

WIPRO NGA Program – DC DWS Batch 7

Capstone Project Presentation – 4th and 5th Sept 2024

Project Title Here - INSTALLATION OF WINDOWS SERVER 2012

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INSTALLATION OF WINDOWS SERVER 2012

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Introduction to Windows Server 2012

Overview of Windows Server 2012 as an operating system.

Brief history and key features.

Importance and uses of Windows Server 2012 in various environments.

Overview of Windows Server 2012 as an Operating System

- **Windows Server 2012** is a Microsoft operating system designed to manage and support enterprise IT environments. It provides robust features for hosting applications, managing data storage, and supporting network services.
- **Enterprise Infrastructure:** Manages and supports IT environments with features for hosting applications, data storage, and network services.
- **Advanced Virtualization and Security:** Includes Hyper-V for efficient virtualization and enhanced security with options like BitLocker and advanced networking.
- **Efficient Administration:** Streamlines management with tools like Server Manager and PowerShell for improved remote management and automation.

Brief History and Key Features

1. Release and Background:

- Released in September 2012 as part of the Windows NT family, offering a robust platform for enterprise IT environments.

2. Innovative Features:

- Introduced new features like the Server Manager interface, enhanced Hyper-V for better virtualization, and the Resilient File System (ReFS) for improved data integrity.

3. Security and Efficiency:

- Added Dynamic Access Control for better security management and the Minimal Server Interface to reduce the OS footprint by removing unnecessary components.

Importance and Uses of Windows Server 2012 in Various Environments

1. Versatile Resource Management:

- Essential for efficiently managing resources, hosting critical applications, and providing scalable and secure infrastructure across enterprises, educational institutions, and data centers.

2. Core Functions:

- Widely used for virtualization, web hosting, database management, and centralized services, including Active Directory for managing user permissions and network resources.

3. Infrastructure and Security:

- Provides robust, scalable solutions for maintaining secure and organized IT environments, crucial for ensuring reliable operations and effective resource management.

OBJECTIVES

Understand the minimum requirement to Windows Server 2012 Operating system.

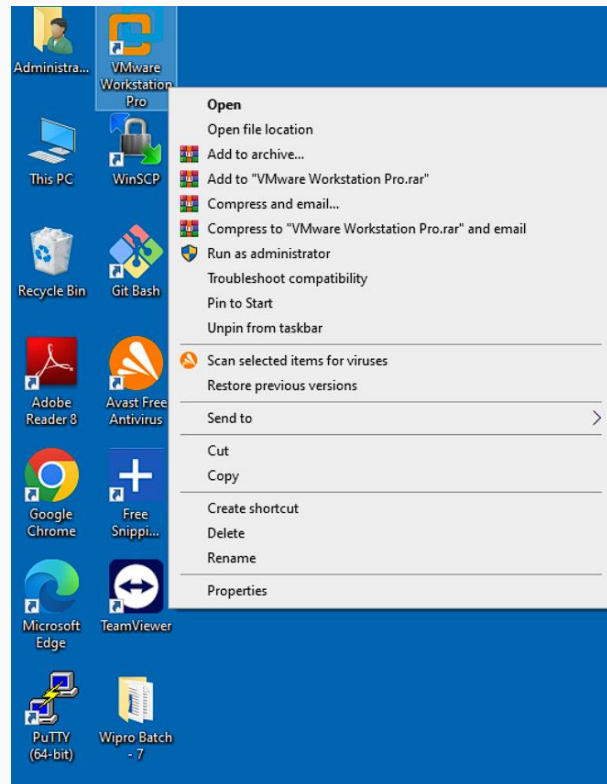
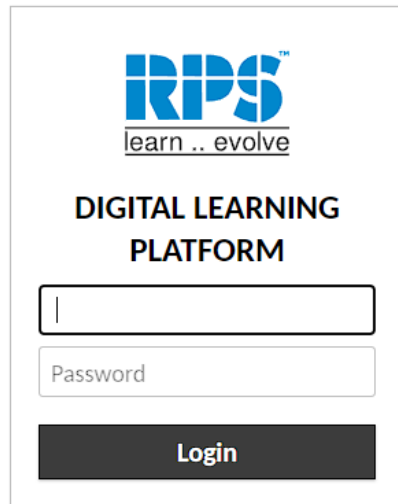
Create partition while installing the Windows Server 2012 Operating System.

