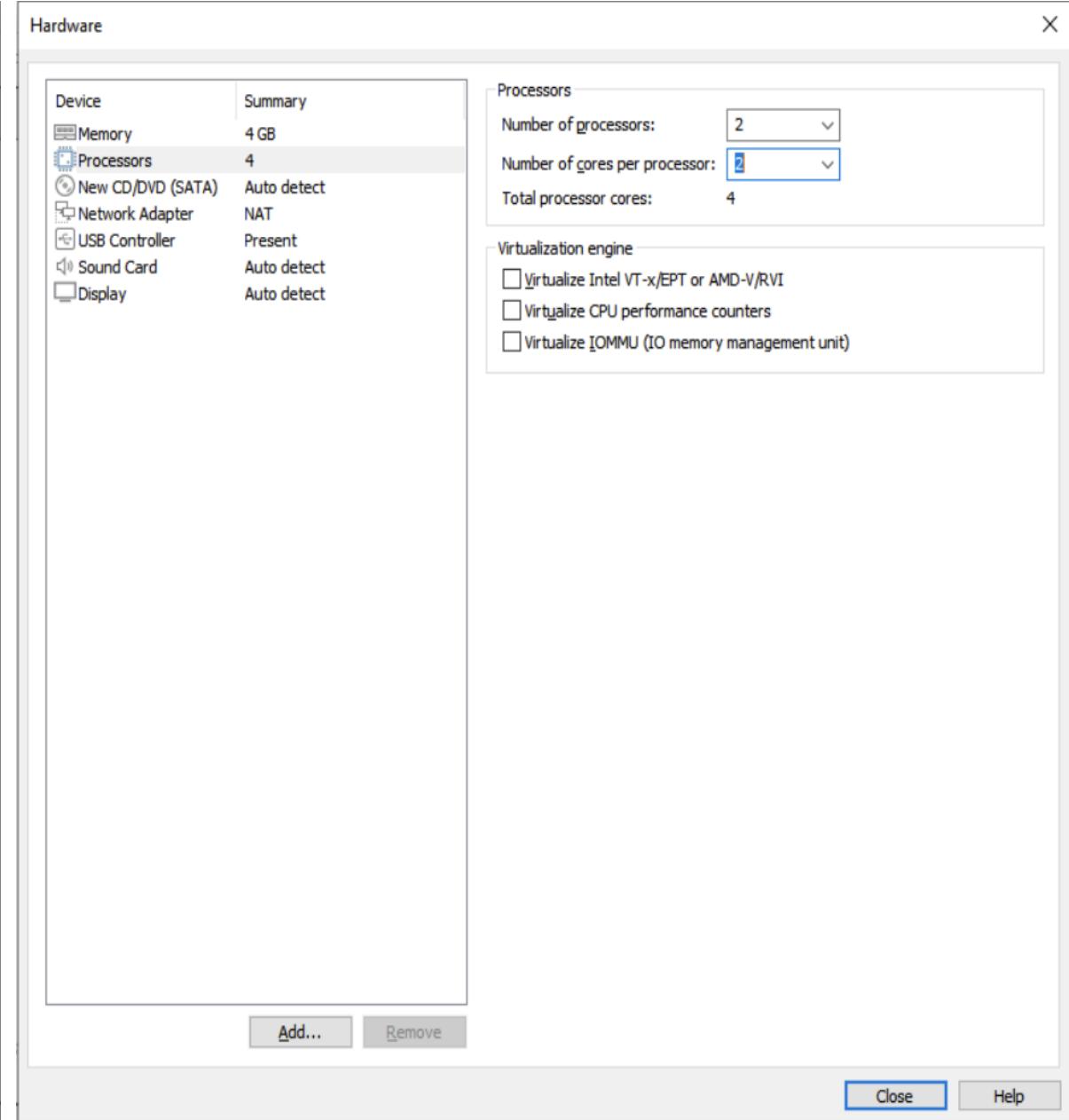
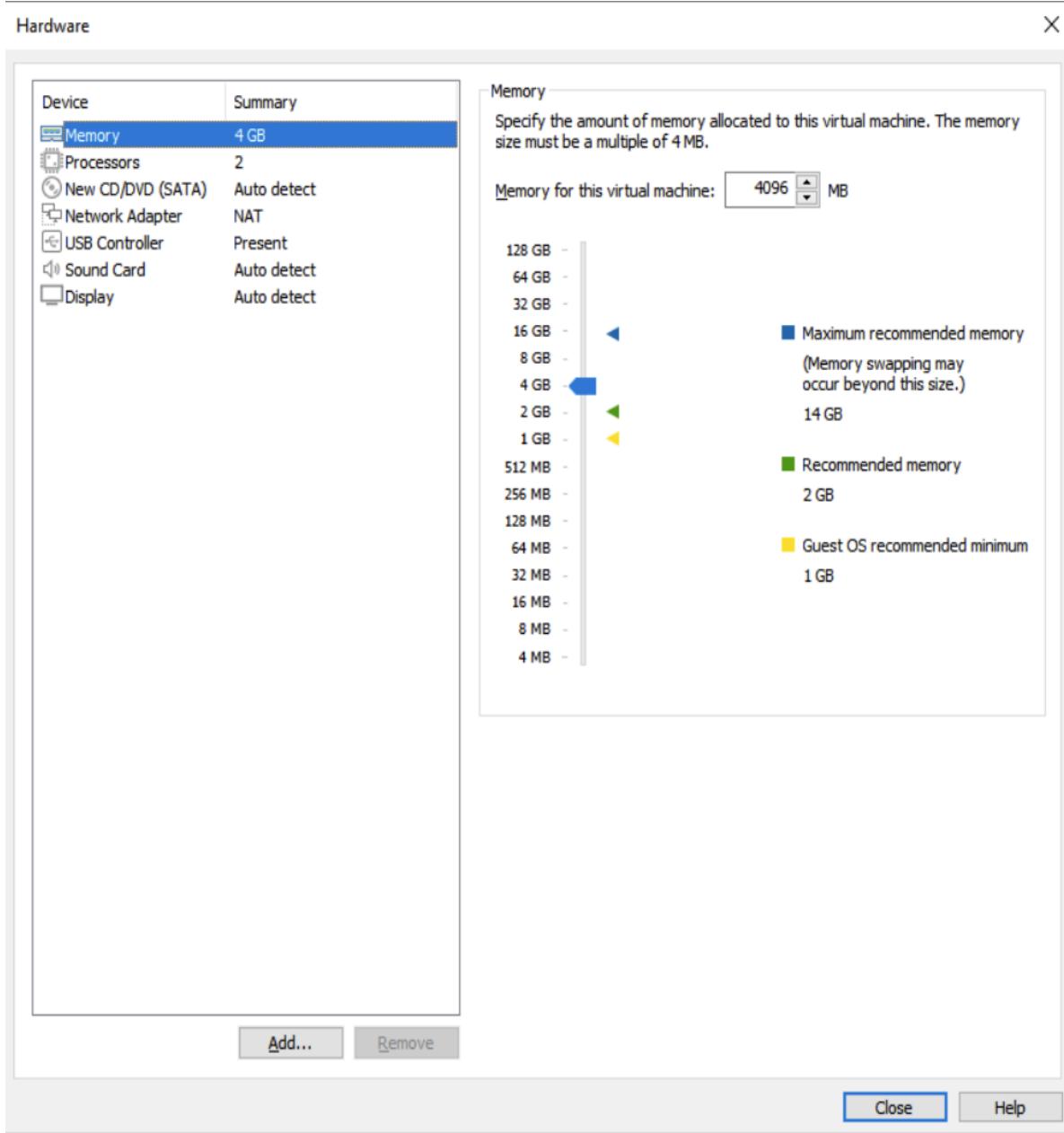
Activate Windows
Go to Settings to activate Windows.

19:19 04-05-2024 1



Activate Windows
Go to Settings to activate Windows.

19:20
04-05-2024



Hardware

Device	Summary
Memory	4 GB
Processors	4
New CD/DVD (SATA)	Auto detect
Network Adapter	NAT
USB Controller	Present
Sound Card	Auto detect
Display	Auto detect

Device status

Connected
 Connect at power on

Connection

Use physical drive:
 Auto detect

Use ISO image file:

Browse for ISO Image

This PC > Downloads

Name	Date modified	Type
CentOS-7-x86_64-DVD-2009.iso	30-03-2024 17:03	Disc Image File
en_windows_10_22h2_x64_dvd.iso	30-03-2024 14:44	Disc Image File
Windows_Server_2016_Datacenter_EVAL....iso	30-03-2024 14:16	Disc Image File

Organise ▾ New folder

Quick access

- Desktop
- Downloads
- Documents
- Pictures

This PC

Network

File name: CD-ROM images (*.iso)

Hardware

Device	Summary
Memory	4 GB
Processors	4
New CD/DVD (SATA)	Using file C:\Users\Administr...
Network Adapter	NAT
USB Controller	Present
Sound Card	Auto detect
Display	Auto detect

Device status

Connected
 Connect at power on

Network connection

Bridged: Connected directly to the physical network
 Replicate physical network connection state

NAT: Used to share the host's IP address

Host-only: A private network shared with the host

Custom: Specific virtual network
 VMnet0 (Auto-bridging)

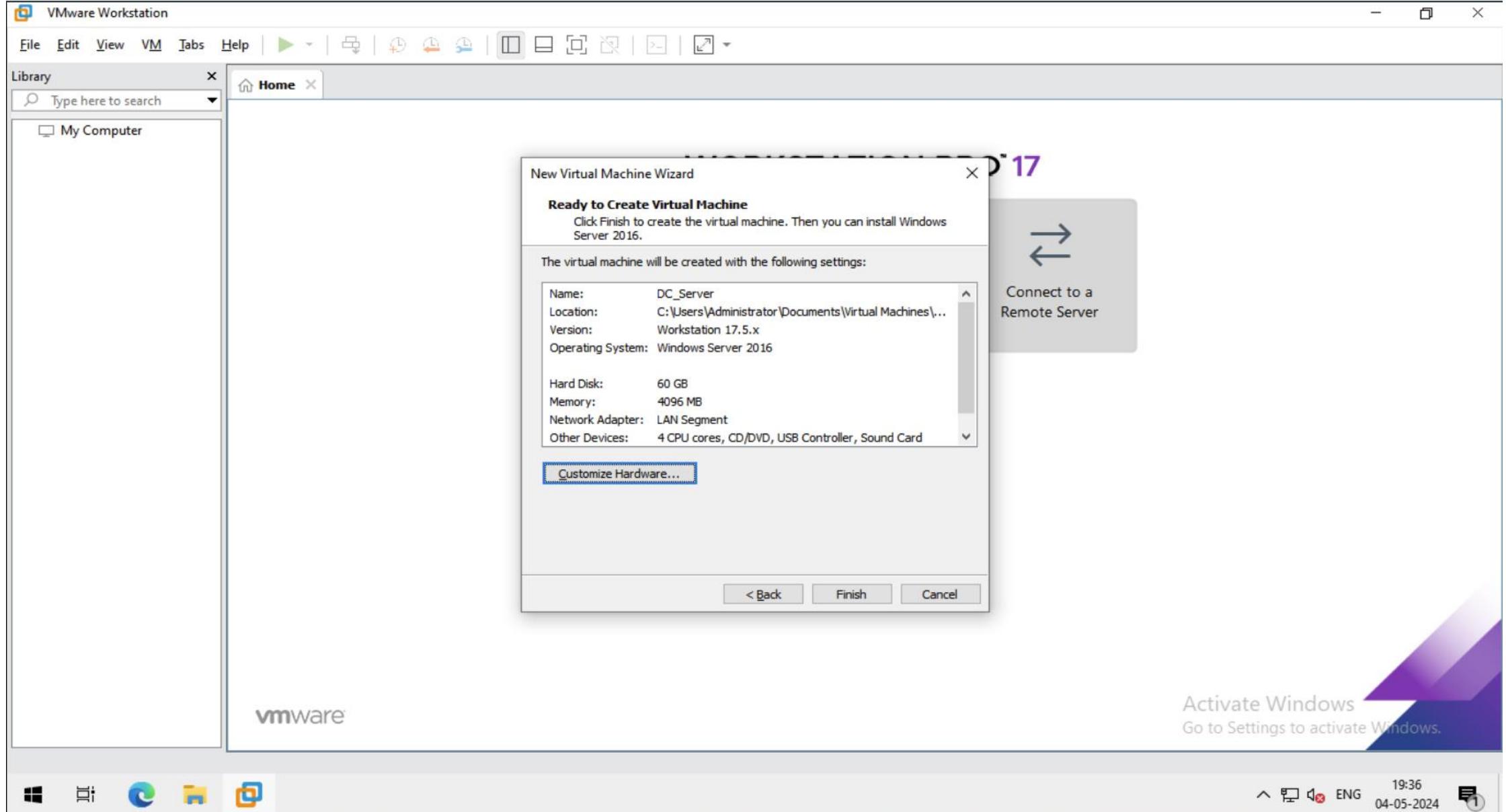
LAN segment:

Global LAN Segments

Global LAN Segments:
 Wipro-Network

Add Rename Remove OK Cancel

Add... Remove



Library X

Type here to search

My Computer DC_Server

DC_Server

▶ Power on this virtual machine
Edit virtual machine settings

▼ Devices

Memory	4 GB
Processors	4
Hard Disk (NVMe)	60 GB
CD/DVD (SATA)	Using file C:\Use...
Network Adapter	LAN Segment
USB Controller	Present
Sound Card	Auto detect
Display	Auto detect

▼ Description

Type here to enter a description of this virtual machine.

Virtual Machine Details

State: Powered off

Configuration file: C:\Users\Administrator\Documents\Virtual Machines\DC_Server\DC_Server.vmx

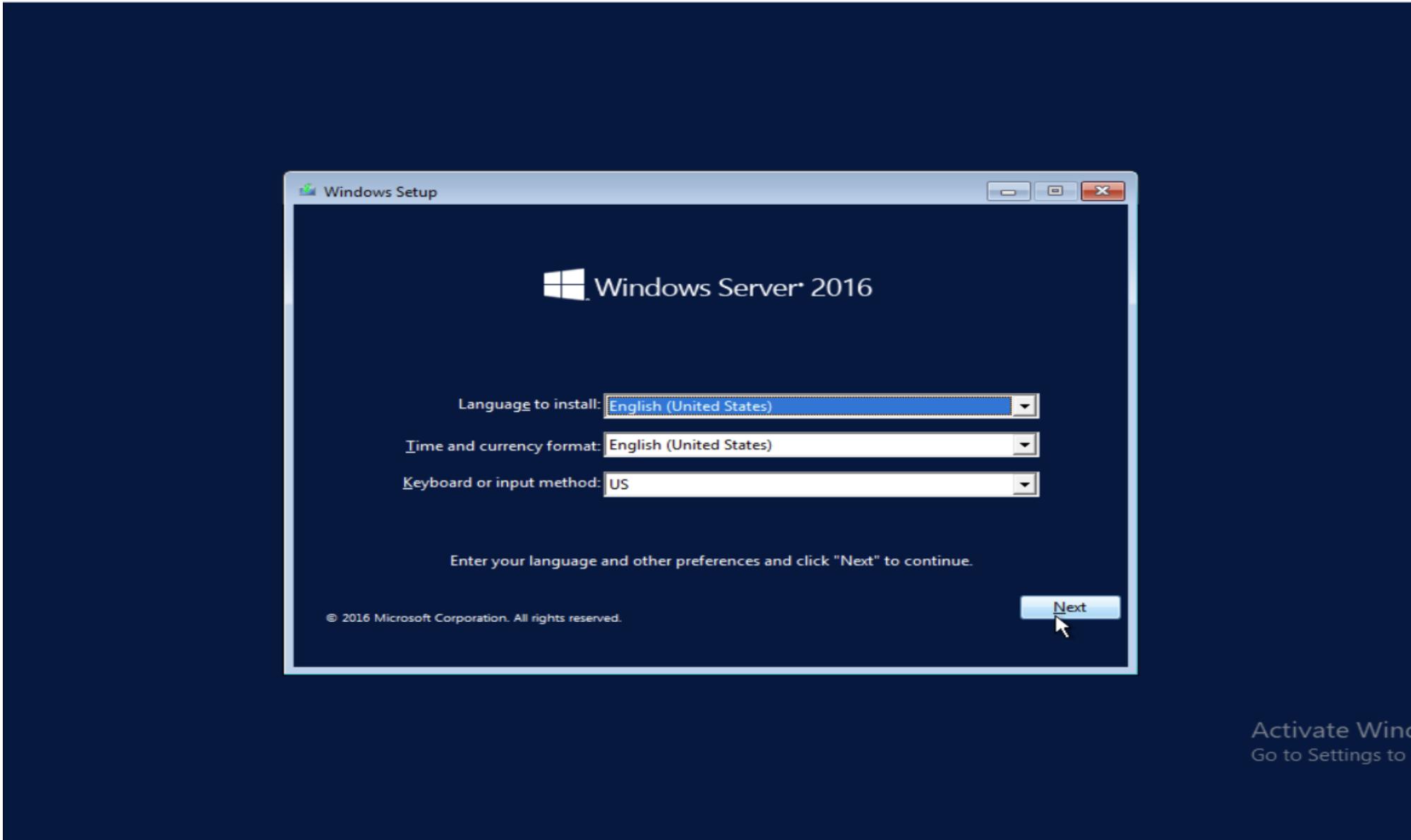
Hardware compatibility: Workstation 17.5.x virtual machine

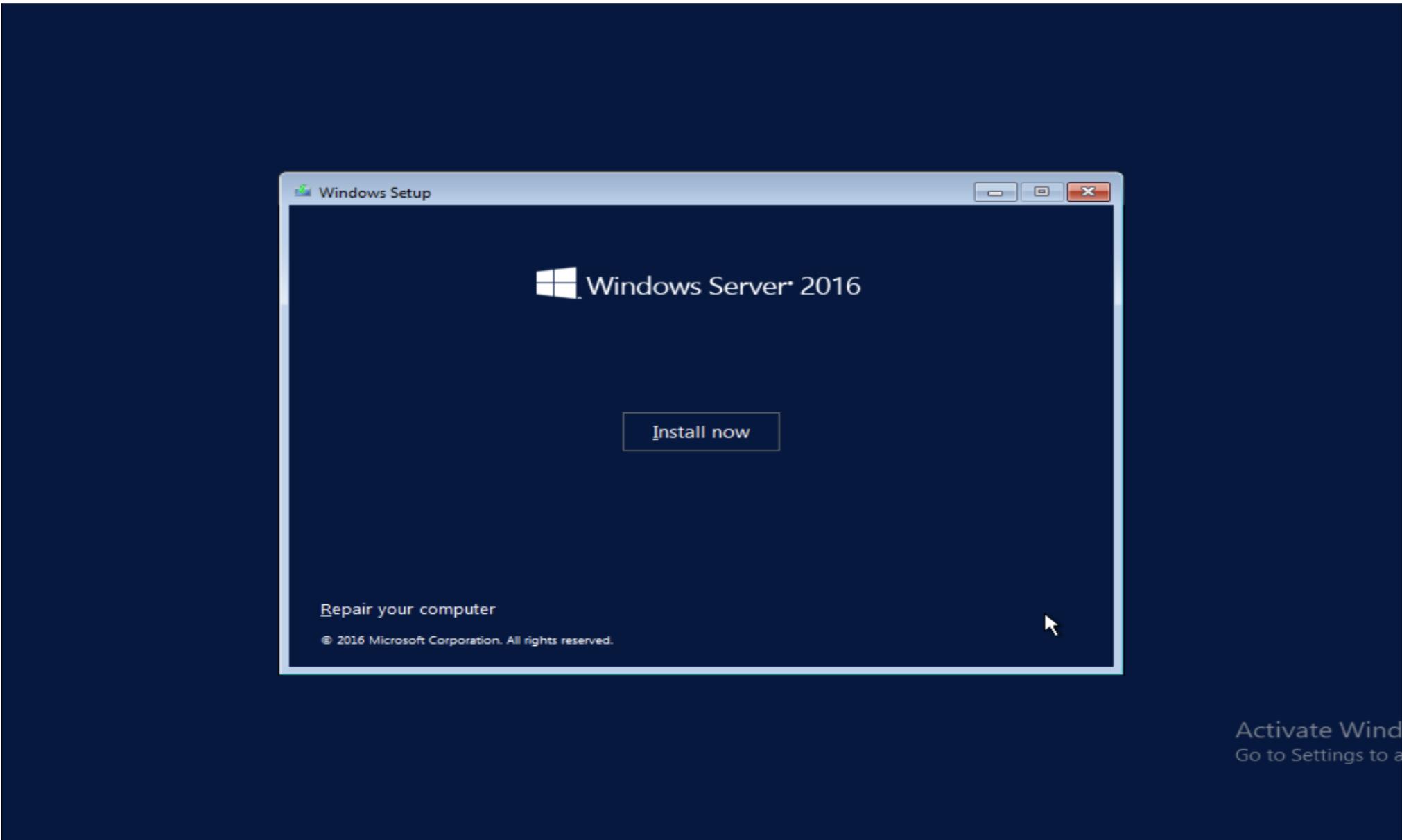
Primary IP address: Network information is not available

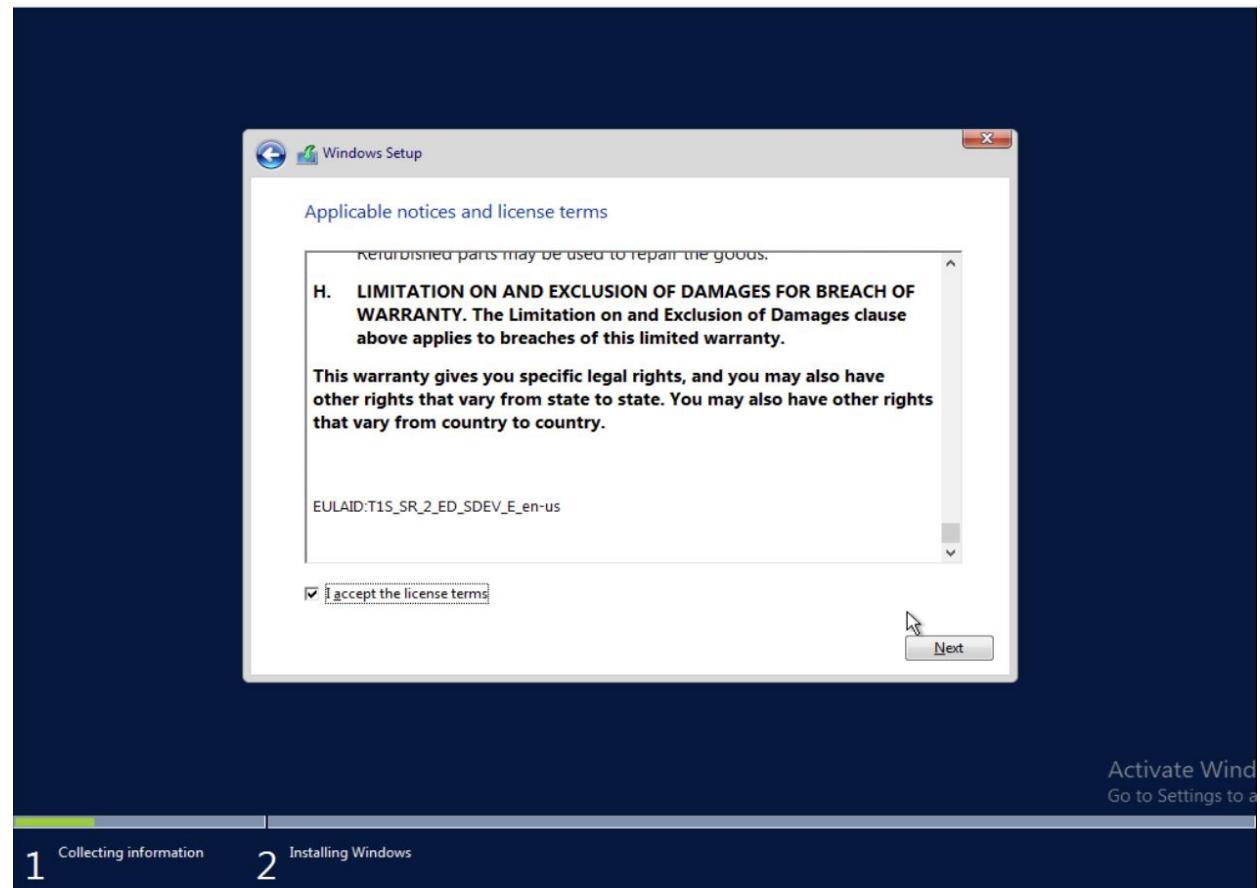
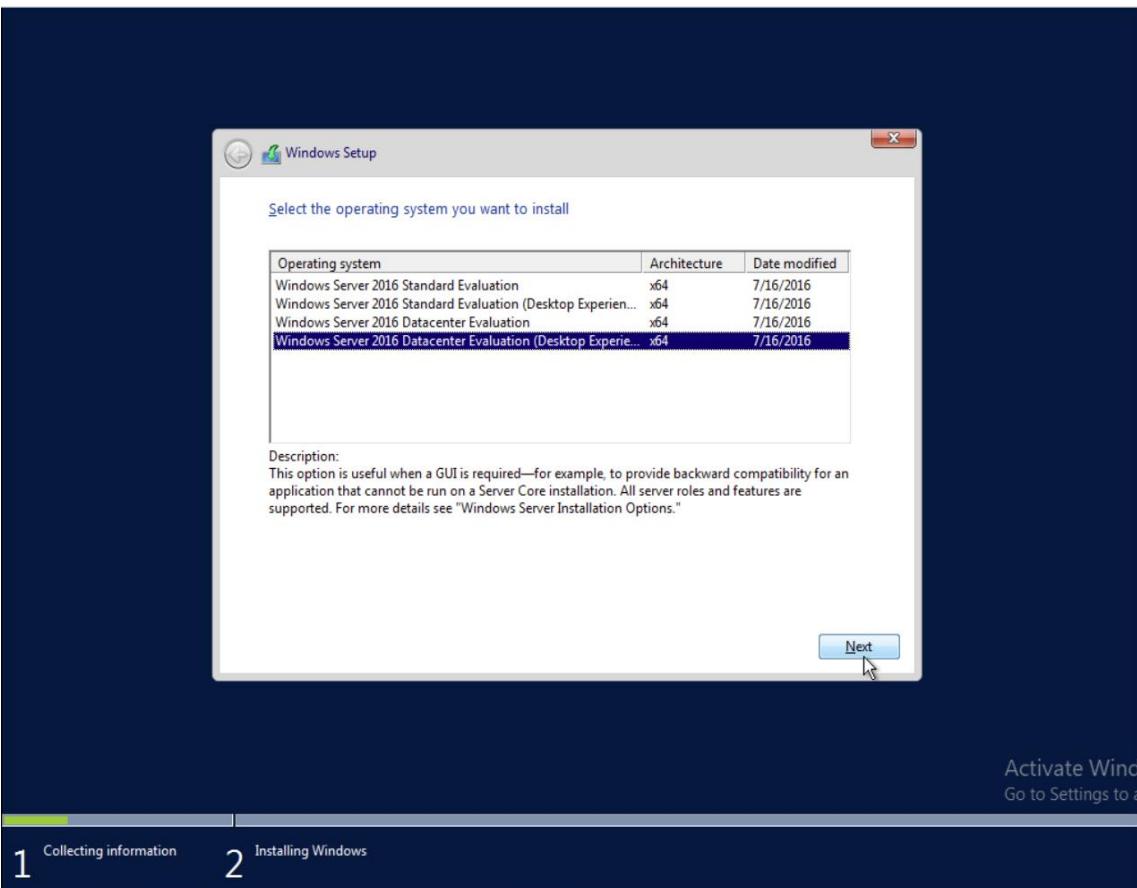
Activate Windows
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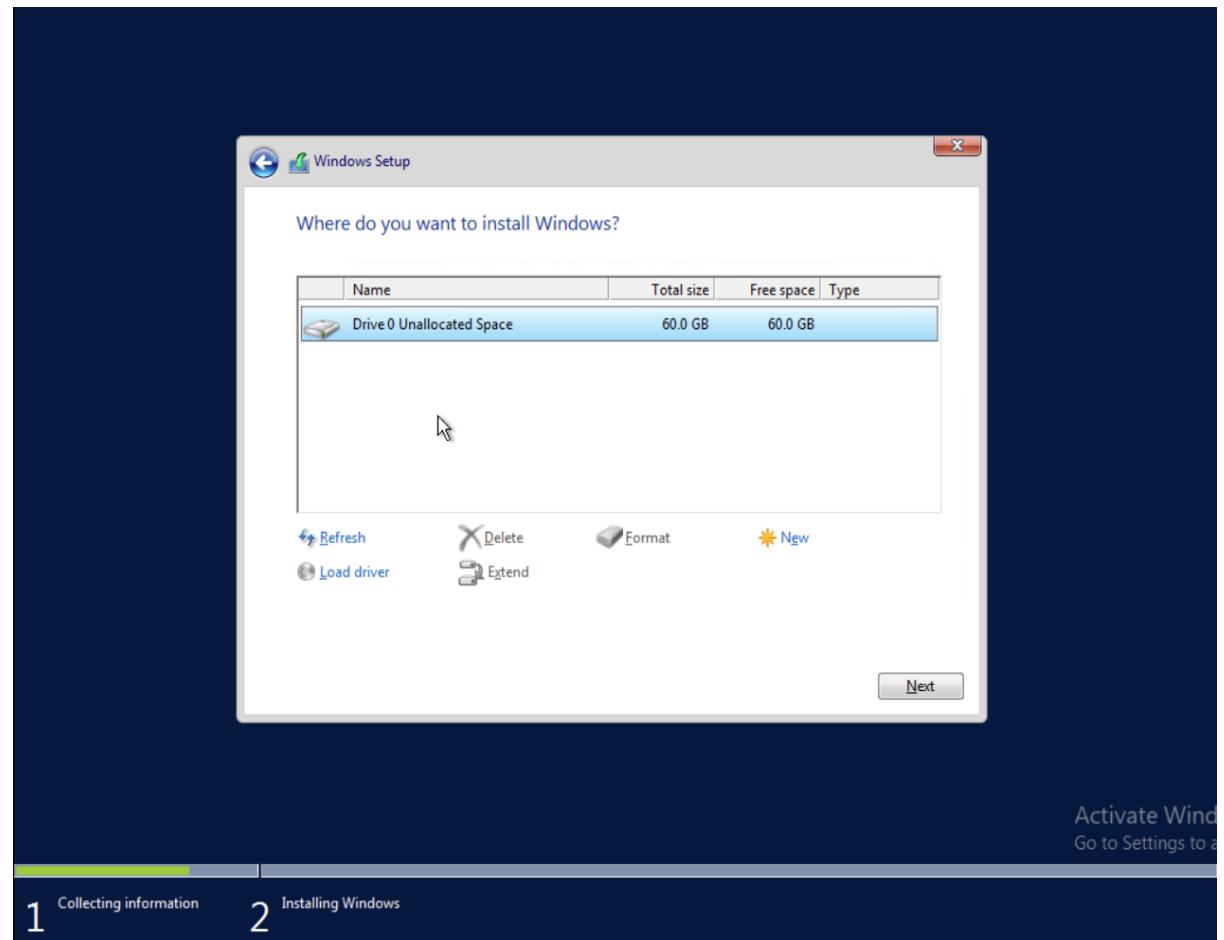
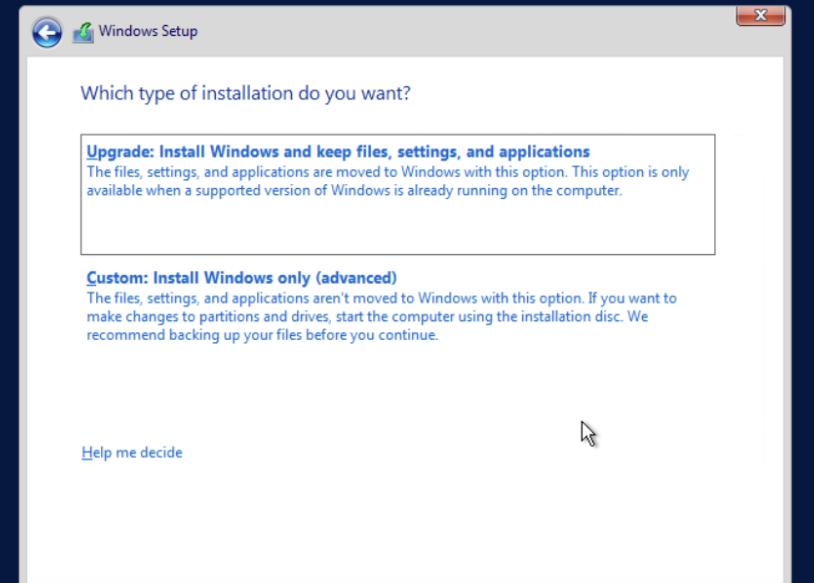


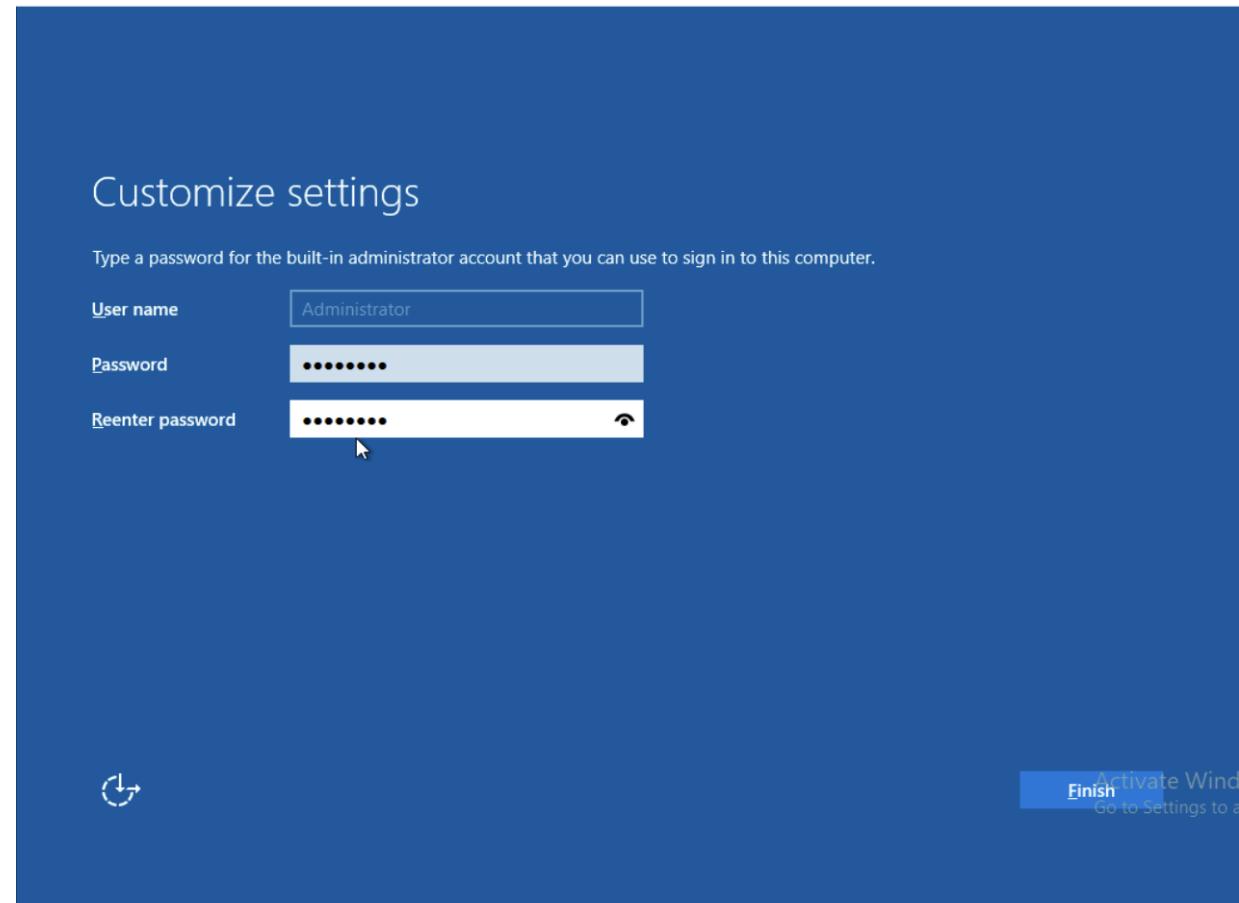
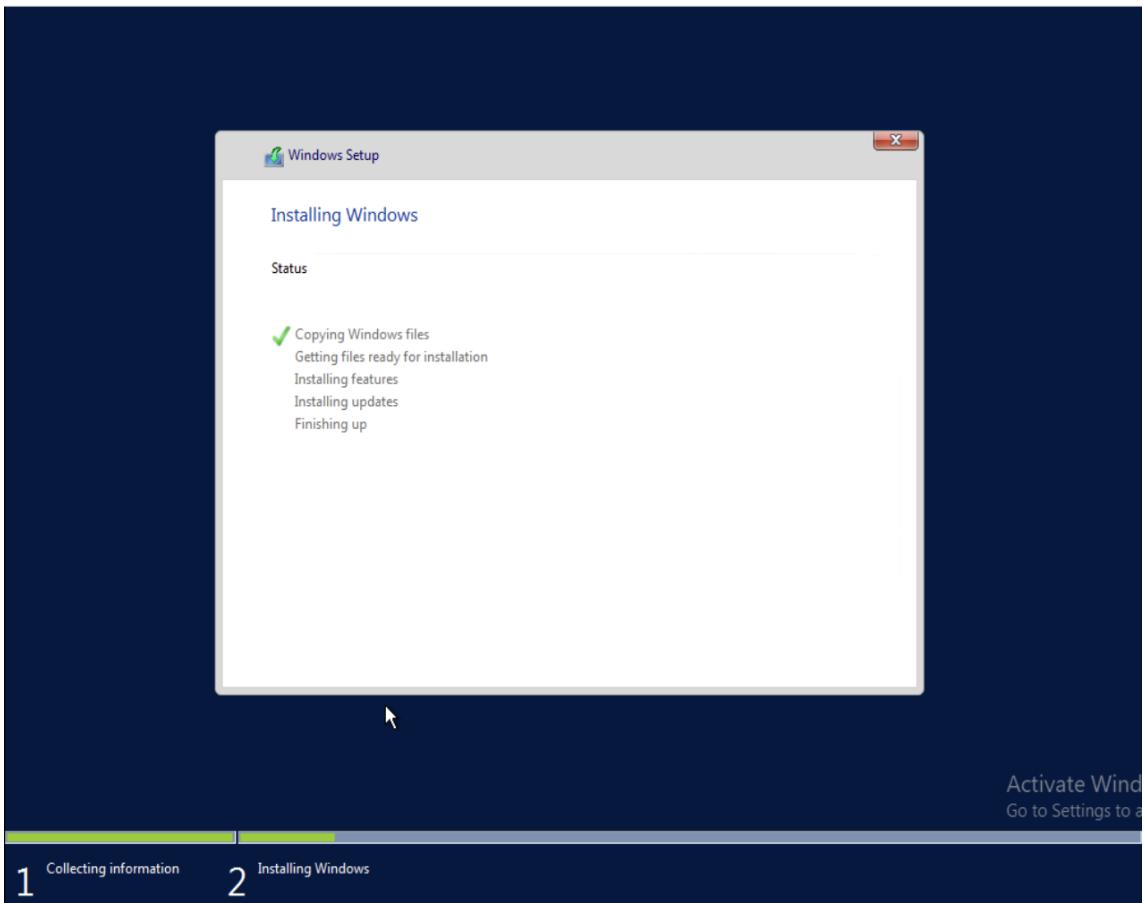
- Installation of Windows Server 2016 as “DC_Server”:

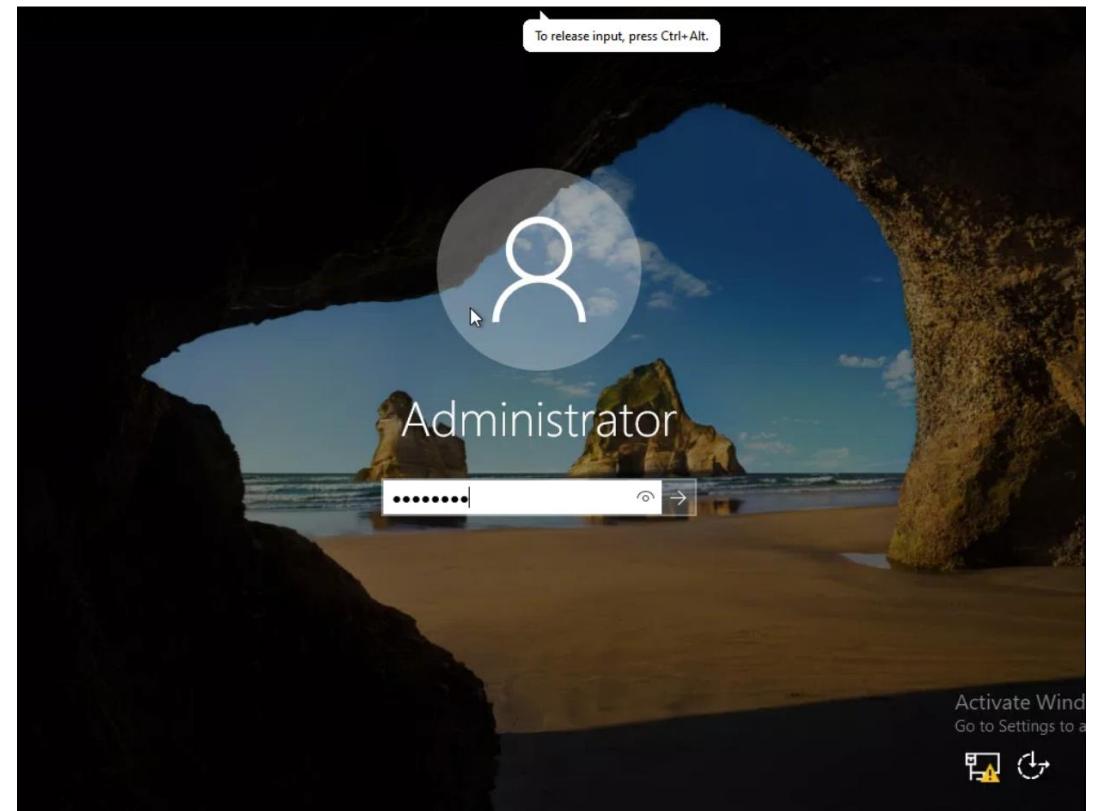
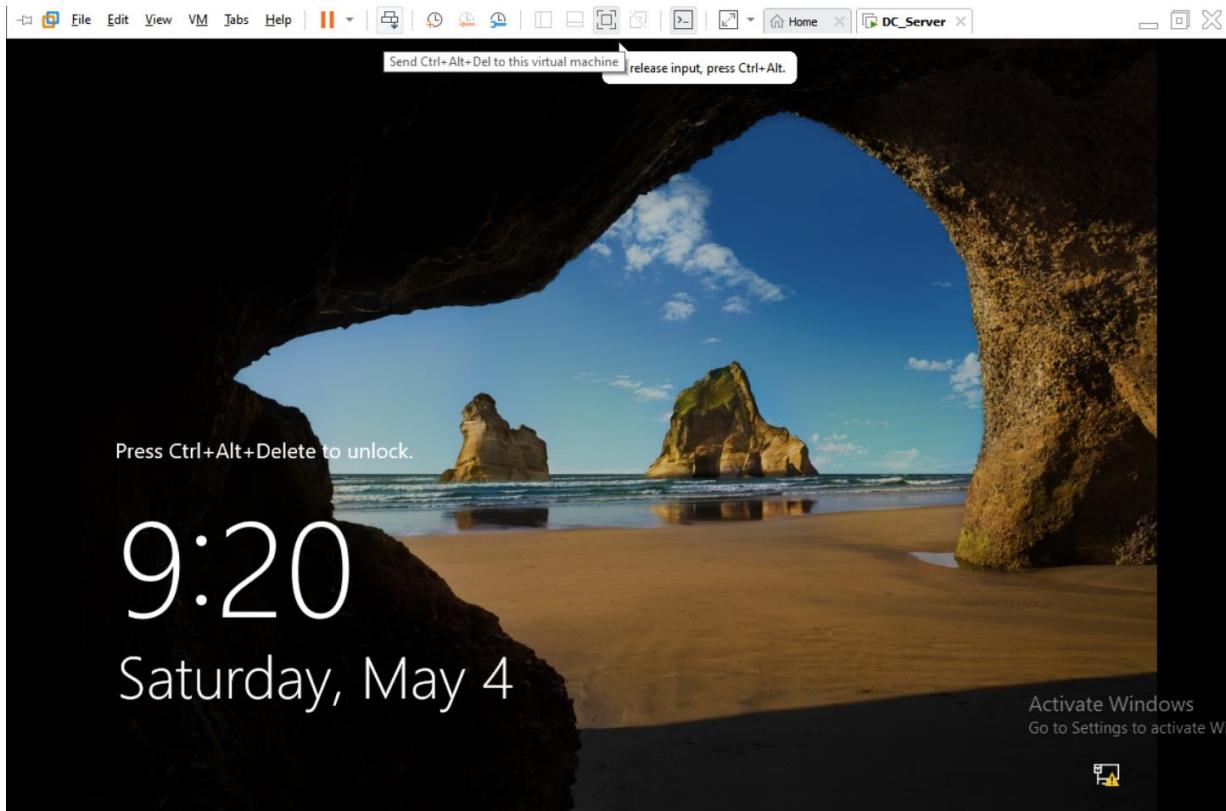




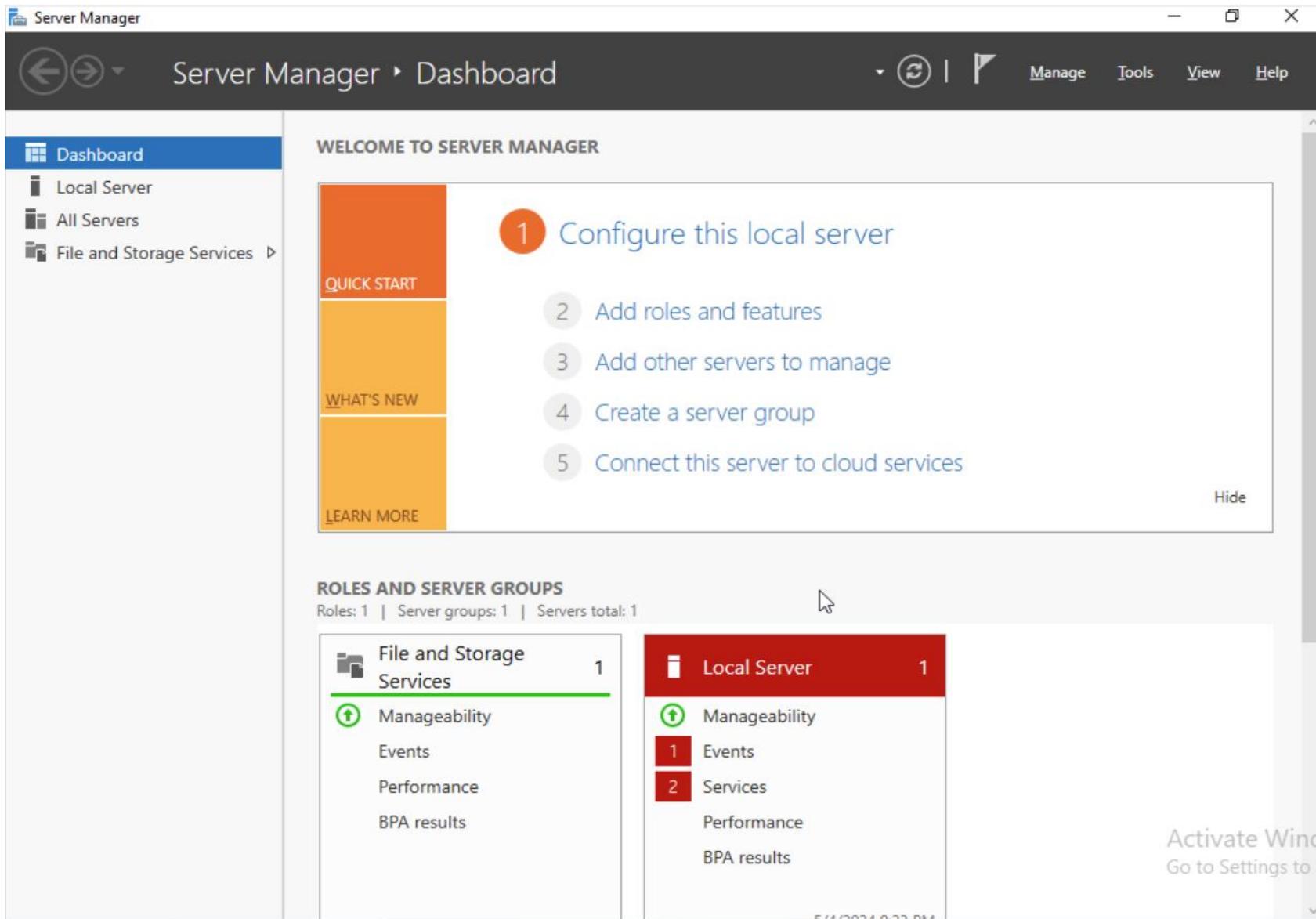








- Post Installation Configuration:



Server Manager

Server Manager › Local Server

Dashboard Local Server All Servers File and Storage Services

PROPERTIES For WIN-TO48V9UGFLL

TASKS

Computer name	WIN-TO48V9UGFLL	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install upd
		Last checked for updates	Never
Windows Firewall	Public: On	Windows Defender	Real-Time
Remote management	Enabled	Feedback & Diagnostics	Settings
Remote Desktop	Disabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC-08:00)
Ethernet0	IPv4 address assigned by DHCP, IPv6 enabled	Product ID	Not activ
Operating system version	Microsoft Windows Server 2016 Datacenter Evaluation	Processors	Intel(R) Xe
Hardware information	VMware, Inc. VMware20,1	Installed memory (RAM)	4 GB
		Total disk space	59.45 GB

< >

EVENTS

All events | 20 total

TASKS

Server Name	ID	Severity	Source	Log	Date and Time	
WIN-TO48V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM	Activate Wind
WIN-TO48V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM	Go to Settings to a
WIN-TO48V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM	

Server Manager

Server Manager ▸ Local Server

Windows Firewall

Control Panel Home

Allow an app or feature through Windows Firewall

Change notification settings

[Turn Windows Firewall on or off](#)

Restore defaults

Advanced settings

Troubleshoot my network

See also

Security and Maintenance

Network and Sharing Center

Help protect your PC with Windows Firewall

Windows Firewall can help prevent hackers or malicious software from gaining access to your PC through the Internet or a network.

Private networks Not connected

Guest or public networks Connected

Networks in public places such as airports or coffee shops

Windows Firewall state: On

Incoming connections: Block all connections to apps that are not on the list of allowed apps

Active public networks: Unidentified network

Notification state: Do not notify me when Windows Firewall blocks a new app

Never

Install updates

Never

Real-Time

Settings

On

(UTC-08:00)

Not active

Intel(R) Xe

4 GB

59.45 GB

Activate Windows

Go to Settings to activate

Event ID	Type	Source	Category	Date
WIN-TO48V9UGFLL 7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-TO48V9UGFLL 7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM

Server Manager

Server Manager ▸ Local Server

Customize Settings

Dashboard Local Server All Servers File and Storage

Customize settings for each type of network

You can modify the firewall settings for each type of network that you use.