Create user while installing the Windows Server 2012 Operating System

Understand the minimum requirement to Windows Server 2012 Operating system.

- 1. Processor:** 1.4 GHz 64-bit processor.
- 2. Memory:** 2 GB RAM (2 GB recommended for GUI installation).
- 3. Storage:** 60 GB of available disk space.
- 4. Network:** Ethernet adapter capable of at least gigabit throughput.

Installation Of Windows Server 2012



1. Windows server Installation Options:

-Install Windows Server 2012 in a Virtual Machine or Directly from a Drive.

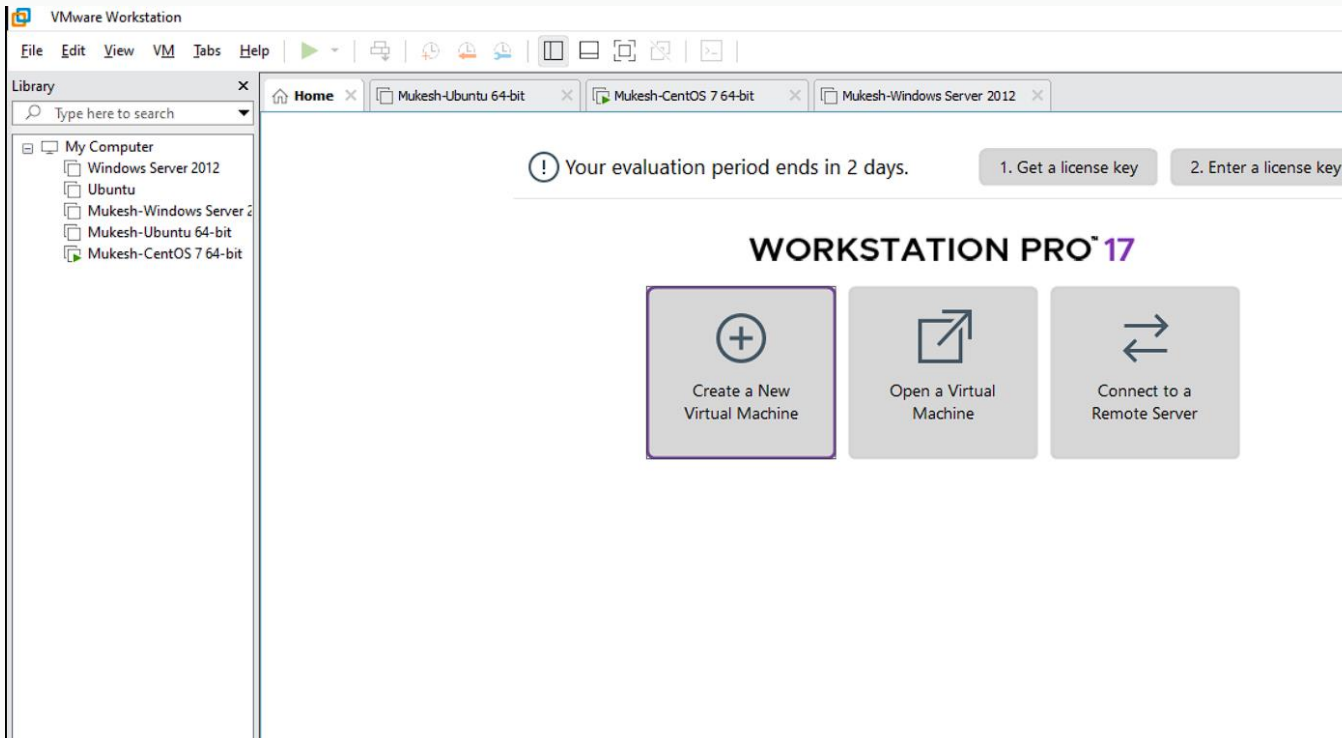
2. I used Cloud Lab:

- Log in to the **Cloud Lab**.

- **Right-click** on VMware Workstation Pro.

- Select "**Open**" to launch VMware Workstation Pro.

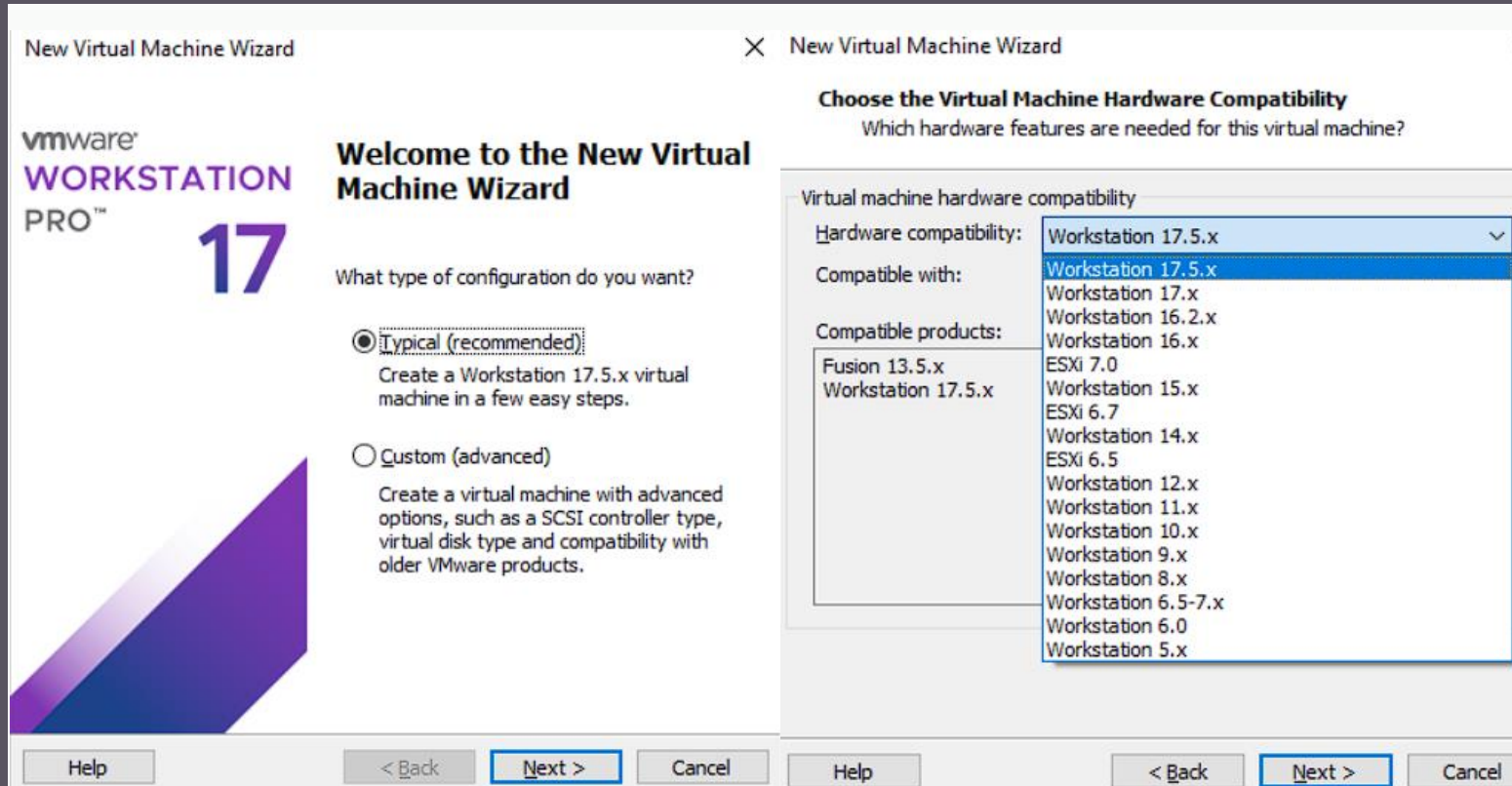
Step 1



1. Click on "**Create a New Virtual Machine**" to start the Windows Server 2012 installation process.

2. Wait for the next steps in the process.

Step 2



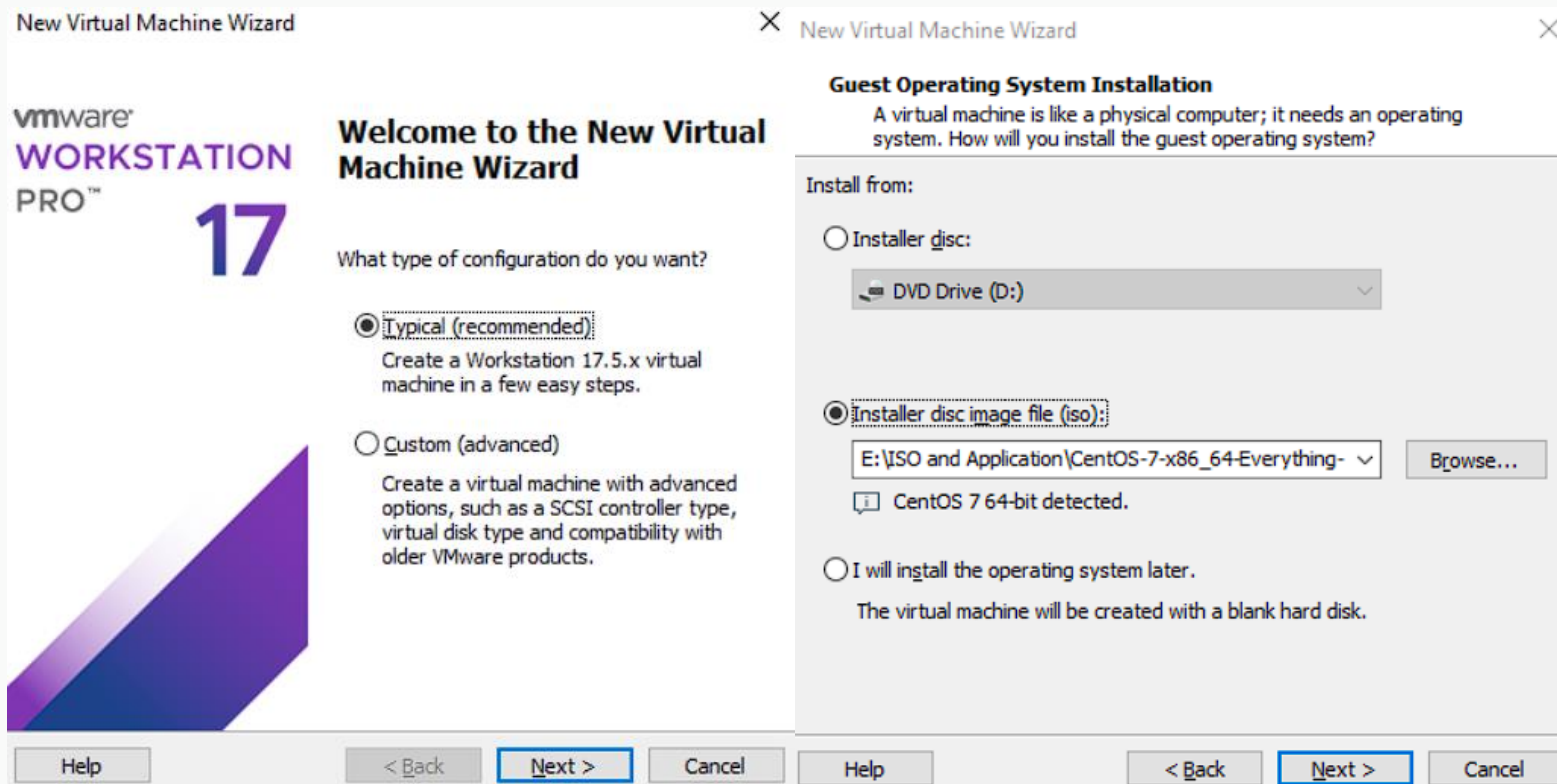
We have two configuration options :

1. Typical (Recommended):

This is the default and simplest option, which I used.

2. Custom (Advanced): This option allows you to view hardware compatibility, compatible products, and select the VMware Workstation Pro version according to your needs.