Private network settings

Turn on Windows Firewall

Block all incoming connections, including those in the list of allowed apps

Notify me when Windows Firewall blocks a new app

Turn off Windows Firewall (not recommended)

Public network settings

Turn on Windows Firewall

Block all incoming connections, including those in the list of allowed apps

Notify me when Windows Firewall blocks a new app

Turn off Windows Firewall (not recommended)

OK Cancel

Never Install updates Never

Real-Time Settings On (UTC-08:00) Not active

Intel(R) Xe 4 GB 59.45 GB >

Activate Windows Go to Settings to a

WIN-TO48V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-TO48V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM

Server Manager

Server Manager • Local Server

Dashboard Local Server All Servers File and Storage Services

PROPERTIES For WIN-T048V9UGFL

Computer name	WIN-T048V9UGFL	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install updates automatically using Windows Update
		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	On
IIC Teaming	Disabled	Time zone	(UTC-08:00) Pacific Time (US & Canada)
Ethernet0	IPv4 address assigned by DHCP, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2016 Datacenter Evaluation	Processors	Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R) CP
Hardware information	VMware, Inc. VMware201	Installed memory (RAM)	4 GB
		Total disk space	59.45 GB

EVENTS

All events | 20 total

Server Name	ID	Severity	Source	Log	Date and Time
WIN-T048V9UGFL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-T048V9UGFL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-T048V9UGFL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-T048V9UGFL	8198	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 9:22:38 PM
WIN-T048V9UGFL	1014	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 9:22:37 PM
WIN-T048V9UGFL	8200	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 9:22:37 PM
WIN-T048V9UGFL	1534	Warning	Microsoft-Windows-User Profile Service	Application	5/4/2024 9:22:28 PM

SERVICES

All services | 188 total

Filter	Log	Date and Time
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Activate Wind
Go to settings to a

TASKS

Server Manager

Server Manager ▸ Local Server

Dashboard Local Server All Servers File and Storage Services

PROPERTIES For WIN-T048V9UGFL

computer name: WORKGROUP

Windows Firewall
remote management
remote Desktop
IIC Teaming
ethernet0

Operating system
Hardware information

EVENTS All events | 20 total

Filter

Server Name

WIN-T048V9UG

WIN-T048V9UG

WIN-T048V9UG

WIN-T048V9UG

WIN-T048V9UGFL 1014 Error Microsoft-Windows-Security-SPP Application 5/4/2024 9:22:37 PM

WIN-T048V9UGFL 8200 Error Microsoft-Windows-Security-SPP Application 5/4/2024 9:22:37 PM

WIN-T048V9UGFL 1534 Warning Microsoft-Windows-User Profile Service Application 5/4/2024 9:22:28 PM

Internet Explorer Enhanced Security Configuration

Internet Explorer Enhanced Security Configuration (IE ESC) reduces the exposure of your server to potential attacks from Web-based content.

Internet Explorer Enhanced Security Configuration is enabled by default for Administrators and Users groups.

Administrators:

On (Recommended)

Off

Users:

On (Recommended)

Off

More about Internet Explorer Enhanced Security Configuration

OK Cancel

Never
Install updates automatically using Windows Update
Never

Real-Time Protection: On
Settings
On
(UTC-08:00) Pacific Time (US & Canada)
Not activated

Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz
4 GB
59.45 GB

TASKS

Activate Wind...
Go to Settings to a...

Filter

OK Cancel

Activate Wind...
Go to Settings to a...

Filter

OK Cancel

Server Manager

Server Manager ▸ Local Server

Dashboard Local Server All Servers File and Storage Services ▶

PROPERTIES For WIN-T048V9UGFLL

Computer name	WIN-T048V9UGFLL	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install updates automatically using Windows Update
		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	IPv4 address assigned by DHCP, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2016 Datacenter Evaluation	Processors	Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R) CPU
Hardware information	VMware, Inc. VMware20.1	Installed memory (RAM)	4 GB
		Total disk space	59.45 GB

EVENTS

All events | 20 total

Server Name	ID	Severity	Source	Log	Date and Time
WIN-T048V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-T048V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-T048V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-T048V9UGFLL	8198	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 9:22:38 PM
WIN-T048V9UGFLL	1014	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 9:22:37 PM
WIN-T048V9UGFLL	8200	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 9:22:37 PM
WIN-T048V9UGFLL	1534	Warning	Microsoft-Windows-User Profile Service	Application	5/4/2024 9:22:28 PM

SERVICES

All services | 188 total

Server Name	ID	Severity	Source	Log	Date and Time
WIN-T048V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-T048V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-T048V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-T048V9UGFLL	8198	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 9:22:38 PM
WIN-T048V9UGFLL	1014	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 9:22:37 PM
WIN-T048V9UGFLL	8200	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 9:22:37 PM
WIN-T048V9UGFLL	1534	Warning	Microsoft-Windows-User Profile Service	Application	5/4/2024 9:22:28 PM

Activate Wind
Go to Settings to a

Server Manager

Server Manager ▸ Local Server

Dashboard Local Server All Servers File and Storage

PROPERTIES

Date and Time

Time Zone Settings

Set the time zone:

Time zone: (UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi

Current date and time: Saturday, May 4, 2024, 9:58 PM

New date and time: Sunday, May 5, 2024, 10:28 AM

OK Cancel Change time zone...

Daylight Saving Time ends on Sunday, November 3, 2024 at 2:00 AM. The clock is set to go back 1 hour at that time.

Notify me when the clock changes

OK Cancel Apply

LAST INSTALLED UPDATES

Last installed updates	Never
Windows Update	Install updates automatically using Windows Update
Last checked for updates	Never

SECURITY

Windows Defender	Real-Time Protection: On
Feedback & Diagnostics	Settings
IE Enhanced Security Configuration	Off
Time zone	(UTC-08:00) Pacific Time (US & Canada)
Product ID	Not activated

PROCESSORS

Processor	Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R) CPU
Installed memory (RAM)	4 GB
Total disk space	59.45 GB

LOG

Log	Date and Time
System	5/4/2024 9:25:09 PM
System	5/4/2024 9:25:09 PM
System	5/4/2024 9:25:09 PM
Application	5/4/2024 9:22:38 PM
Application	5/4/2024 9:22:37 PM
Application	5/4/2024 9:22:37 PM
Application	5/4/2024 9:22:28 PM

SERVICES

All services | 188 total

Filter

Activate Windows

Go to settings to activate

TASKS

Server Manager

Server Manager ▸ Local Server

Manage Tools View Help

Dashboard Local Server All Servers File and Storage Services

PROPERTIES For WIN-TO48V9UGFLL

Computer name	WIN-TO48V9UGFLL	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install updates automatically using Windows Update
		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+05:30) Chennai, Kolkata, Mumbai, New Delhi
Ethernet0	IPv4 address assigned by DHCP, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2016 Datacenter Evaluation	Processors	Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R) CPU
Hardware information	VMware, Inc. VMware20.1	Installed memory (RAM)	4 GB
		Total disk space	59.45 GB

EVENTS

All events | 20 total

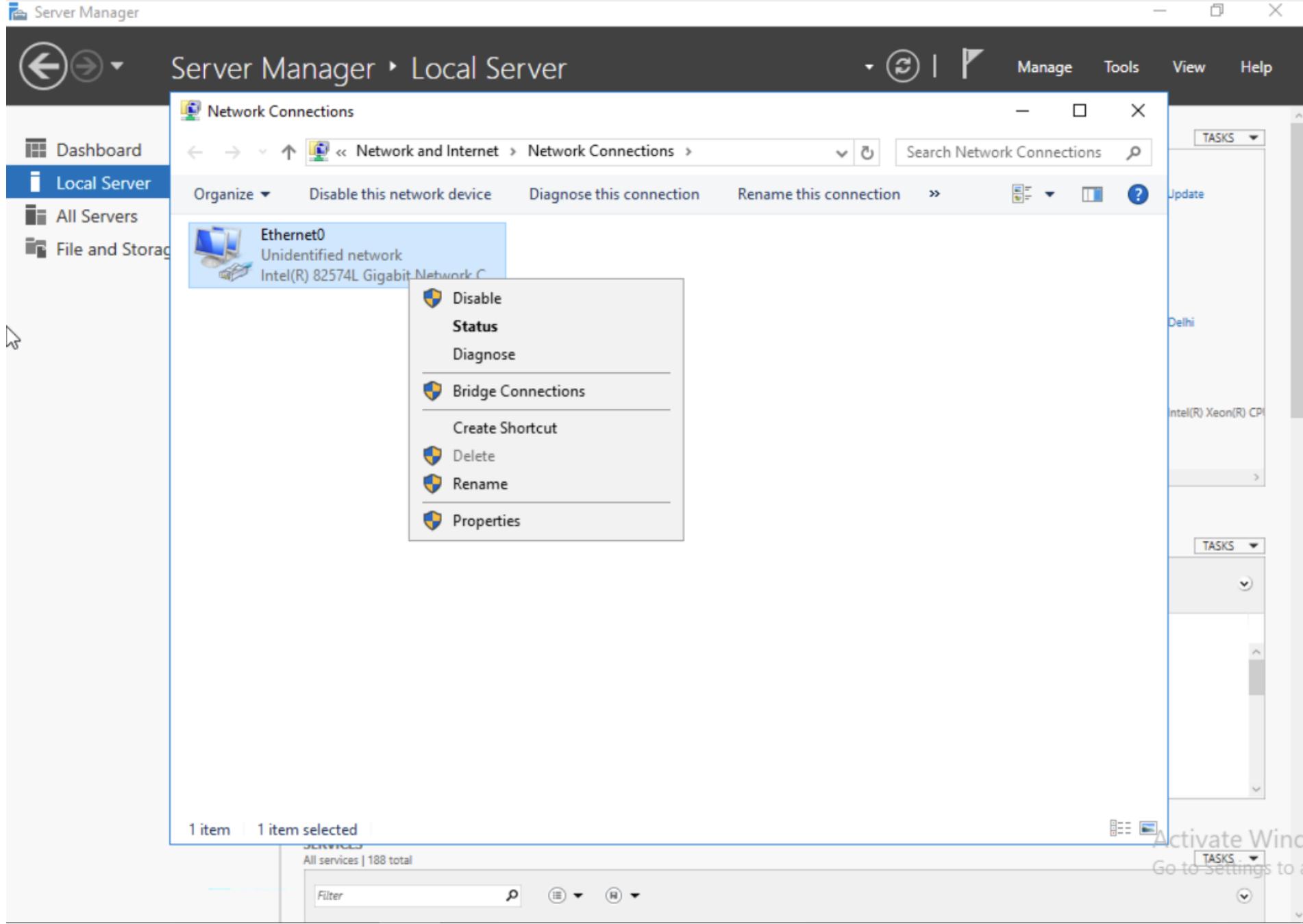
Server Name	ID	Severity	Source	Log	Date and Time
WIN-TO48V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-TO48V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
WIN-TO48V9UGFLL	7023	Error	Microsoft-Windows-Service Control Manager	System	5/4/2024 9:25:09 PM
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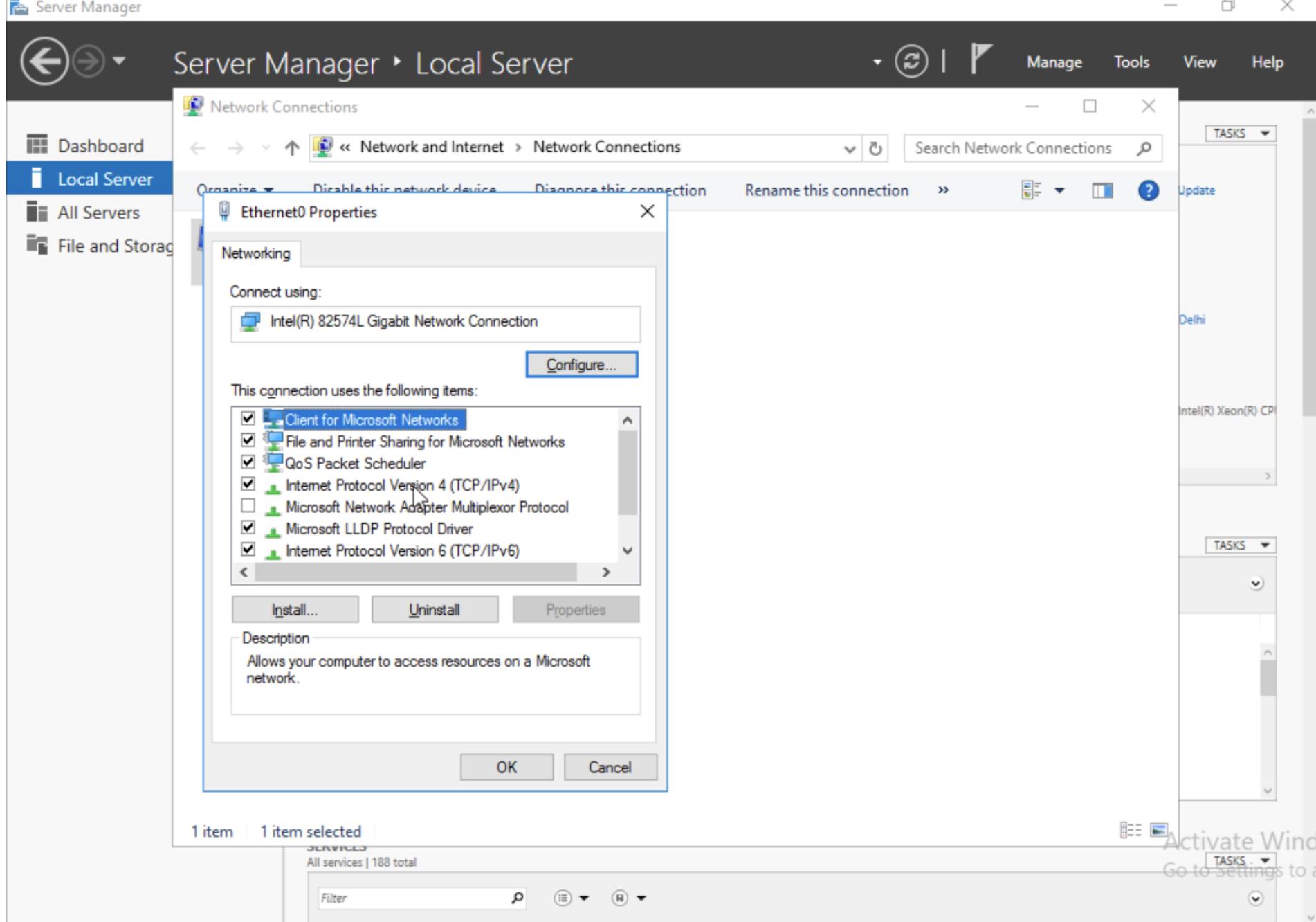
SERVICES

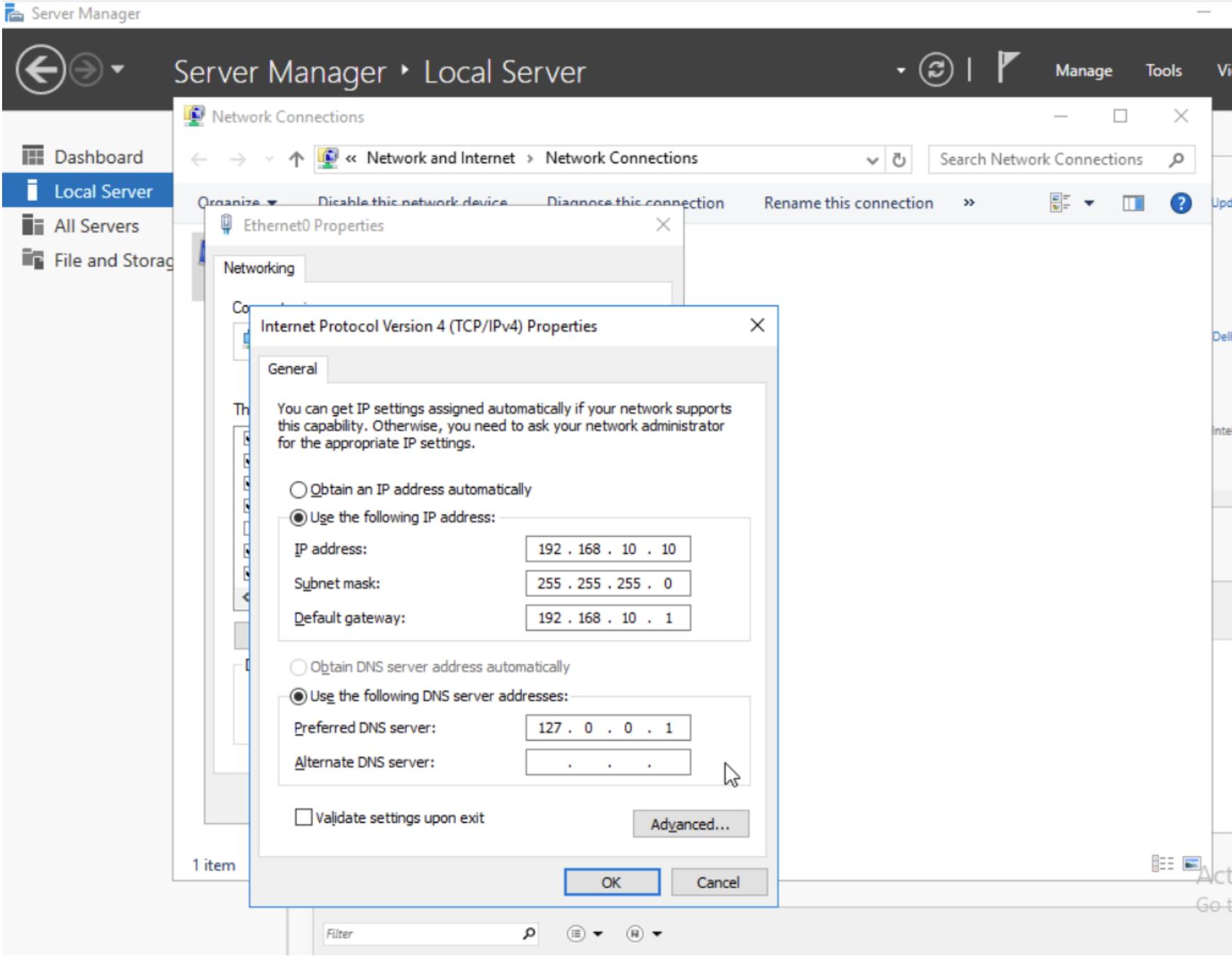
All services | 188 total

Filter	Log	Date and Time
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Activate Wind
Go to settings to a







Server Manager

Server Manager ▸ Local Server

Dashboard Local Server All Servers File and Storage Services

PROPERTIES For WIN-TO48V9UGFL

Computer name: WIN-TO48V9UGFL Workgroup: WORKGROUP

Last installed updates: Windows Update Last checked for updates: Never

Windows Firewall: Public: Off Remote management: Enabled Remote Desktop: Disabled NIC Teaming: Disabled Ethernet0: 192.168.10.10, IPv6 enabled

Windows Defender: Real-Time Protection: On Feedback & Diagnostics: Settings IE Enhanced Security Configuration: Off Time zone: (UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi Product ID: Not activated

Operating system version: Microsoft Windows Server 2016 Datacenter Evaluation Hardware information: VMware, Inc. VMware20.1

Processors: Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R) 4 GB Installed memory (RAM): 59.45 GB Total disk space:

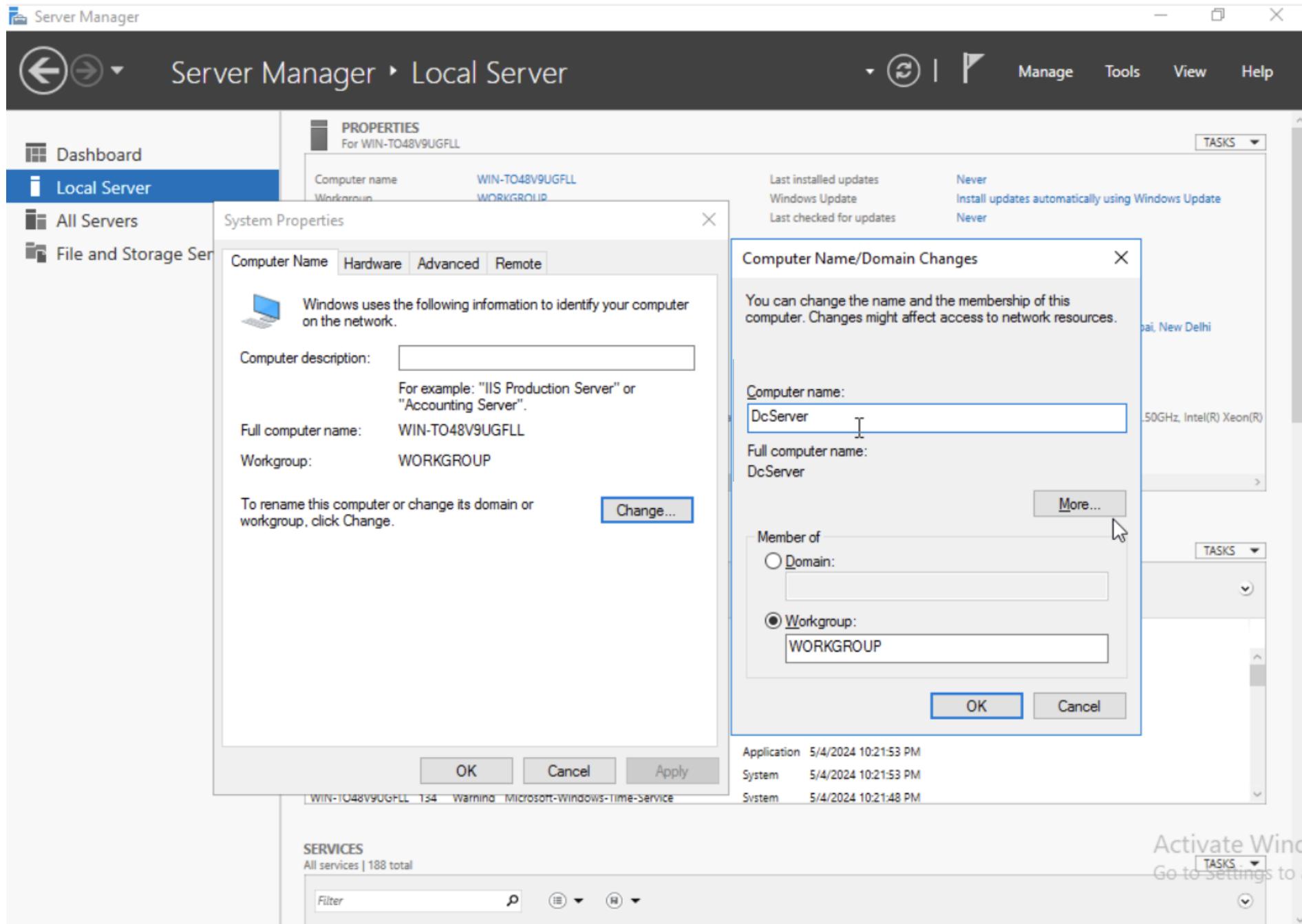
EVENTS All events | 33 total

Server Name	ID	Severity	Source	Log	Date and Time
WIN-TO48V9UGFL	8198	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 10:21:53 PM
WIN-TO48V9UGFL	8200	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 10:21:53 PM
WIN-TO48V9UGFL	1014	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 10:21:53 PM
WIN-TO48V9UGFL	1014	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 10:21:53 PM
WIN-TO48V9UGFL	8200	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 10:21:53 PM
WIN-TO48V9UGFL	1014	Warning	Microsoft-Windows-DNS Client Events	System	5/4/2024 10:21:53 PM
WIN-TO48V9UGFL	134	Warning	Microsoft-Windows-Time-Service	System	5/4/2024 10:21:48 PM

SERVICES All services | 188 total

Filter

Activate Wind
Go to Settings to a



Server Manager

Server Manager ▸ Local Server

Dashboard Local Server All Servers File and Storage Services ▸

PROPERTIES For WIN-T048V9UGFL

Computer name	WIN-T048V9UGFL	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install updates automatically using Windows Update
		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			(UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi
Ethernet0			Not activated
Operating system ver			
Hardware information			

Microsoft Windows

You must restart your computer to apply these changes

Before restarting, save any open files and close all programs.

Restart Now **Restart Later**

EVENTS

All events | 33 total

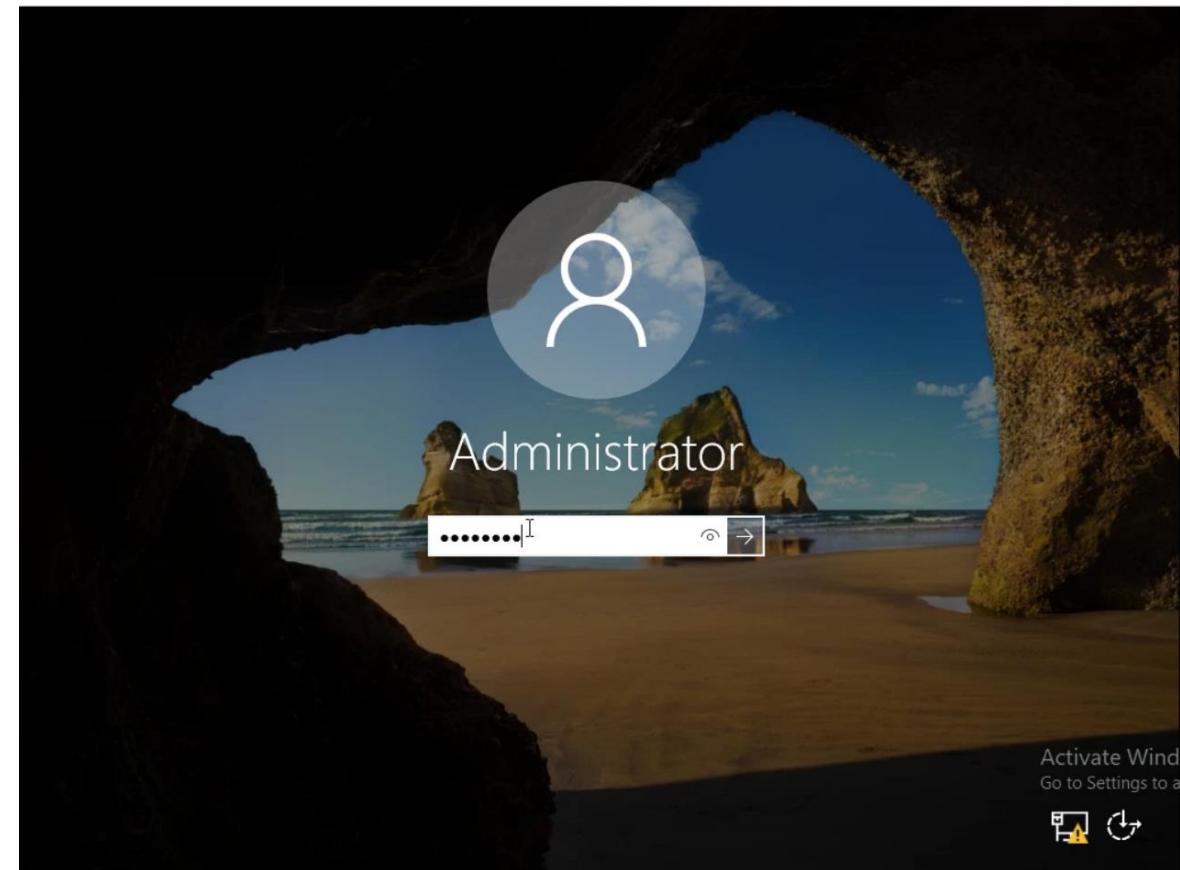
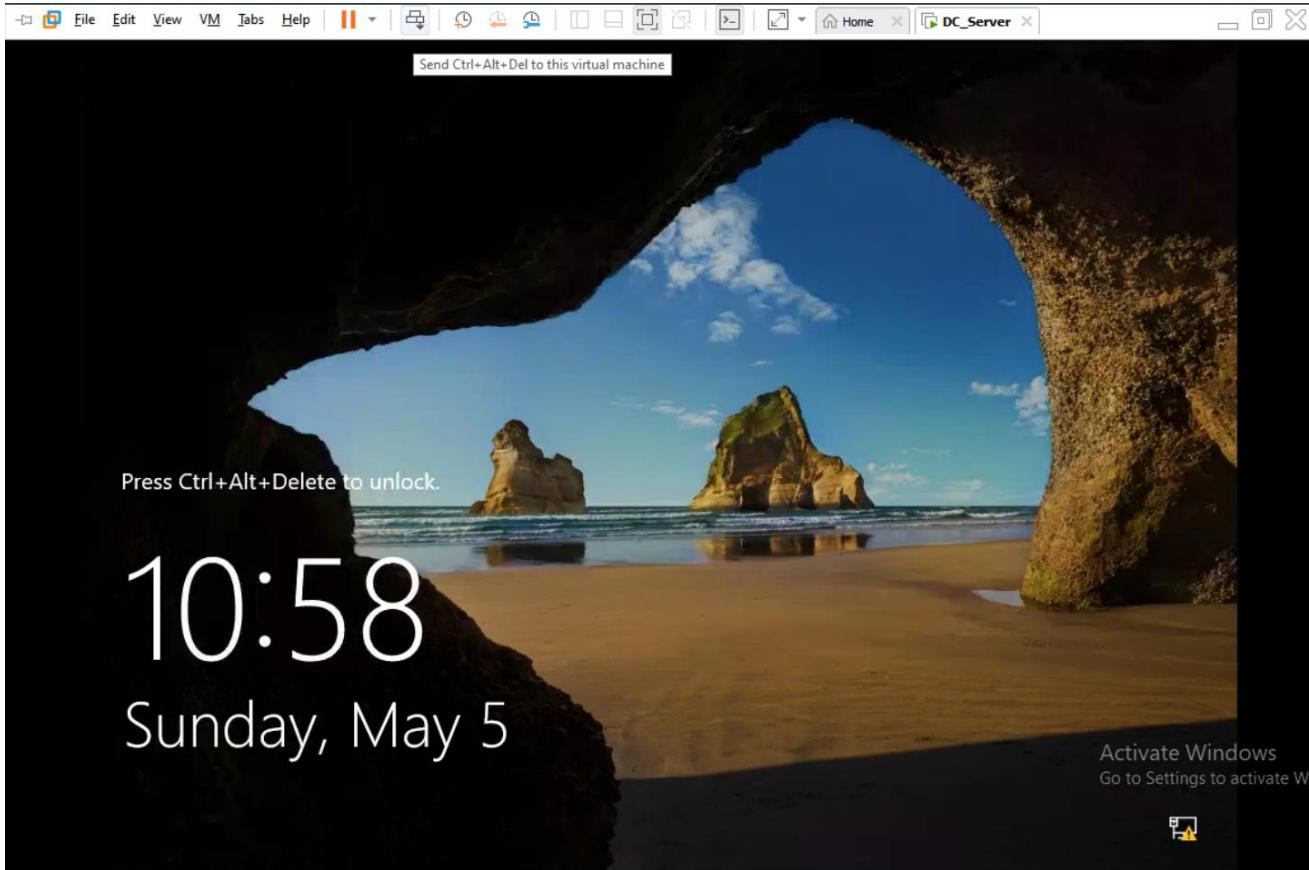
Server Name	ID	Severity	Source	Log	Date and Time
WIN-T048V9UGFL	8198	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 10:21:53 PM
WIN-T048V9UGFL	8200	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 10:21:53 PM
WIN-T048V9UGFL	1014	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 10:21:53 PM
WIN-T048V9UGFL	1014	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 10:21:53 PM
WIN-T048V9UGFL	8200	Error	Microsoft-Windows-Security-SPP	Application	5/4/2024 10:21:53 PM
WIN-T048V9UGFL	1014	Warning	Microsoft-Windows-DNS Client Events	System	5/4/2024 10:21:53 PM
WIN-T048V9UGFL	134	Warning	Microsoft-Windows-Time-Service	System	5/4/2024 10:21:48 PM

SERVICES

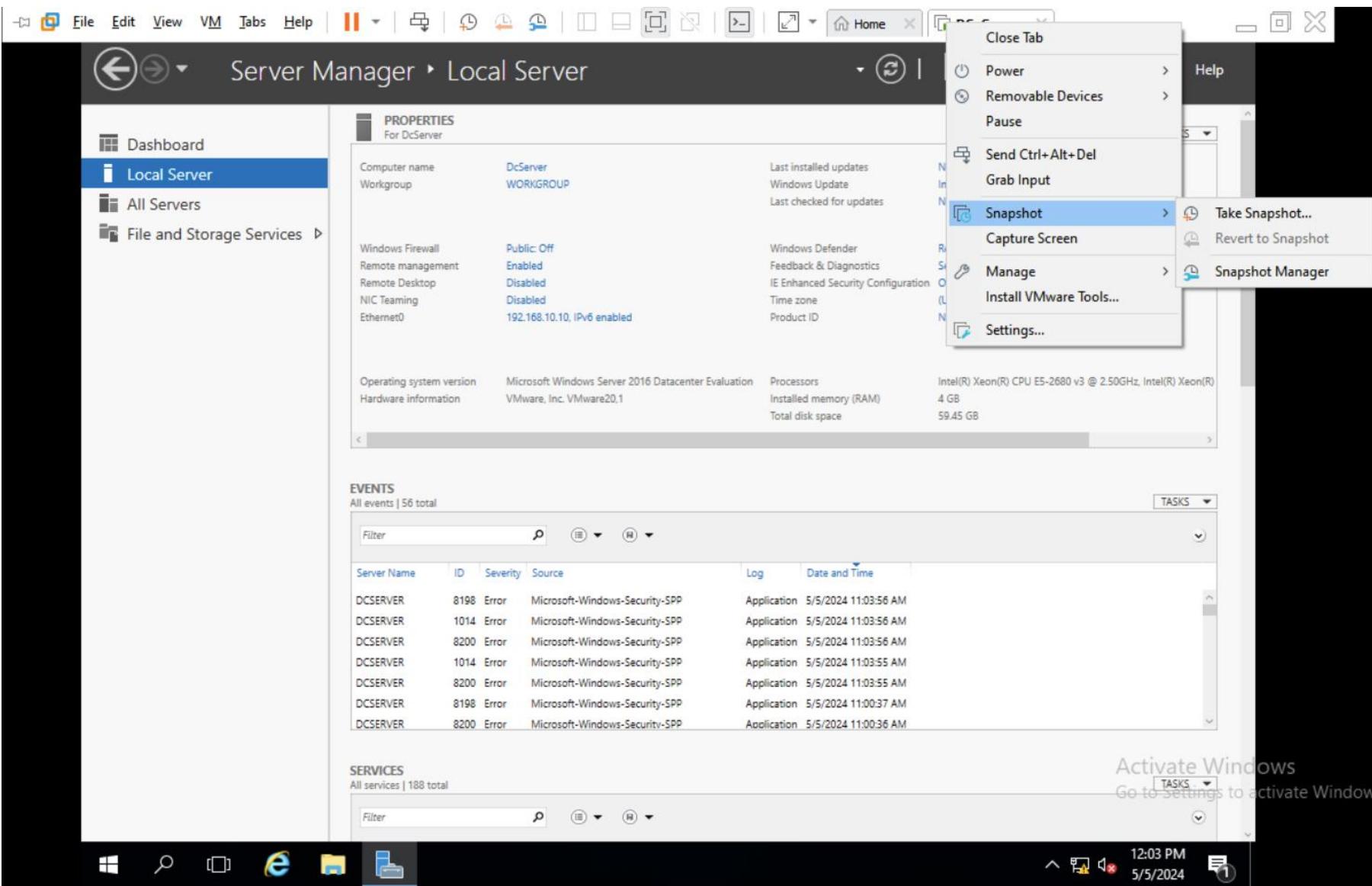
All services | 188 total

Filter			
--------	--	--	--

Activate Wind
Go to settings to a



- Taking Snapshot of the VM:



Server Manager

Server Manager ▶ Local Server

Dashboard Local Server All Servers File and Storage Services ▶

PROPERTIES For DcServer

Computer name: DcServer Last installed updates: Never
Workgroup: WORKGROUP Windows Update: Install updates automatically using Windows Update
Last checked for updates: Never

Windows Firewall: Public: Off Real-Time Protection: On
Remote management: Enabled Settings
Remote Desktop: Disabled Off
NIC Teaming: Ethernet0 Time zone: (UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi
Ethernet0 Not activated

Operating system version: Hardware information: Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R)
4 GB
59.45 GB

DC_Server - Take Snapshot

Taking a snapshot lets you preserve the state of the virtual machine so that you can return to the same state later.

Name: Installed & Configured Description:

Take Snapshot Cancel

EVENTS All events | 56 total

Server Name	ID	Type	Source	Level	Time
DCSERVER	8198	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 11:03:56 AM
DCSERVER	1014	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 11:03:56 AM
DCSERVER	8200	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 11:03:56 AM
DCSERVER	1014	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 11:03:55 AM
DCSERVER	8200	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 11:03:55 AM
DCSERVER	8198	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 11:00:37 AM
DCSERVER	8200	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 11:00:36 AM

SERVICES All services | 188 total

Activate Windows
Go to Settings to activate

Filter

Server Manager

Server Manager ▶ Local Server

Dashboard Local Server All Servers File and Storage Services

PROPERTIES For DcServer

Computer name	DcServer	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install updates automatically using Windows Update
		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+05:30) Chennai, Kolkata, Mumbai, New Delhi
Ethernet0	192.168.10.10, IPv6 enabled	Product ID	Not activated

Operating system version	Microsoft Windows Server 2016 Datacenter Evaluation	Processors	Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R)
Hardware information	VMware, Inc. VMware20.1	Installed memory (RAM)	4 GB
		Total disk space	59.45 GB

EVENTS

All events | 51 total

Server Name	ID	Severity	Source	Log	Date and Time
DCSERVER	8198	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 11:00:37 AM
DCSERVER	8200	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 11:00:36 AM
DCSERVER	1014	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 11:00:36 AM
DCSERVER	8198	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 10:58:56 AM
DCSERVER	1014	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 10:58:55 AM
DCSERVER	8200	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 10:58:55 AM
DCSERVER	8198	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 10:58:53 AM

SERVICES

All services | 188 total

Filter	Log	Date and Time
--------	-----	---------------

Activate Wind
Go to settings to a

- Adding Roles & Features:

The screenshot shows the Windows Server Manager interface for a local server named 'DcServer'. The left navigation pane includes 'Dashboard', 'Local Server' (selected), 'All Servers', and 'File and Storage Services'. The main area displays 'PROPERTIES' for the server, showing details like Computer name (DcServer), Workgroup (WORKGROUP), and various system configurations such as Firewall, Remote management, and Network settings. Below this is the 'EVENTS' section, which lists 51 total events, primarily from the Microsoft-Windows-Security-SPP log, mostly Application errors related to security updates. At the bottom, there is a 'SERVICES' section showing 188 total services.

Event Details	Log	Date and Time
DCSERVER 8198 Error Microsoft-Windows-Security-SPP	Application	5/5/2024 11:00:37 AM
DCSERVER 8200 Error Microsoft-Windows-Security-SPP	Application	5/5/2024 11:00:36 AM
DCSERVER 1014 Error Microsoft-Windows-Security-SPP	Application	5/5/2024 11:00:36 AM
DCSERVER 8198 Error Microsoft-Windows-Security-SPP	Application	5/5/2024 10:58:56 AM
DCSERVER 1014 Error Microsoft-Windows-Security-SPP	Application	5/5/2024 10:58:55 AM
DCSERVER 8200 Error Microsoft-Windows-Security-SPP	Application	5/5/2024 10:58:55 AM
DCSERVER 8198 Error Microsoft-Windows-Security-SPP	Application	5/5/2024 10:58:53 AM

Add Roles and Features Wizard

Before you begin

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

This wizard helps you install roles, role services, or features. You determine which roles, role services, or features to install based on the computing needs of your organization, such as sharing documents, or hosting a website.

To remove roles, role services, or features:

[Start the Remove Roles and Features Wizard](#)

Before you continue, verify that the following tasks have been completed:

- The Administrator account has a strong password
- Network settings, such as static IP addresses, are configured
- The most current security updates from Windows Update are installed

If you must verify that any of the preceding prerequisites have been completed, close the wizard, complete the steps, and then run the wizard again.

To continue, click Next.

[Skip this page by default](#)

< Previous

Next >

Install

Cancel

Add Roles and Features Wizard

Select installation type

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

Select the installation type. You can install roles and features on a running physical computer or virtual machine, or on an offline virtual hard disk (VHD).

Role-based or feature-based installation

Configure a single server by adding roles, role services, and features.

Remote Desktop Services installation

Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-based or session-based desktop deployment.

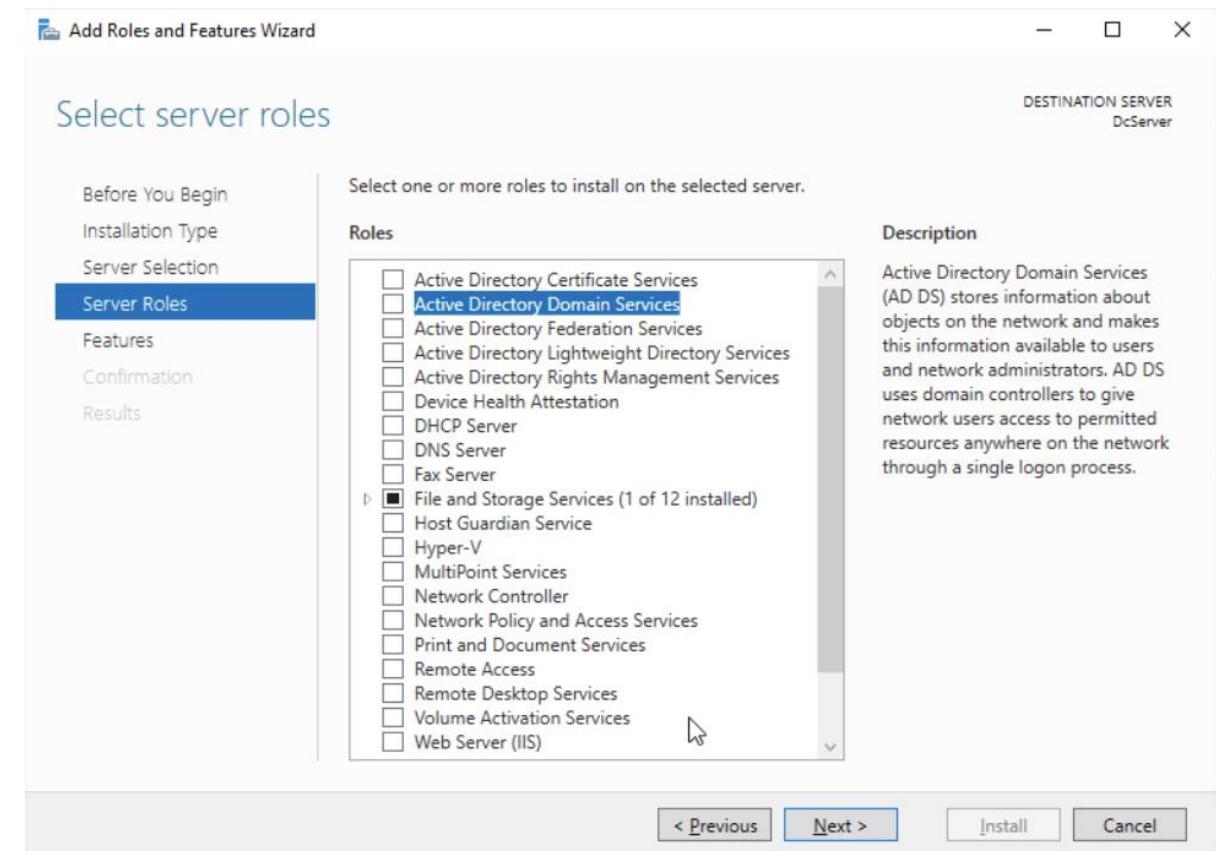
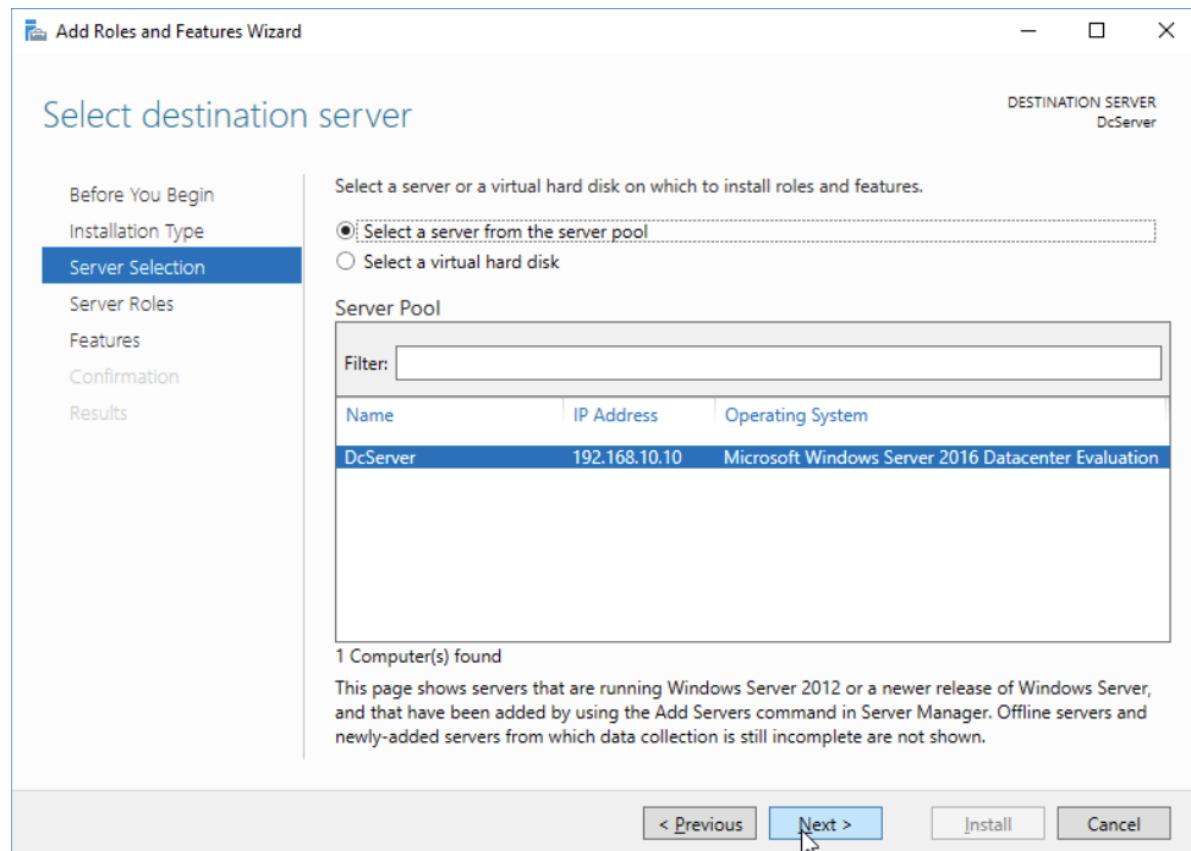


< Previous

Next >

Install

Cancel



The image shows two windows of the 'Add Roles and Features Wizard' side-by-side.

Left Window: Select server roles

This window is titled 'Add Roles and Features Wizard' and has a sub-titile 'Select server roles'. It displays a list of required features for Active Directory Domain Services:

- [Tools] Group Policy Management
- Remote Server Administration Tools
 - Role Administration Tools
 - AD DS and AD LDS Tools
 - Active Directory module for Windows PowerShell
 - AD DS Tools
 - [Tools] Active Directory Administrative Center
 - [Tools] AD DS Snap-Ins and Command-Line Tools

A checkbox 'Include management tools (if applicable)' is checked. At the bottom are 'Add Features' and 'Cancel' buttons.

Right Window: Select features

This window is also titled 'Add Roles and Features Wizard' and has a sub-titile 'Select features'. It lists various features to install:

 - .NET Framework 3.5 Features
 - .NET Framework 4.6 Features (2 of 7 installed)
 - Background Intelligent Transfer Service (BITS)
 - BitLocker Drive Encryption
 - BitLocker Network Unlock
 - BranchCache
 - Client for NFS
 - Containers
 - Data Center Bridging
 - Direct Play
 - Enhanced Storage
 - Failover Clustering
 - Group Policy Management
 - Host Guardian Hyper-V Support
 - I/O Quality of Service
 - IIS Hostable Web Core
 - Internet Printing Client
 - IP Address Management (IPAM) Server
 - iSNS Server service

At the bottom are '< Previous', 'Next >', 'Install', and 'Cancel' buttons.

Add Roles and Features Wizard

Active Directory Domain Services

DESTINATION SERVER
DcServer

Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Confirmation
Results

Active Directory Domain Services (AD DS) stores information about users, computers, and other devices on the network. AD DS helps administrators securely manage this information and facilitates resource sharing and collaboration between users.

Things to note:

- To help ensure that users can still log on to the network in the case of a server outage, install a minimum of two domain controllers for a domain.
- AD DS requires a DNS server to be installed on the network. If you do not have a DNS server installed, you will be prompted to install the DNS Server role on this machine.

Azure Active Directory, a separate online service, can provide simplified identity and access management, security reporting, single sign-on to cloud and on-premises web apps.
[Learn more about Azure Active Directory](#)
[Configure Office 365 with Azure Active Directory Connect](#)

< Previous **Next >** Install Cancel

Add Roles and Features Wizard

Confirm installation selections

DESTINATION SERVER
DcServer

Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Confirmation
Results

To install the following roles, role services, or features on selected server, click Install.