Step 3

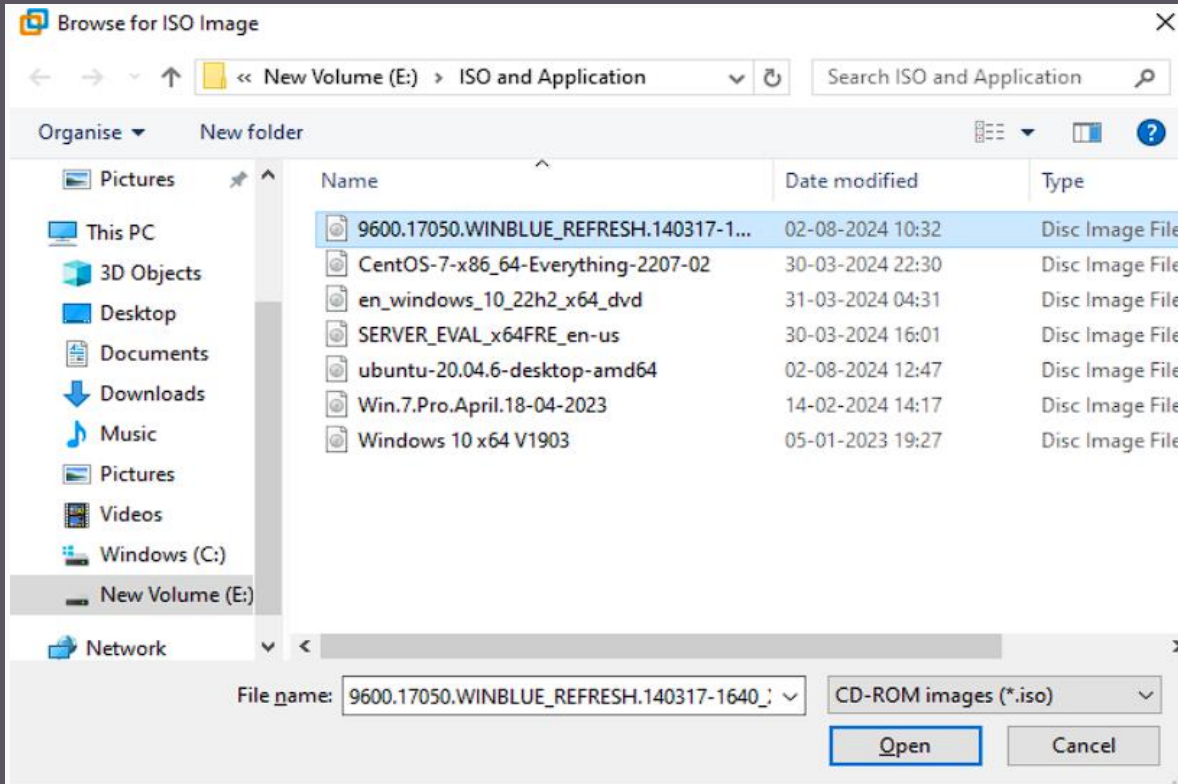


After selecting "**Typical**," click on "**Next**." You will then see three options:

1. Install using an Installer Disc.
2. Install using an Installer Disc Image (ISO).
3. Install from a USB Drive.

I selected "**Installer Disc Image (ISO)**" and clicked the "**Browse**" option to choose the CentOS ISO image.

Step 4



1. Select ISO Image:

- Choose the Windows Server 2012 ISO image file.

2. Click Open:

- Click the "Open" button to select the ISO file.

3. Wait for Next Steps:

- Proceed with the setup or installation process as guided.

Step 5

New Virtual Machine Wizard

Guest Operating System Installation
A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?

Install from:

☐ Installer disc:
DVD Drive (D:)

☒ Installer disc image file (iso):
E:\ISO and Application\9600.17050.WINBLUE_REFRE! **Browse...**

☐ Windows Server 2012 R2 detected.

☐ I will install the operating system later.
The virtual machine will be created with a blank hard disk.

Name the Virtual Machine
What name would you like to use for this virtual machine?

Virtual machine name:
Mukesh-Windows Server 2012

Location:
E:\Mukesh-Windows Server 2012 **Browse...**

The default location can be changed at Edit > Preferences.

Help < Back Next > Cancel

1. Select ISO Image:

- Choose the Windows Server 2012 ISO file and click "Open."

2. Click Next:

- Click the "Next" button to proceed.