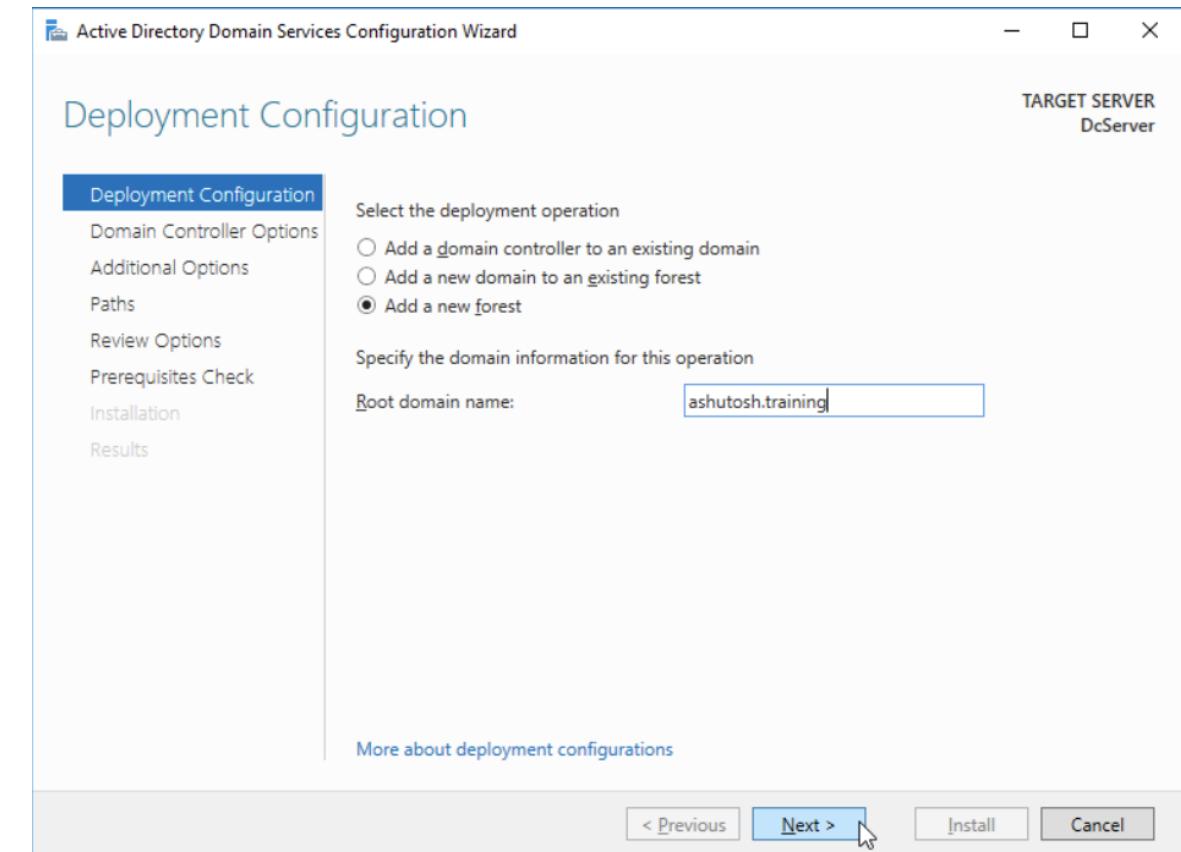
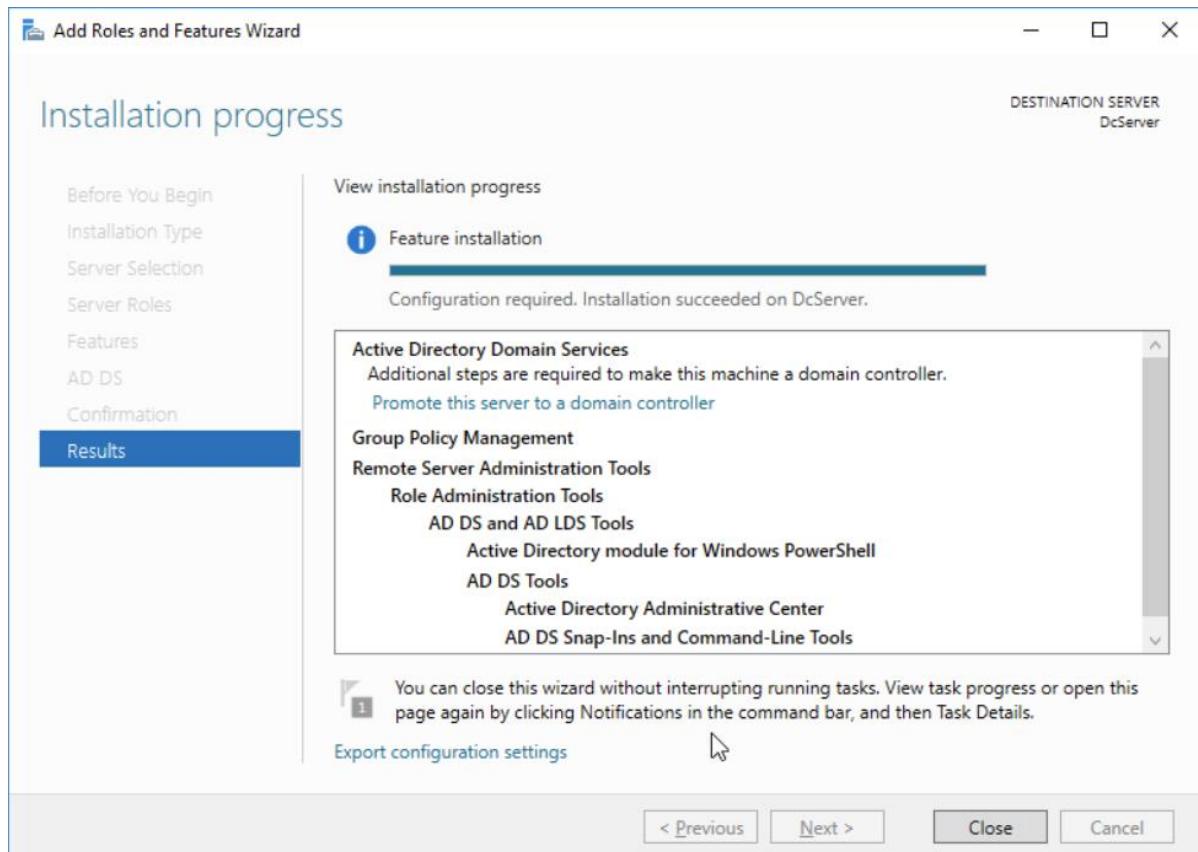
Restart the destination server automatically if required

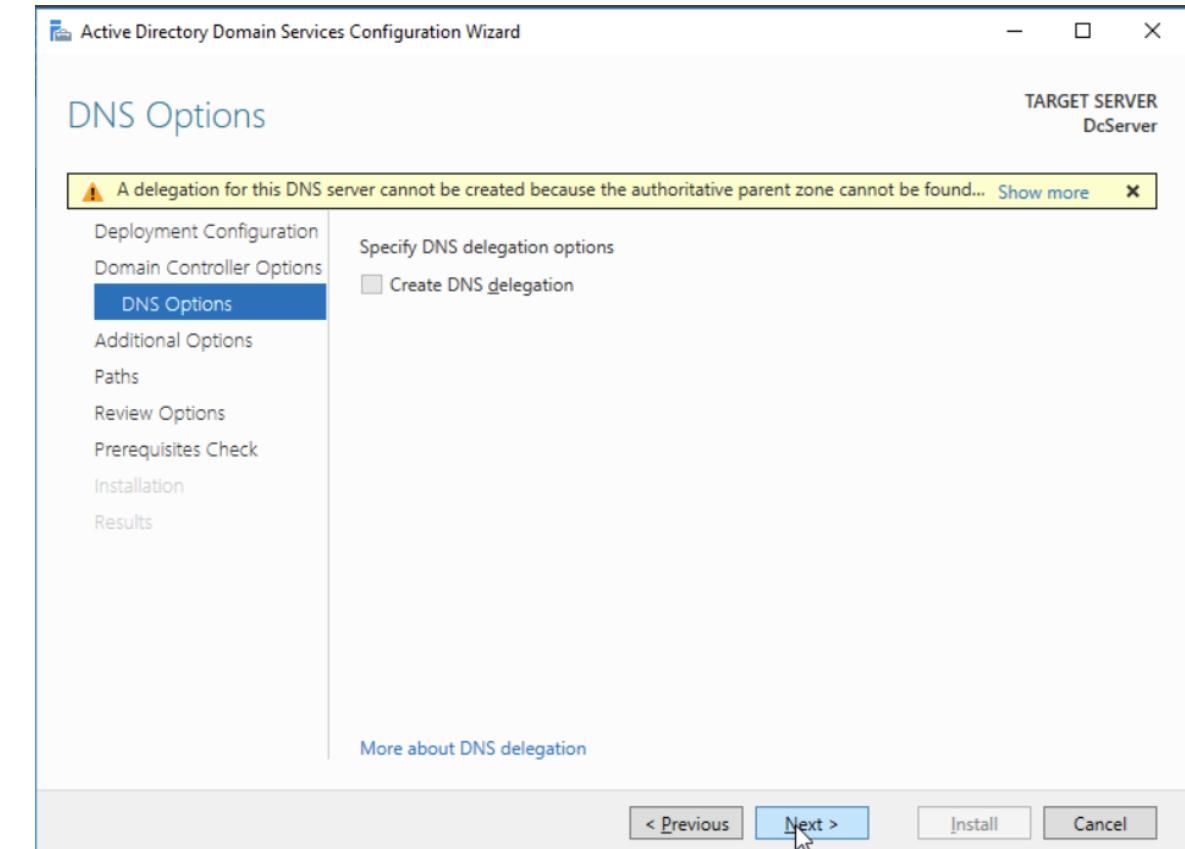
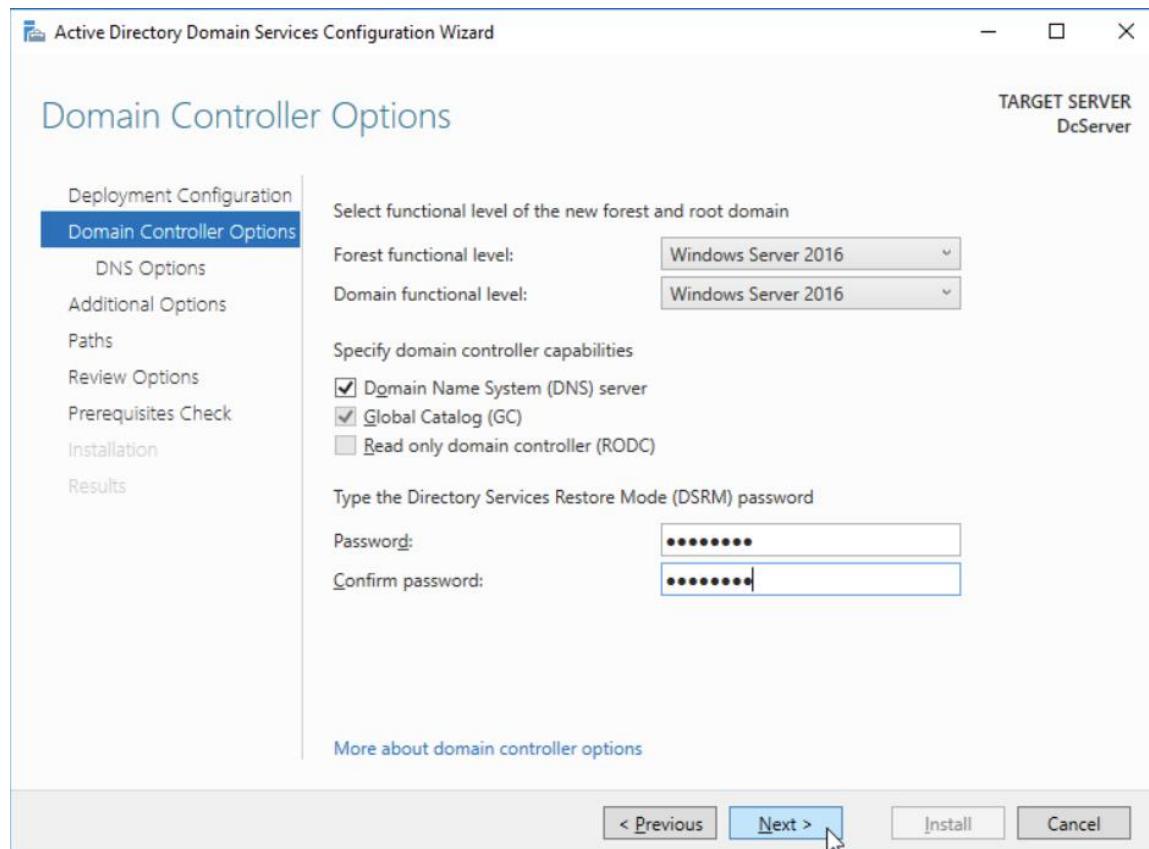
Optional features (such as administration tools) might be displayed on this page because they have been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.

Active Directory Domain Services
Group Policy Management
Remote Server Administration Tools
Role Administration Tools
AD DS and AD LDS Tools
Active Directory module for Windows PowerShell
AD DS Tools
Active Directory Administrative Center
AD DS Snap-Ins and Command-Line Tools

Export configuration settings
Specify an alternate source path

< Previous **Next >** **Install** Cancel





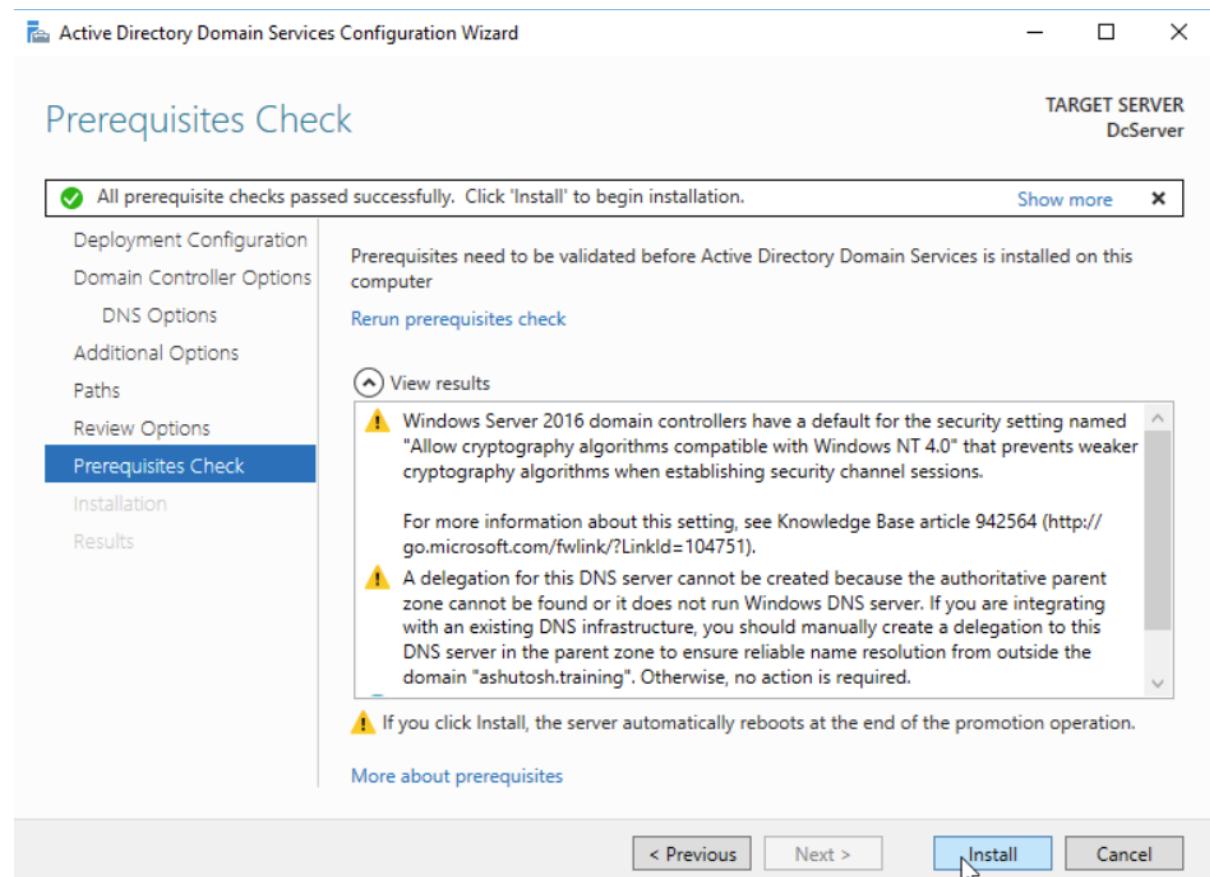
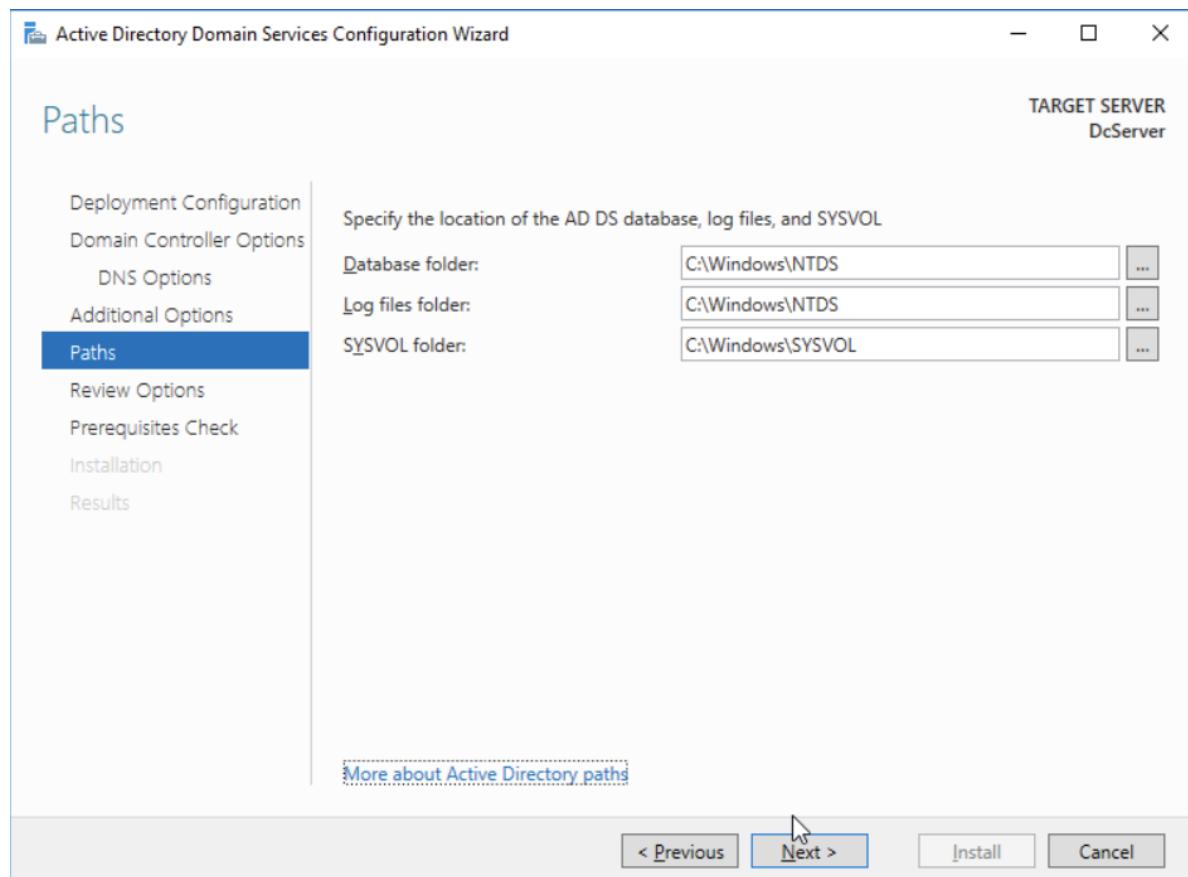
The image shows two windows of the Active Directory Domain Services Configuration Wizard.

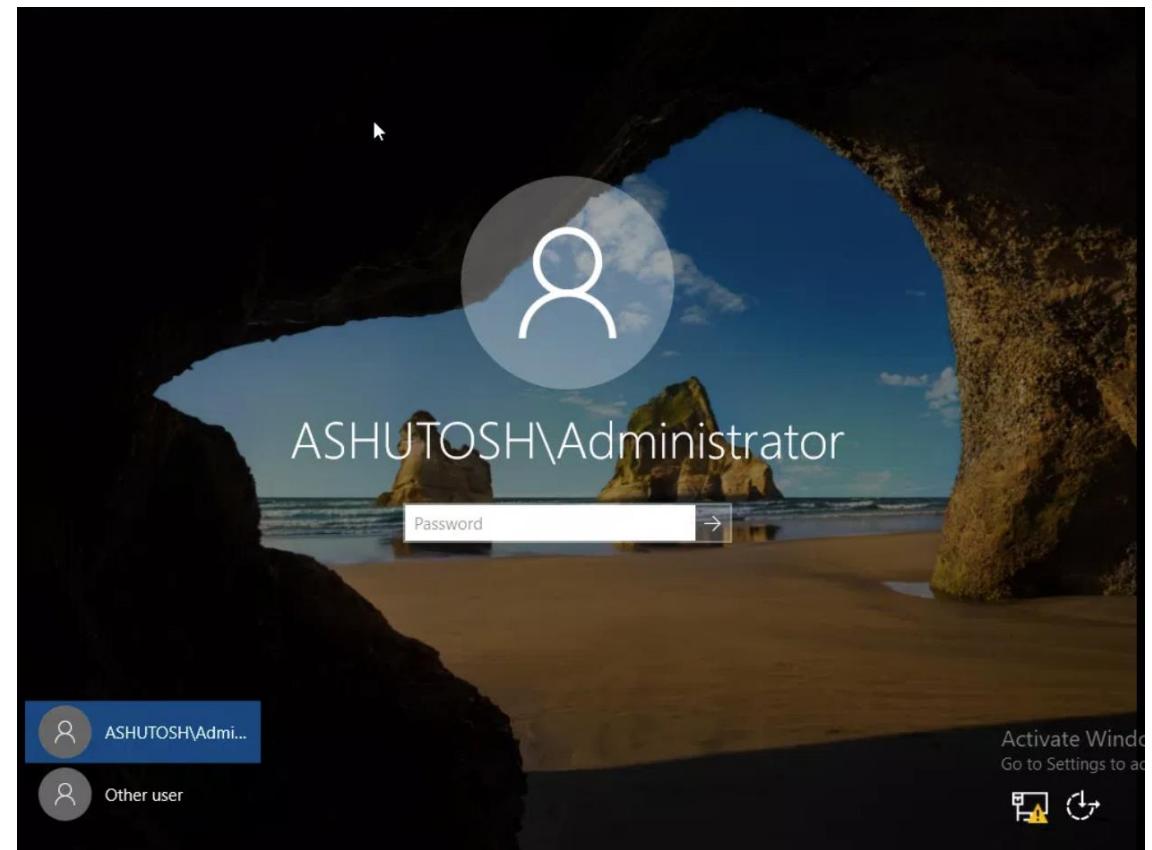
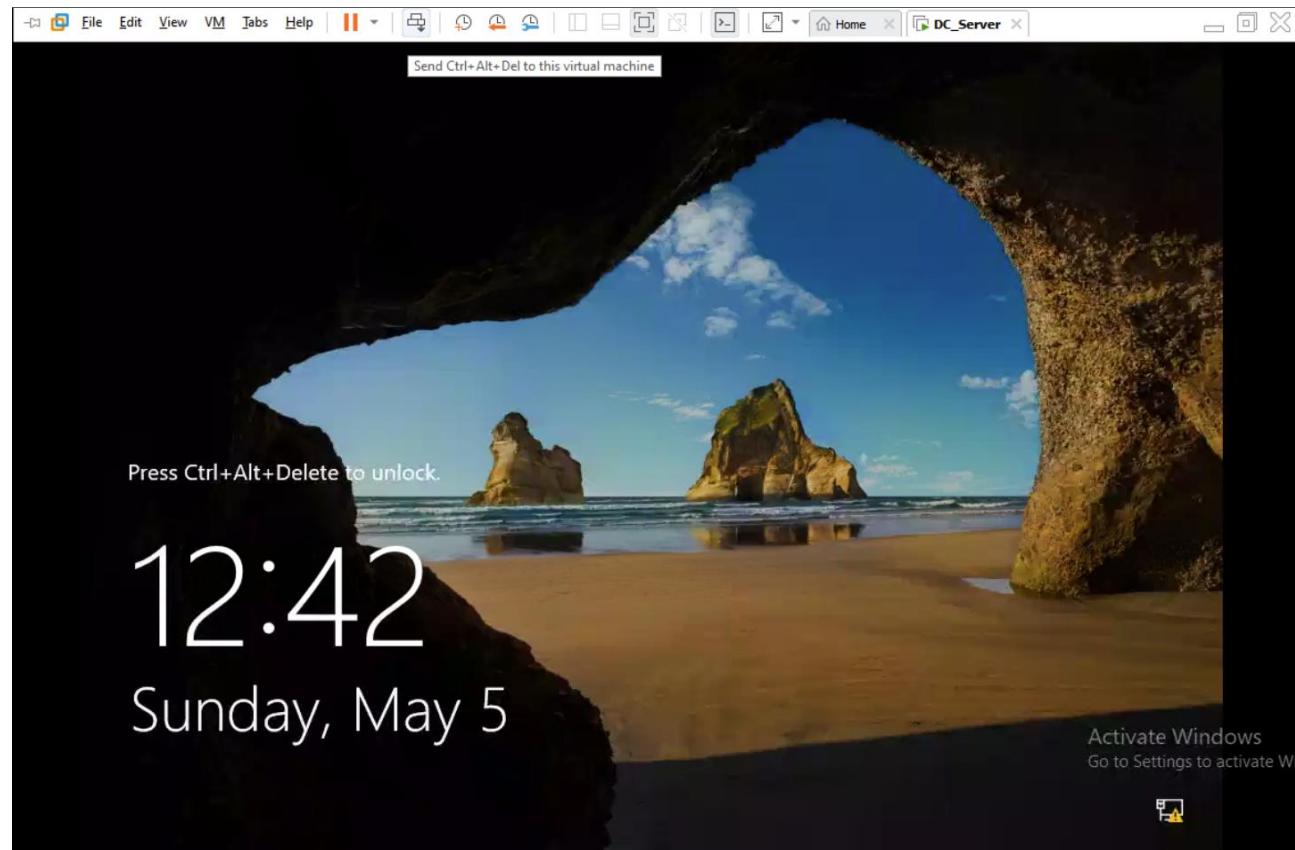
Left Window (Additional Options Step):

- TITLE:** Active Directory Domain Services Configuration Wizard
- Section:** Additional Options
- Content:** Verify the NetBIOS name assigned to the domain and change it if necessary. The NetBIOS domain name is set to ASHUTOSH.
- Navigation:** Deployment Configuration, Domain Controller Options, DNS Options, **Additional Options**, Paths, Review Options, Prerequisites Check, Installation, Results.
- Buttons:** < Previous, **Next >**, Install, Cancel.

Right Window (Paths Step):

- TITLE:** Active Directory Domain Services Configuration Wizard
- Section:** Paths
- Content:** Specify the location of the AD DS database, log files, and SYSVOL. The Database folder is C:\Windows\NTDS, Log files folder is C:\Windows\NTDS, and SYSVOL folder is C:\Windows\SYSVOL.
- Navigation:** Deployment Configuration, Domain Controller Options, DNS Options, **Additional Options**, **Paths**, Review Options, Prerequisites Check, Installation, Results.
- Buttons:** < Previous, **Next >**, Install, Cancel.





Server Manager

Server Manager ▶ Dashboard

Manage Tools View Help

Dashboard

Local Server

All Servers

AD DS

DNS

File and Storage Services

WELCOME TO SERVER MANAGER

QUICK START

1 Configure this local server

2 Add roles and features

3 Add other servers to manage

4 Create a server group

5 Connect this server to cloud services

WHAT'S NEW

LEARN MORE

Hide

ROLES AND SERVER GROUPS

Roles: 3 | Server groups: 1 | Servers total: 1

	Role / Server Group	Count
1	AD DS	1
1	DNS	1
1	File and Storage Services	1
1	Local Server	1
1	All Servers	1

Manageability

Events

Services

Performance

BPA results

5/5/2024 12:45 PM

5/5/2024 12:45 PM

Activate Windows
Go to Settings to activate

The screenshot shows the Microsoft Server Manager interface. On the left is a navigation pane with links for Dashboard, Local Server, All Servers, AD DS, DNS, and File and Storage Services. The main area is titled 'WELCOME TO SERVER MANAGER' and contains a 'QUICK START' section with five numbered steps: 1. Configure this local server, 2. Add roles and features, 3. Add other servers to manage, 4. Create a server group, and 5. Connect this server to cloud services. Below this is a 'WHAT'S NEW' section with a 'LEARN MORE' button. A 'Hide' link is located in the top right of the main content area. Under 'ROLES AND SERVER GROUPS', it says 'Roles: 3 | Server groups: 1 | Servers total: 1'. There are four cards: 'AD DS' (1 item), 'DNS' (1 item), 'File and Storage Services' (1 item), and 'Local Server' (1 item). Each card lists 'Manageability', 'Events', 'Services', 'Performance', and 'BPA results'. The 'Local Server' card is highlighted in red. At the bottom, there is a card for 'All Servers' (1 item) with the same list of metrics. A watermark 'Activate Windows Go to Settings to activate' is visible in the bottom right. The bottom of the screen has standard Windows controls (minimize, maximize, close) and a footer with the RPS logo and copyright information.

Server Manager

Server Manager • Dashboard

WELCOME TO SERVER MANAGER

1 Configure this local server

- 2 Add roles and features
- 3 Add other servers to manage
- 4 Create a server group
- 5 Connect this server to cloud services

QUICK START

WHAT'S NEW

LEARN MORE

ROLES AND SERVER GROUPS

Roles: 3 | Server groups: 1 | Servers total: 1

 AD DS 1	 DNS 1	 File Server 1
Manageability	Manageability	Manageability
Events	Events	Events
Services	Services	Services
Performance	Performance	Performance
BPA results	BPA results	BPA results

All Servers 1

-  Manageability 1
-  Events 2
-  Services
-  Performance

Manage Active Directory Administrative Center

Tools Active Directory Domains and Trusts

View Active Directory Module for Windows PowerShell

Help Active Directory Sites and Services

Active Directory Users and Computers

ADSI Edit

Component Services

Computer Management

Defragment and Optimize Drives

Disk Cleanup

DNS

Event Viewer

Group Policy Management

iSCSI Initiator

Local Security Policy

Microsoft Azure Services

ODBC Data Sources (32-bit)

ODBC Data Sources (64-bit)

Performance Monitor

Print Management

Resource Monitor

Services

System Configuration

System Information

Task Scheduler

Windows Firewall with Advanced Security

Windows Memory Diagnostic

Windows PowerShell

Windows PowerShell (x86)

Activate Wind Go to Settings to a

Active Directory Users and Computers



File Action View Help



Active Directory Users and Com
> Saved Queries
> ashutosh.training
> _builtin
> Computers
> Domain Controllers
> ForeignSecurityPrincipal
> Managed Service Account
Users

Name	Type	Description
Administrator	User	Built-in account for ad...
Allowed RO...	Security Group...	Members in this group c...
Cert Publish...	Security Group...	Members of this group ...
Cloneable D...	Security Group...	Members of this group t...
DefaultAcco...	User	A user account manage...
Denied ROD...	Security Group...	Members in this group c...
DnsAdmins	Security Group...	DNS Administrators Gro...
DnsUpdateP...	Security Group...	DNS clients who are per...
Domain Ad...	Security Group...	Designated administrato...
Domain Co...	Security Group...	All workstations and ser...
Domain Con...	Security Group...	All domain controllers i...
Domain Gue...	Security Group...	All domain guests
Domain Users	Security Group...	All domain users
Enterprise A...	Security Group...	Designated administrato...
Enterprise K...	Security Group...	Members of this group ...
Enterprise R...	Security Group...	Members of this group ...
Group Polic...	Security Group...	Members in this group c...
Guest	User	Built-in account for gue...
Key Admins	Security Group...	Members of this group ...
Protected Us...	Security Group...	Members of this group ...
RAS and IAS ...	Security Group...	Servers in this group can...
Read-only D...	Security Group...	Members of this group ...
Schema Ad...	Security Group...	Designated administrato...

Activate Wind
Go to Settings to a

Active Directory Users and Computers

File Action View Help

Creates a new item in this container.

New >

All Tasks >

Refresh

Properties

Help

Computer

Contact

Group

InetOrgPerson

msDS-ShadowPrincipalContainer

mslmaging-PSPs

MSMQ Queue Alias

Organizational Unit

Printer

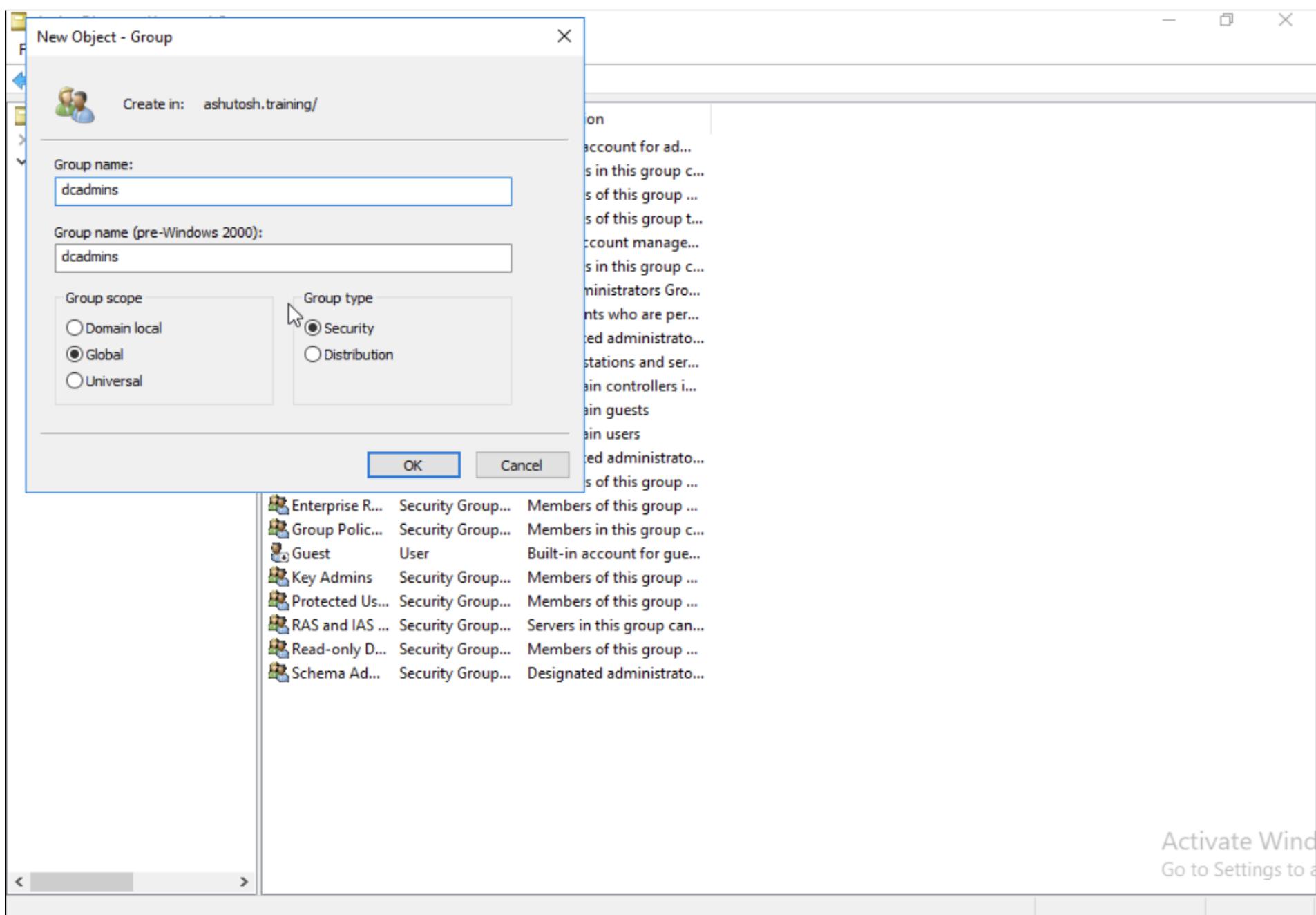
User

Shared Folder

Name	Type	Description
Administrator	User	Built-in account for ad...
ashut... (selected)	Delegate Control...	Members in this group c...
	Find...	Members of this group ...
	Change Domain...	Members of this group t...
	Change Domain Controller...	A user account manage...
	Raise domain functional level...	Members in this group c...
	Operations Masters...	DNS Administrators Gro...
		DNS clients who are per...

Activate Wind
Go to Settings to a

The screenshot shows the Windows Active Directory Users and Computers management console. A context menu is open over a user account named 'ashut...'. The menu includes options like 'New' (highlighted), 'All Tasks', 'Refresh', 'Properties', and 'Help'. Below the 'New' option is a list of object types: Computer, Contact, Group, InetOrgPerson, msDS-ShadowPrincipalContainer, mslmaging-PSPs, MSMQ Queue Alias, Organizational Unit, Printer, User, and Shared Folder. The main pane displays a table of objects with columns for Name, Type, and Description. The 'Administrator' built-in account is listed at the top. A specific user account, 'ashut...', is selected and its details are shown: Type 'User', Description 'Built-in account for ad...', and a list of groups it belongs to (e.g., 'ashut... (selected)', 'Find...', 'Change Domain...', etc.). At the bottom of the interface, there's a note about creating new items and a status bar indicating 'Activate Wind' and 'Go to Settings to a'.



Active Directory Users and Computers

To release input, press Ctrl+Alt.

File Action View Help

Creates a new item in this container.

Active Directory Users and Com
Saved Queries
ashutosh.training
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipal:
Managed Service Account
Users

Name Type Description

Administrator	User	Built-in account for ad...
Allowed RO...	Security Group...	Members in this group c...
Cert Publish...	Security Group...	Members of this group ...
Cloneable D...	Security Group...	Members of this group t...
DefaultAcco...	User	A user account manage...
Denied ROD...	Security Group...	Members in this group c...
DnsAdmins	Security Group...	DNS Administrators Gro...
EP...	Security Group...	DNS clients who are per...
ad...	Security Group...	Designated administrato...
Security Group	All workstations and ser...	
Computer		
Contact		
Group		
InetOrgPerson		
msDS-KeyCredential		
msDS-ResourcePropertyList		
msDS-ShadowPrincipalContainer		
msImaging-PSPs		
MSMQ Queue Alias		
Printer		
User		
Shared Folder		

Delegate Control...
Find...
New
All Tasks
View
Refresh
Export List...
Properties
Help

Protected
RAS and I
Read-only
Schema A

Activate Wind
Go to Settings to a

To release input, press Ctrl+Alt.

New Object - User

Create in: ashutosh.training/Users

First name: DcUser01 Initials:

Last name:

Full name: DcUser01

User logon name: DcUser01 @ashutosh.training

User logon name (pre-Windows 2000): ASHUTOSH\ DcUser01

< Back Cancel

New Object - User

Create in: ashutosh.training/Users

Password: Confirm password:

User must change password at next logon
 User cannot change password
 Password never expires
 Account is disabled

< Back Next > Cancel

New Object - User

Create in: ashutosh.training/Users

When you click Finish, the following object will be created:

Full name: DcUser01
User logon name: DcUser01@ashutosh.training
The password never expires.

< Back Finish Cancel

New Object - User

Create in: ashutosh.training/Users

When you click Finish, the following object will be created:

Full name: DcUser02
User logon name: DcUser02@ashutosh.training
The password never expires.

< Back Finish Cancel

Active Directory Users and Computers

File Action View Help

Active Directory Users and Com
Saved Queries
ashutosh.training
Builtin
Computers
Domain Con...
ForeignSecu...
Managed Se...
Users
Managed Service Accou
Users

Name	Type	Description
Builtin	builtinDomain	
Computers	Container	Default container for up...
Domain Con...	Organizational...	Default contain...
ForeignSecu...	Container	Default contain...
Managed Se...	Container	Default contain...
Users	Container	Default contain...
dcadmins	Security Group...	

dcadmins Properties

General Members Member Of Managed By

Members:

Name	Active Directory Domain Services Folder
------	---

Add... Remove

OK Cancel Apply

Activate Wind
Go to Settings to a

The screenshot shows the Windows Active Directory Users and Computers snap-in. On the left, the navigation pane shows the tree structure under 'ashutosh.training'. The 'dcadmins' security group is selected in the main pane, and its properties dialog is open. The 'Members' tab is selected in the dialog. A single member, 'Active Directory Domain Services Folder', is listed. At the bottom of the dialog are 'Add...', 'Remove', 'OK', 'Cancel', and 'Apply' buttons. The status bar at the bottom right displays 'Activate Wind' and 'Go to Settings to a'.

Active Directory Users and Computers

File Action View Help

for up...
ladmins Properties

Select this object type:
Users, Service Accounts, Groups, or Other objects
From this location:
ashutosh.training

Enter the object names to select (examples):
DcUser
Check Names

Advanced...

Multiple Names Found

More than one object matched the name "DcUser". Select one or more names from this list, or reenter the name.

Matching names:

Name	Logon Name (pr...)	E-Mail Address	Description	In Folder
DcUser01	DcUser01			ashutosh.training...
DcUser02	DcUser02			ashutosh.training...

OK Cancel

Activate Wind
Go to Settings to ↗

The screenshot shows the Windows Active Directory Users and Computers (ADUC) interface. A search dialog is open, displaying results for the query 'DcUser'. Two objects named 'DcUser01' and 'DcUser02' are found, both located in the 'ashutosh.training' container. A 'Multiple Names Found' dialog is overlaid on the main window, instructing the user to select one or more names from the list. The 'OK' button is visible at the bottom of the dialog.

Active Directory Users and Computers

File Action View Help

Active Directory Users and Com > Saved Queries > ashutosh.training > Builtin > Computers > Domain Controllers > ForeignSecurityPrincipal > Managed Service Account > Users

Name	Type	Description
Builtin	builtinDomain	
Computers	Container	Default container for up...
Domain Con...	Organizational...	Default contain...
ForeignSecu...	Container	Default contain...
Managed Se...	Container	Default contain...
Users	Container	Default contain...
dcadmins	Security Group...	

dcadmins Properties

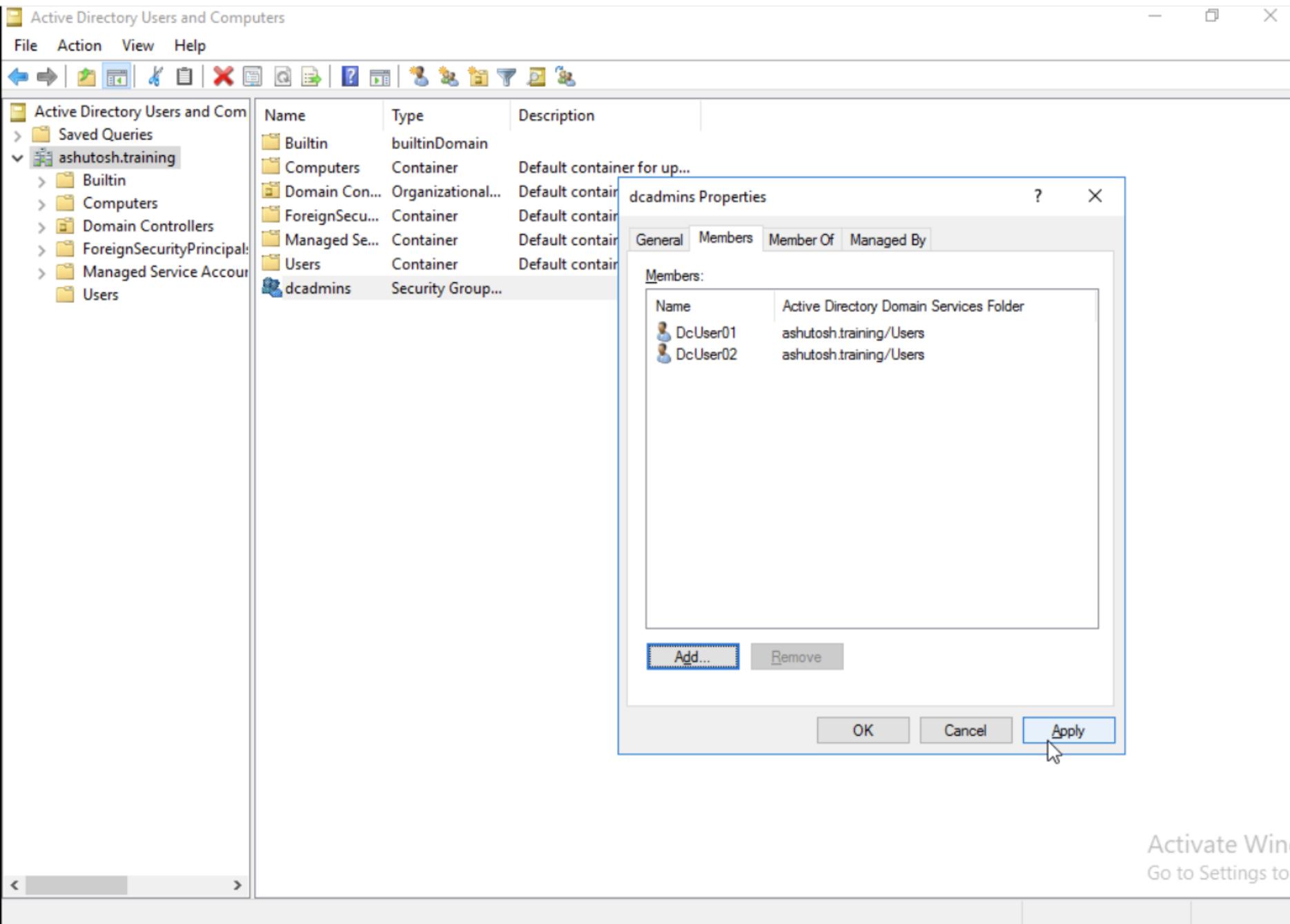
General Members Member Of Managed By

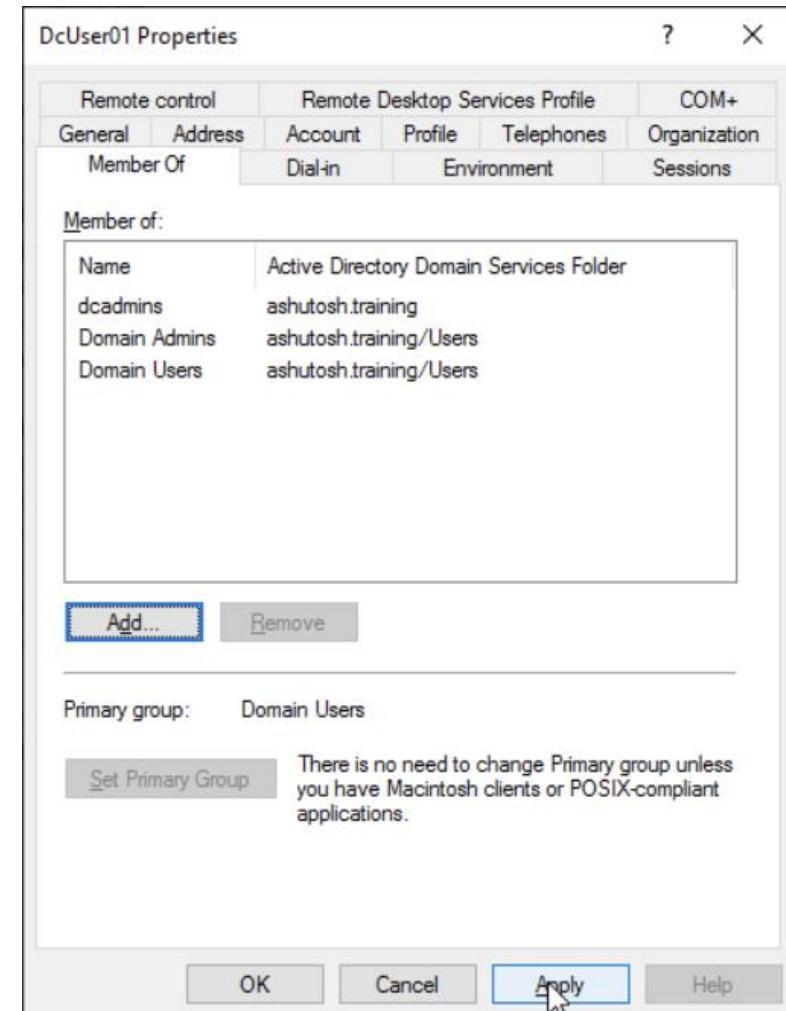
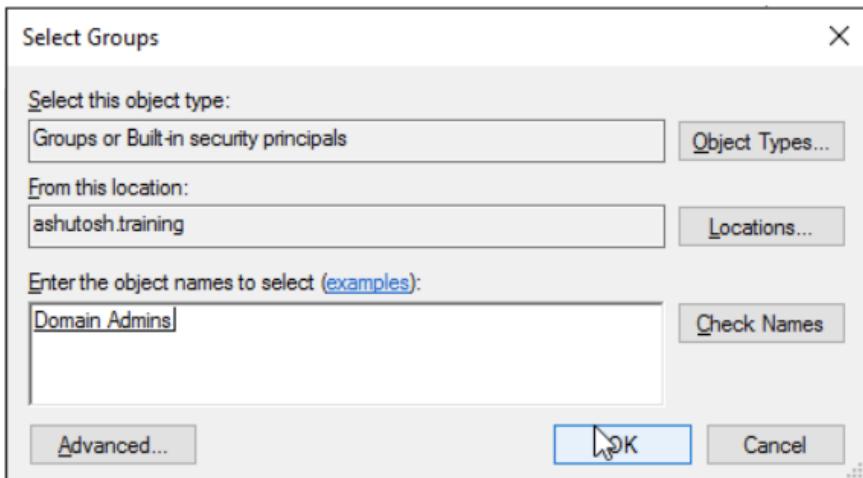
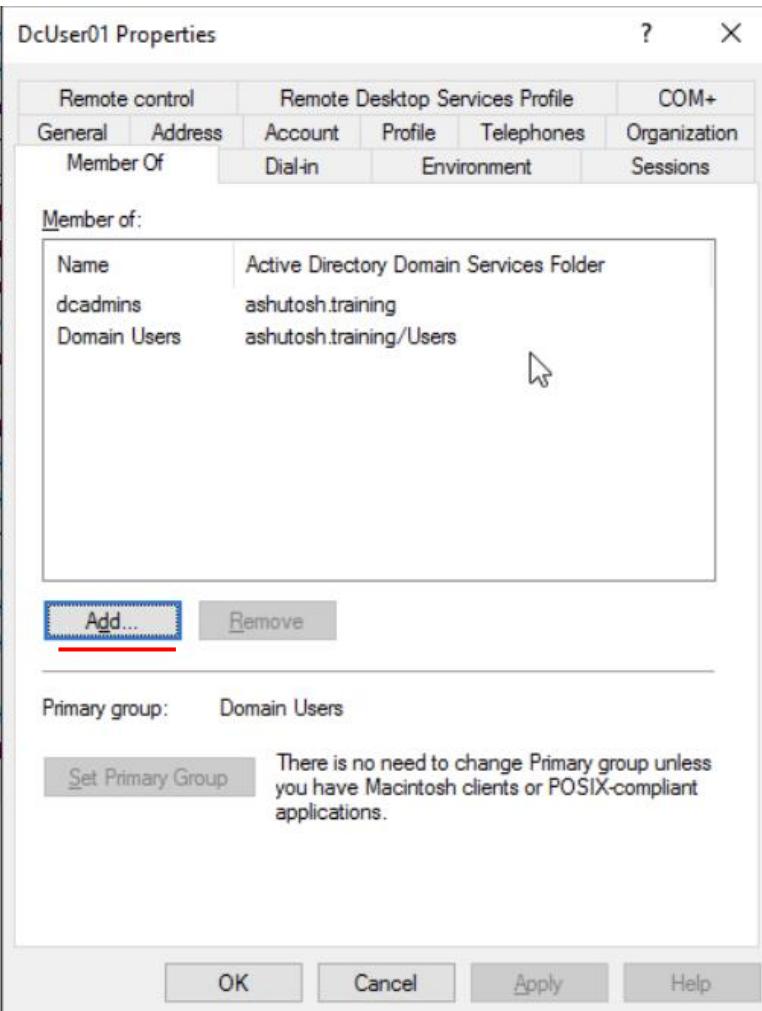
Members:

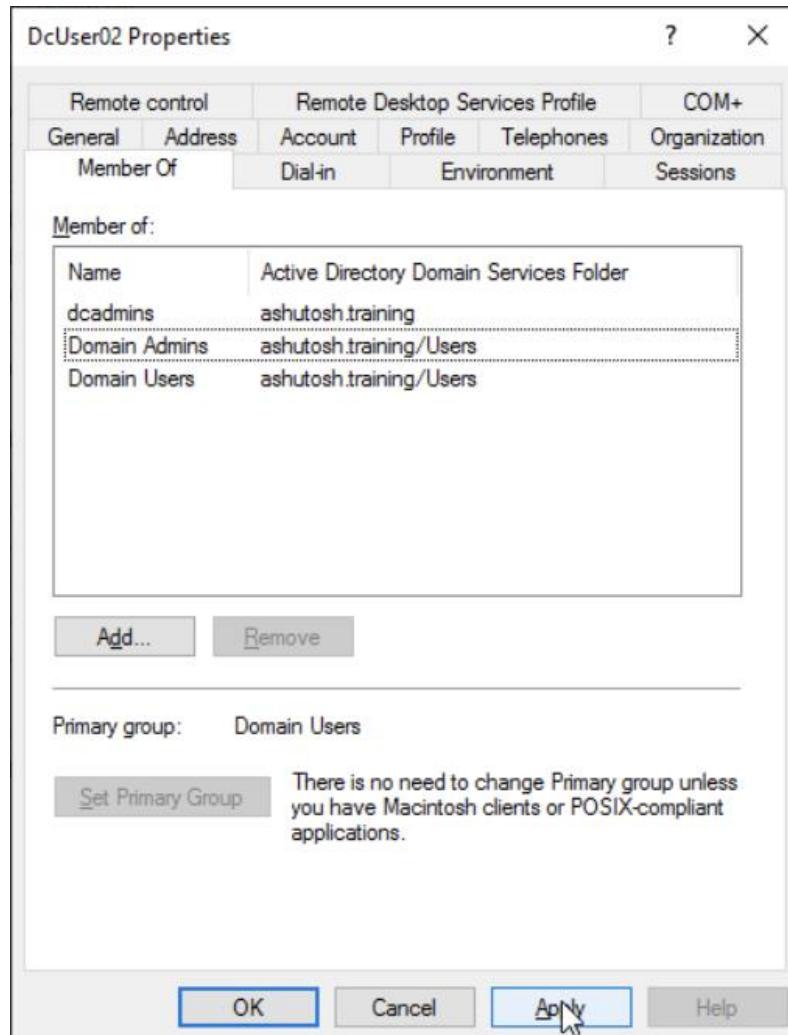
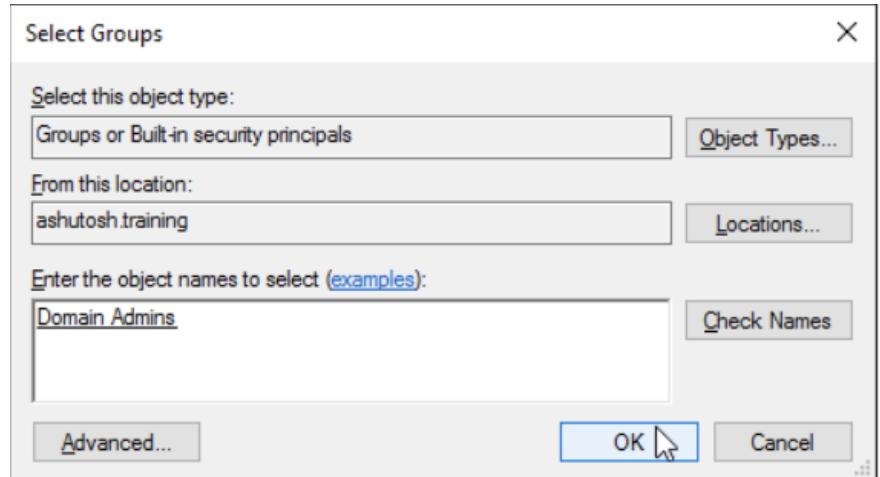
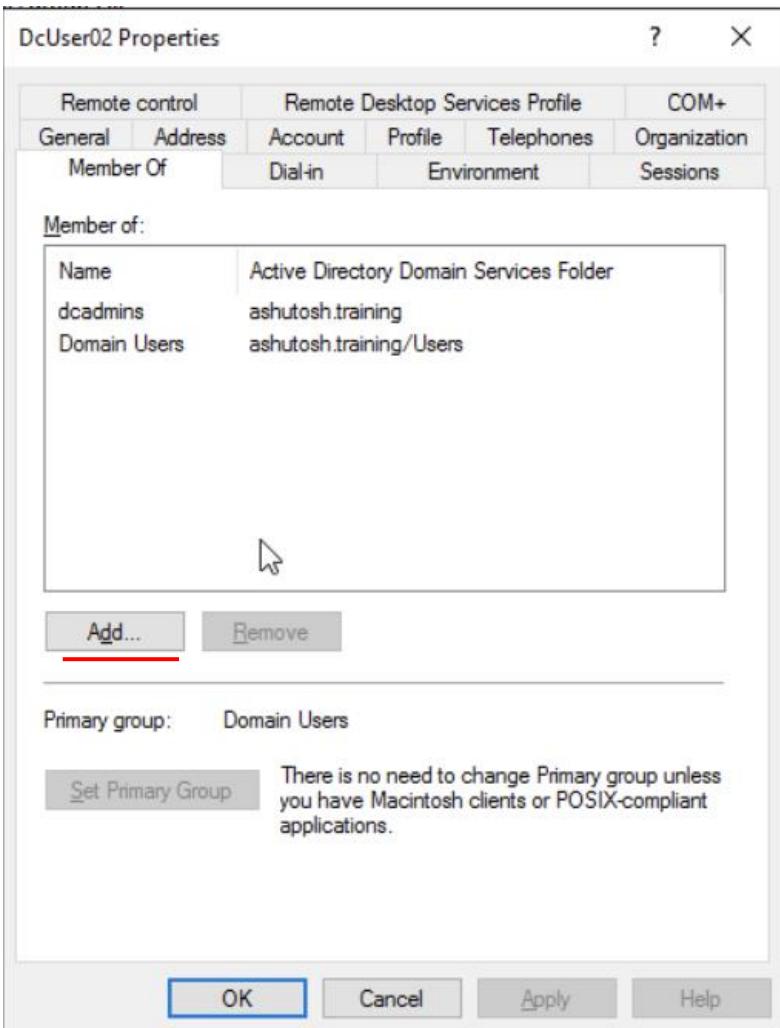
Name	Active Directory Domain Services Folder
DcUser01	ashutosh.training/Users
DcUser02	ashutosh.training/Users

Add... Remove OK Cancel Apply

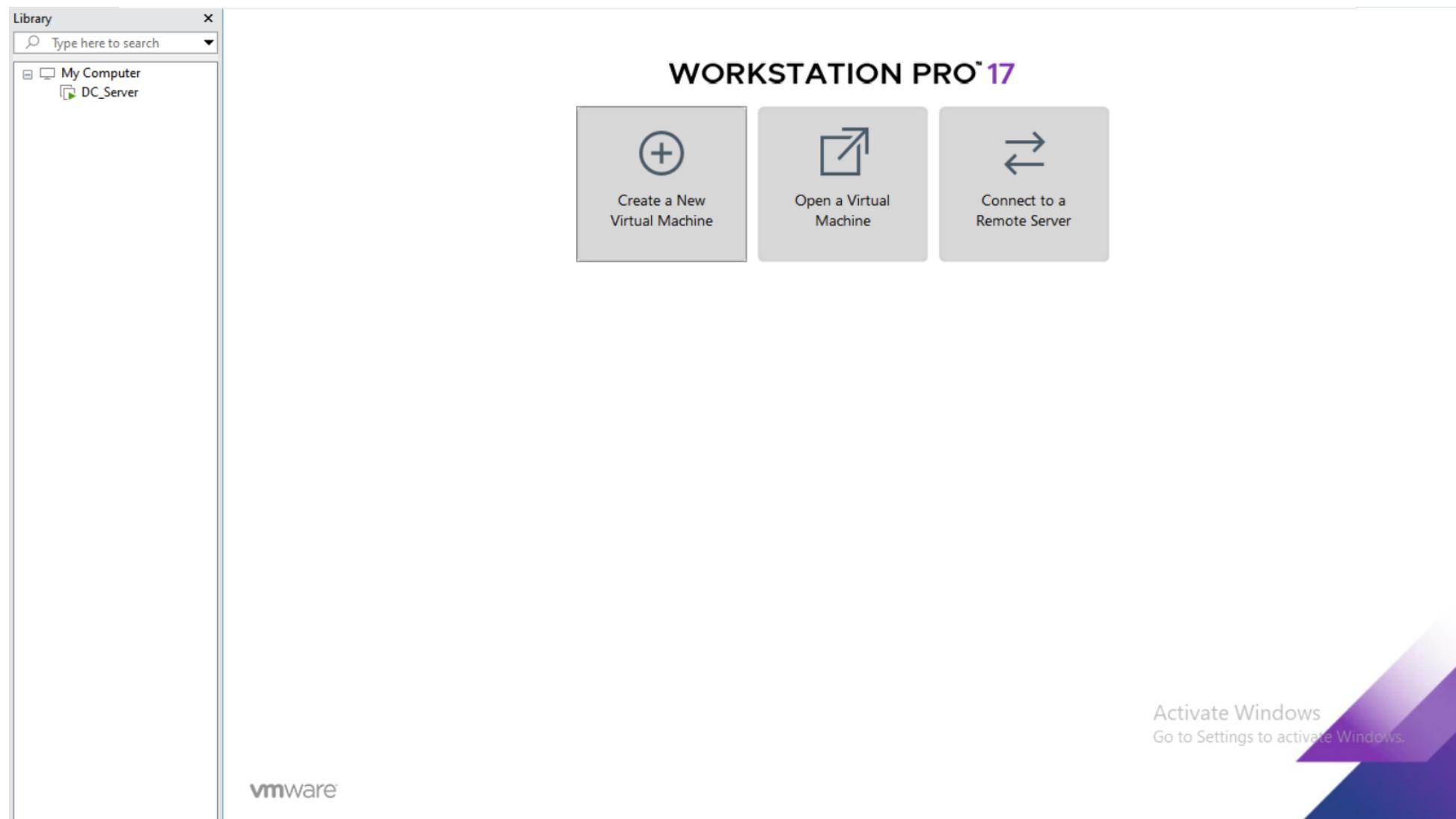
Activate Wind
Go to Settings to a

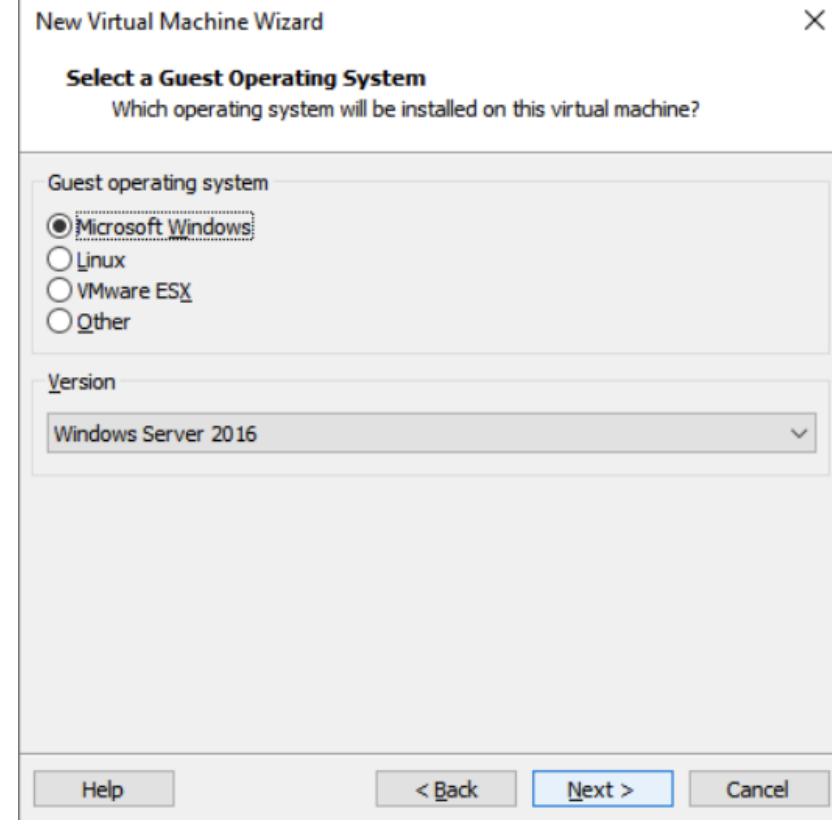
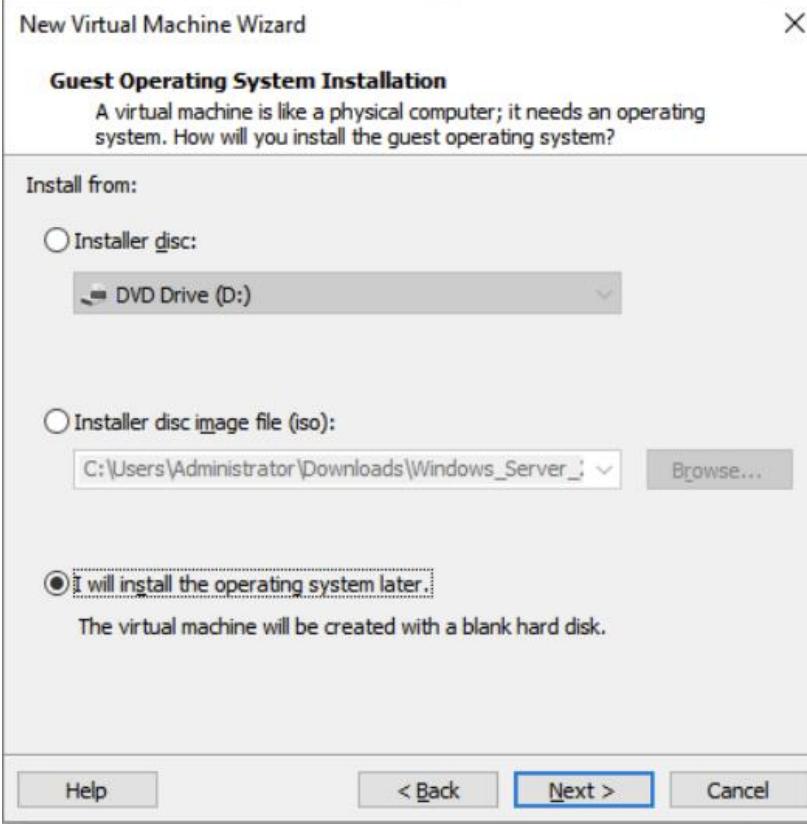


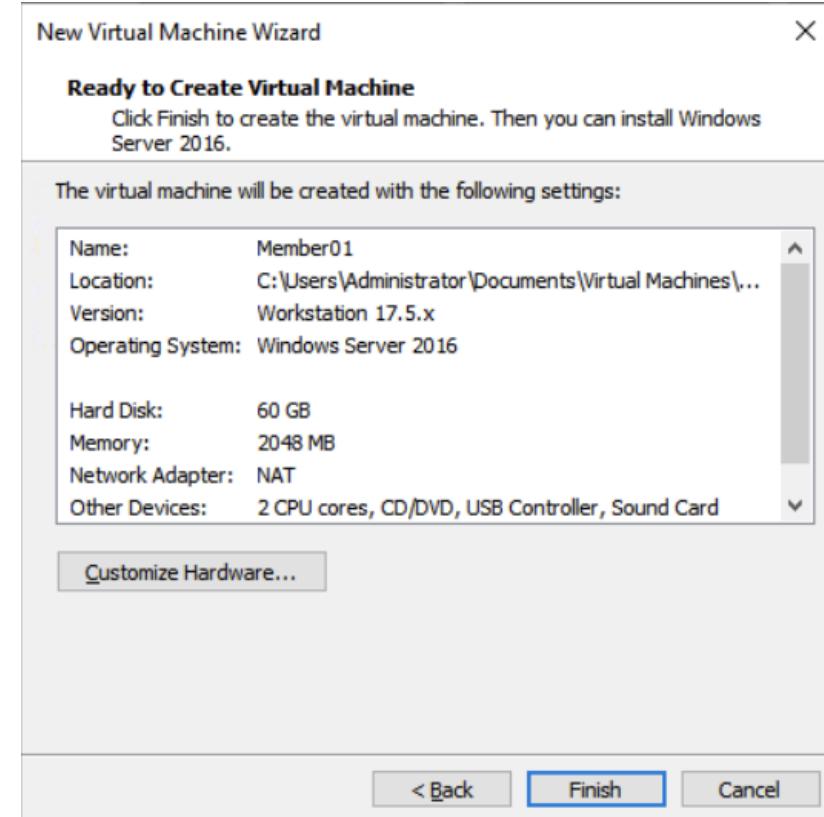
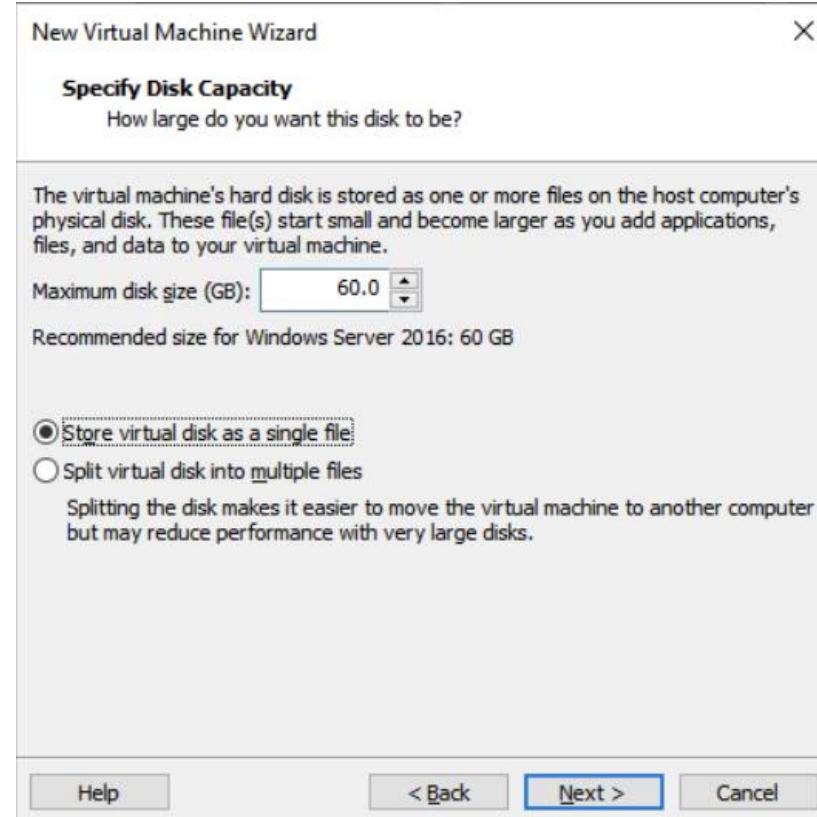
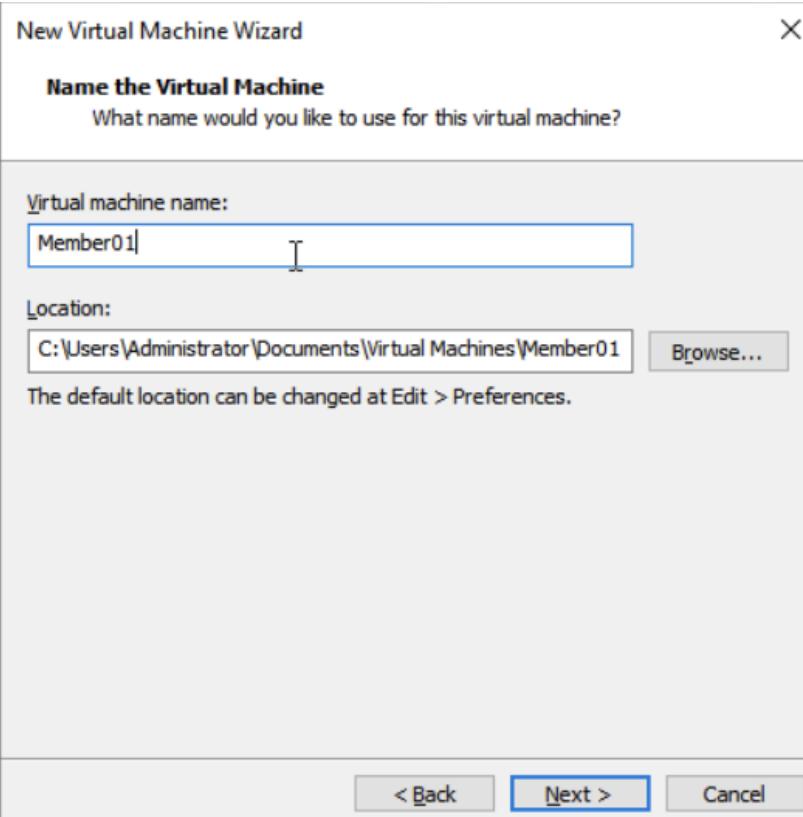


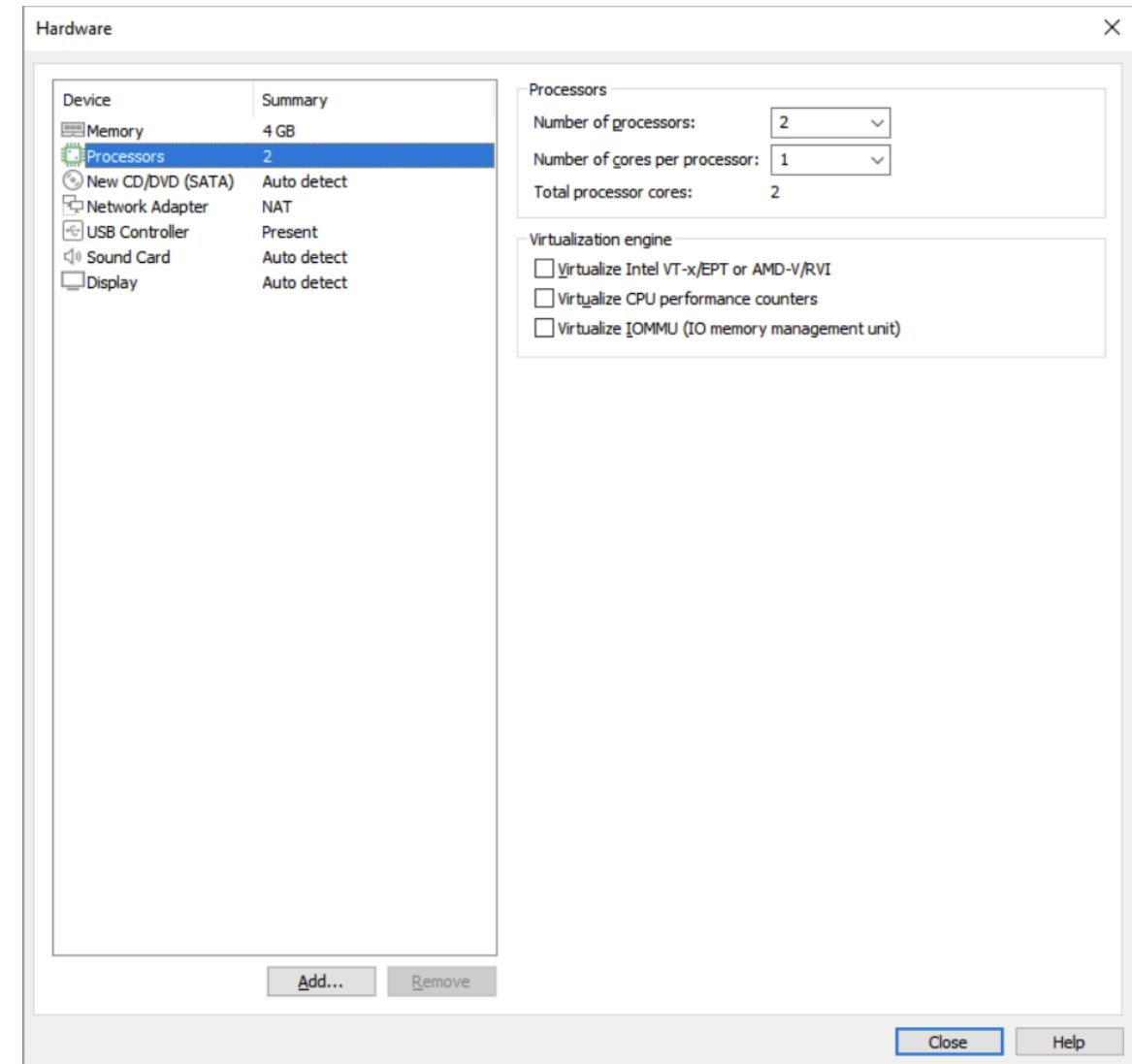
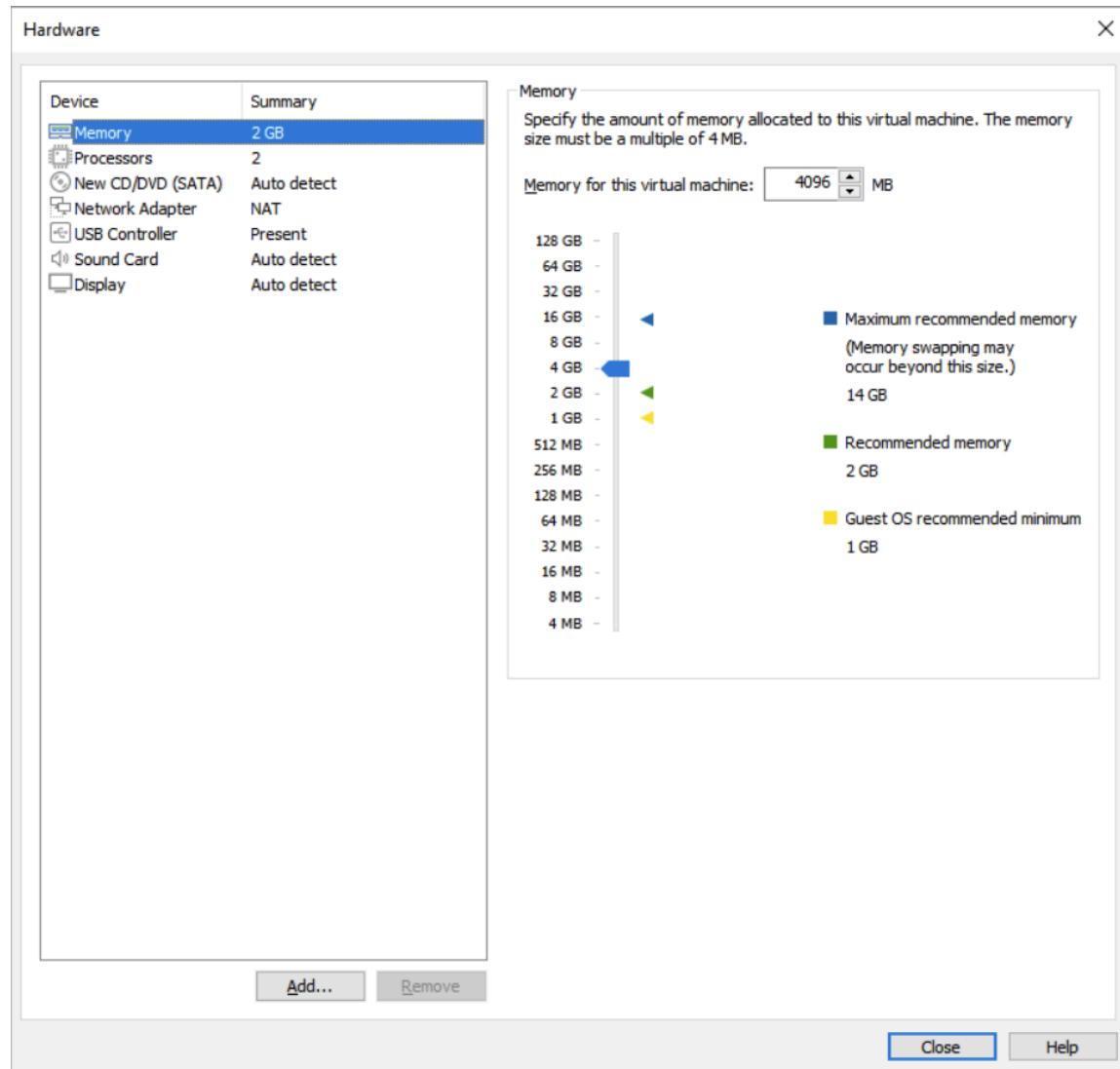


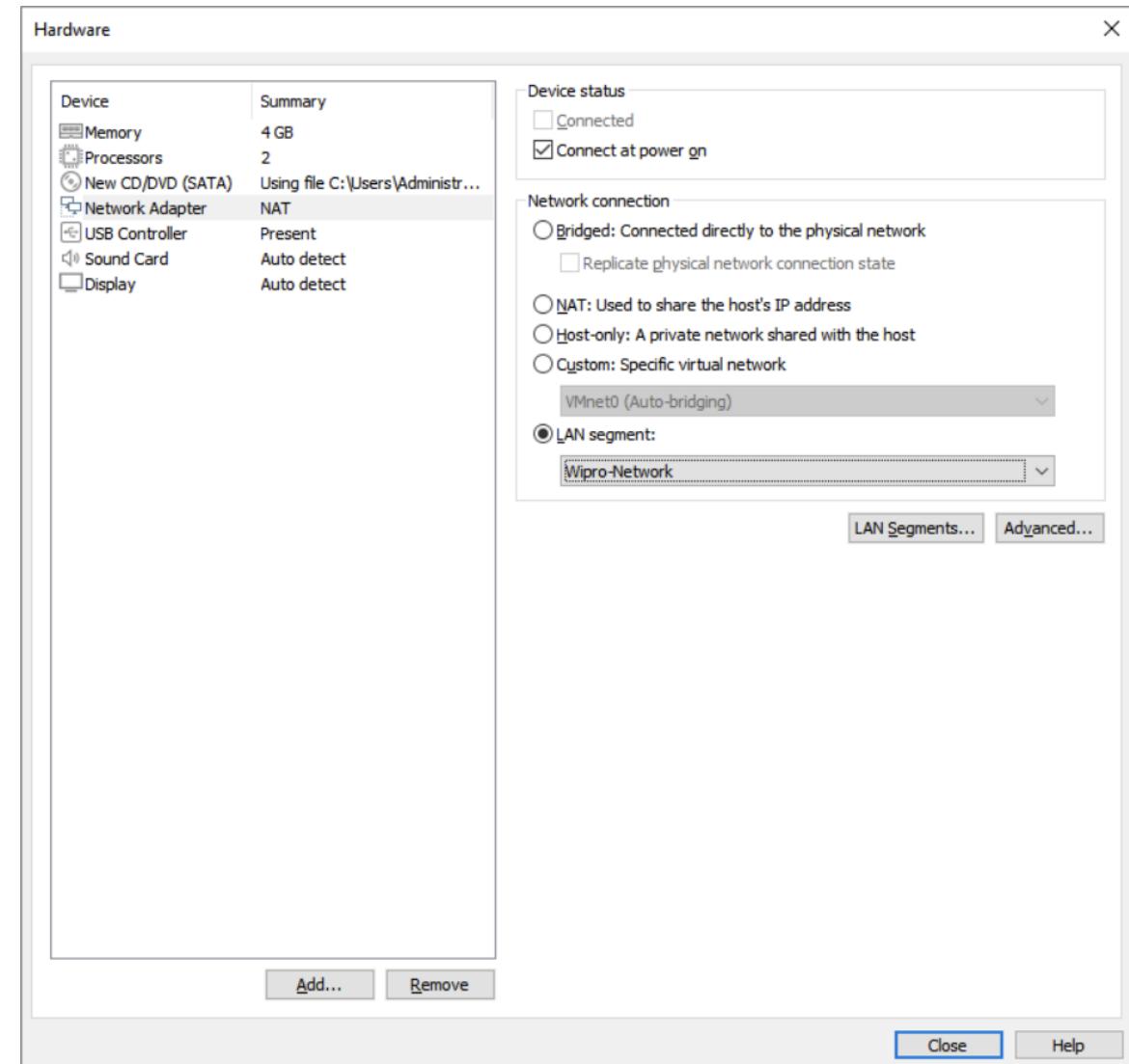
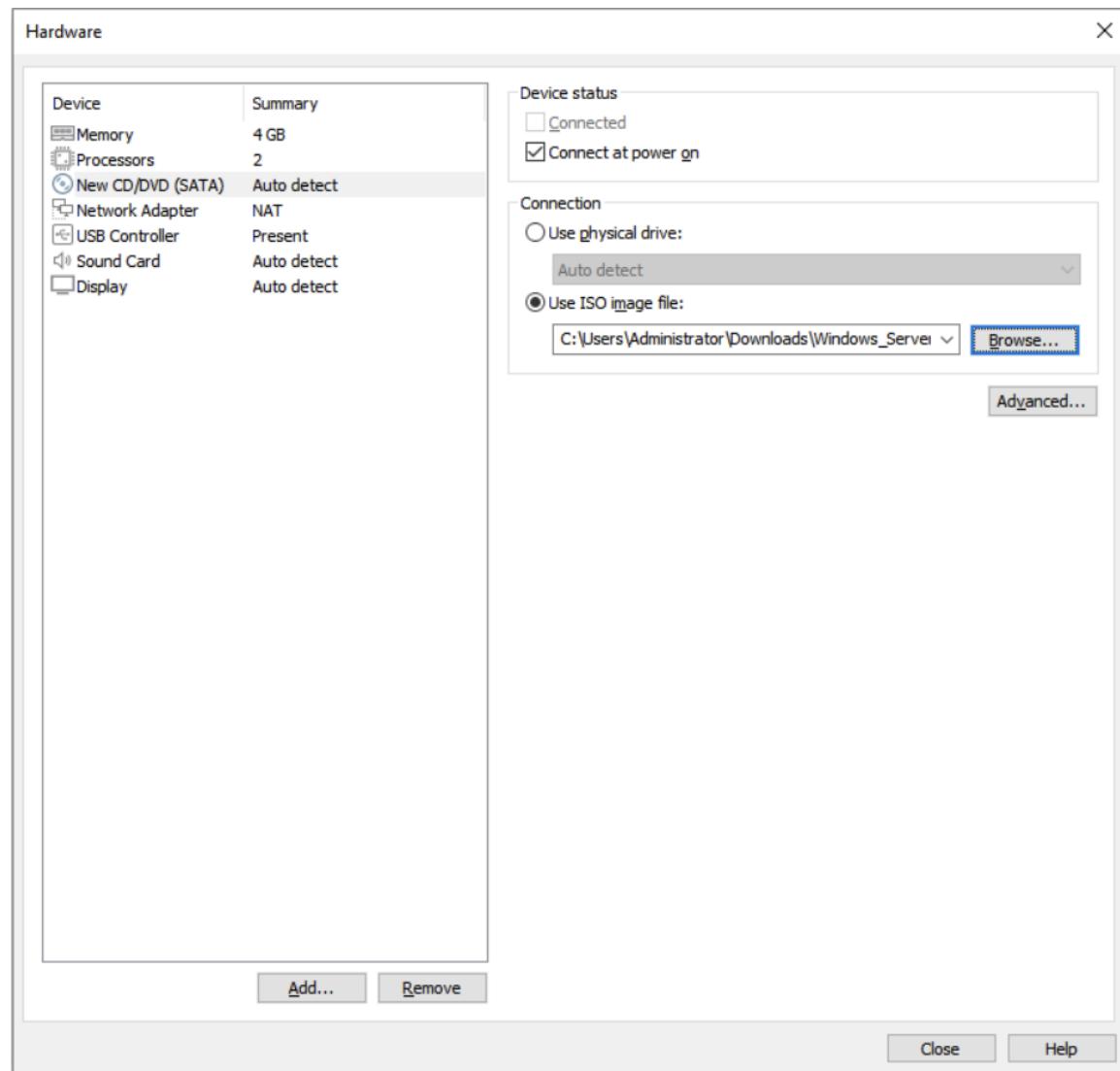
- Installation of Windows Server 2016 as “Member01”:











Library X

Type here to search

My Computer

DC_Server

Member01

Member01

Power on this virtual machine

Edit virtual machine settings

Devices

Memory	4 GB
Processors	2
Hard Disk (NVMe)	60 GB
CD/DVD (SATA)	Using file C:\Use...
Network Adapter	LAN Segment
USB Controller	Present
Sound Card	Auto detect
Display	Auto detect

Description

Type here to enter a description of this virtual machine.

Virtual Machine Details

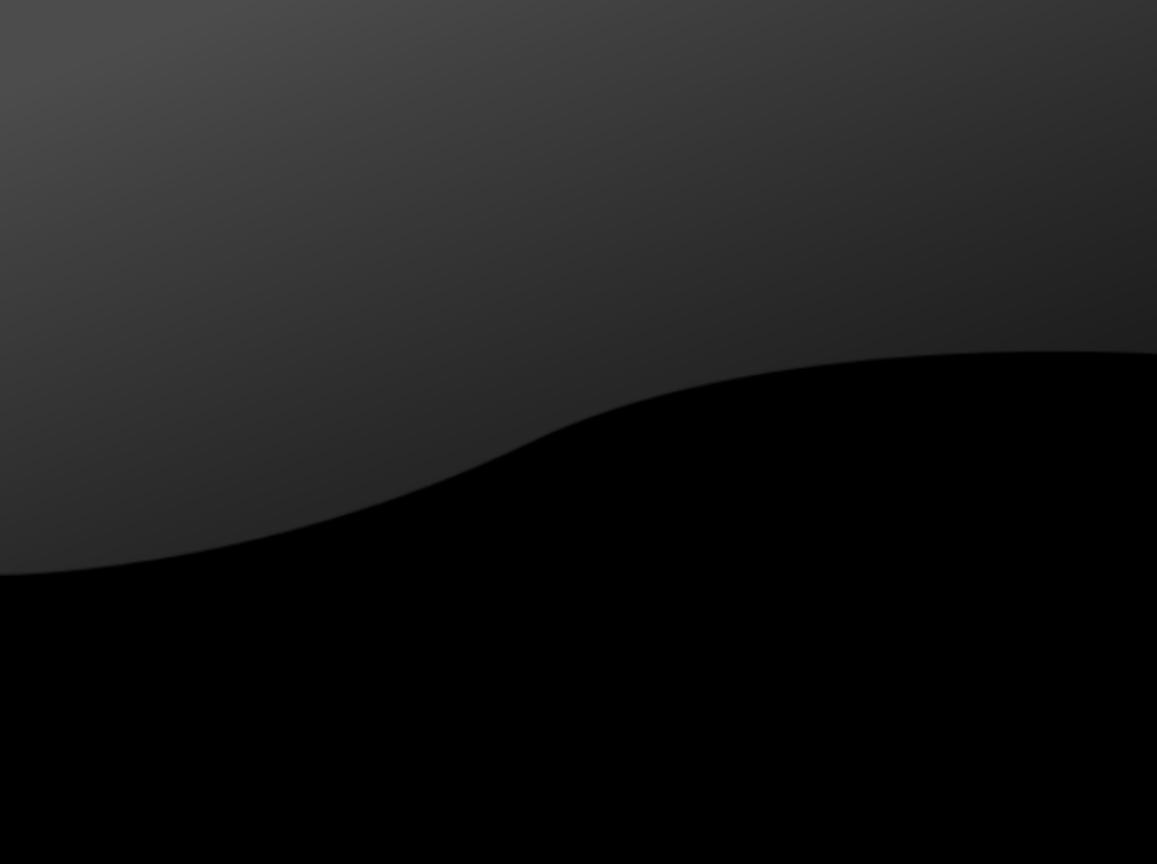
State: Powered off

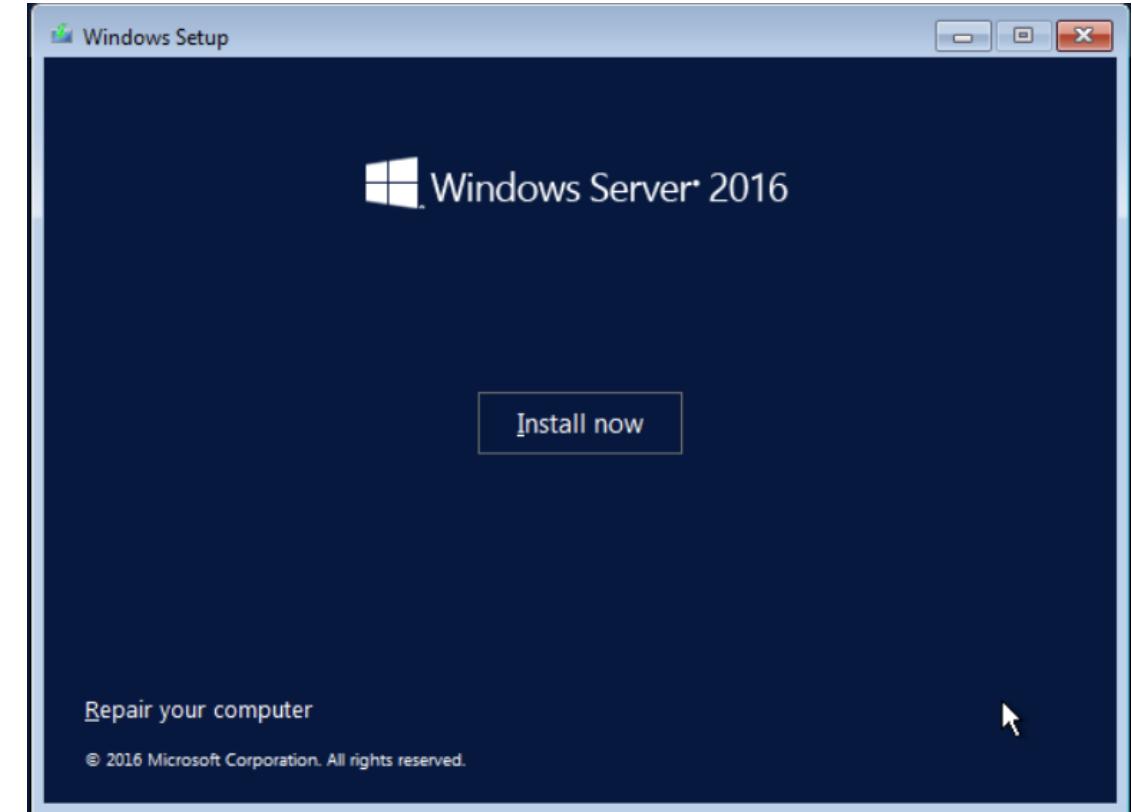
Configuration file: C:\Users\Administrator\Documents\Virtual Machines\Member01\Member01.vmx

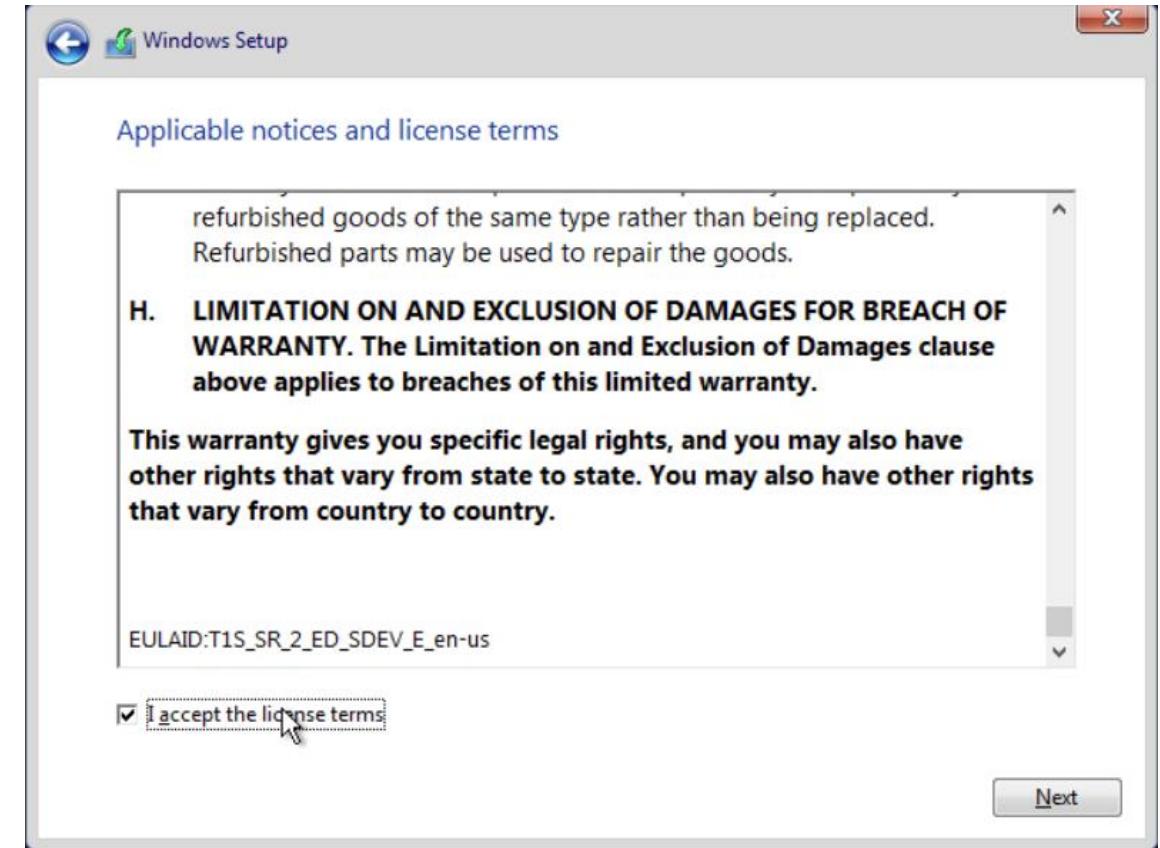
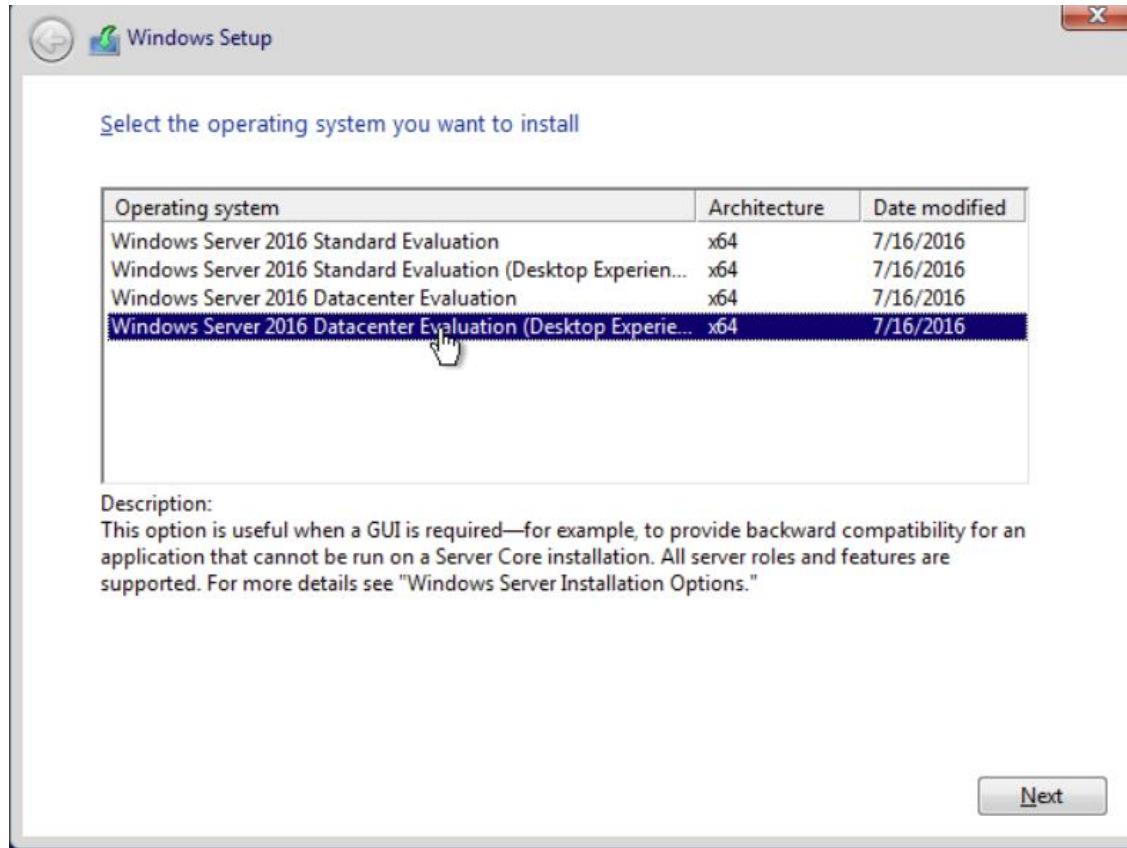
Hardware compatibility: Workstation 17.5.x virtual machine

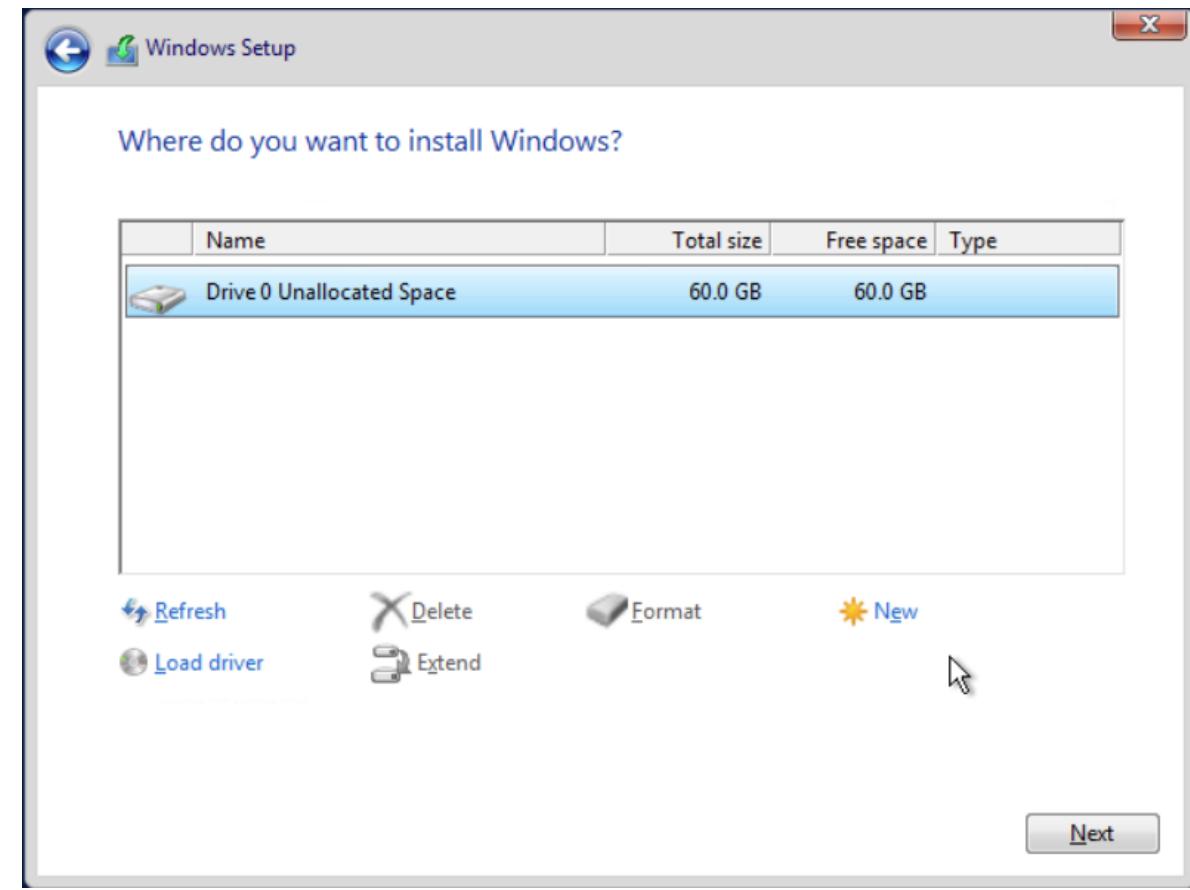
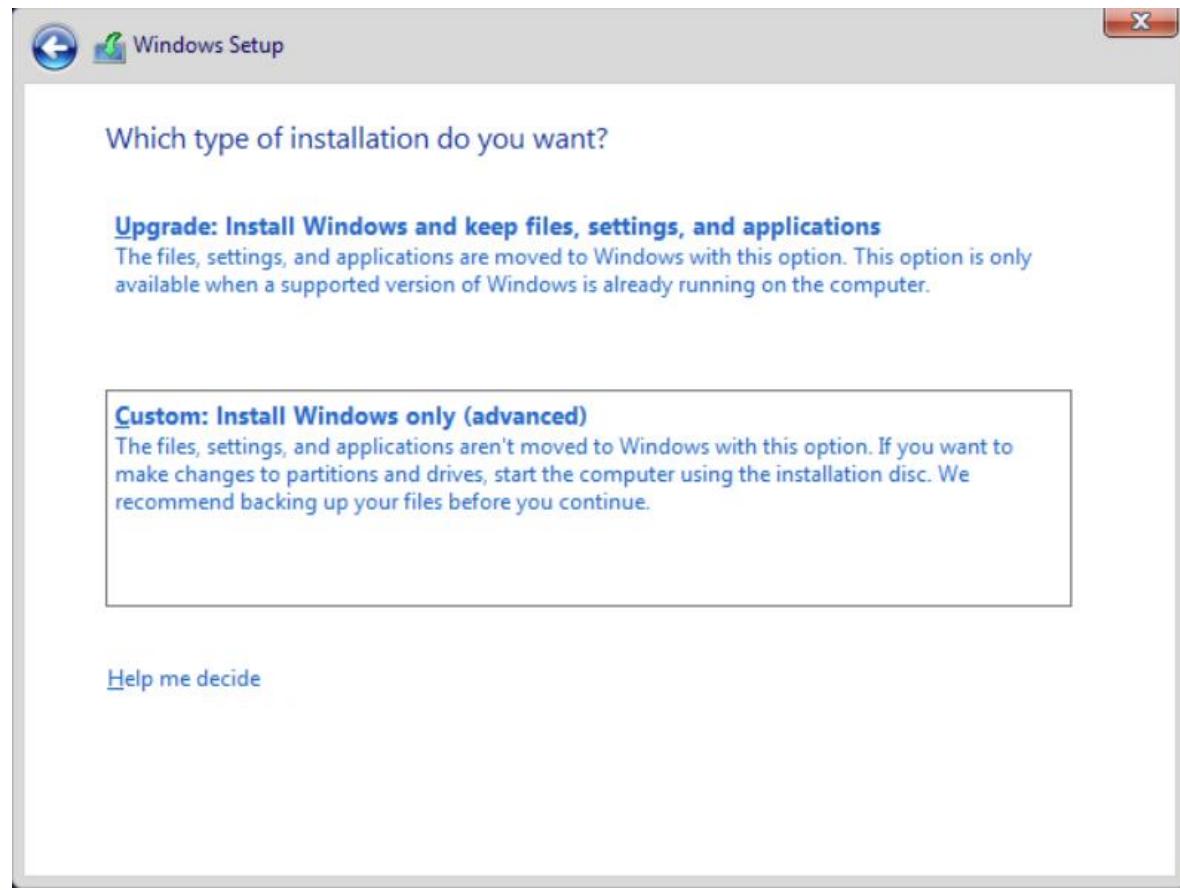
Primary IP address: Network information is not available

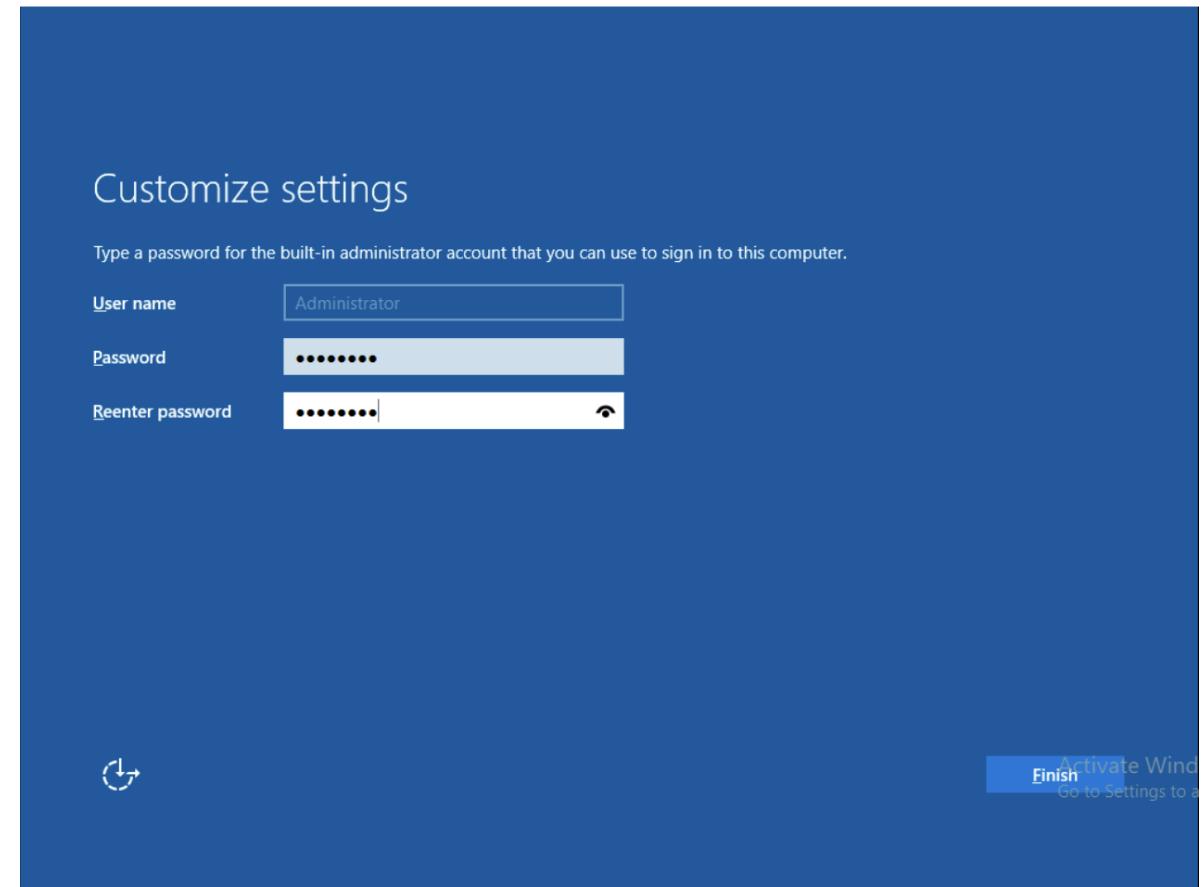
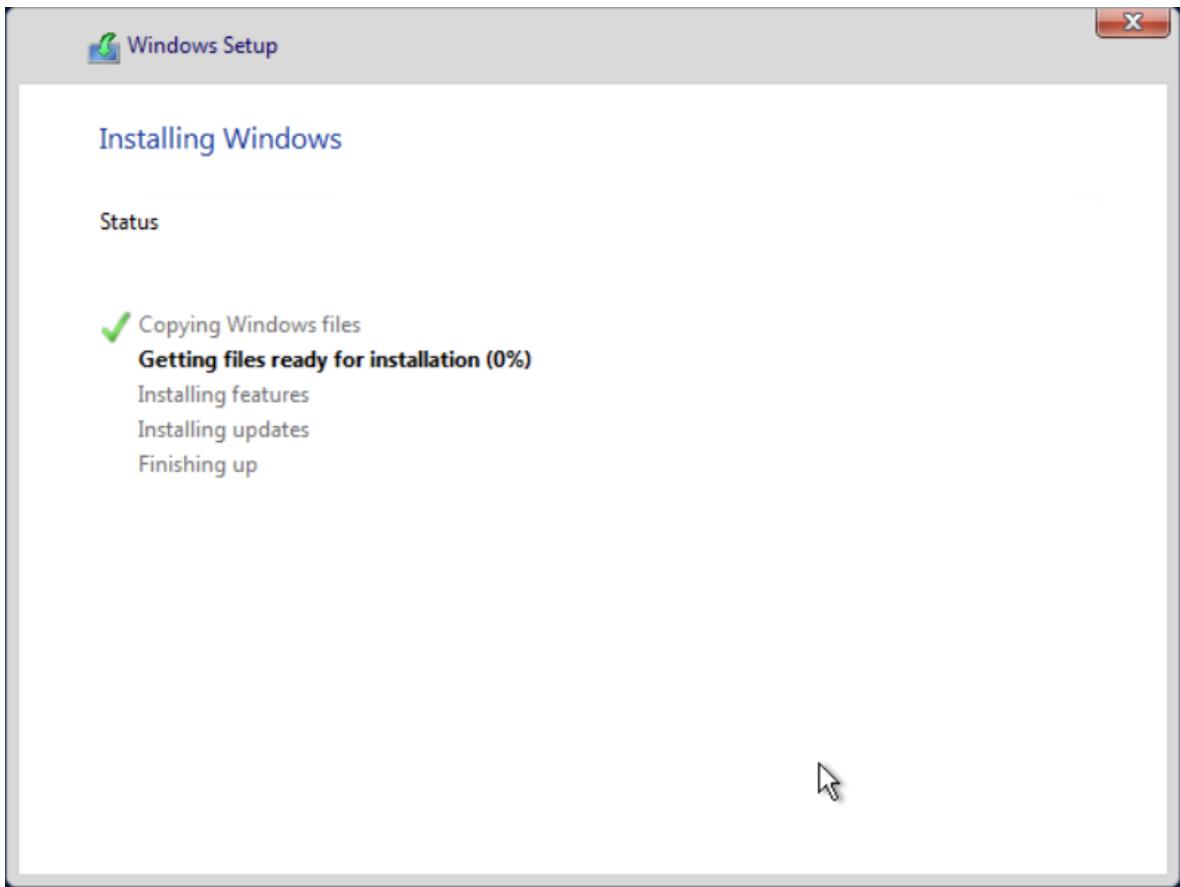
Activate Windows
Go to Settings to activate Windows.

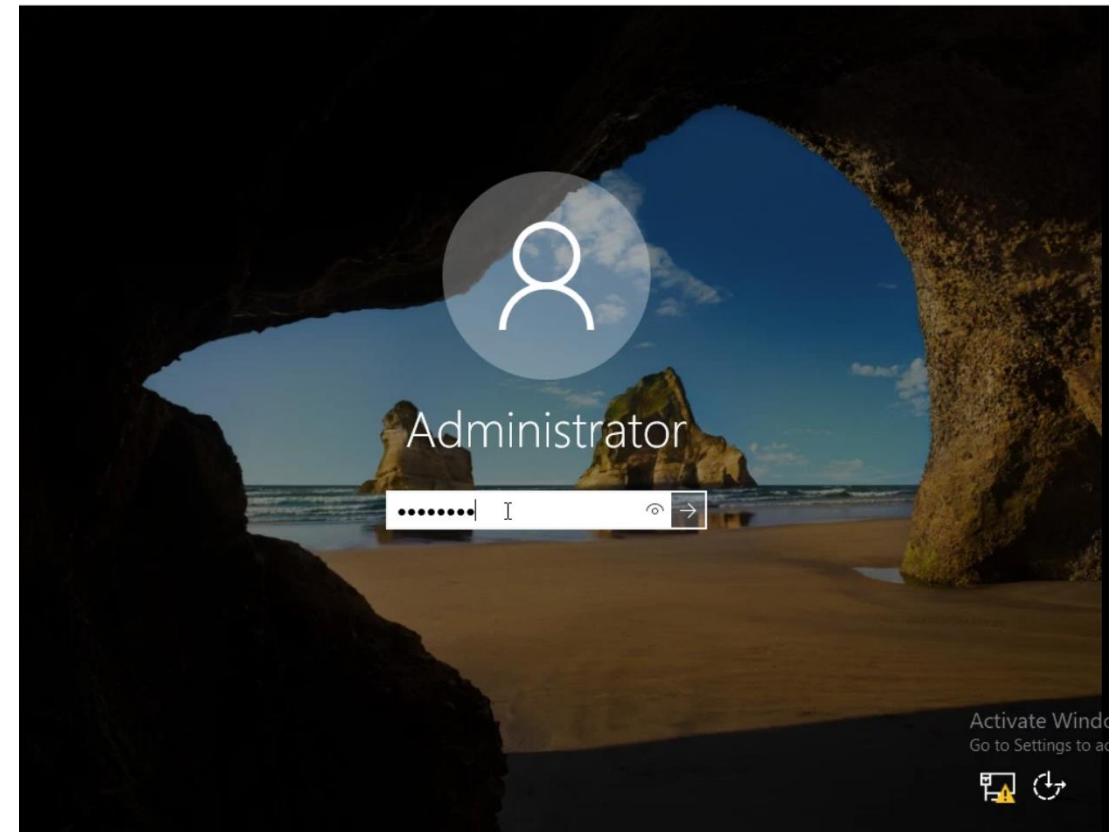
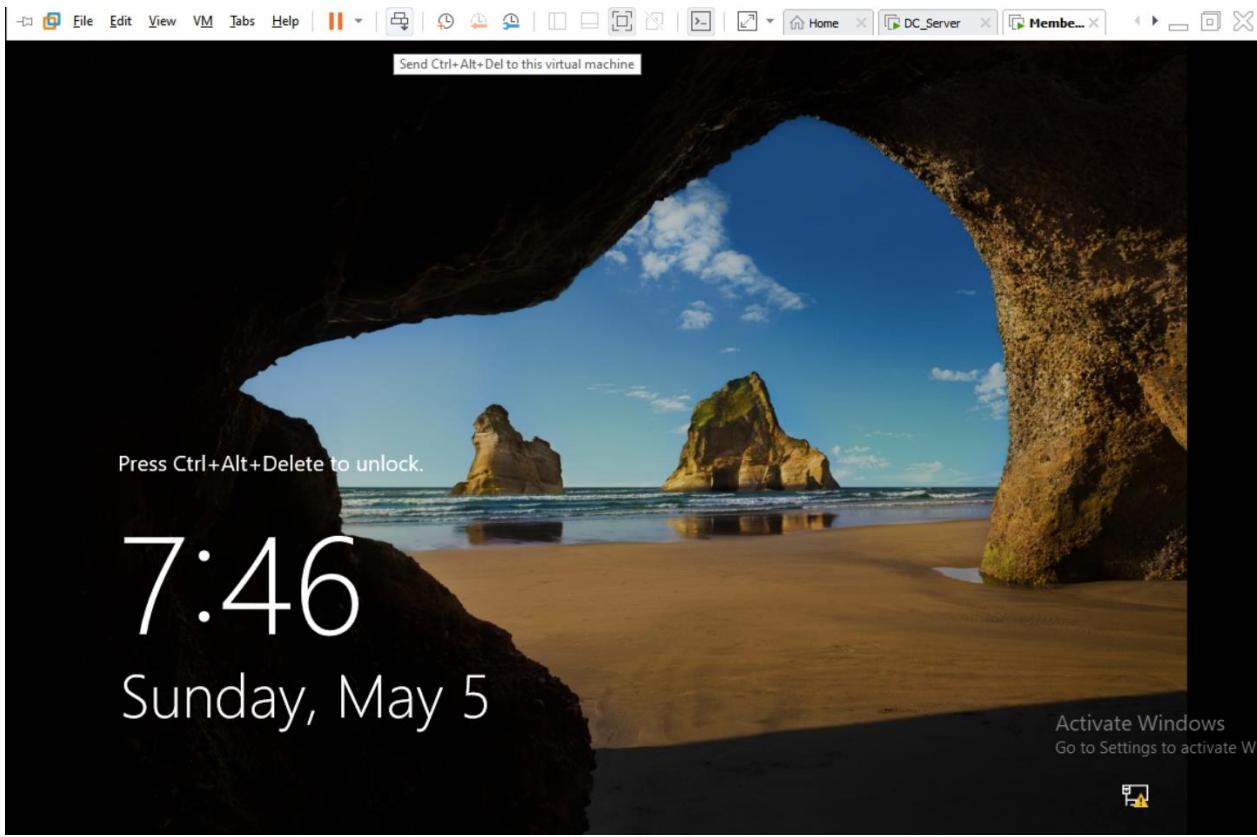












Server Manager

Server Manager ▶ Local Server

Dashboard Local Server All Servers File and Storage Services

PROPERTIES For WIN-LE926MVMMG6

Computer name	WIN-LE926MVMMG6	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install updates automatically using Windows Update
		Last checked for updates	Never
Windows Firewall	Public: On	Windows Defender	Real-Time Protection: On
Remote management	Enabled	Feedback & Diagnostics	Settings
Remote Desktop	Disabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC-08:00) Pacific Time (US & Canada)
Ethernet0	IPv4 address assigned by DHCP, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2016 Datacenter Evaluation	Processors	Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R)
Hardware information	VMware, Inc. VMware20,1	Installed memory (RAM)	4 GB
		Total disk space	59.45 GB

EVENTS

All events | 20 total

Server Name	ID	Severity	Source	Log	Date and Time
WIN-LE926MVMMG6	8198	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:47:53 AM
WIN-LE926MVMMG6	8200	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:47:53 AM
WIN-LE926MVMMG6	1014	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:47:53 AM
WIN-LE926MVMMG6	1534	Warning	Microsoft-Windows-User Profile Service	Application	5/5/2024 7:47:47 AM
WIN-LE926MVMMG6	8198	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:47:30 AM
WIN-LE926MVMMG6	1014	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:47:29 AM
WIN-LE926MVMMG6	8200	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:47:29 AM

SERVICES

All services | 188 total

Filter	Log	Date and Time
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Activate Wind
Go to Settings to a

Server Manager

Server Manager ▶ Local Server

Dashboard Local Server All Servers File and Storage Services

PROPERTIES For WIN-LE926MVMMG6

Computer name	WIN-LE926MVMMG6	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install updates automatically using Windows Update
		Last checked for updates	Never
Windows Firewall	Private: 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+05:30) Chennai, Kolkata, Mumbai, New Delhi
Ethernet0	192.168.10.15, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2016 Datacenter Evaluation	Processors	Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R)
Hardware information	VMware, Inc. VMware20,1	Installed memory (RAM)	4 GB
		Total disk space	59.45 GB

EVENTS

All events | 27 total

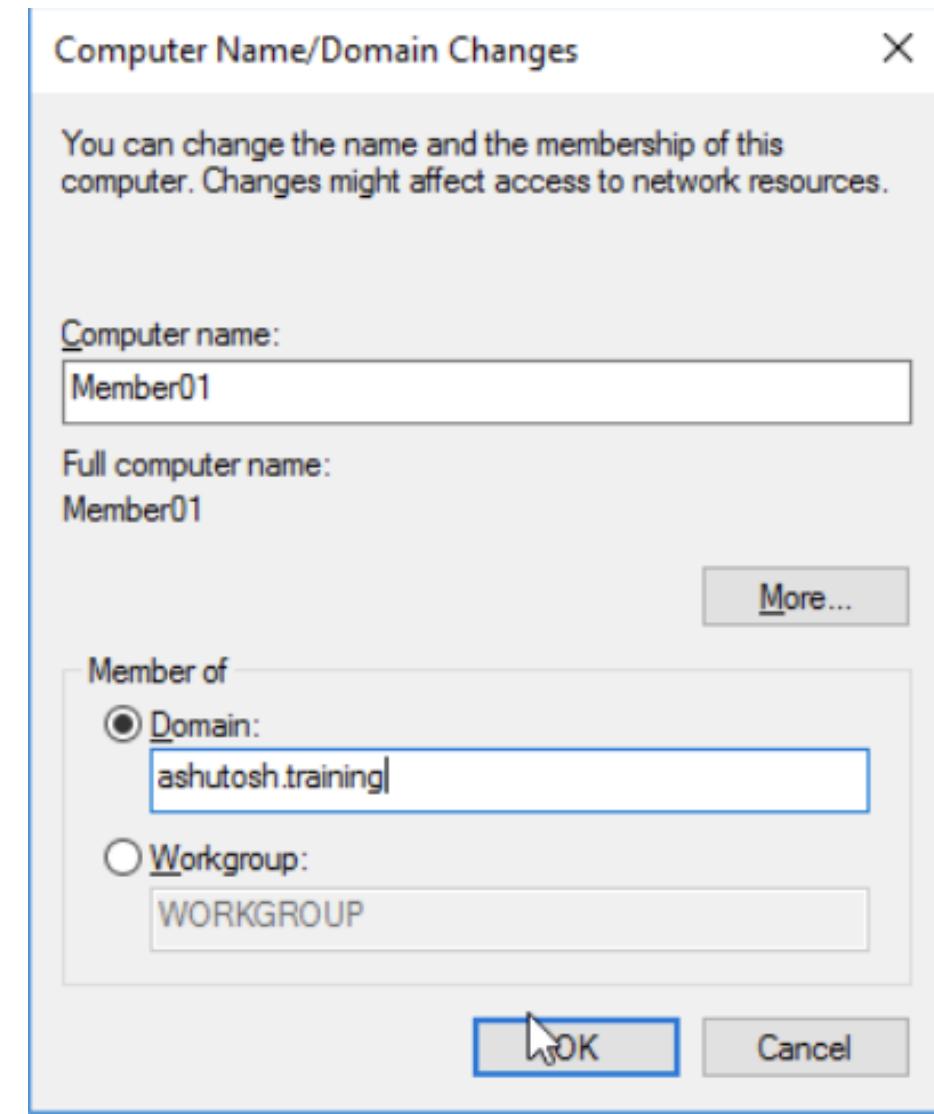
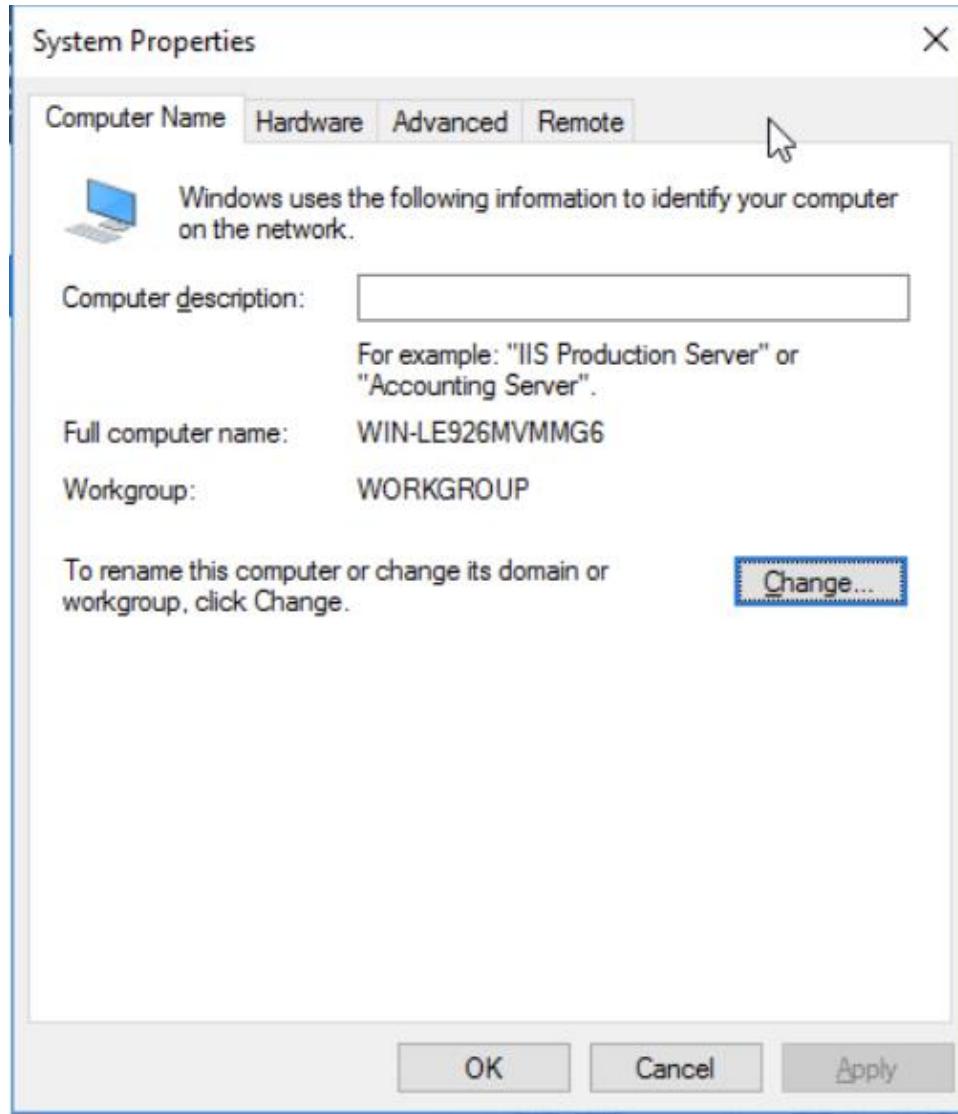
Server Name	ID	Severity	Source	Log	Date and Time
WIN-LE926MVMMG6	134	Warning	Microsoft-Windows-Time-Service	System	5/5/2024 7:55:04 AM
WIN-LE926MVMMG6	1014	Warning	Microsoft-Windows-DNS Client Events	System	5/5/2024 7:55:04 AM
WIN-LE926MVMMG6	8198	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:54:52 AM
WIN-LE926MVMMG6	1014	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:54:51 AM
WIN-LE926MVMMG6	8200	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:54:51 AM
WIN-LE926MVMMG6	1014	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:54:51 AM
WIN-LE926MVMMG6	8200	Error	Microsoft-Windows-Security-SPP	Application	5/5/2024 7:54:51 AM

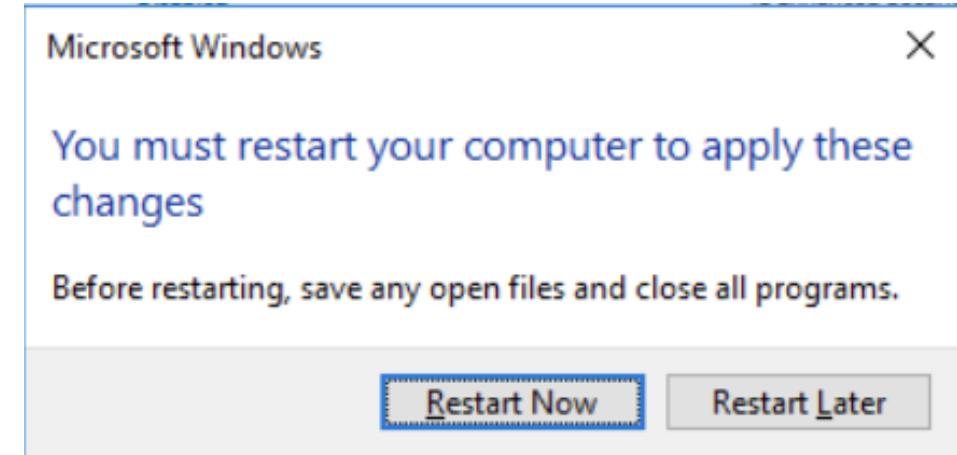
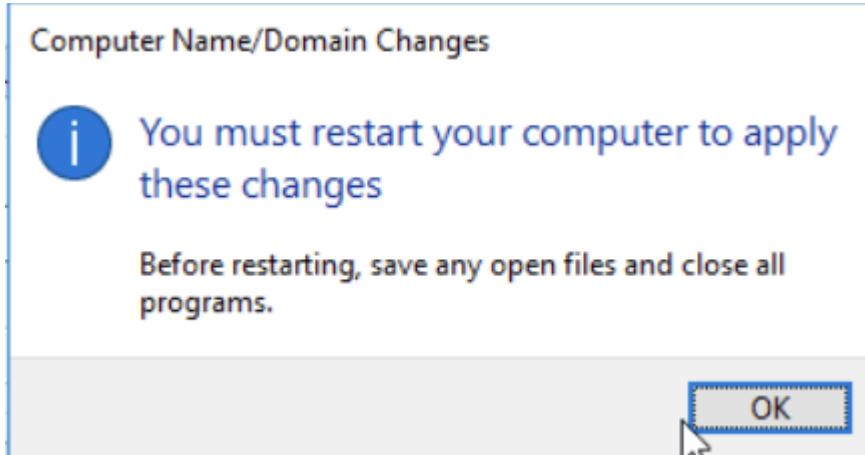
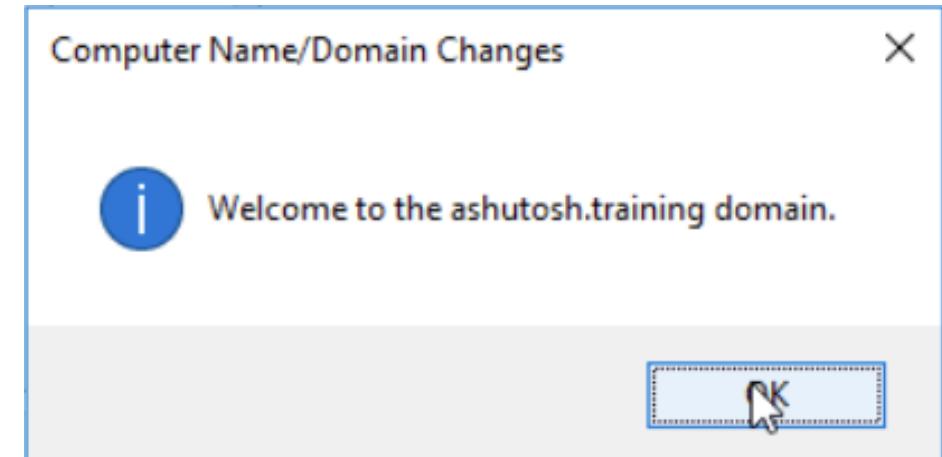
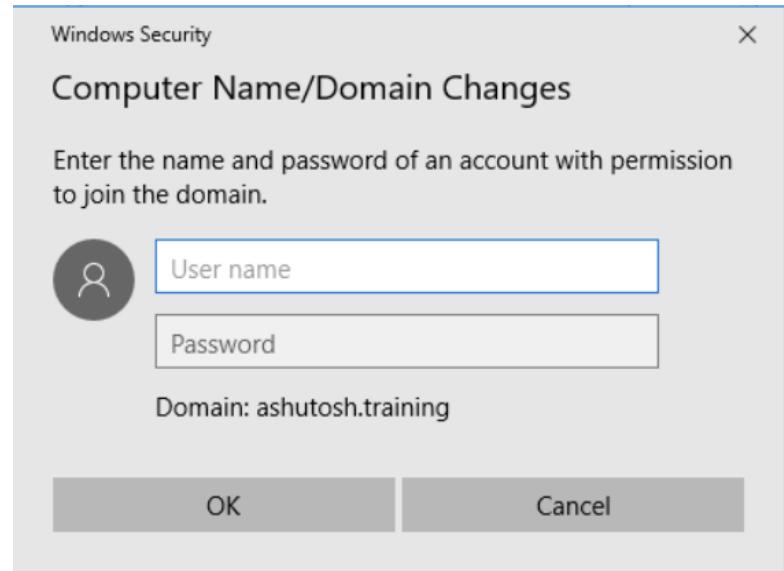
SERVICES

All services | 188 total

Filter	Search	Log	Date and Time
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Activate Wind
Go to settings to a





Server Manager

Server Manager ▸ Local Server

Dashboard Local Server All Servers File and Storage Services ▶

PROPERTIES For Member01

Computer name	Member01	Last installed updates	Never
Domain	ashutosh.training	Windows Update	Download updates only, using Windows Update
		Last checked for updates	Never
Windows Firewall	Domain: On	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+05:30) Chennai, Kolkata, Mumbai, New Delhi
Ethernet0	192.168.10.15, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2016 Datacenter Evaluation	Processors	Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R)
Hardware information	VMware, Inc. VMware20.1	Installed memory (RAM)	4 GB
		Total disk space	59.45 GB

EVENTS

All events | 64 total

Server Name	ID	Severity	Source	Log	Date and Time
MEMBER01	8198	Error	Microsoft-Windows-Security-SPP	Application	5/6/2024 1:54:55 AM
MEMBER01	1014	Error	Microsoft-Windows-Security-SPP	Application	5/6/2024 1:54:55 AM
MEMBER01	8200	Error	Microsoft-Windows-Security-SPP	Application	5/6/2024 1:54:55 AM
MEMBER01	8198	Error	Microsoft-Windows-Security-SPP	Application	5/6/2024 1:53:55 AM
MEMBER01	8200	Error	Microsoft-Windows-Security-SPP	Application	5/6/2024 1:53:55 AM
MEMBER01	1014	Error	Microsoft-Windows-Security-SPP	Application	5/6/2024 1:53:55 AM
MEMBER01	8198	Error	Microsoft-Windows-Security-SPP	Application	5/6/2024 1:51:13 AM

SERVICES

All services | 188 total

Filter	Log	Date and Time
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Activate Wind
Go to settings to a

In Dc_Server :

The screenshot shows the Windows Active Directory Users and Computers (ADUC) management console. The title bar reads "Active Directory Users and Computers". The menu bar includes "File", "Action", "View", and "Help". Below the menu is a toolbar with various icons for navigation and management. The left pane displays a tree view of the Active Directory structure under "ashutosh.training", with "Computers" selected. The right pane is a table view showing one item:

Name	Type
MEMBER01	Computer

A red box highlights the row for "MEMBER01". At the bottom right of the window, there is a message: "Activate Wind" and "Go to Settings to a".

Add roles & features in DC_Server for NFS:

The screenshot shows the Windows Server Manager interface for a server named DcServer. The left navigation pane is visible with options like Dashboard, Local Server (which is selected), All Servers, AD DS, DNS, and File and Storage Services. The main content area displays the server's properties and events.

PROPERTIES
For DcServer

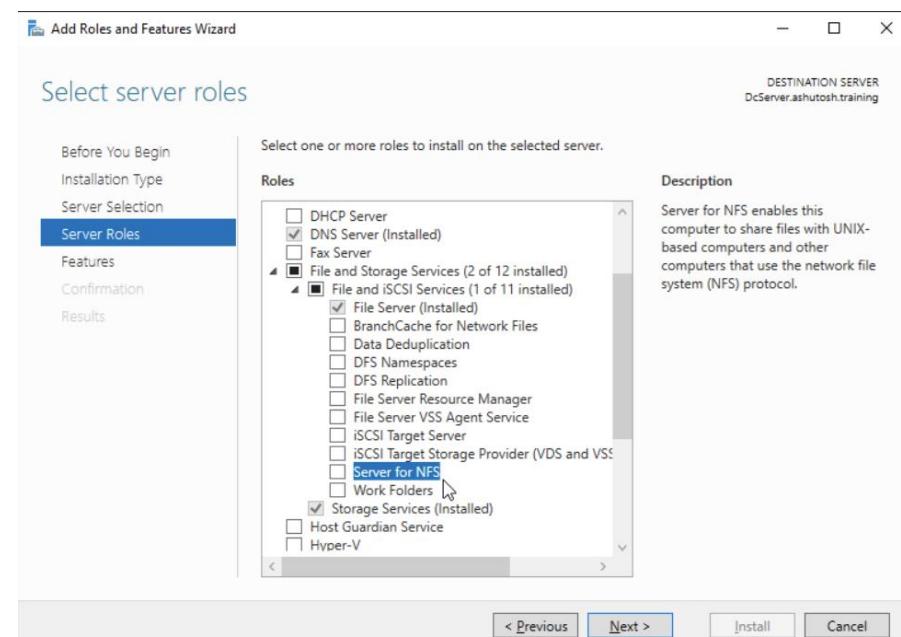
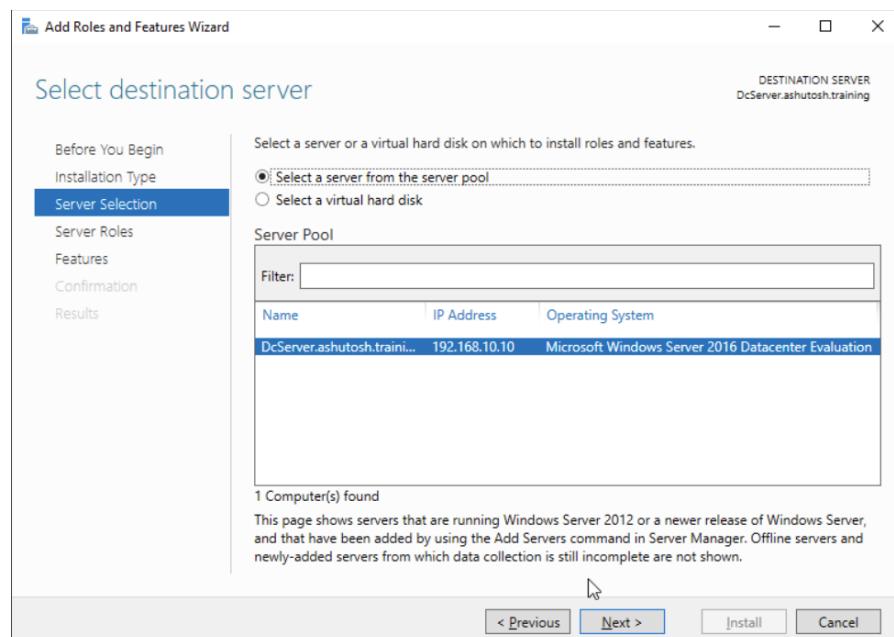
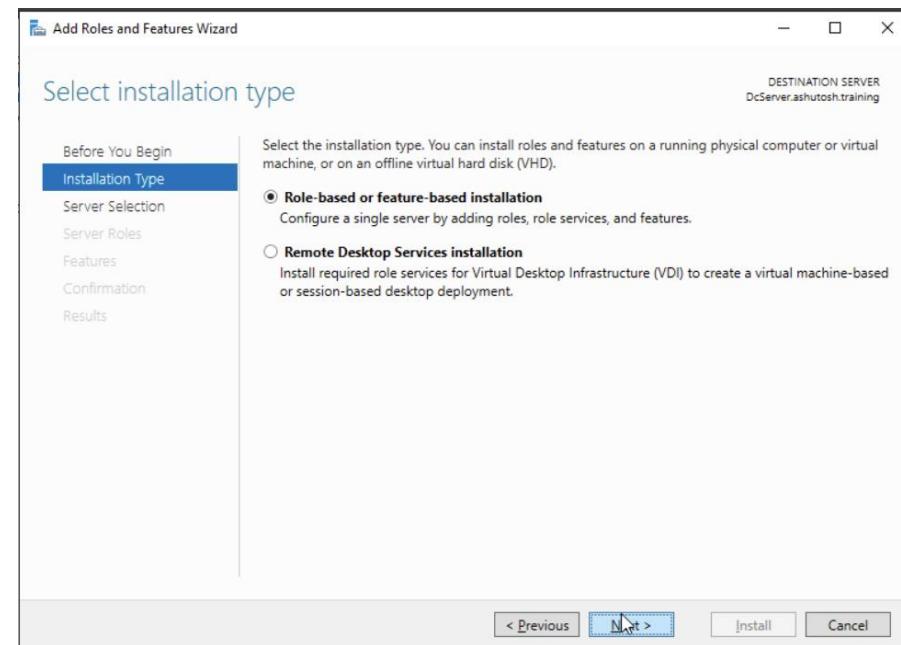
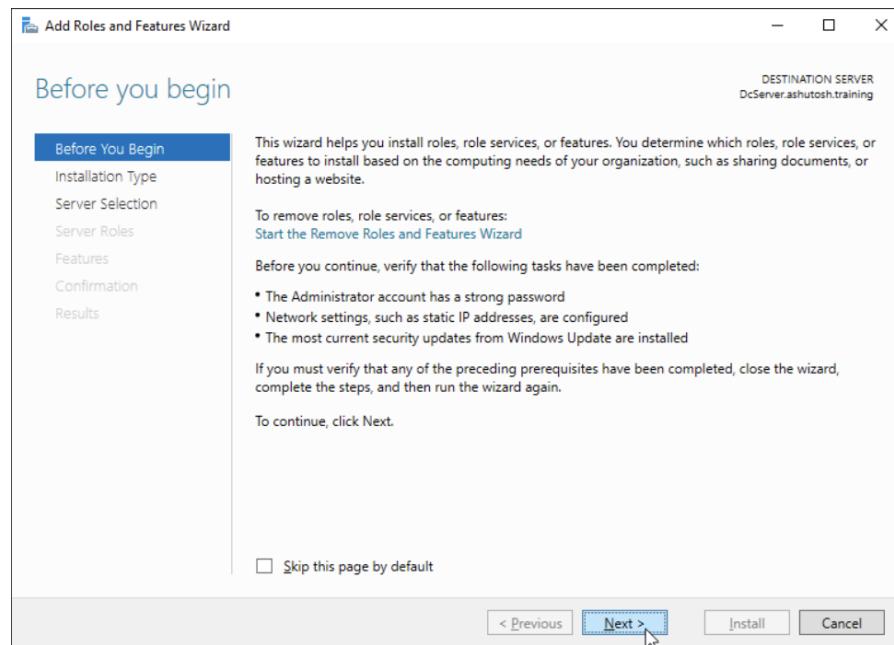
Computer name	DcServer	Last installed updates	Never
Domain	ashutosh.training	Windows Update	Download
		Last checked for updates	Never
Windows Firewall	Public: Off	Windows Defender	Real-Time Protection: On
Remote management	Enabled	Feedback & Diagnostics	Settings
Remote Desktop	Disabled	IE Enhanced Security Configuration	Off
NIC Teaming	Disabled	Time zone	(UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi
Ethernet0	192.168.10.10, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2016 Datacenter Evaluation	Processors	Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz, Intel(R) Xeon(R)
Hardware information	VMware, Inc. VMware20.1	Installed memory (RAM)	4 GB
		Total disk space	59.45 GB

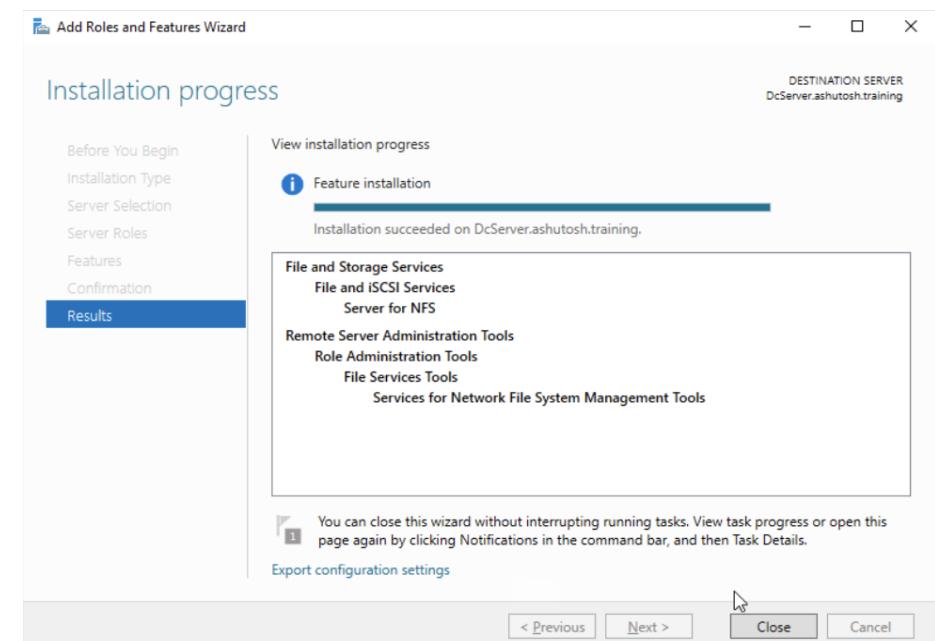
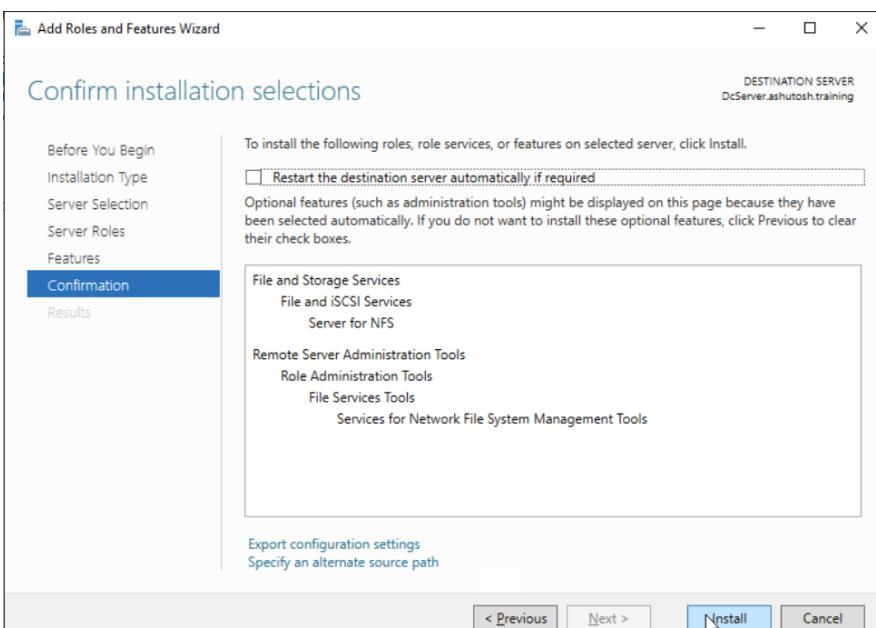
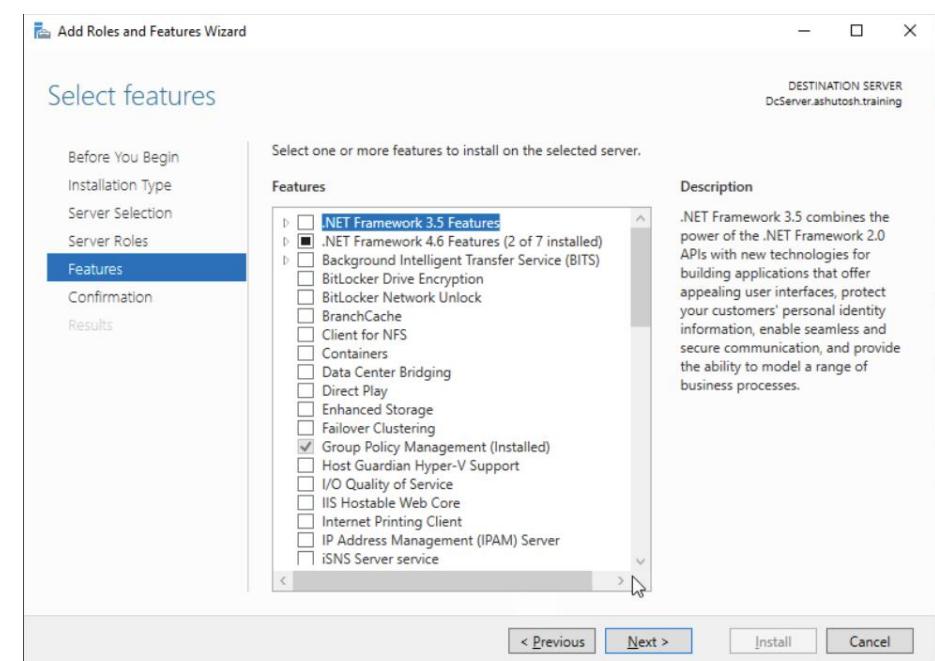
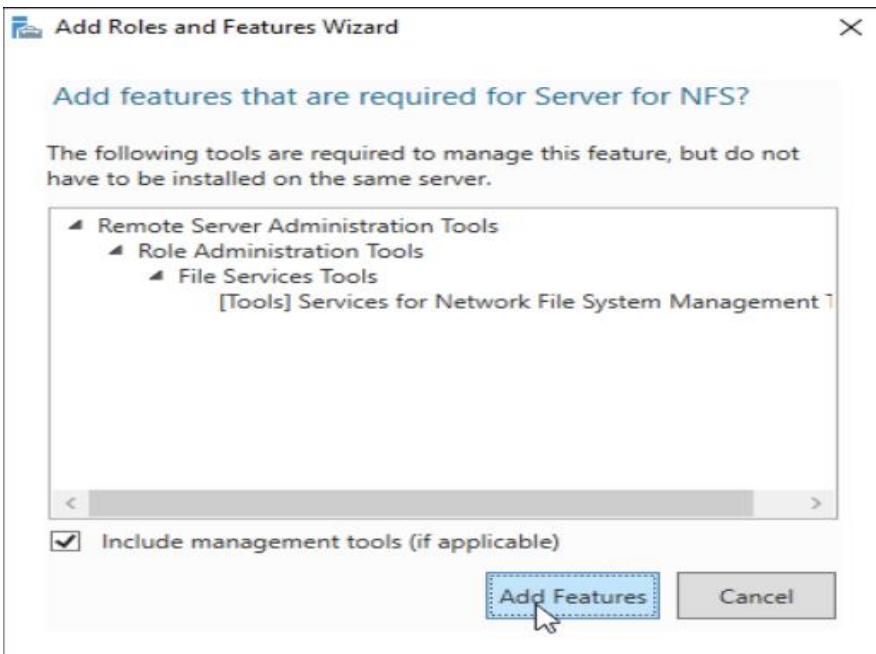
EVENTS
All events | 88 total

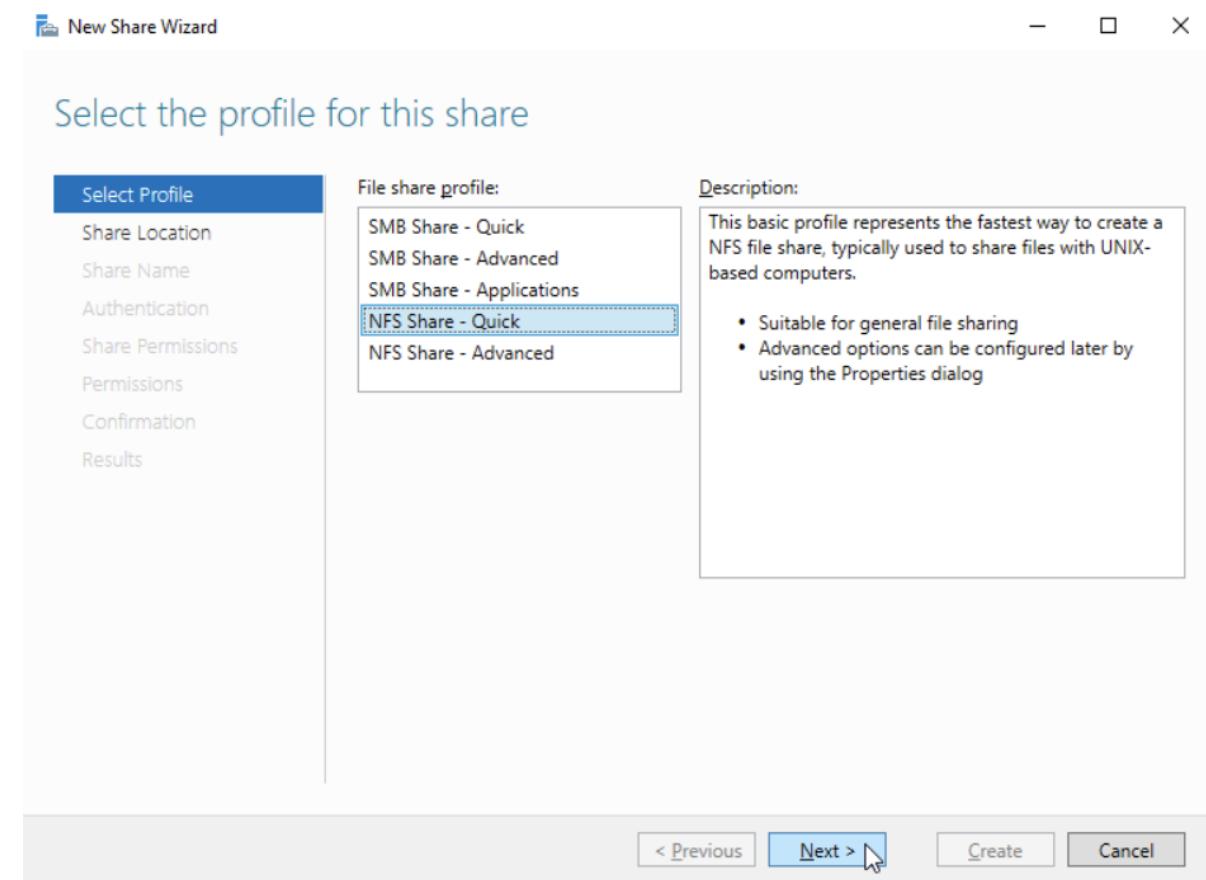
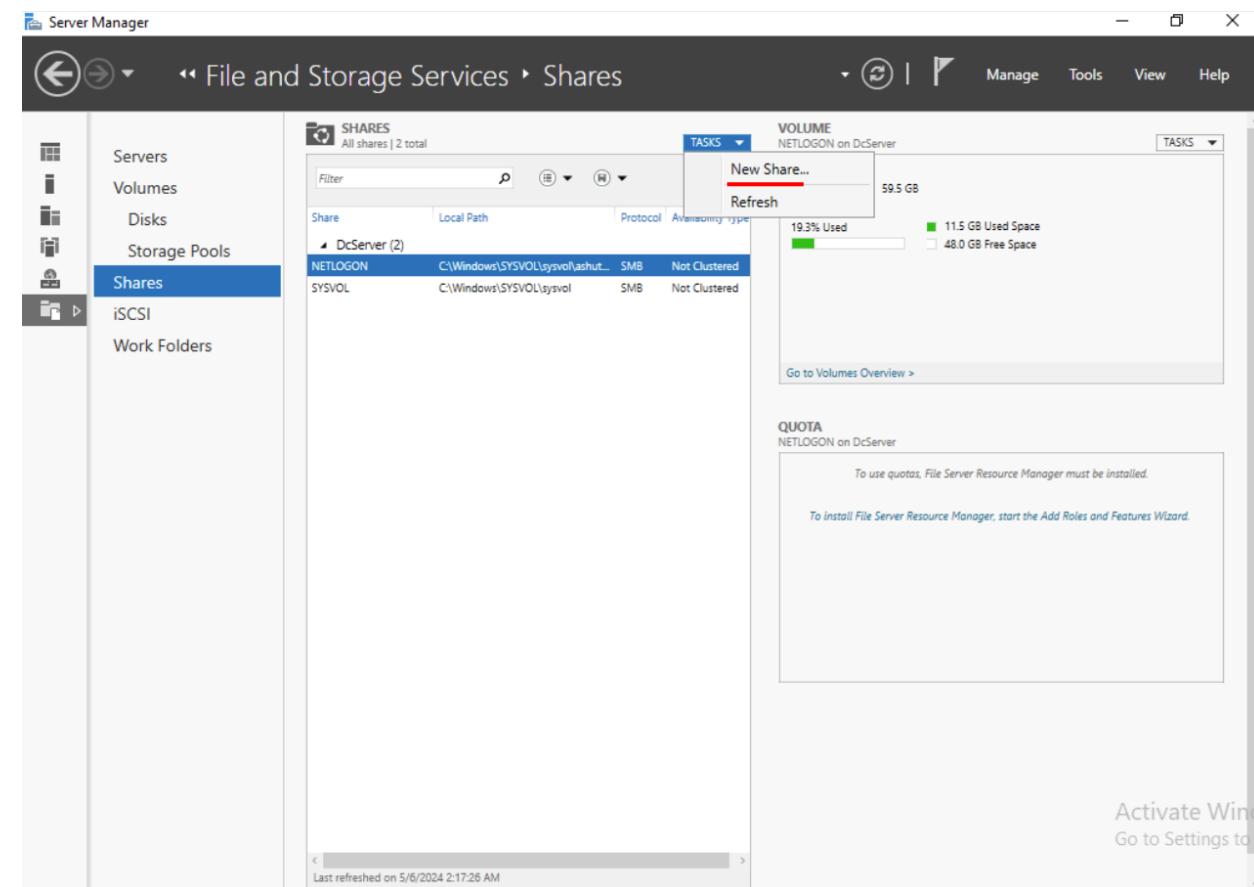
Server Name	ID	Severity	Source	Log	Date and Time
DCSERVER	10016	Error	Microsoft-Windows-DistributedCOM	System	5/6/2024 1:29:46 AM
DCSERVER	10016	Error	Microsoft-Windows-DistributedCOM	System	5/5/2024 10:57:19 PM
DCSERVER	10016	Error	Microsoft-Windows-DistributedCOM	System	5/5/2024 10:32:34 PM
DCSERVER	10016	Error	Microsoft-Windows-DistributedCOM	System	5/5/2024 9:30:09 PM
DCSERVER	10016	Error	Microsoft-Windows-DistributedCOM	System	5/5/2024 9:06:27 PM
DCSERVER	10016	Error	Microsoft-Windows-DistributedCOM	System	5/5/2024 8:43:35 PM
DCSERVER	10016	Error	Microsoft-Windows-DistributedCOM	System	5/5/2024 7:36:24 PM

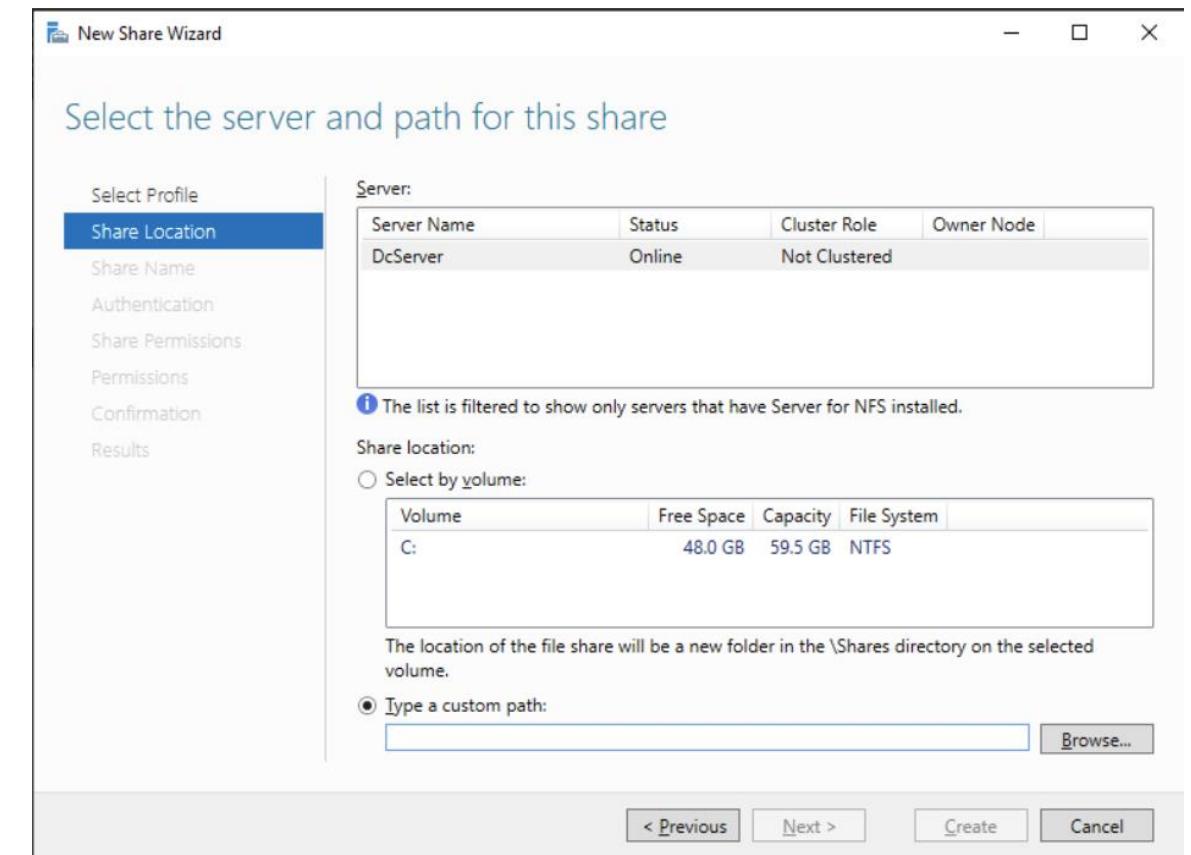
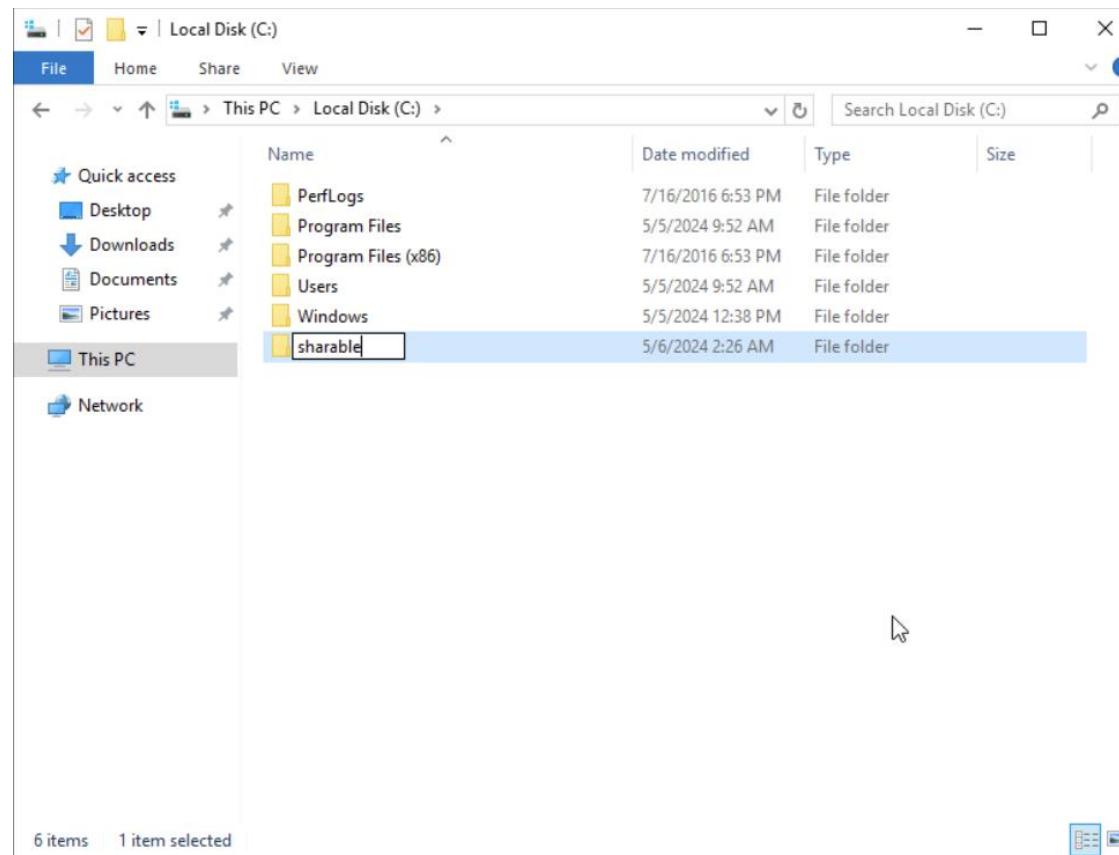
SERVICES
All services | 198 total

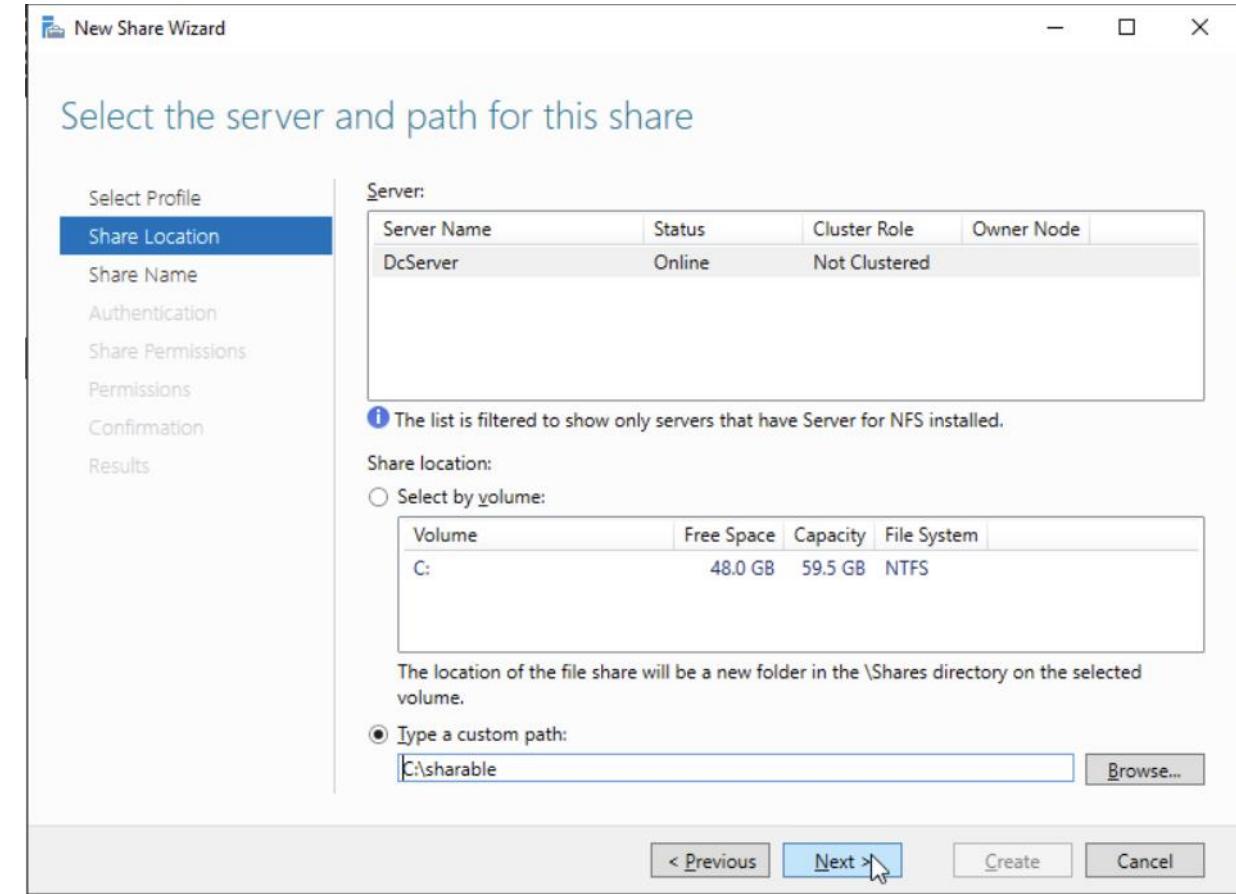
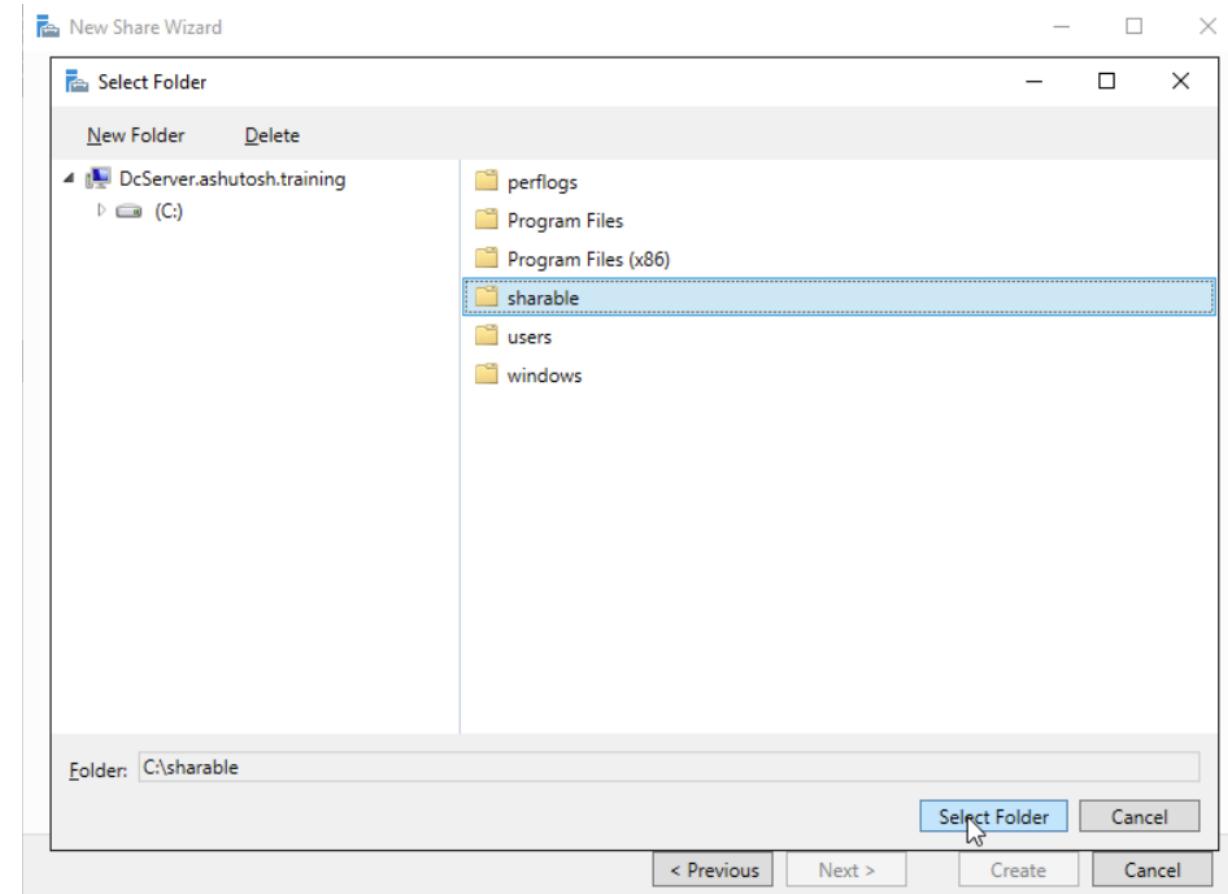
Filter	Log	Date and Time

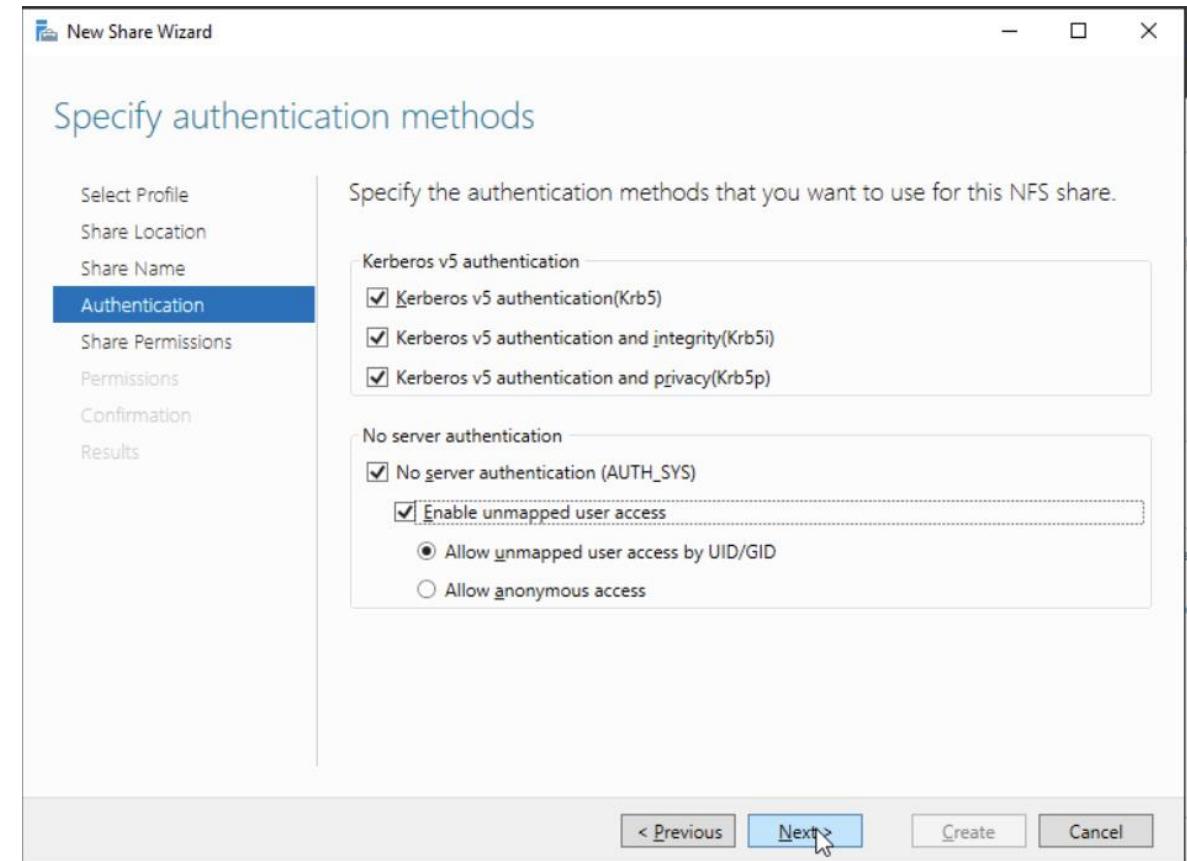
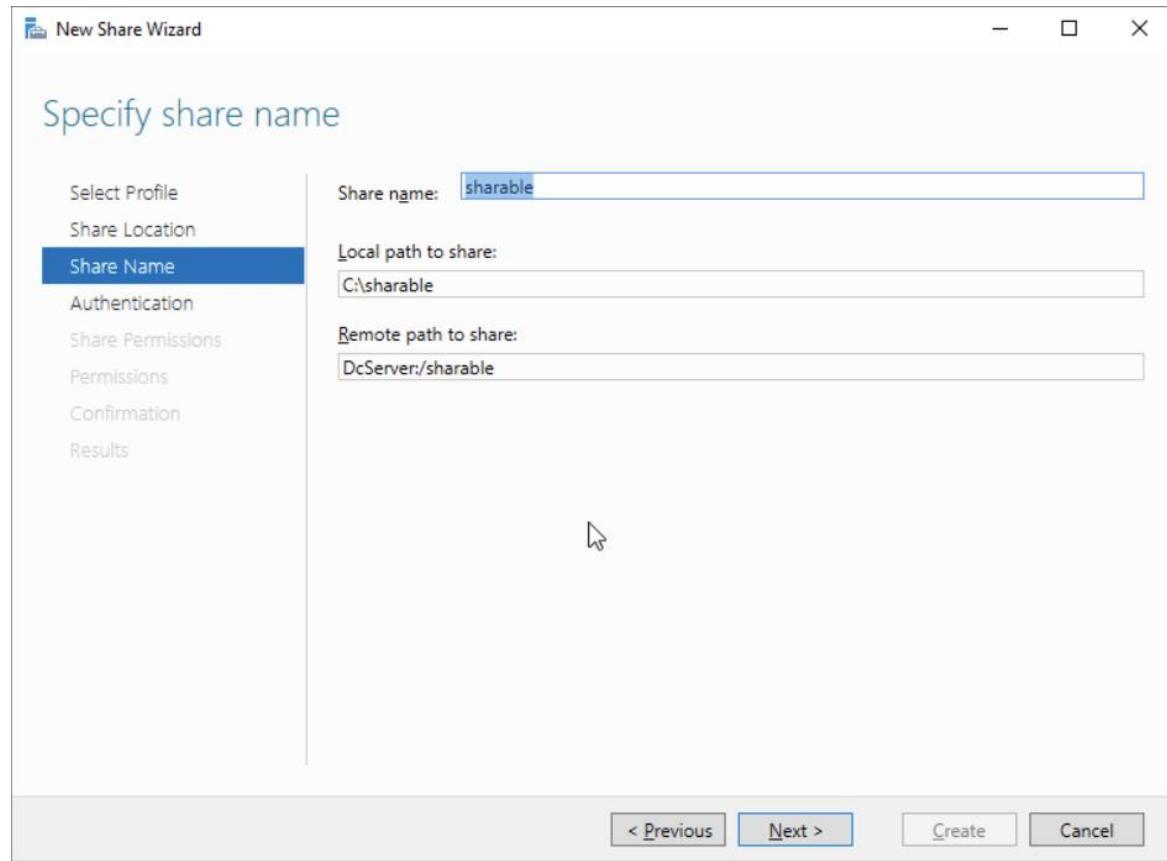


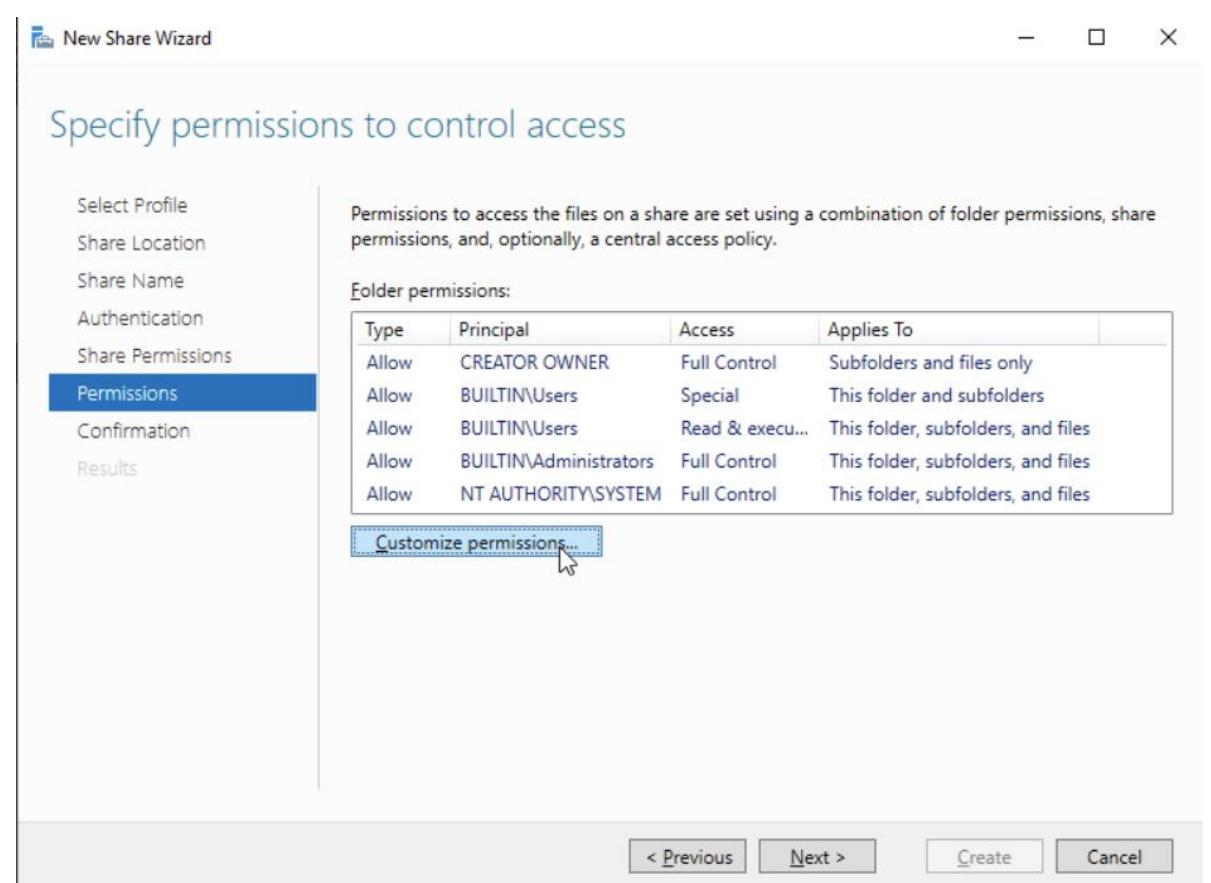
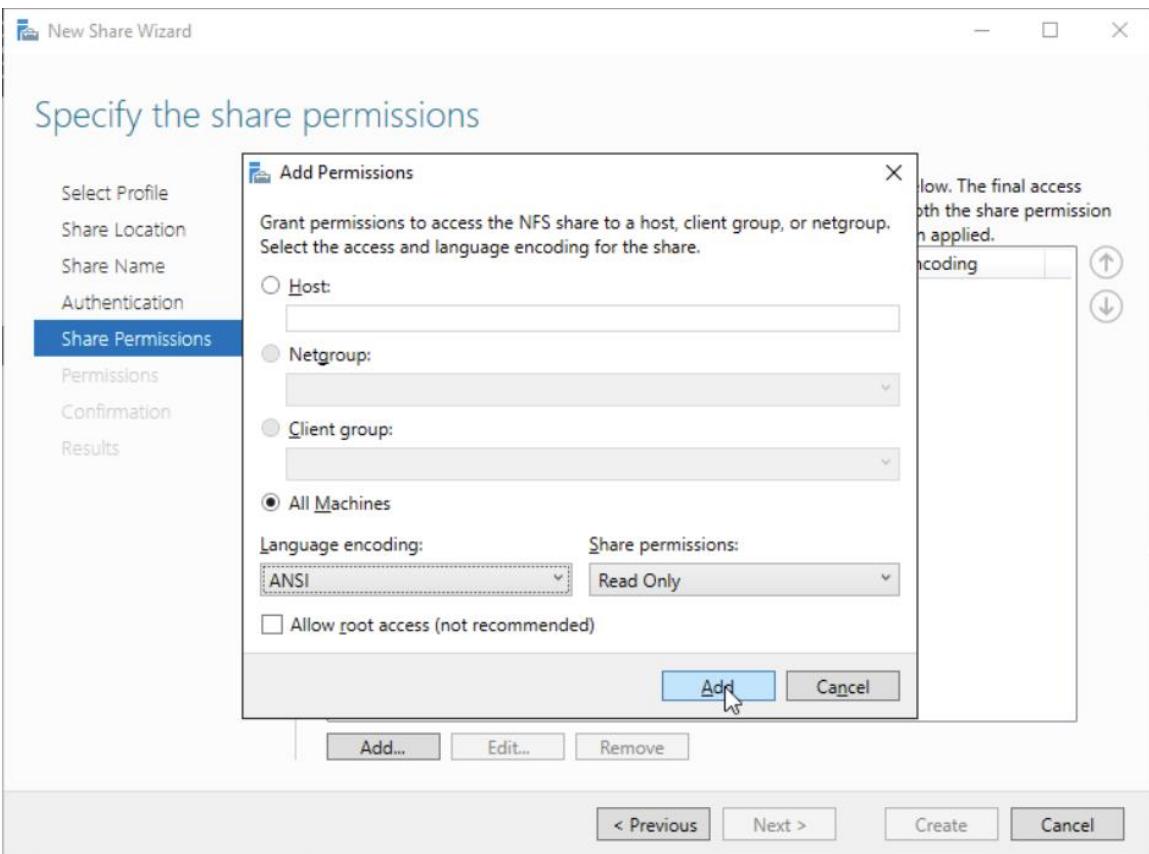












Advanced Security Settings for sharable

Name: C:\sharable
Owner: Administrators (ASHUTOSH\Administrators) [Change](#)

Permissions Auditing Effective Access

For additional information, double-click a permission entry. To modify a permission entry, select the entry and click Edit (if available).

Permission entries:

Type	Principal	Access	Inherited from	Applies to
Allow	SYSTEM	Full control	C:\	This folder, subfolders and files
Allow	Administrators (ASHUTOSH\...)	Full control	C:\	This folder, subfolders and files
Allow	Users (ASHUTOSH\Users)	Read & execute	C:\	This folder, subfolders and files
Allow	Users (ASHUTOSH\Users)	Special	C:\	This folder and subfolders
Allow	CREATOR OWNER	Full control	C:\	Subfolders and files only

Add Remove View
Disable inheritance
 Replace all child object permission entries with inheritable permission entries from this object

OK Cancel Apply

Permission Entry for sharable

Principal: [Select a principal](#)
Type: Allow
Applies to: This folder, subfolders and files

Basic permissions:

- Full control
- Modify
- Read & execute
- List folder contents
- Read
- Write
- Special permissions

Select User, Computer, Service Account, or Group

Select this object type:
User, Group, or Built-in security principal [Object Types...](#)

From this location:
ashutosh.training [Locations...](#)

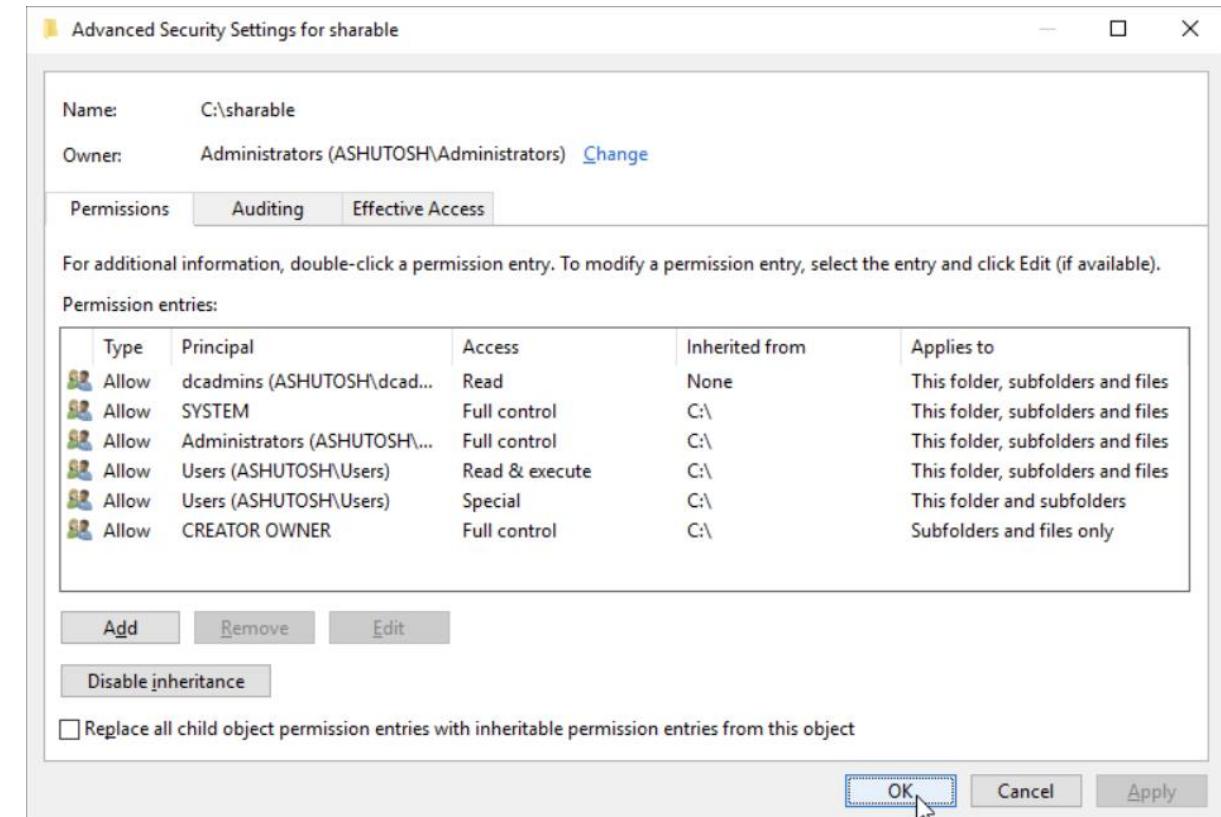
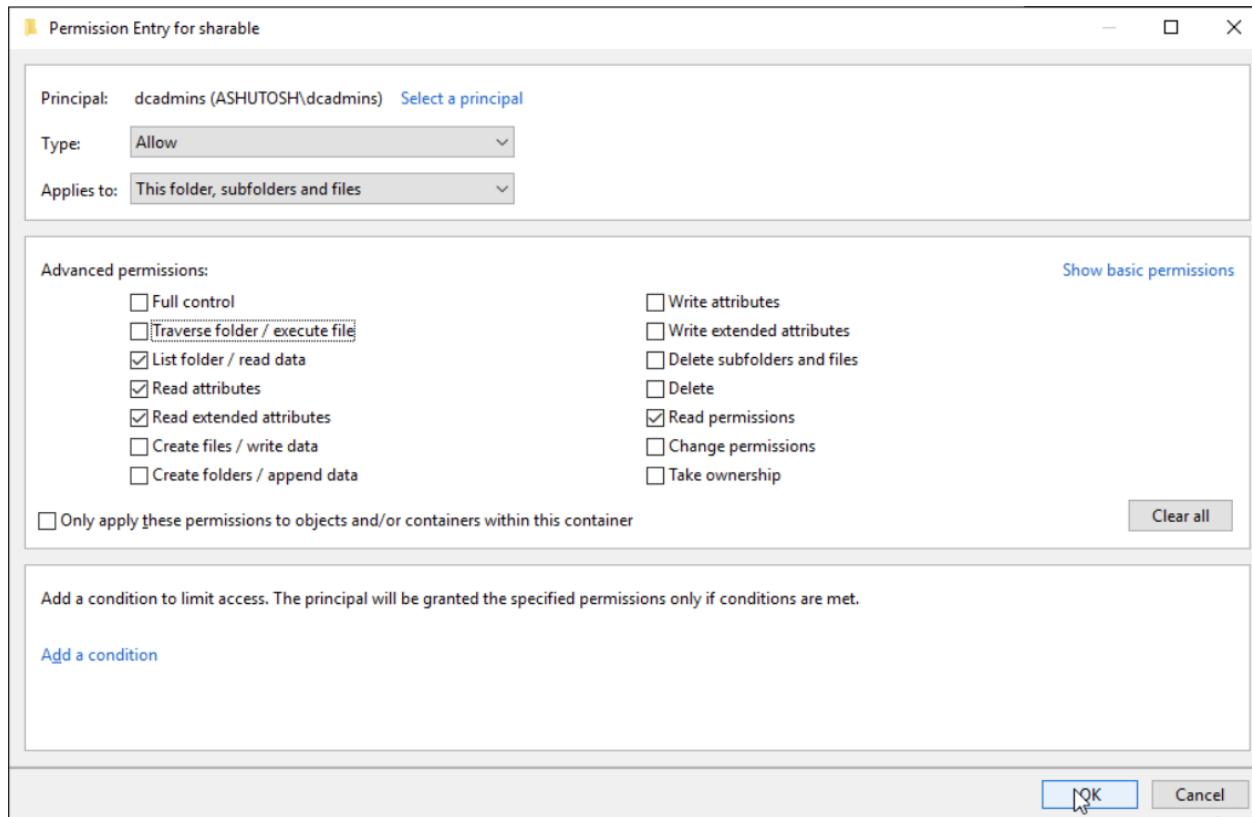
Enter the object name to select ([examples](#)):
dcadmins [Check Names...](#)

Advanced... OK Cancel

Show advanced permissions

Add a condition to limit access.
Add a condition

OK Cancel



New Share Wizard

Confirm selections

Select Profile
Share Location
Share Name
Authentication
Share Permissions
Permissions
Confirmation
Results

Confirm that the following are the correct settings, and then click Create.

SHARE LOCATION

Server: DcServer
Cluster role: Not Clustered
Local path: C:\sharable

SHARE PROPERTIES

Share name: sharable
Protocol: NFS

< Previous [Next](#) Create Cancel

New Share Wizard

View results

Select Profile
Share Location
Share Name
Authentication
Share Permissions
Permissions
Confirmation
Results

The share was successfully created.

Task	Progress	Status
Create NFS share	<div style="width: 100%; background-color: #0070C0;"></div>	Completed
Set NFS permissions	<div style="width: 100%; background-color: #0070C0;"></div>	Completed



< Previous [Next](#) Close Cancel

 sharable Properties

- □ ×

sharable

Show All

General

General

Authentication

Server Name: DcServer

Share Permissions

Share name: sharable

NTFS Permissions

Folder path: C:\sharable

Remote path: DcServer:/sharable

Protocol: NFS

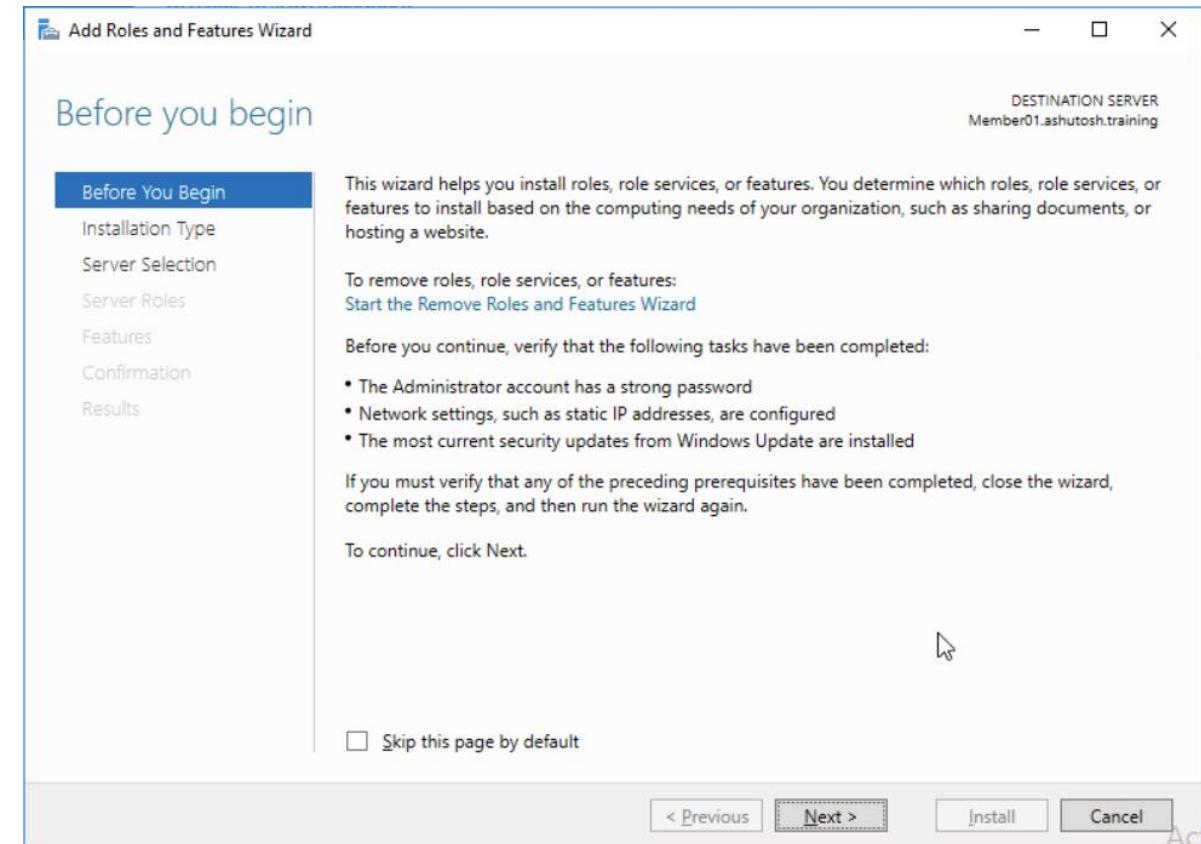
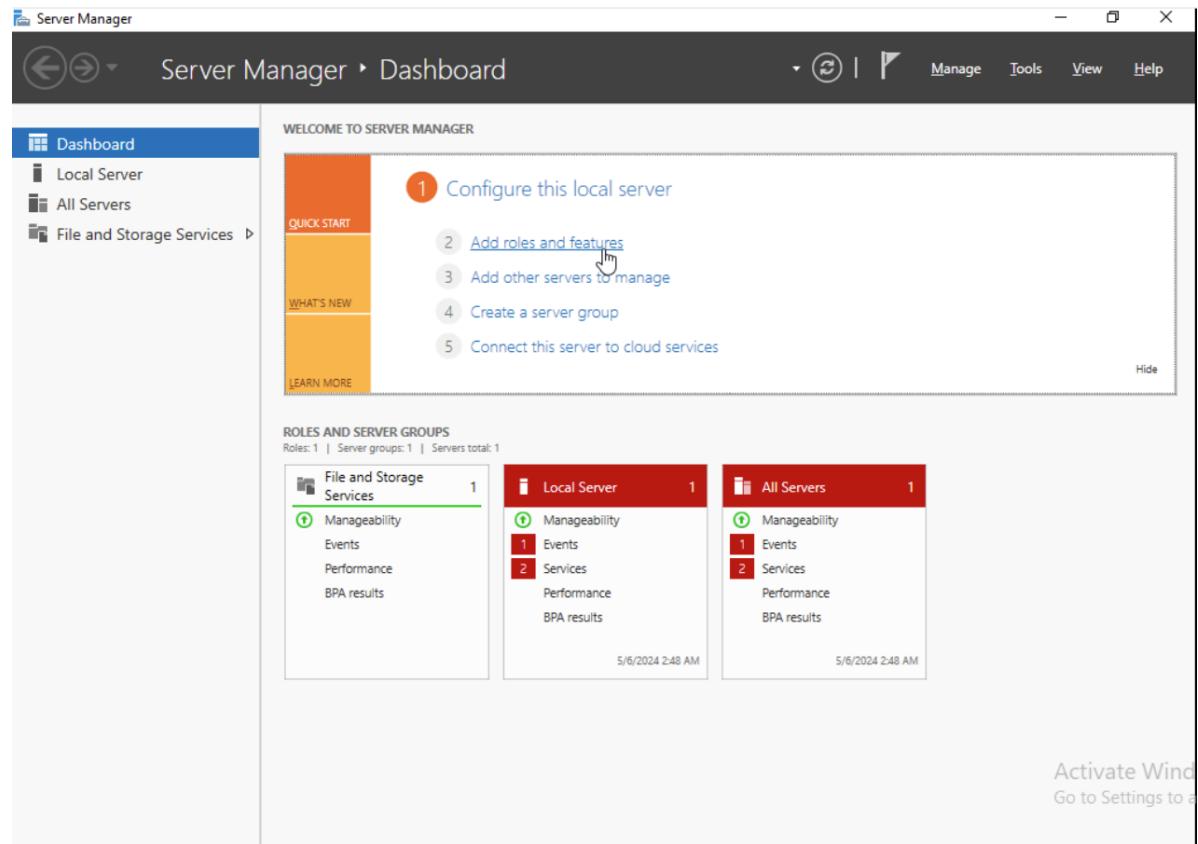
Availability type: Not Clustered

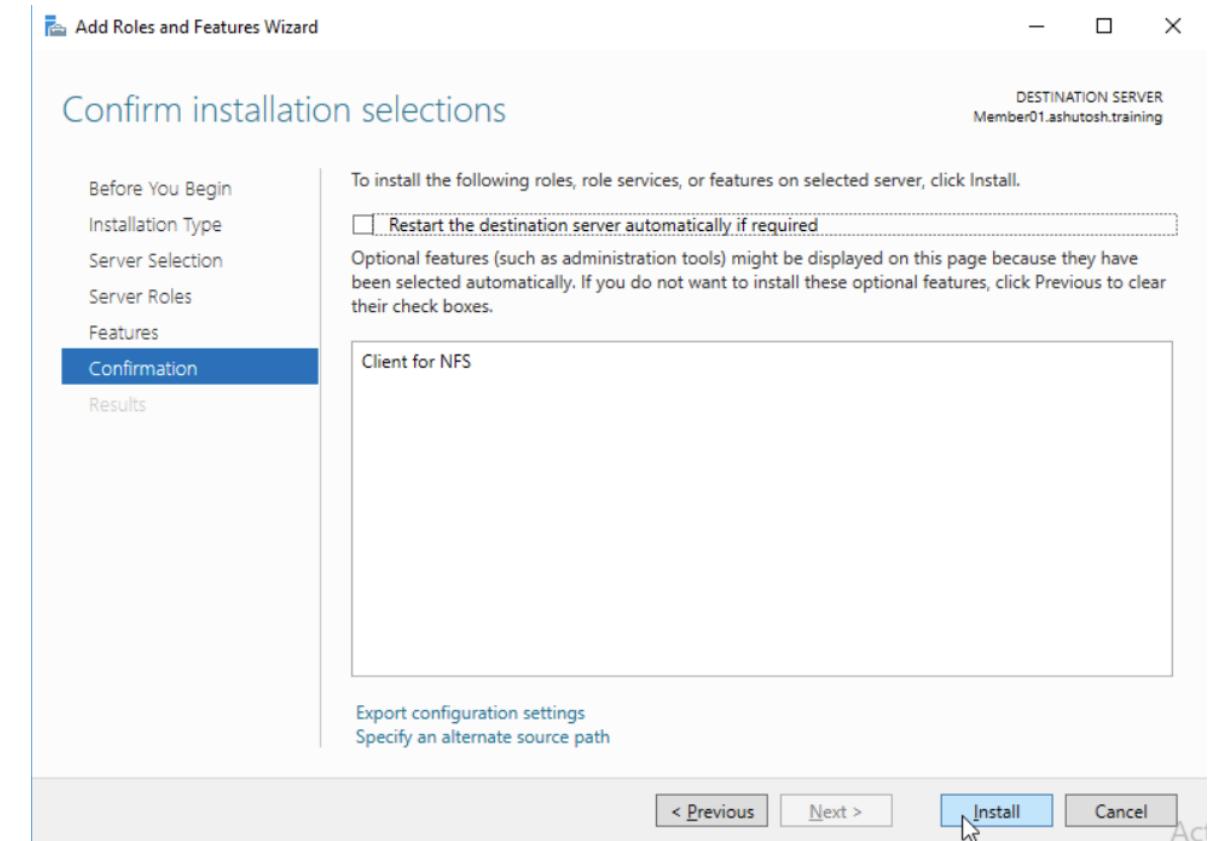
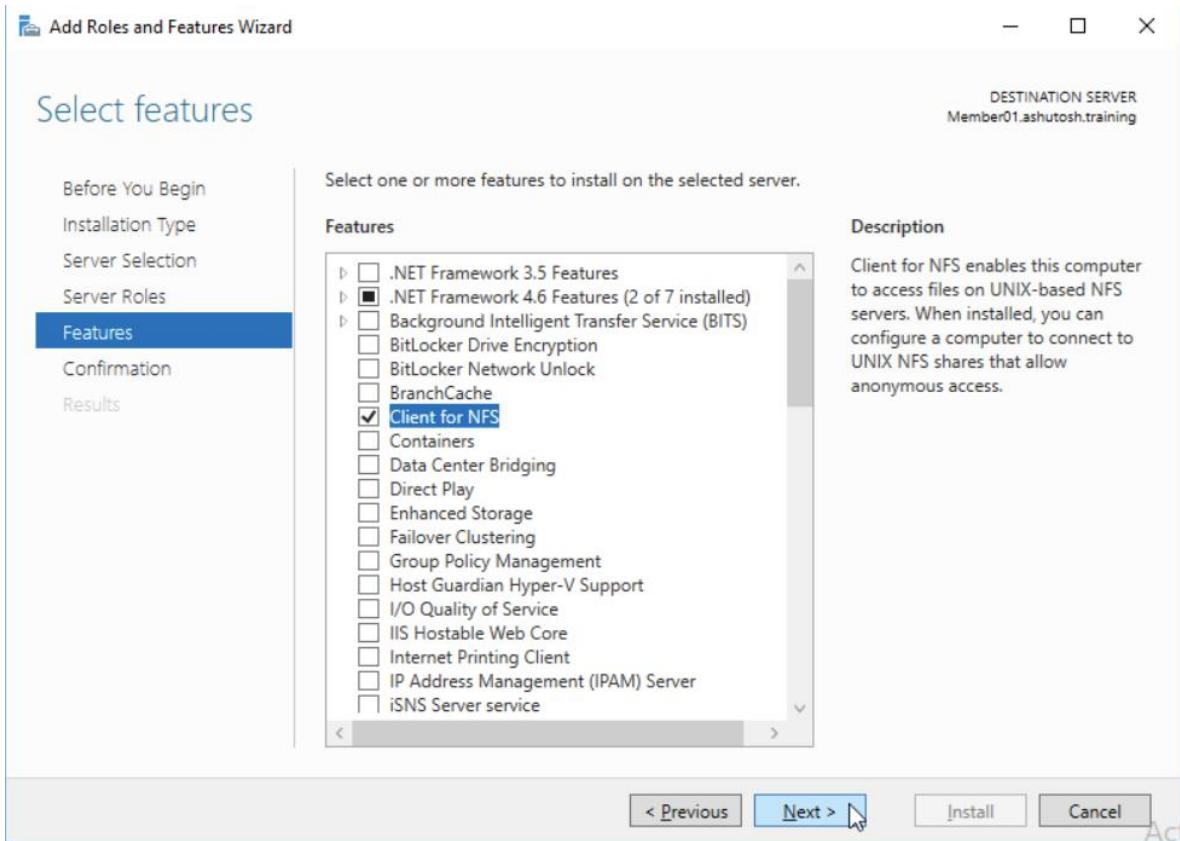
OK

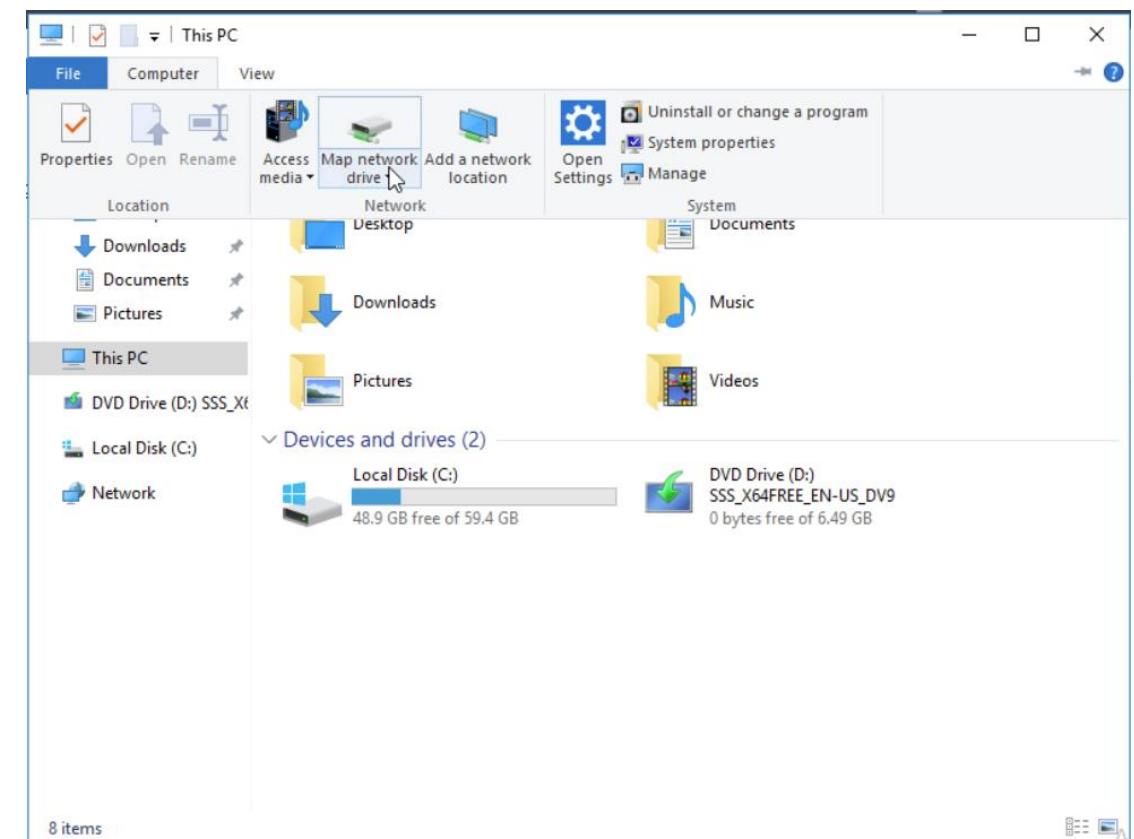
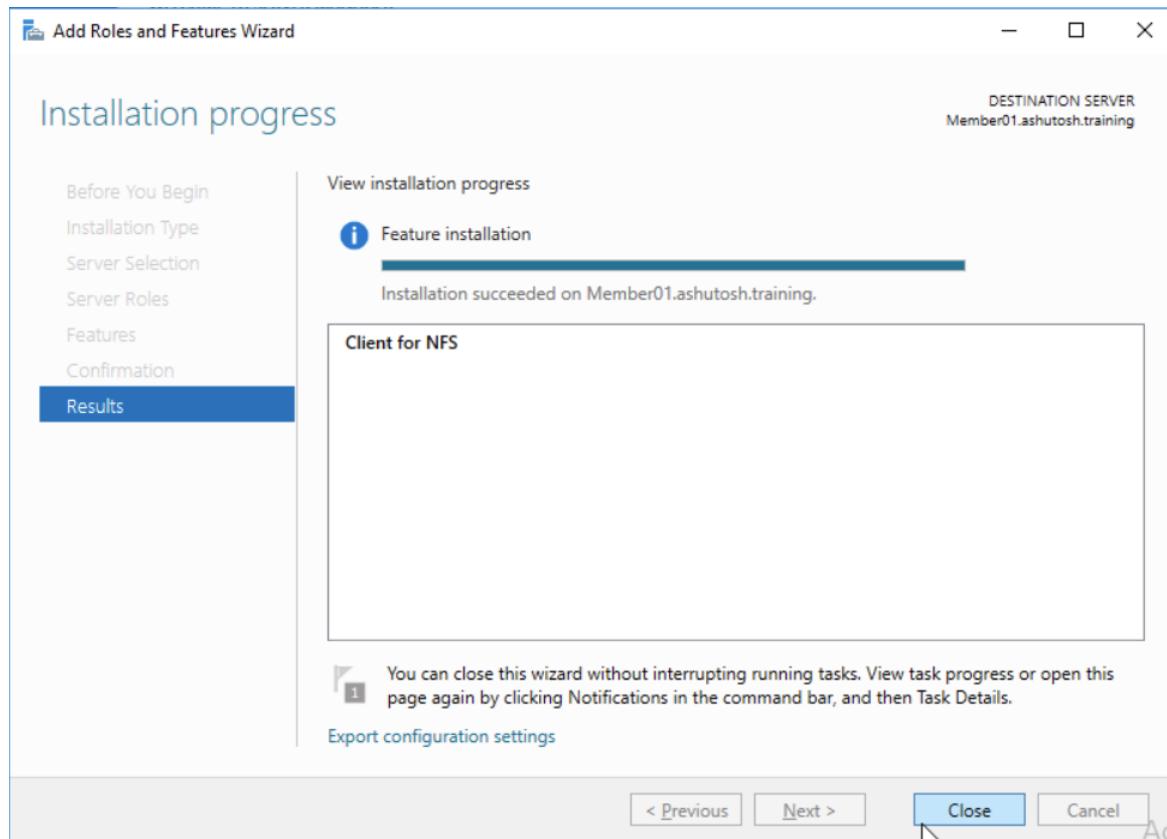
Cancel

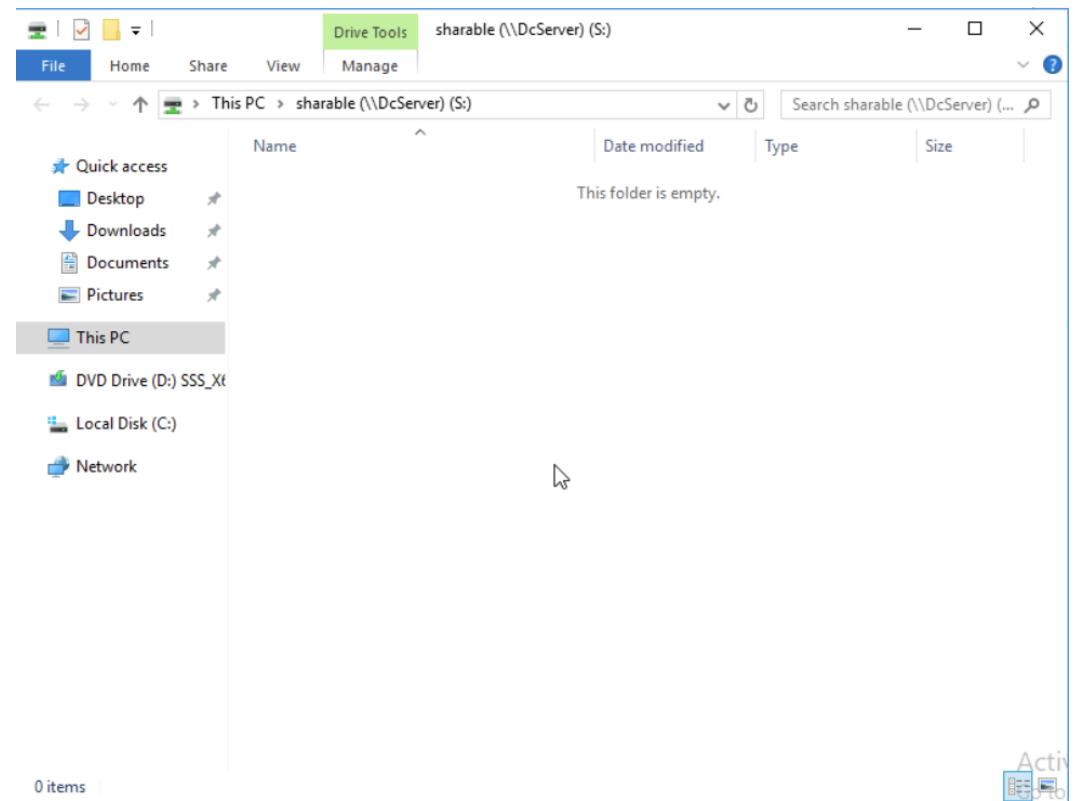
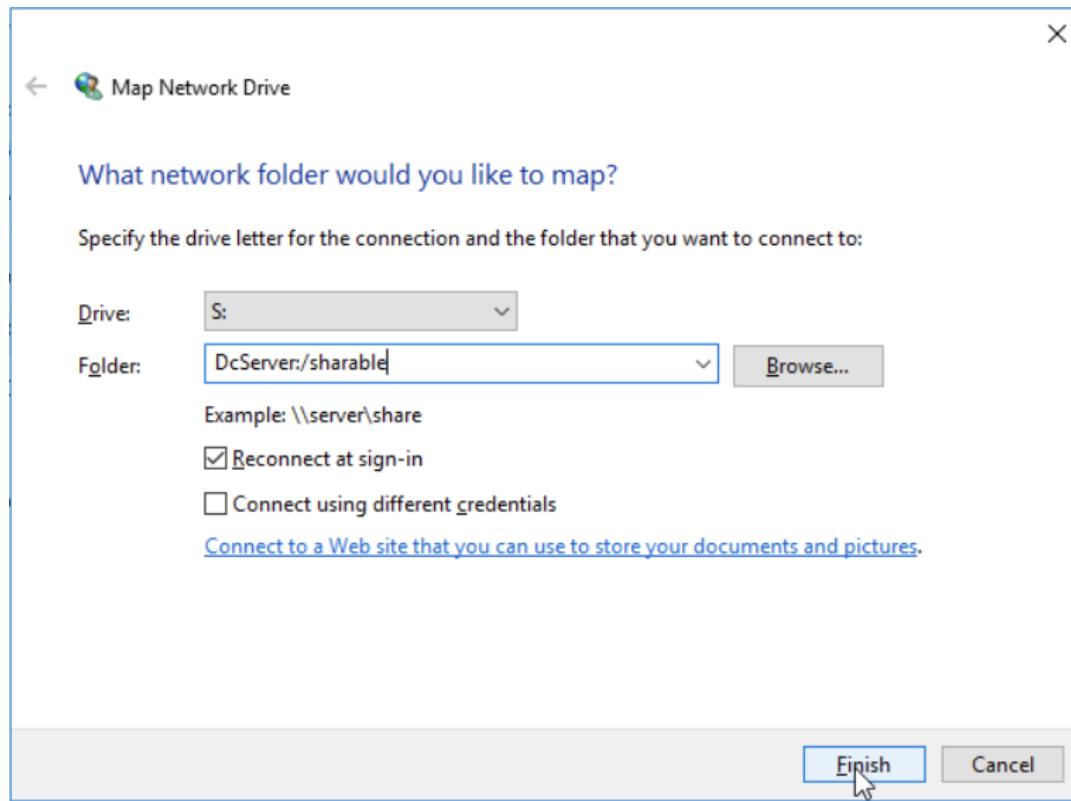
Apply

Add Features in member machine for NFS:

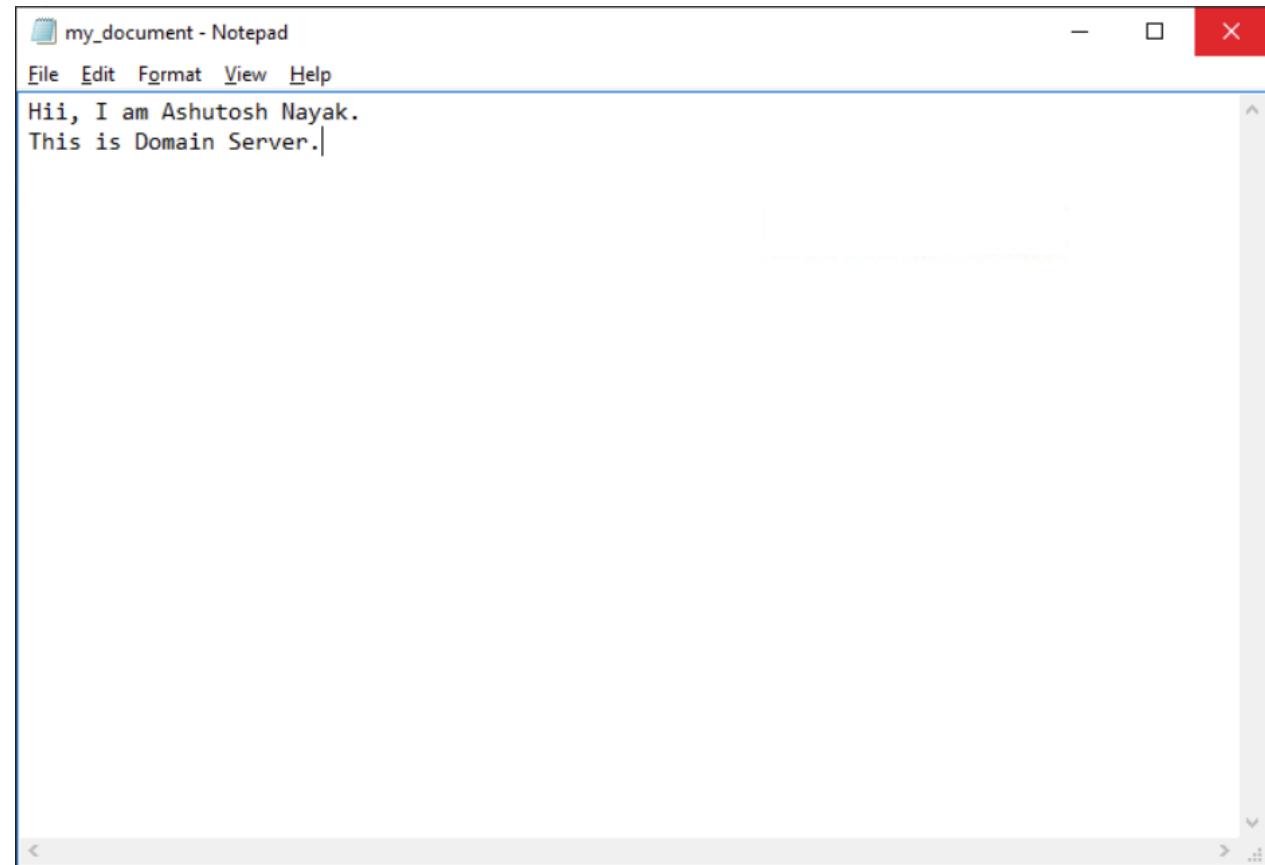
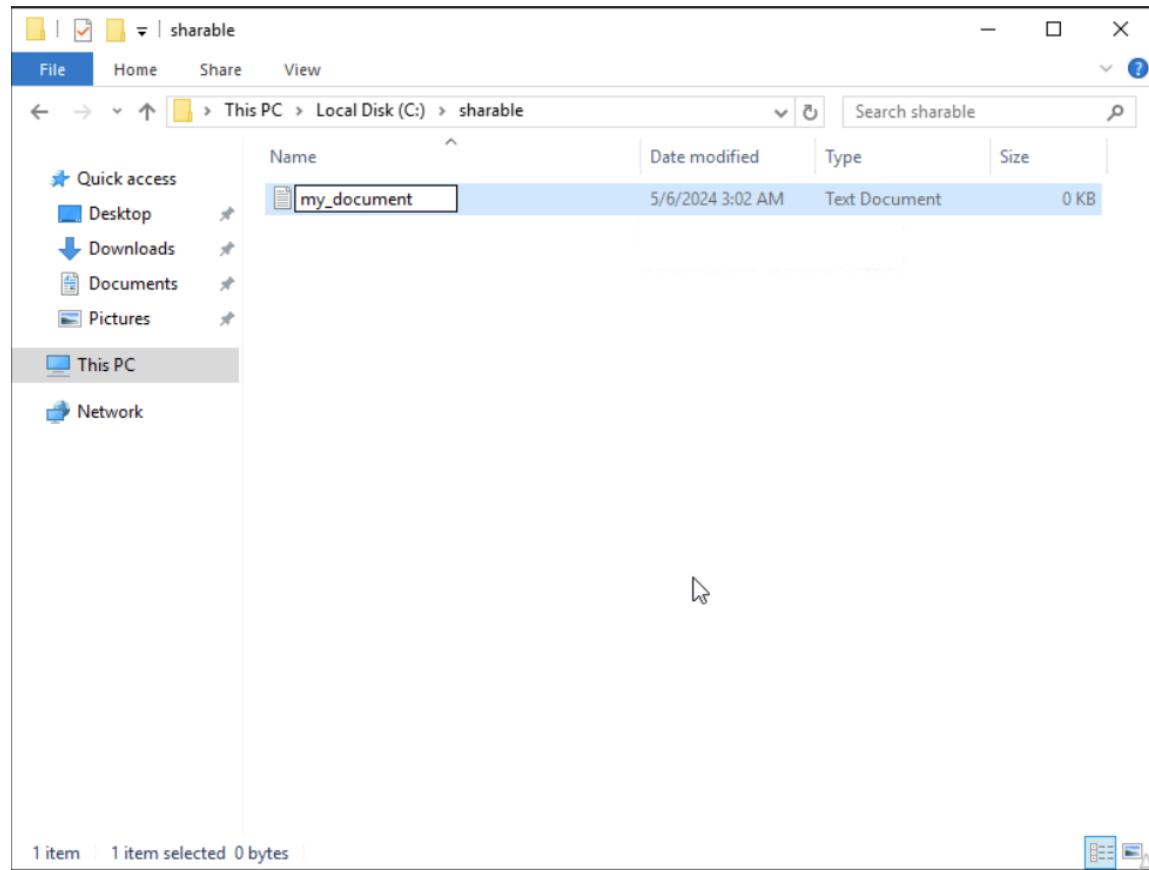




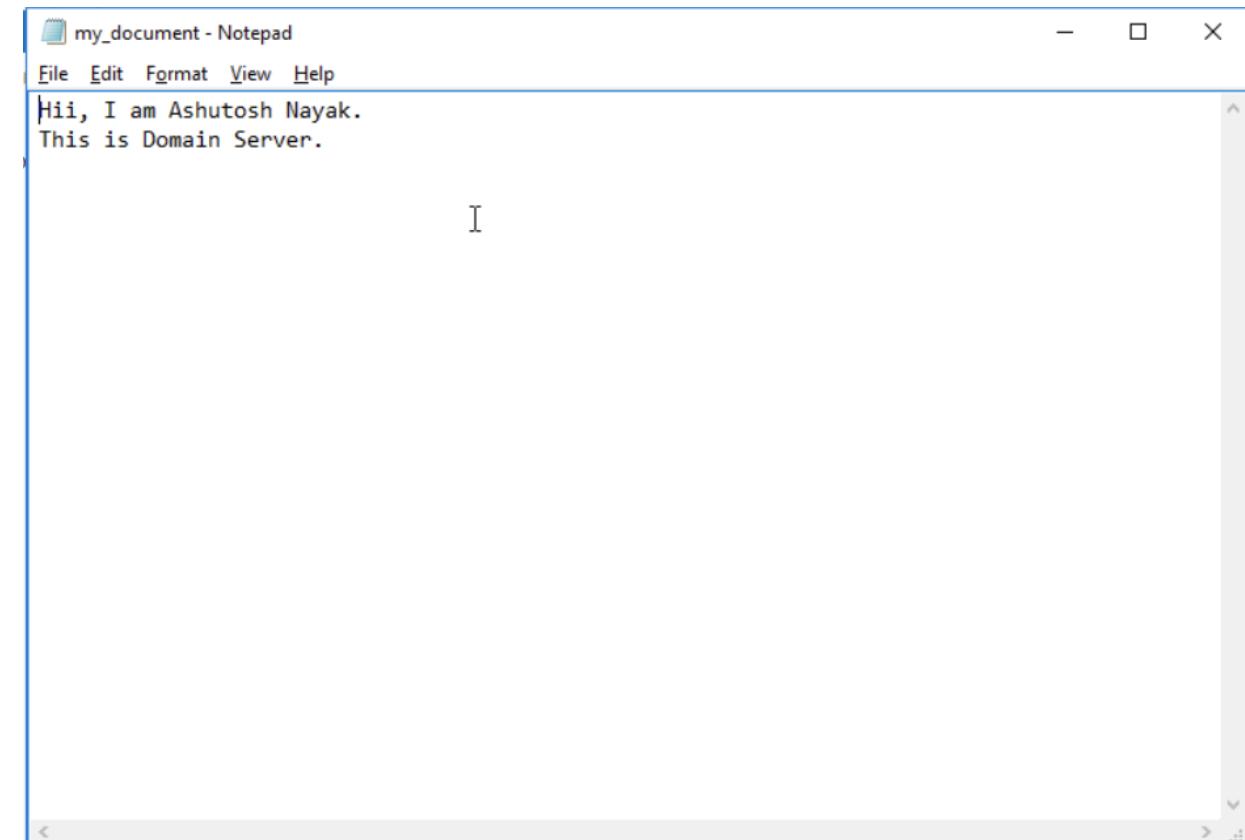
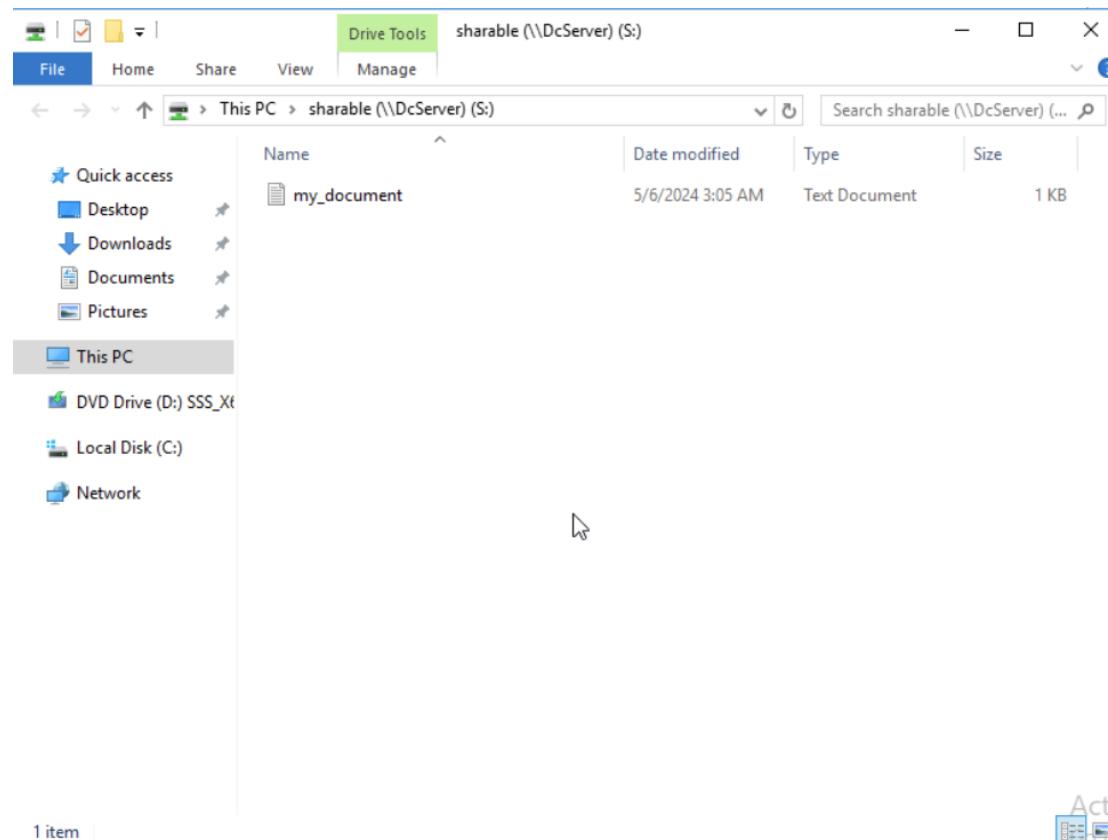




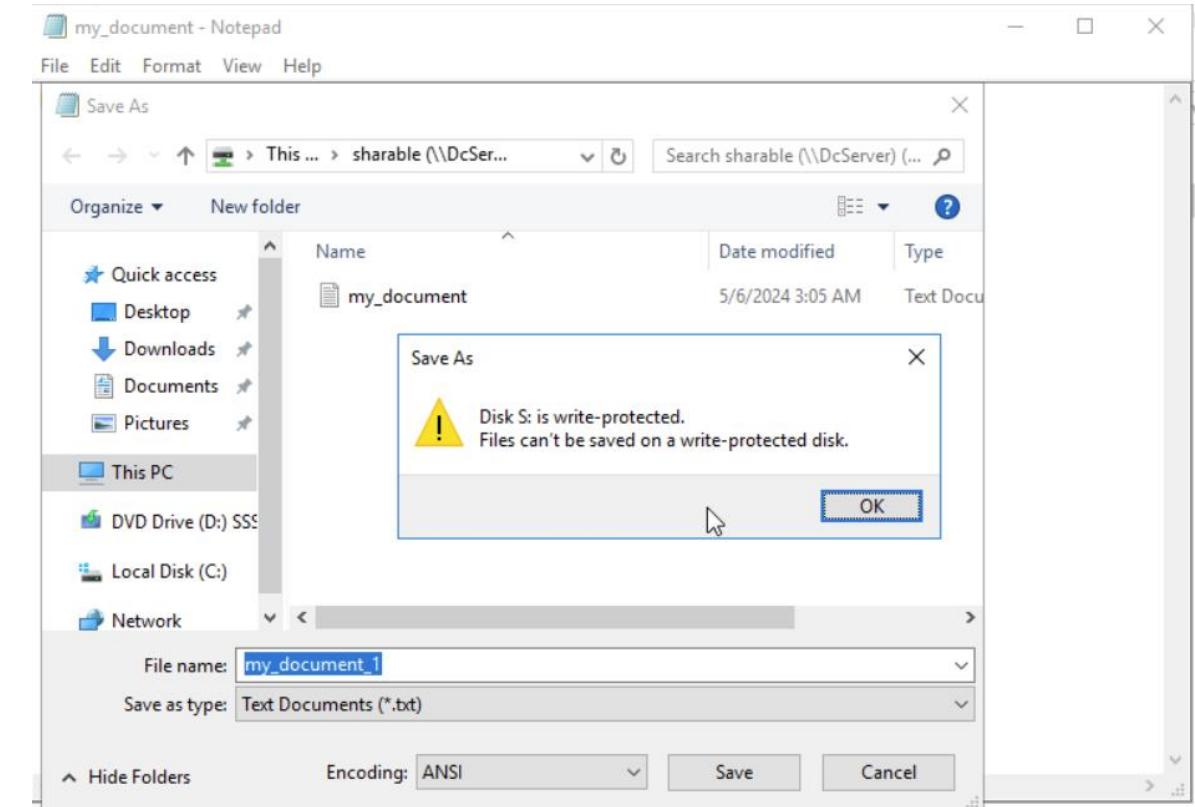
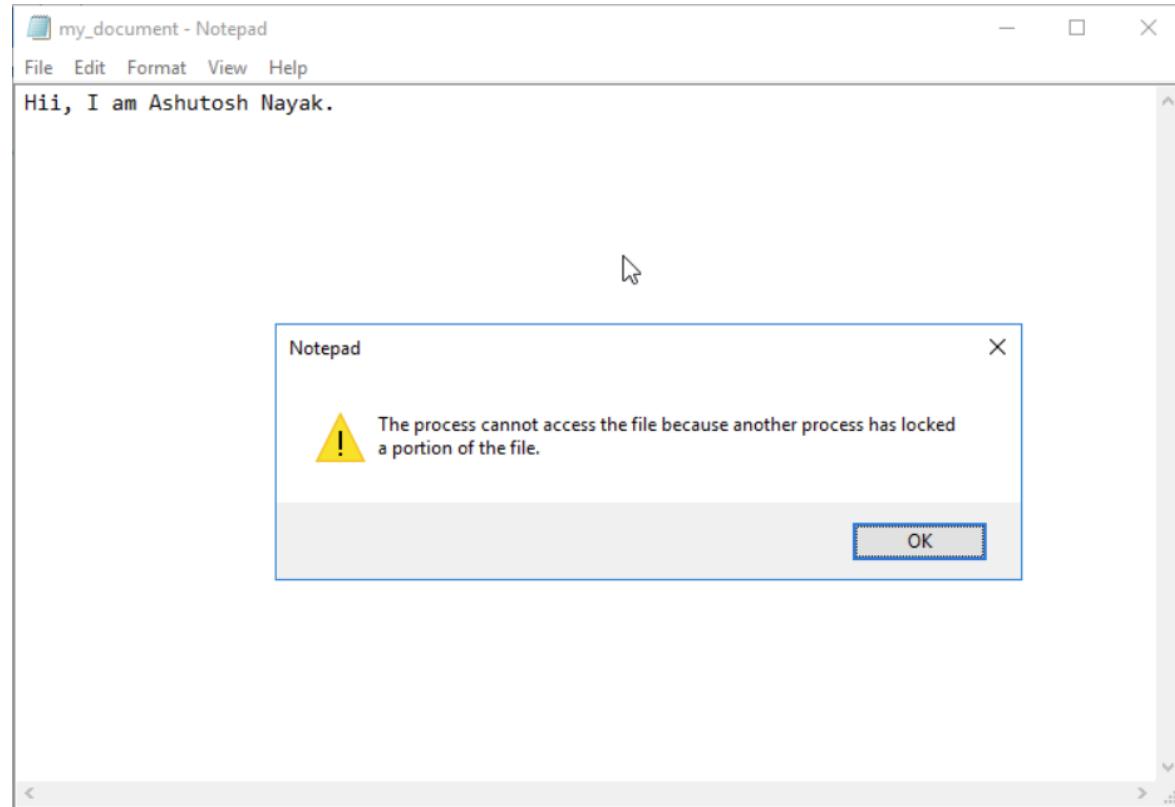
- Go to Dc_Server & create a text document in the “sharable” folder:



- Go to Member & verify the folder created in Dc_Server:



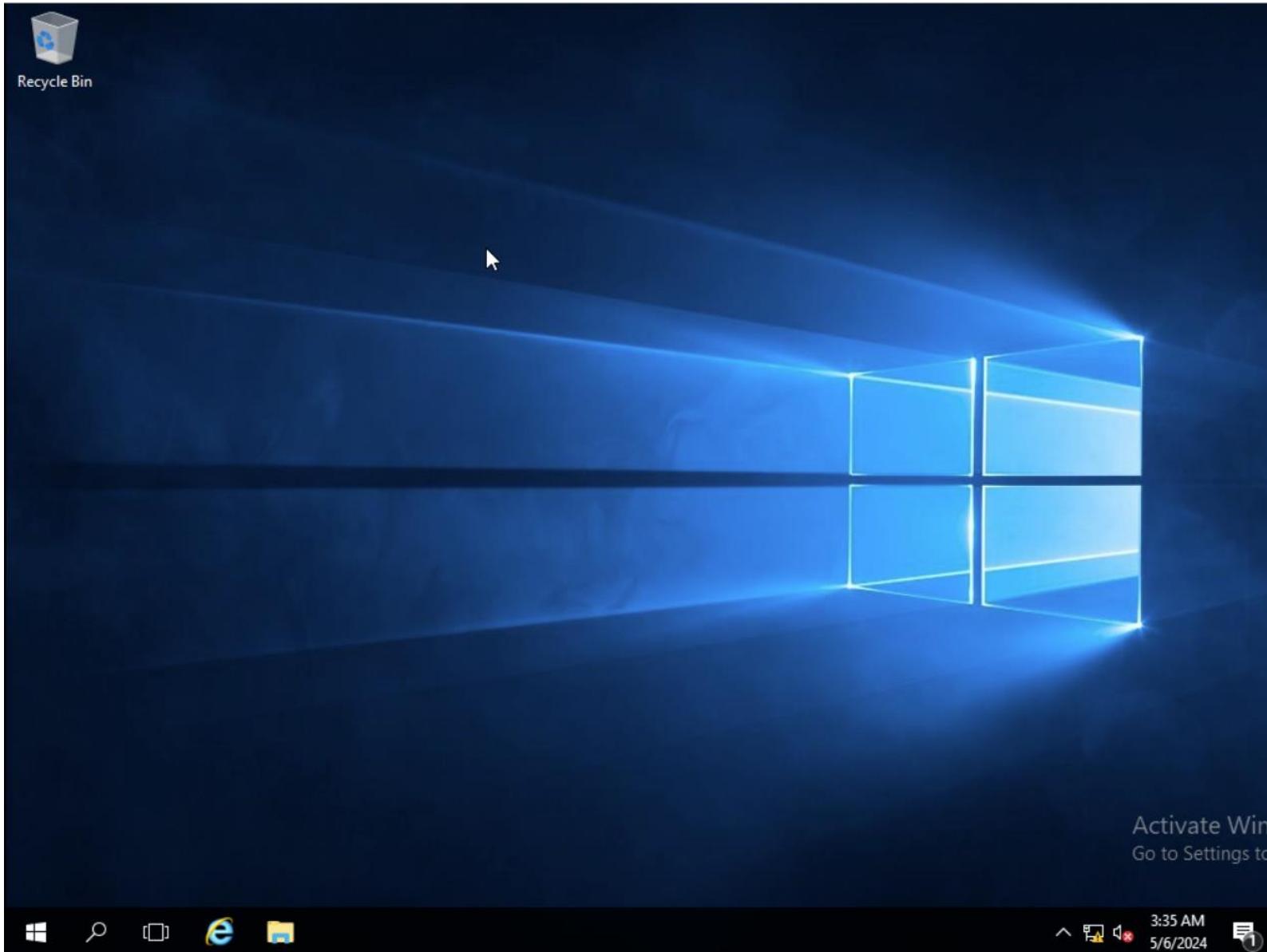
- Check if it is editable or not:



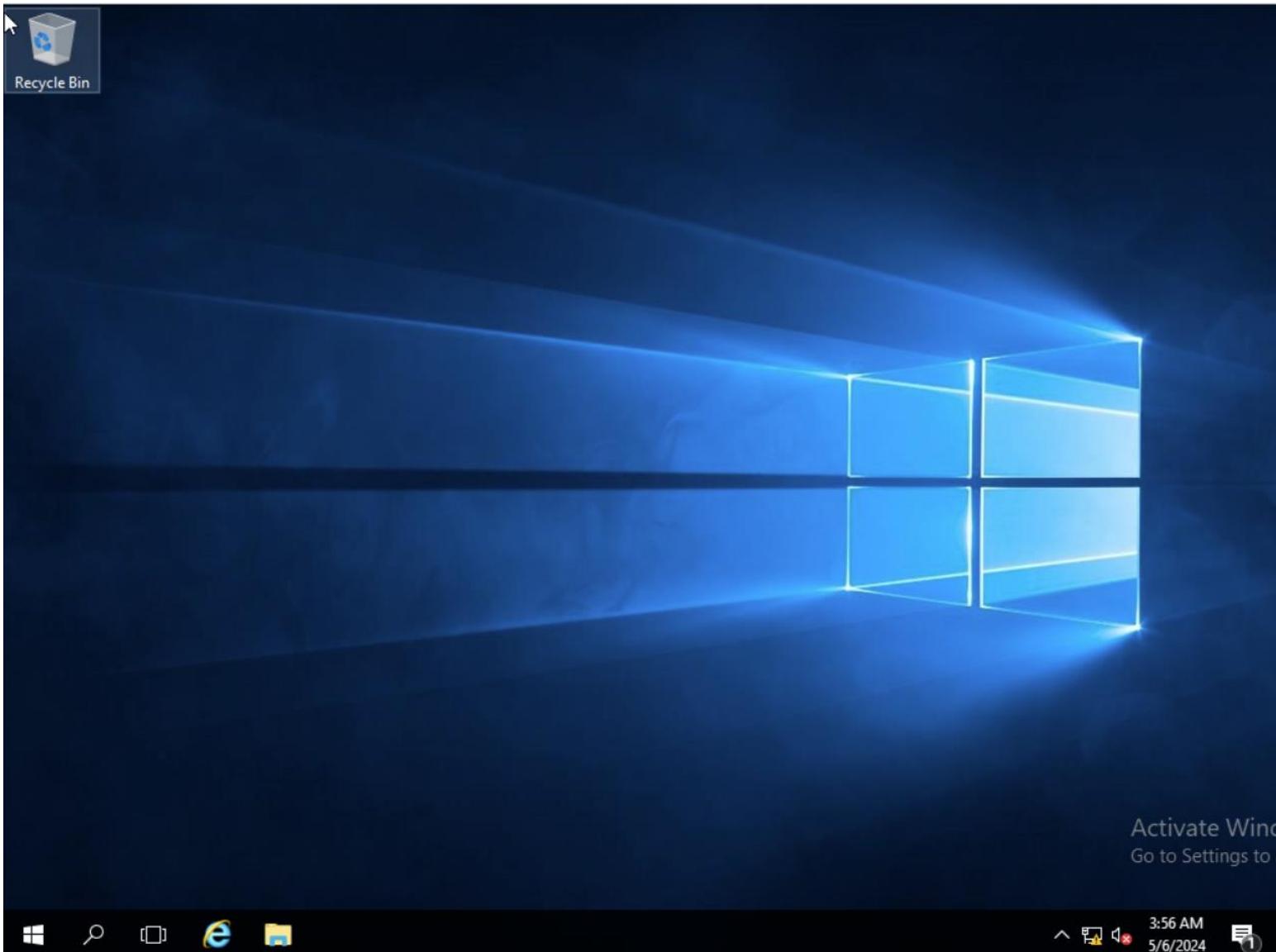
Project Task 5

Objective: Ensure that you have a windows-based domain environment (with a DC & Member). Create a group policy and apply it on the all the computers that are domain joined. This policy basically applies the same wallpaper in all the computers within the domain.

Dc_Server Machine:



Member Machine (Already Domain joined with server):

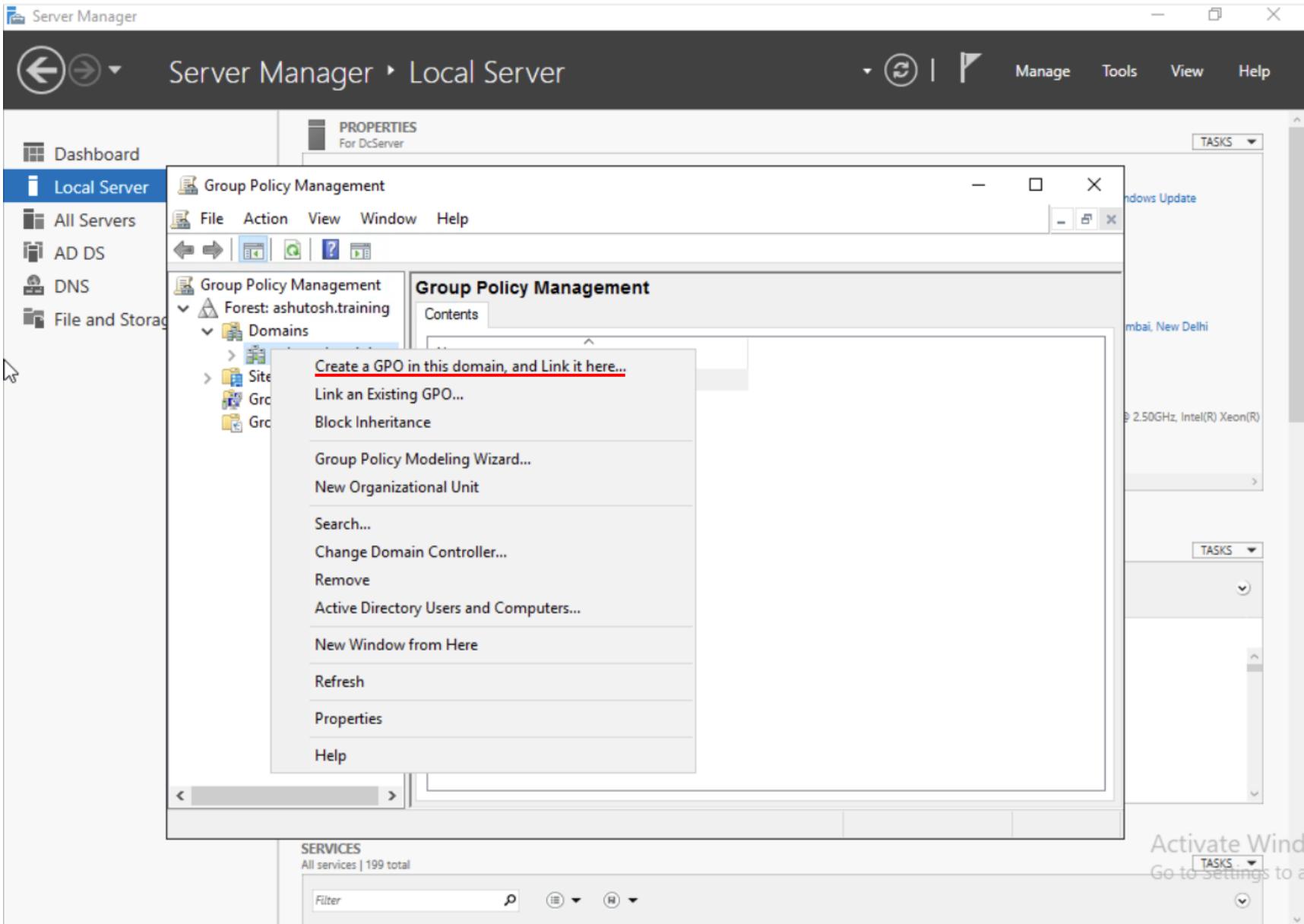


Go to tools & select “Group Policy Management”:

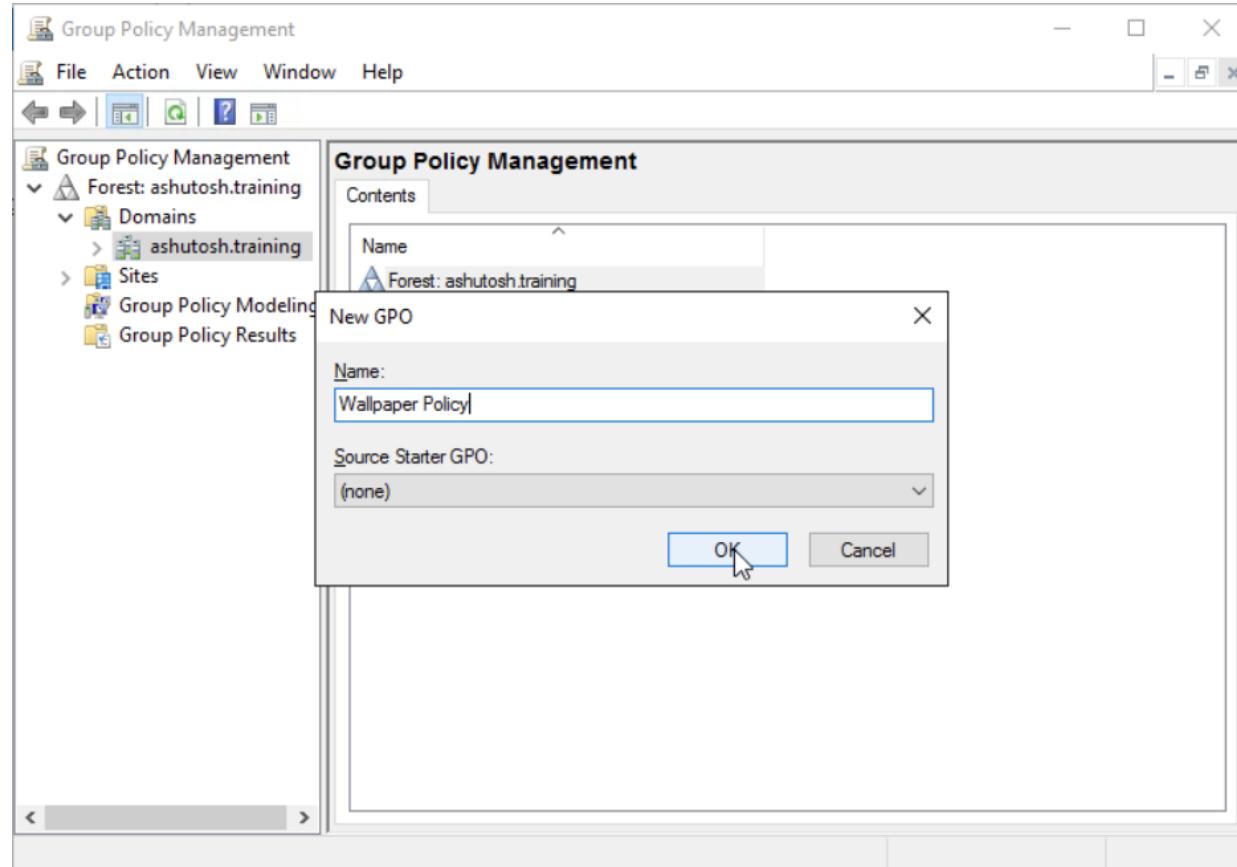
The screenshot shows the Windows Server Manager interface for a local server named DcServer. The left navigation pane includes options like Dashboard, Local Server (which is selected), All Servers, AD DS, DNS, and File and Storage Services. The main content area displays the properties of the local server, including its name (DcServer), domain (ashutosh.training), and various system settings like Windows Firewall, Remote management, and NIC Teaming. Below this is an Events section showing log entries, and a Services section listing all services running on the server. On the right side, a vertical toolbar lists various management tools. A context menu is open over the toolbar, with the "Group Policy Management" option highlighted in red.

- Active Directory Administrative Center
- Active Directory Domains and Trusts
- Active Directory Module for Windows PowerShell
- Active Directory Sites and Services
- Active Directory Users and Computers
- ADSI Edit
- Component Services
- Computer Management
- Defragment and Optimize Drives
- Disk Cleanup
- DNS
- Event Viewer
- Group Policy Management**
- iSCSI Initiator
- Local Security Policy
- Microsoft Azure Services
- ODBC Data Sources (32-bit)
- ODBC Data Sources (64-bit)
- Performance Monitor
- Print Management
- Resource Monitor
- Services
- Services for Network File System (NFS)
- System Configuration
- System Information
- Task Scheduler
- Windows Firewall with Advanced Security
- Windows Memory Diagnostic
- Windows PowerShell

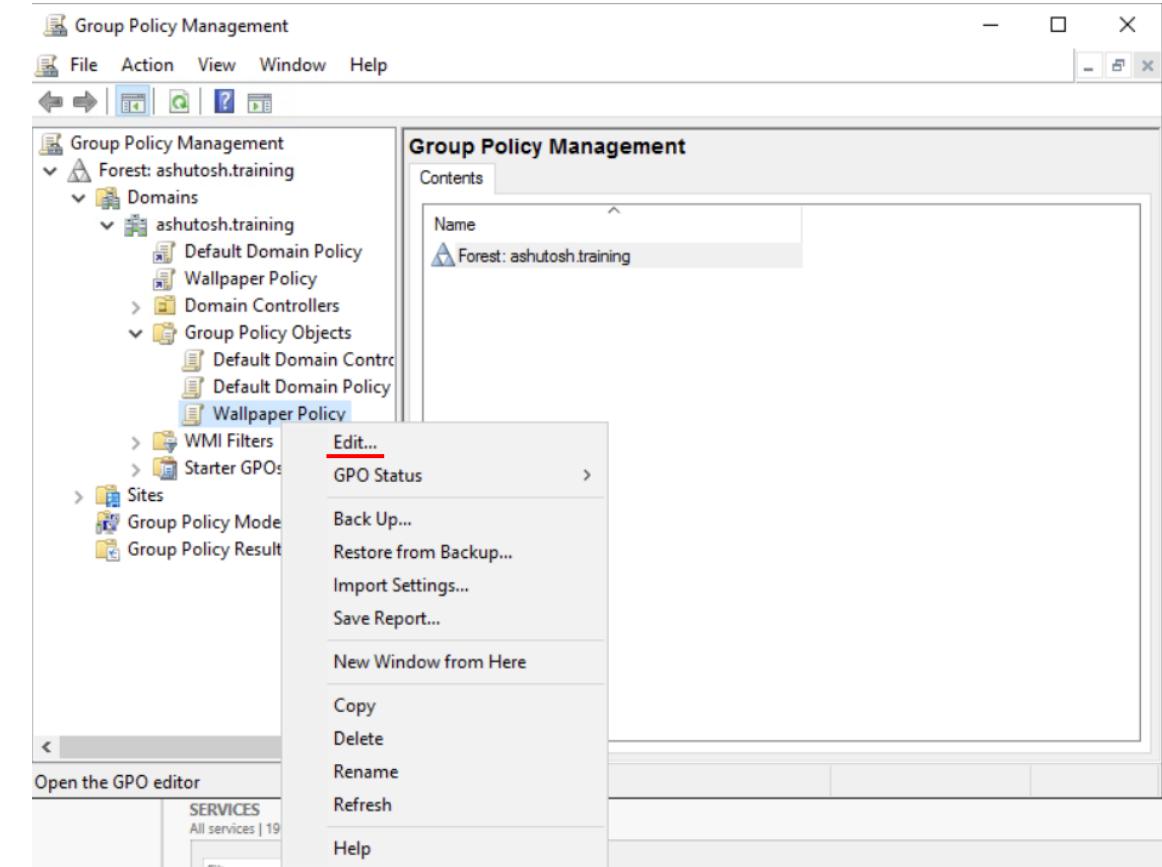
Right Click on Domain name & select “Create a GPO...” option:



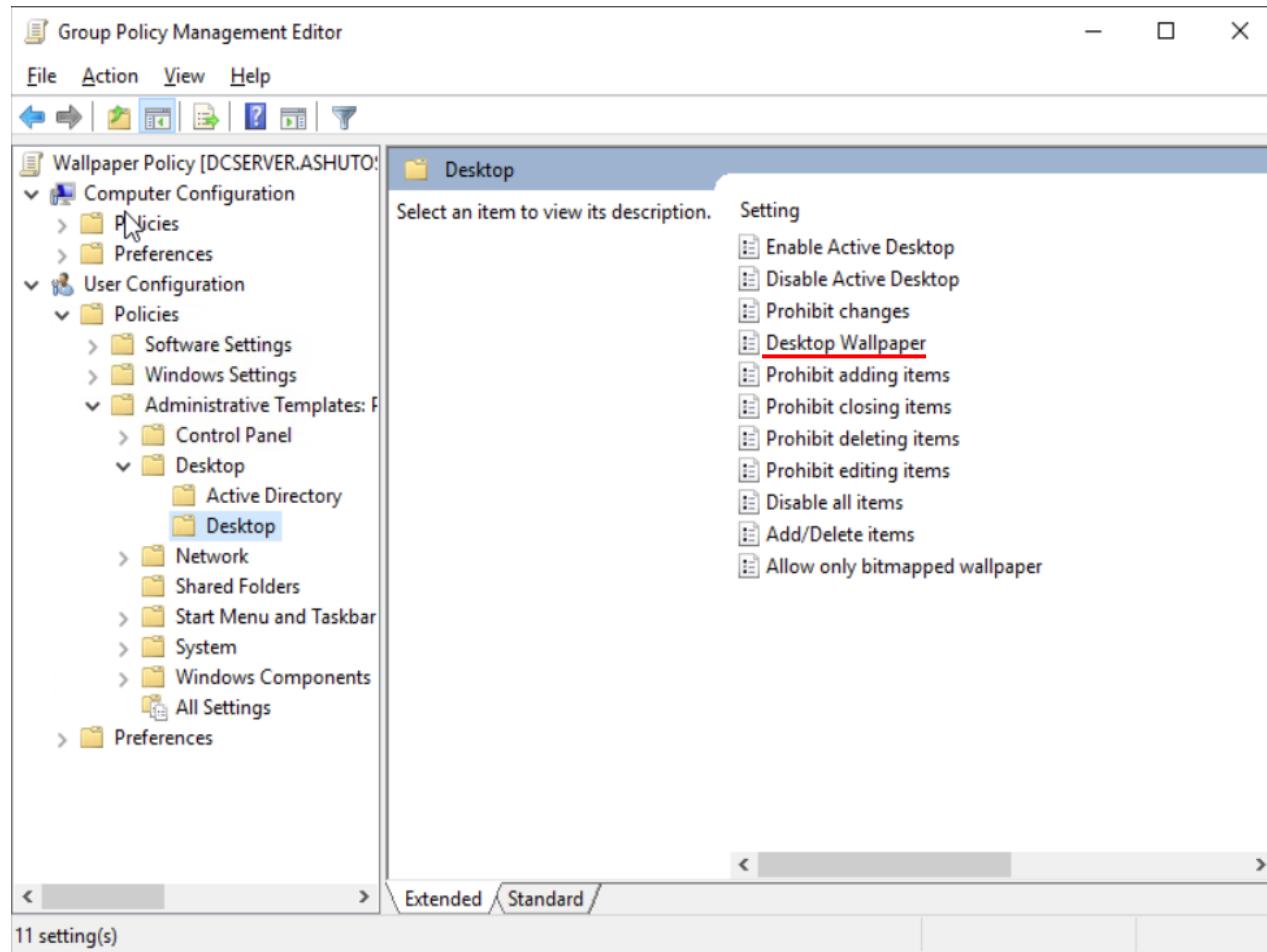
Name the GPO:



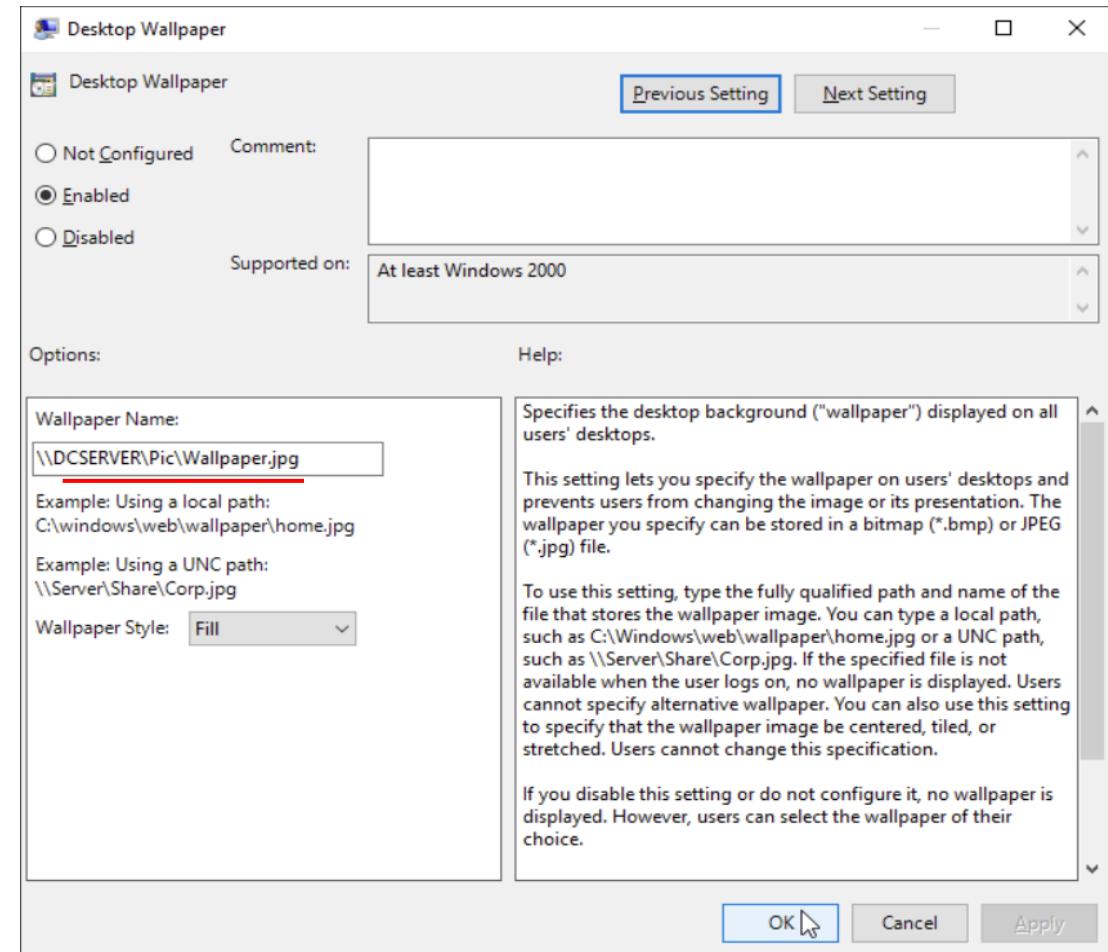
Right click on the “Wallpaper policy” & click edit:



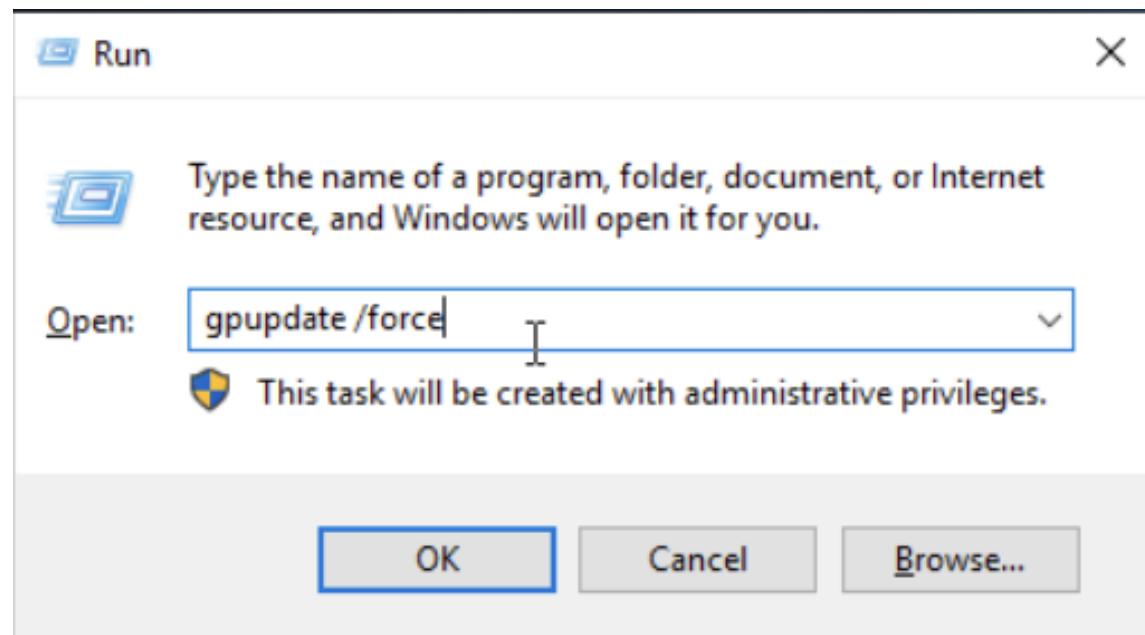
Click on Desktop Wallpaper:



Enable it & enter the “network path” picture you wanted as wallpaper:

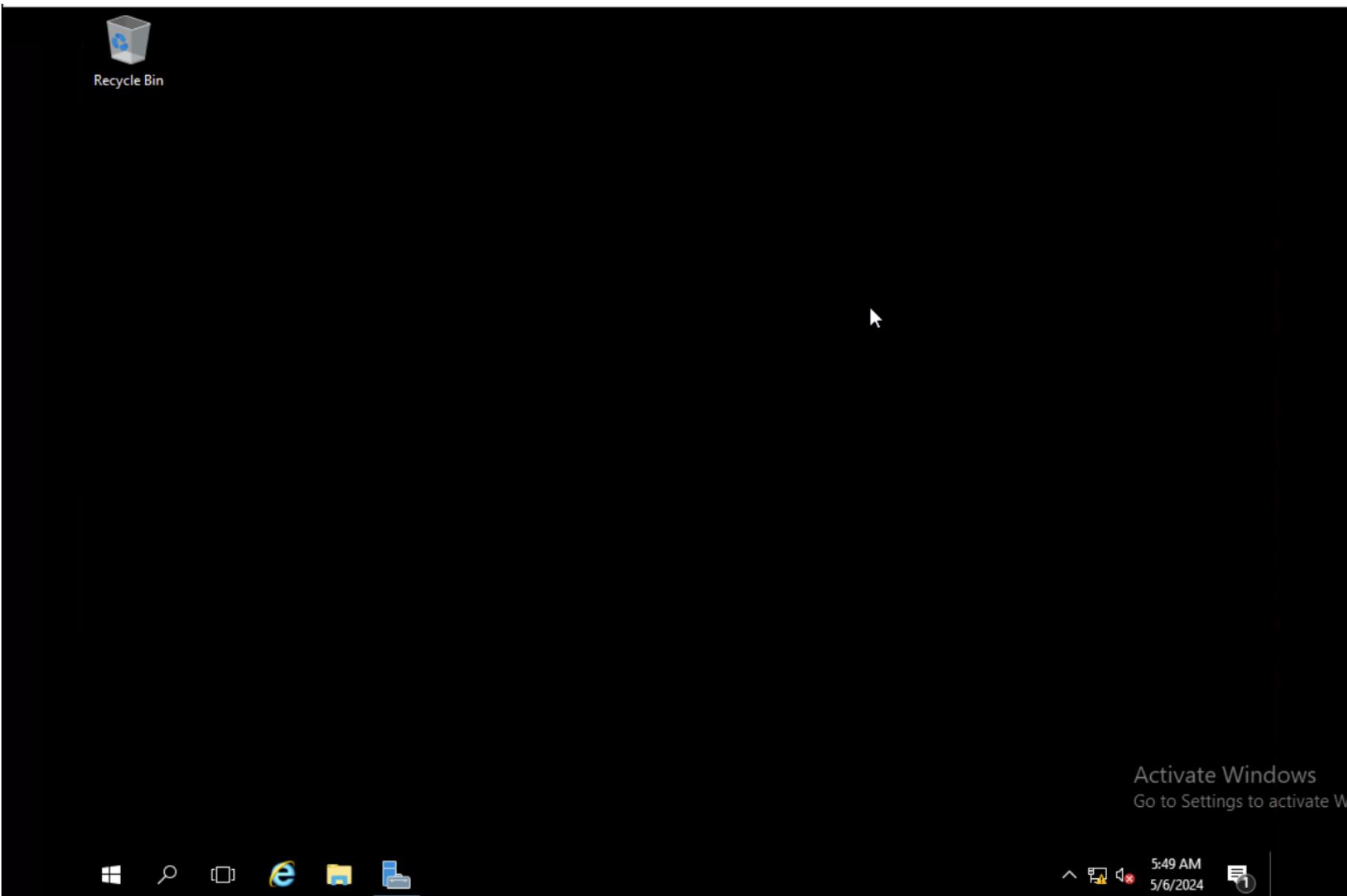


Run this command to update the Group policy:



Note: After Running this command either restart or sign out & re-login

Changed wallpaper after re-login:



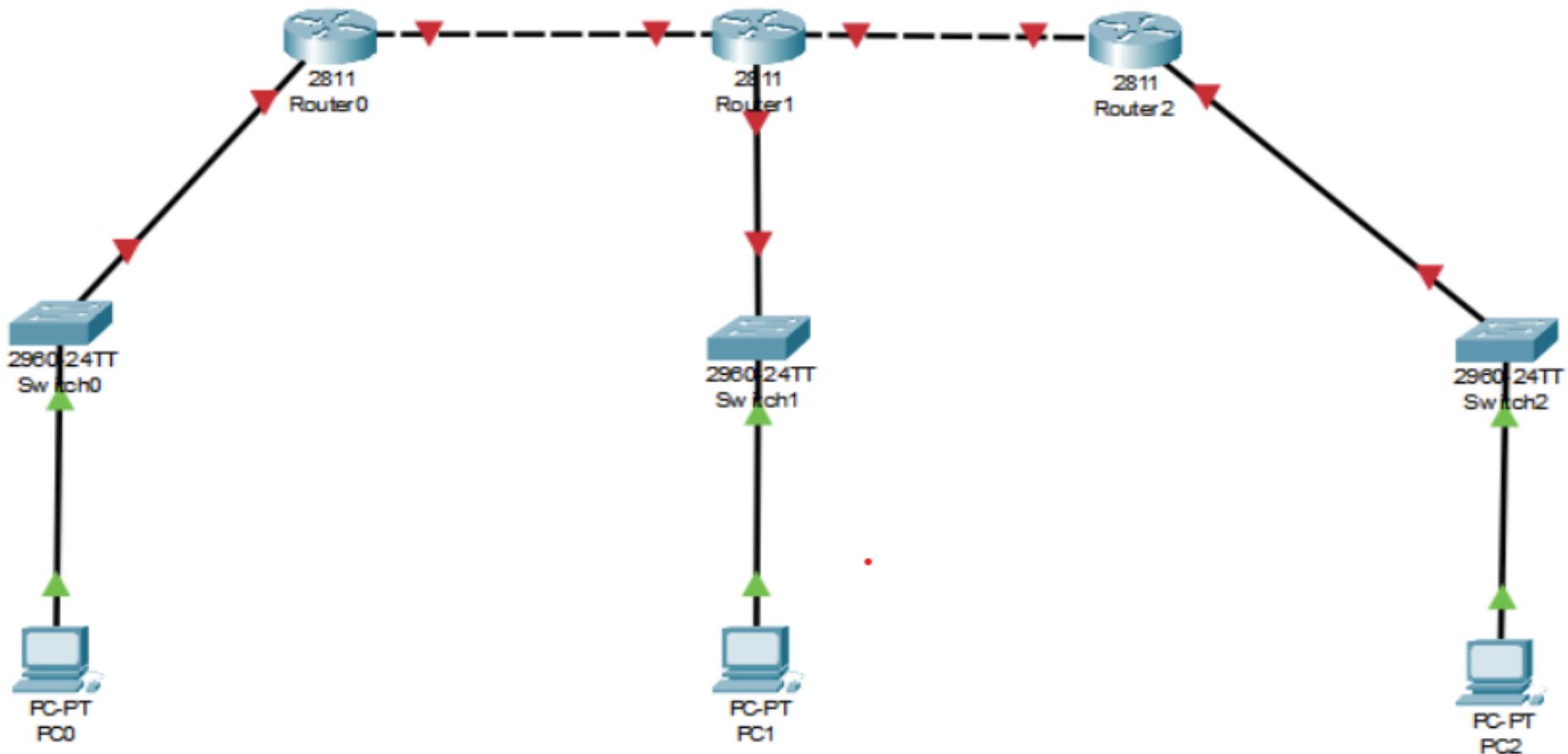
Activate Windows
Go to Settings to activate Win

Project Task 4

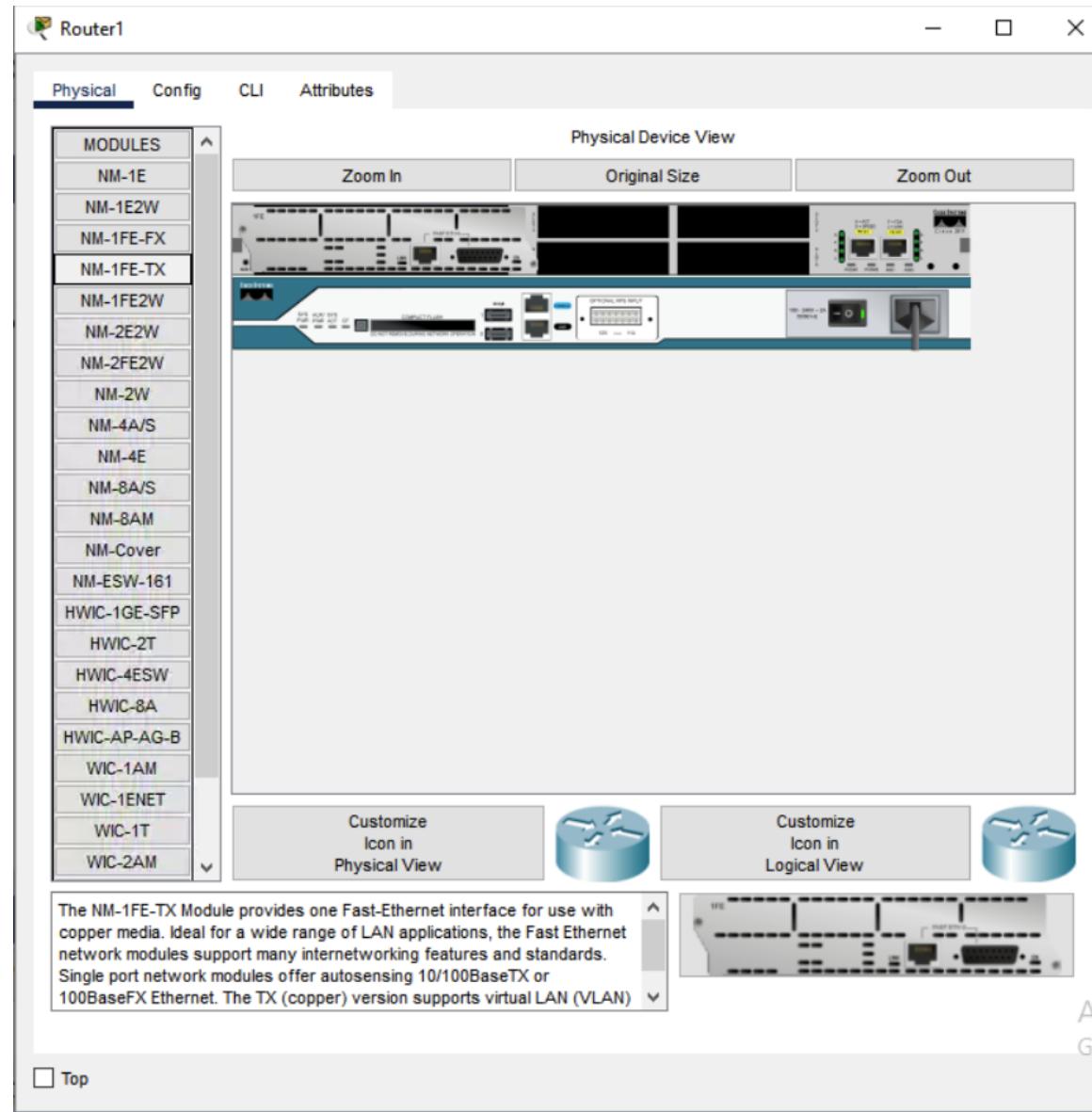
Objective: Use Cisco packet tracer and implement static routing and OSPF routing using 3 routers.

1. Static routing using 3 routers

Add the devices & connect them with appropriate wires



NOTE: As the used Router 2811 contains only 2 fast ethernet port we have to add another ethernet port to the router1 then only it will able to make 3 connections.



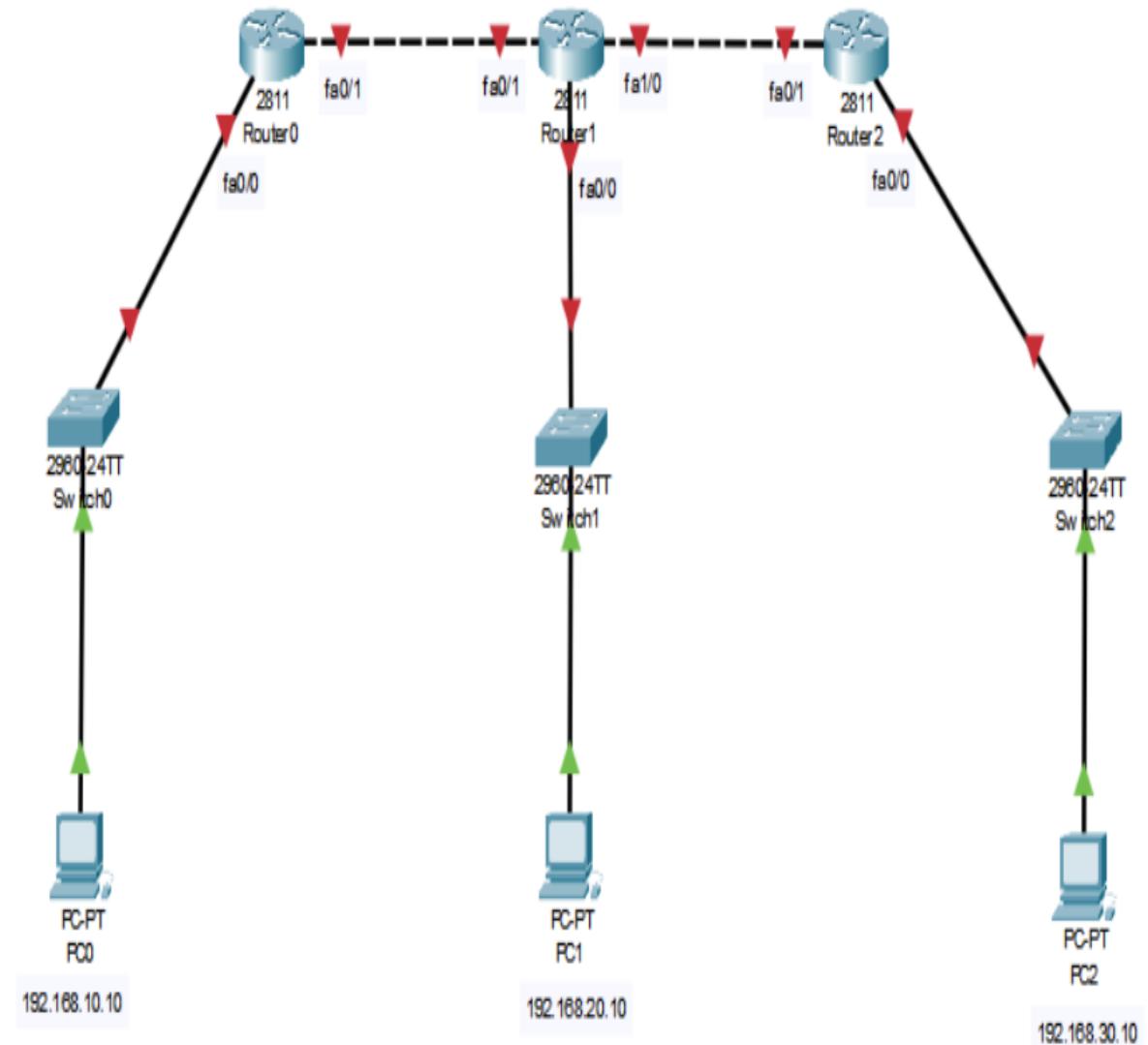
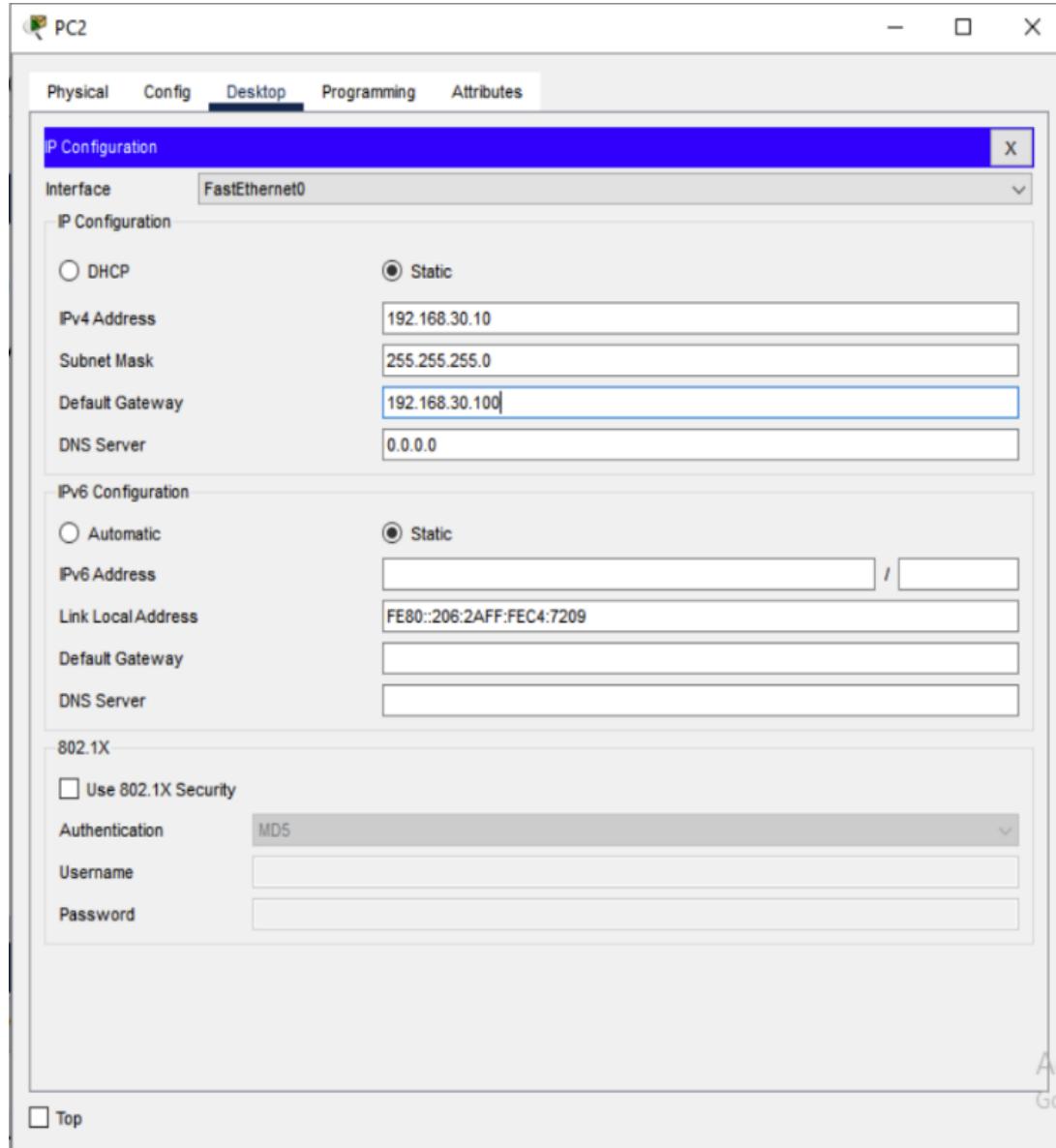
Configure IP address of each device

PC0:

The screenshot shows the IP Configuration dialog for device PC0. The interface selected is FastEthernet0. The configuration type is set to Static. The IPv4 Address is 192.168.10.10, Subnet Mask is 255.255.255.0, and Default Gateway is 192.168.10.100. The DNS Server field is empty (0.0.0.0). The IPv6 Configuration section shows the IPv6 Address field is empty, while Link Local Address is FE80::20B:BEFF:FE24:87D5. The 802.1X section has the 'Use 802.1X Security' checkbox unchecked, Authentication is set to MD5, and both Username and Password fields are empty.

PC1:

The screenshot shows the IP Configuration dialog for device PC1. The interface selected is FastEthernet0. The configuration type is set to Static. The IPv4 Address is 192.168.20.10, Subnet Mask is 255.255.255.0, and Default Gateway is 192.168.20.100. The DNS Server field is empty (0.0.0.0). The IPv6 Configuration section shows the IPv6 Address field is empty, while Link Local Address is FE80::250:FFF:FE20:7BAD. The 802.1X section has the 'Use 802.1X Security' checkbox unchecked, Authentication is set to MD5, and both Username and Password fields are empty.



Configure all routers

Router0:

Router0

Physical Config **CLI** Attributes

IOS Command Line Interface

```
--- System Configuration Dialog ---  
Would you like to enter the initial configuration dialog? [yes/no]: n  
[  
Press RETURN to get started!  
  
Router>en  
Router#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Router(config)#int fa0/0  
Router(config-if)#ip add 192.168.10.100 255.255.255.0  
Router(config-if)#no shut  
  
Router(config-if)#  
*LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up  
  
*LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up  
  
Router(config-if)#exit  
Router(config)#int fa0/1  
Router(config-if)#ip add 112.1.1.1 255.255.255.252  
Router(config-if)#no shut  
  
Router(config-if)#  
*LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up  
  
*LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up  
  
Router(config-if)#exit  
Router(config)#int fa0/2  
Router(config-if)#ip add 113.1.1.1 255.255.255.252  
Router(config-if)#no shut  
  
Router(config-if)#  
*LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up  
  
Router(config-if)#exit  
Router(config)#^Z  
Router#  
*SYS-5-CONFIG_I: Configured from console by console  
  
Router#wr  
Building configuration...  
[OK]  
Router#
```

Copy Paste Activate Go to Settings

Top

Router1:

Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router>en  
Router#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Router(config)#int fa0/0  
Router(config-if)#ip add 192.168.20.100 255.255.255.0  
Router(config-if)#no shut  
  
Router(config-if)#  
*LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up  
  
*LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up  
  
Router(config-if)#exit  
Router(config)#int fa0/1  
Router(config-if)#ip add 112.1.1.2 255.255.255.252  
Router(config-if)#no shut  
  
Router(config-if)#  
*LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up  
  
*LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up  
  
Router(config-if)#exit  
Router(config)#int fa0/2  
Router(config-if)#ip add 113.1.1.2 255.255.255.252  
Router(config-if)#no shut  
  
Router(config-if)#  
*LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up  
  
Router(config-if)#exit  
Router(config)#^Z  
Router#  
*SYS-5-CONFIG_I: Configured from console by console  
  
Router#wr  
Building configuration...  
[OK]  
Router#
```

Activate Windows Copy Paste Go to Settings to activate Windows.

Top

Router2:

Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
^
% Invalid input detected at '^' marker.

Router(config)#int fa0/0
Router(config-if)#ip add 192.168.30.100 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#int fa0/1
Router(config-if)#ip add 113.1.1.2 255.255.255.252
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

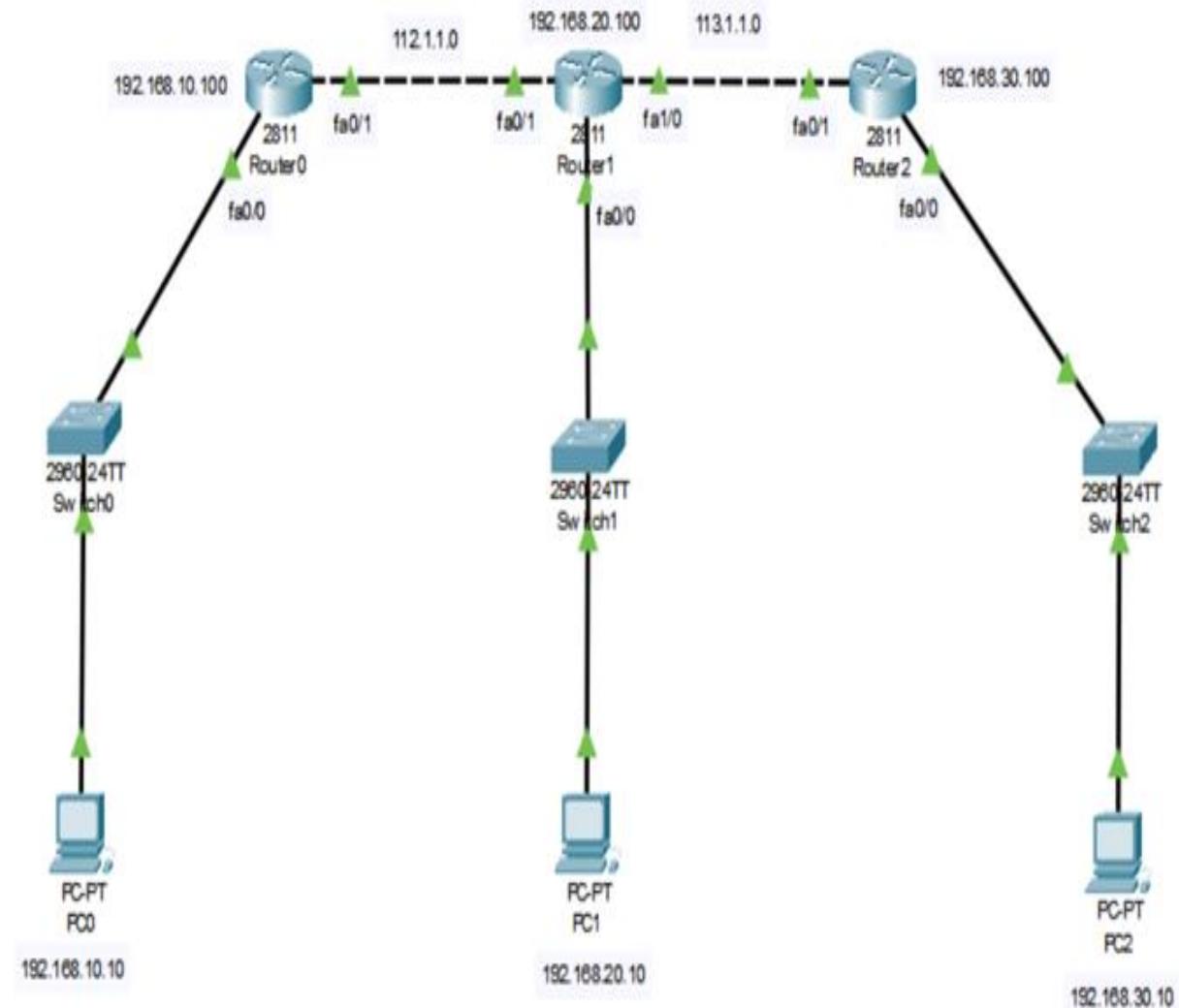
Router(config-if)#exit
Router(config)#+Z
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
```

Top

Copy Paste

After Router configuration:



Static routing Configuration in routers

Router0:

Router0:

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Press RETURN to get started.

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 192.168.20.0 255.255.255.0 112.1.1.2
Router(config)#ip route 192.168.30.0 255.255.255.0 112.1.1.2
Router(config)#ip route 113.1.1.0 255.255.255.252 112.1.1.2
Router(config)#+Z
Router#
*SYS-5-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
```

Copy Paste

Top

Router1:

Router1:

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Press RETURN to get started.

I

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 192.168.10.0 255.255.255.0 112.1.1.1
Router(config)#ip route 192.168.30.0 255.255.255.0 113.1.1.2
Router(config)#+Z
Router#
*SYS-5-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
```

Copy Paste

Top

Activate Window

Router2:

Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

Press RETURN to get started.

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 192.168.20.0 255.255.255.0 113.1.1.1
Router(config)#ip route 192.168.10.0 255.255.255.0 113.1.1.1
Router(config)#ip route 112.1.1.0 255.255.255.252 113.1.1.1
Router(config)#^Z
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#wr
Building configuration...
[OK]
Router#
```

Copy Paste

Top

Activate Window

Ping from PC1 to PC0 (IP:192.168.10.10) & PC2 (IP: 192.168.30.10) to verify the connection:

PC1

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.10

Pinging 192.168.10.10 with 32 bytes of data:

Reply from 192.168.10.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.10.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.30.10

Pinging 192.168.30.10 with 32 bytes of data:

Reply from 192.168.30.10: bytes=32 time=1ms TTL=126
Reply from 192.168.30.10: bytes=32 time=16ms TTL=126
Reply from 192.168.30.10: bytes=32 time<1ms TTL=126
Reply from 192.168.30.10: bytes=32 time=1ms TTL=126

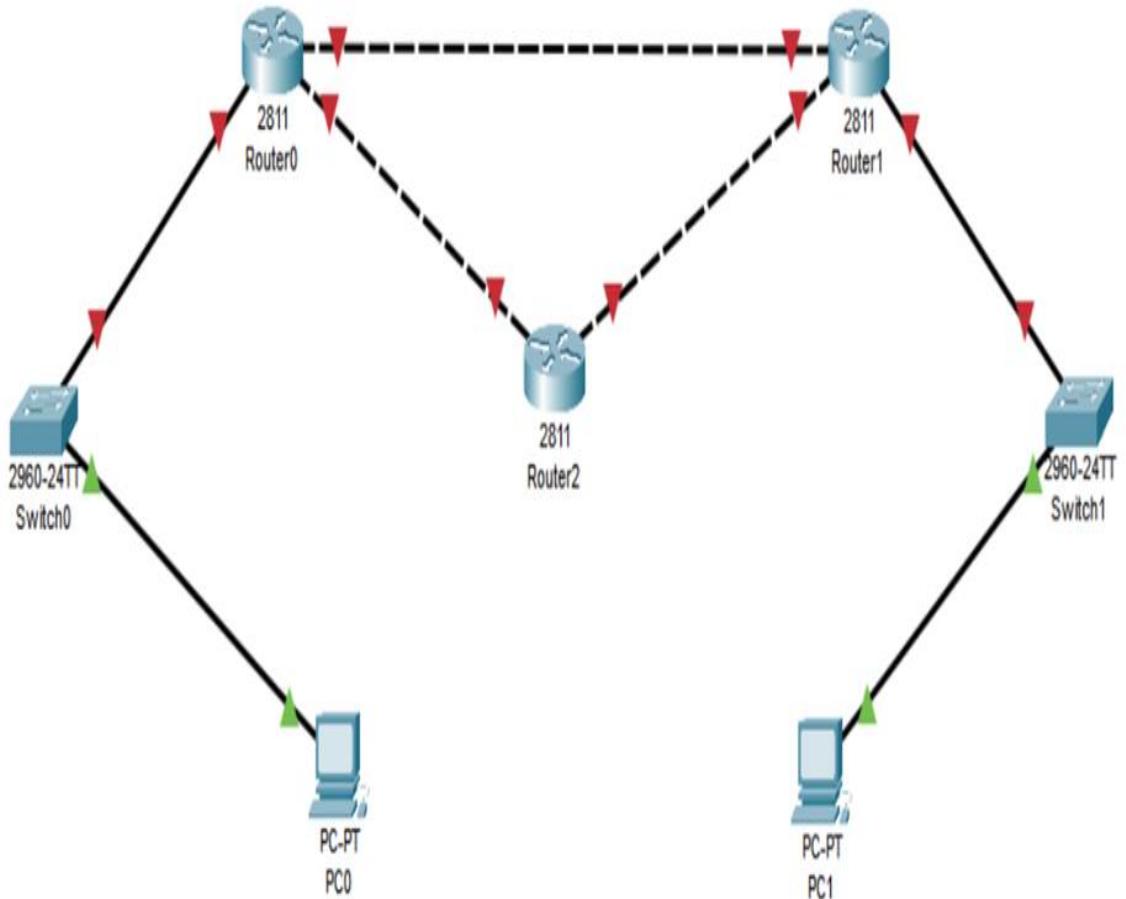
Ping statistics for 192.168.30.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 16ms, Average = 4ms

C:\>
```

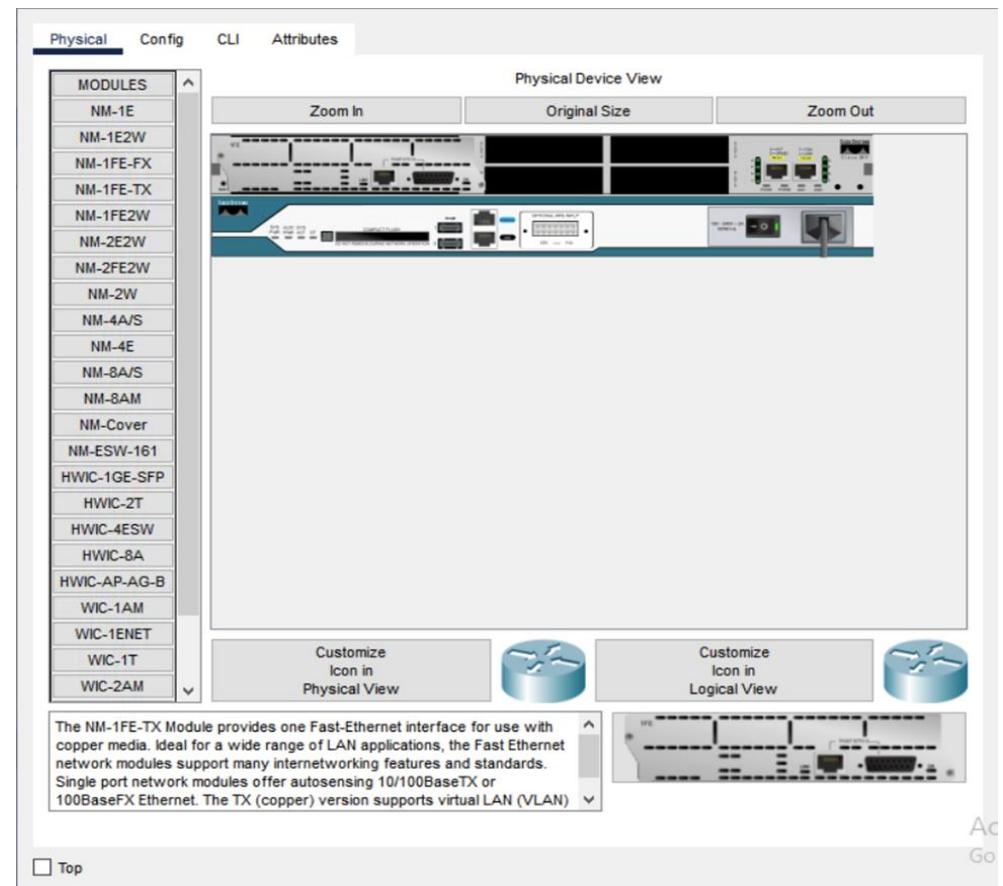
Top

2. OSPF using 3 Router

- Add the device & connect them with appropriate wires:



- Note: As the used **Router 2811** contains only 2 fast ethernet port we have to add another ethernet port to both router0 & router then only will able to make 3 connections.



Configure IP address of all devices

PC0:

PC0

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

DHCP Static

IPv4 Address: 192.168.1.10

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 0.0.0.0

IPv6 Configuration

Automatic Static

IPv6 Address: /

Link Local Address: FE80::20C:FFFF:FE61:A54A

Default Gateway:

DNS Server:

802.1X

Use 802.1X Security

Authentication: MD5

Username:

Password:

Activate Windows
Go to Settings to activate

Top

PC1:

PC1

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

DHCP Static

IPv4 Address: 192.168.2.10

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.2.1

DNS Server: 0.0.0.0

IPv6 Configuration

Automatic Static

IPv6 Address: /

Link Local Address: FE80::2D0:FFFF:FE55:8362

Default Gateway:

DNS Server:

802.1X

Use 802.1X Security

Authentication: MD5

Username:

Password:

Activate Windows
Go to Settings to activate

Top

Router Configuration

Router0

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip add 192.168.1.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#int fa0/1
Router(config-if)#ip add 20.0.0.1 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

Router(config-if)#int fa1/0
Router(config-if)#ip add 10.0.0.1 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

Router(config-if)^Z
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#

Copy Paste

Activate Windows
Go to Settings to activate Windows.

Top

Router1

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip add 192.168.2.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#int fa0/1
Router(config-if)#ip add 20.0.0.2 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#exit
Router(config)#int fa1/0
Router(config-if)#ip add 30.0.0.2 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

Router(config-if)#exit
Router(config)^Z
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
Copy Paste

Activate Windows
Go to Settings to activate Windows.

Top

Router2:

After Router Configuration:

Router#

%SYS-5-CONFIG_I: Configured from console by console

Router#en

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int fa0/0

Router(config-if)#ip add 10.0.0.2 255.0.0.0

Router(config-if)#no shut

Router(config-if)#exit

Router(config)#int fa0/1

Router(config-if)#ip add 30.0.0.1 255.0.0.0

Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#exit

Router(config)#^Z

Router#

%SYS-5-CONFIG_I: Configured from console by console

Router#wr

Building configuration...

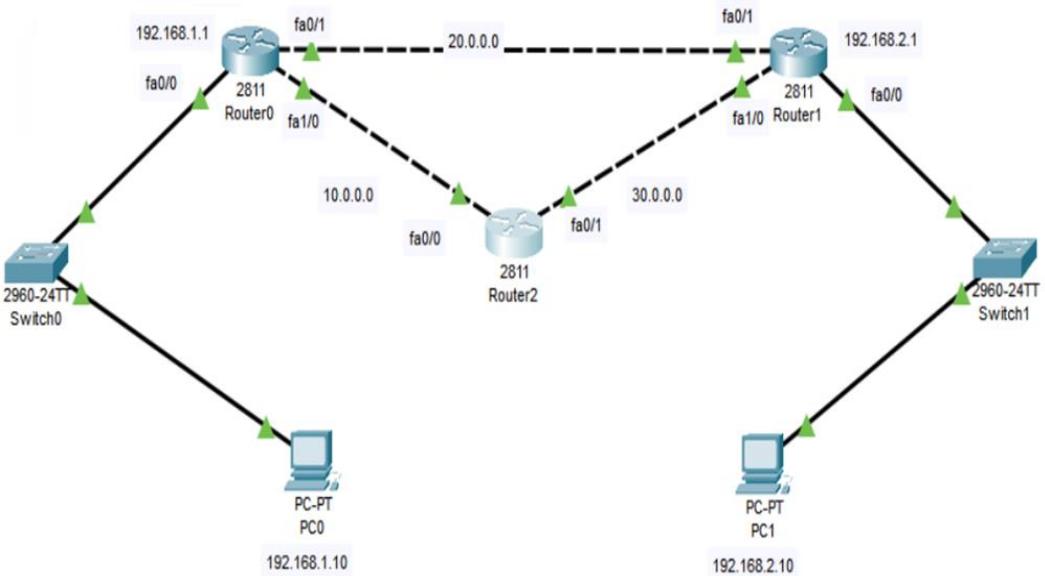
[OK]

Router#

Copy Paste

Activate Window
Go to Settings to activate

Top



OSPF Configuration on Router:

Router0:

Router0

IOS Command Line Interface

```
*LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
*IP-4-DUPADDR: Duplicate address 10.0.0.1 on FastEthernet1/0, sourced by 0090.21C1.6B01
*IP-4-DUPADDR: Duplicate address 10.0.0.1 on FastEthernet1/0, sourced by 0090.21C1.6B01

Router>en conf t
^
% Invalid input detected at '^' marker.

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#network 192.168.1.0 0.0.0.255 area 0
Router(config-router)#network 10.0.0.0 0.255.255.255 area 0
Router(config-router)#network 20.0.0.0 0.255.255.255 area 0
Router(config-router)#exit
Router(config)#^Z
Router#
*SYS-5-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
```

Copy Paste

Top

Router1:

Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#network 20.0.0.0 0.255.255.255 area 0
Router(config-router)#network 30.0.0.0 0.255.255.255 area 0
00:49:38: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.1.1 on FastEthernet0/network
20.0.0.0 0.255.255.255 area 0
Router(config-router)#network 30.0.0.0 0.255.255.255 area 0
Router(config-router)#network 192.168.2.0 0.0.0.255 area 0
Router(config-router)#exit
Router(config)#^Z
Router#
*SYS-5-CONFIG_I: Configured from console by console

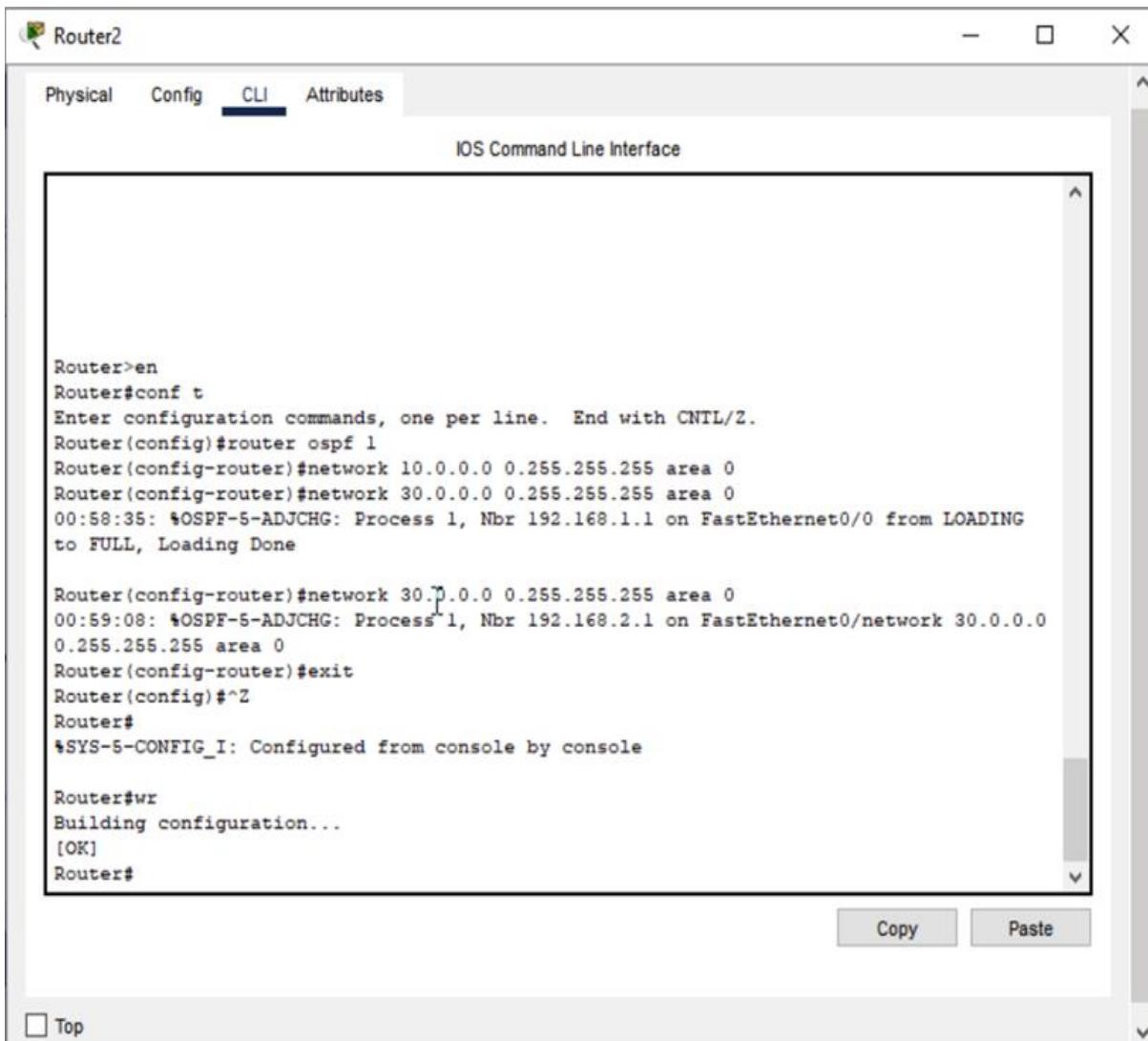
Router#wr
Building configuration...
[OK]
Router#
```

Copy Paste

Activate Windows
Go to Settings to activate

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Router2:



Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#network 10.0.0.0 0.255.255.255 area 0
Router(config-router)#network 30.0.0.0 0.255.255.255 area 0
00:58:35: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.1.1 on FastEthernet0/0 from LOADING to FULL, Loading Done

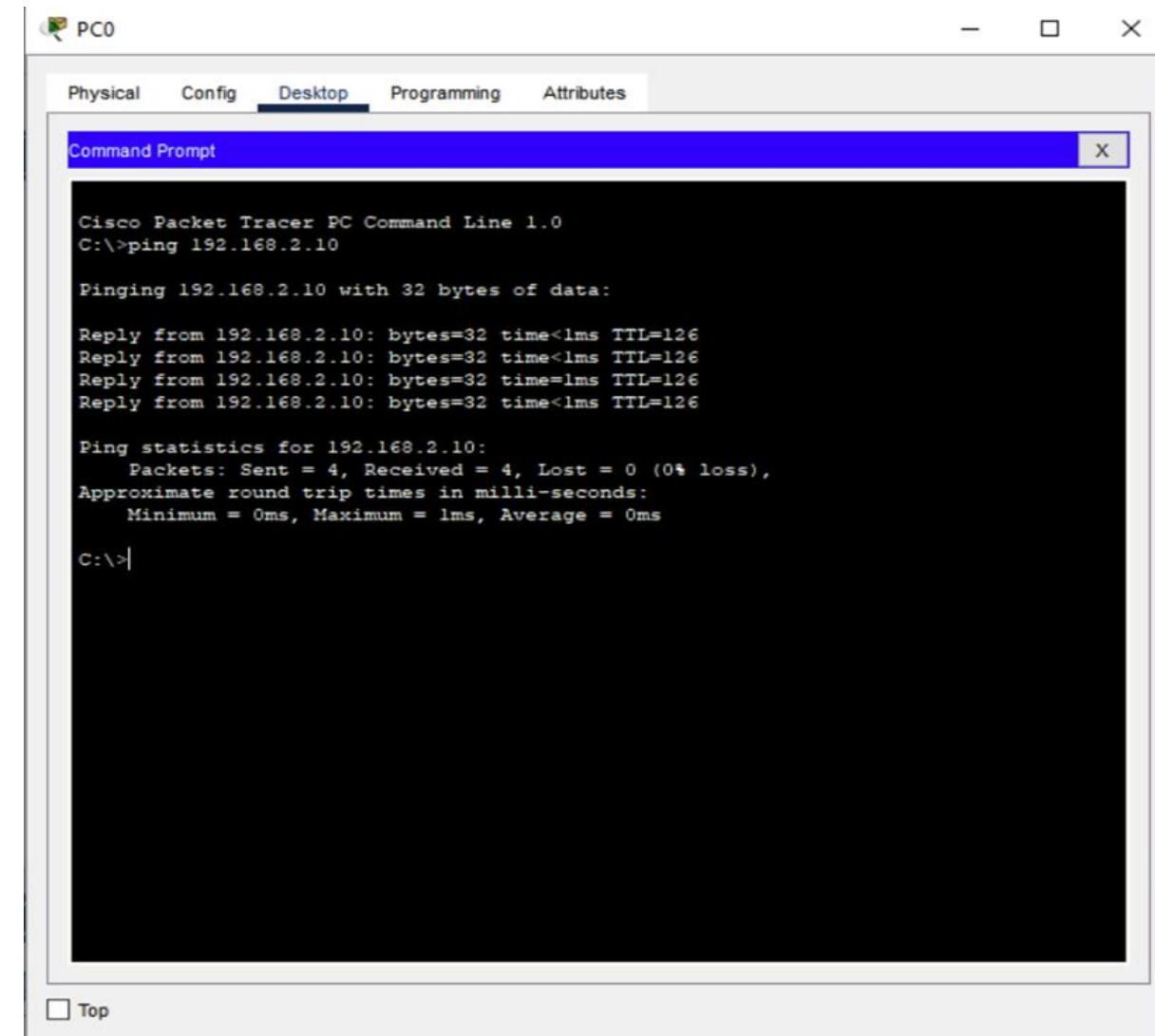
Router(config-router)#network 30.0.0.0 0.255.255.255 area 0
00:59:08: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.2.1 on FastEthernet0/0/network 30.0.0.0
0.255.255.255 area 0
Router(config-router)#exit
Router(config)#^Z
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
```

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[Ping PC1\(IP: 192.168.2.10\) from PC0 to verify:](#)



PC0

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.10

Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time=1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

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Thank You