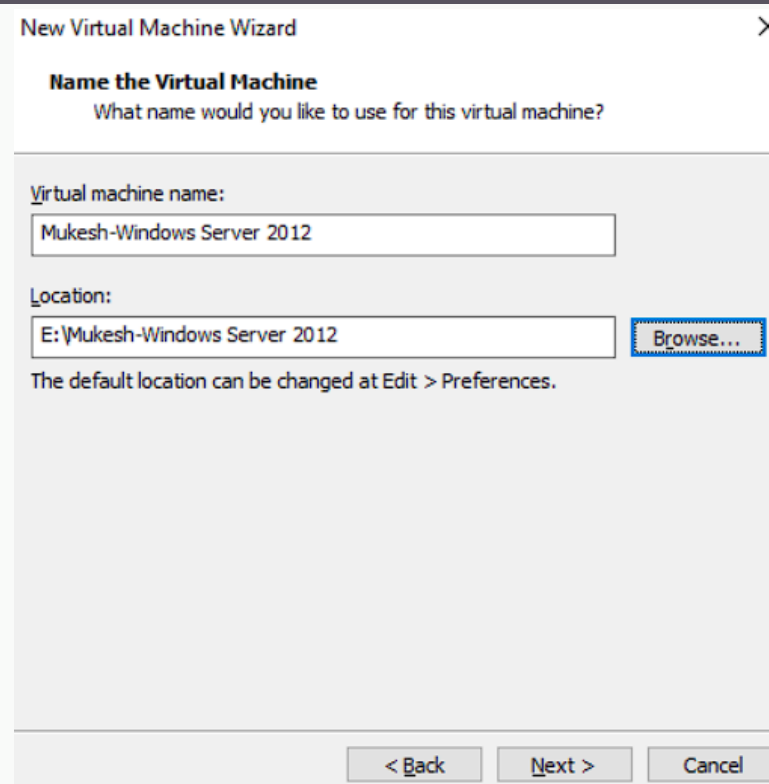
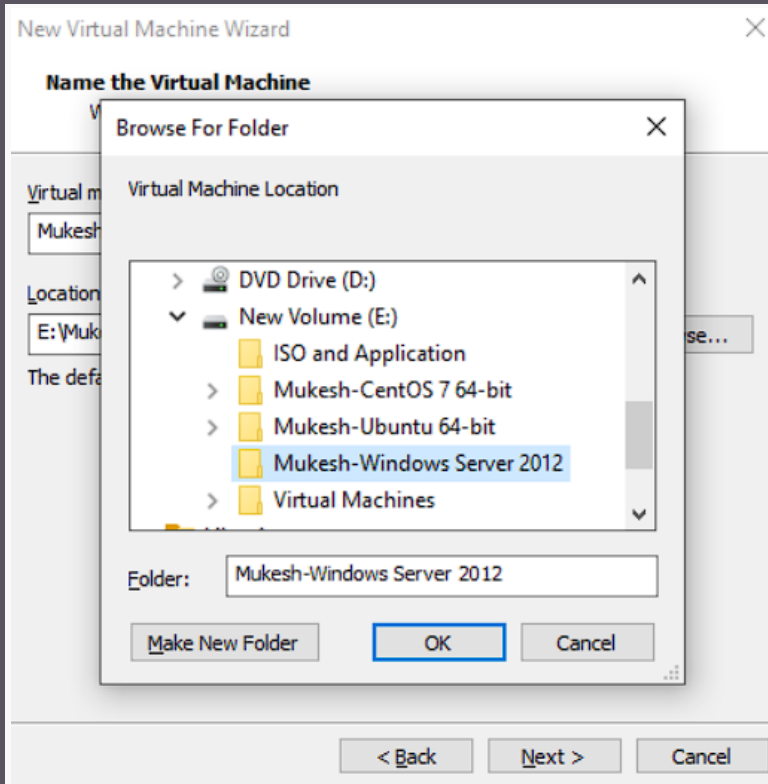
3. Set Virtual Machine Name:

- Enter a name for the virtual machine and select the installation path.

4. Click Next:

- Click "Next" to continue with the setup.

Step 6



1. Select E Drive:

- Choose the E drive for the installation path.

2. Create New Folder:

- Click "Make New Folder" and enter a name for the folder.

3. Confirm and Click Okay:

- Click "Okay" to confirm the new folder.

4. Click Next:

- Click "Next" to proceed with the setup.

Step 7

New Virtual Machine Wizard

Specify Disk Capacity
How large do you want this disk to be?

The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.

Maximum disk size (GB):

Recommended size for Windows Server 2012: 60 GB

☐ Store virtual disk as a single file

☒ Split virtual disk into multiple files

Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

New Virtual Machine Wizard

Ready to Create Virtual Machine
Click Finish to create the virtual machine and start installing Windows Server 2012.

The virtual machine will be created with the following settings:

Name:	Mukesh-Windows Server 2012
Location:	E:\Mukesh-Windows Server 2012
Version:	Workstation 17.5.x
Operating System:	Windows Server 2012
Hard Disk:	60 GB, Split
Memory:	2048 MB
Network Adapter:	NAT
Other Devices:	CD/DVD, USB Controller, Sound Card

[Customize Hardware...](#)

☒ Power on this virtual machine after creation

1. Set Disk Size:

- Specify a disk size of 60GB and select the option to split virtual disk into multiple files.

2. Click Next:

- Click "Next" to proceed.

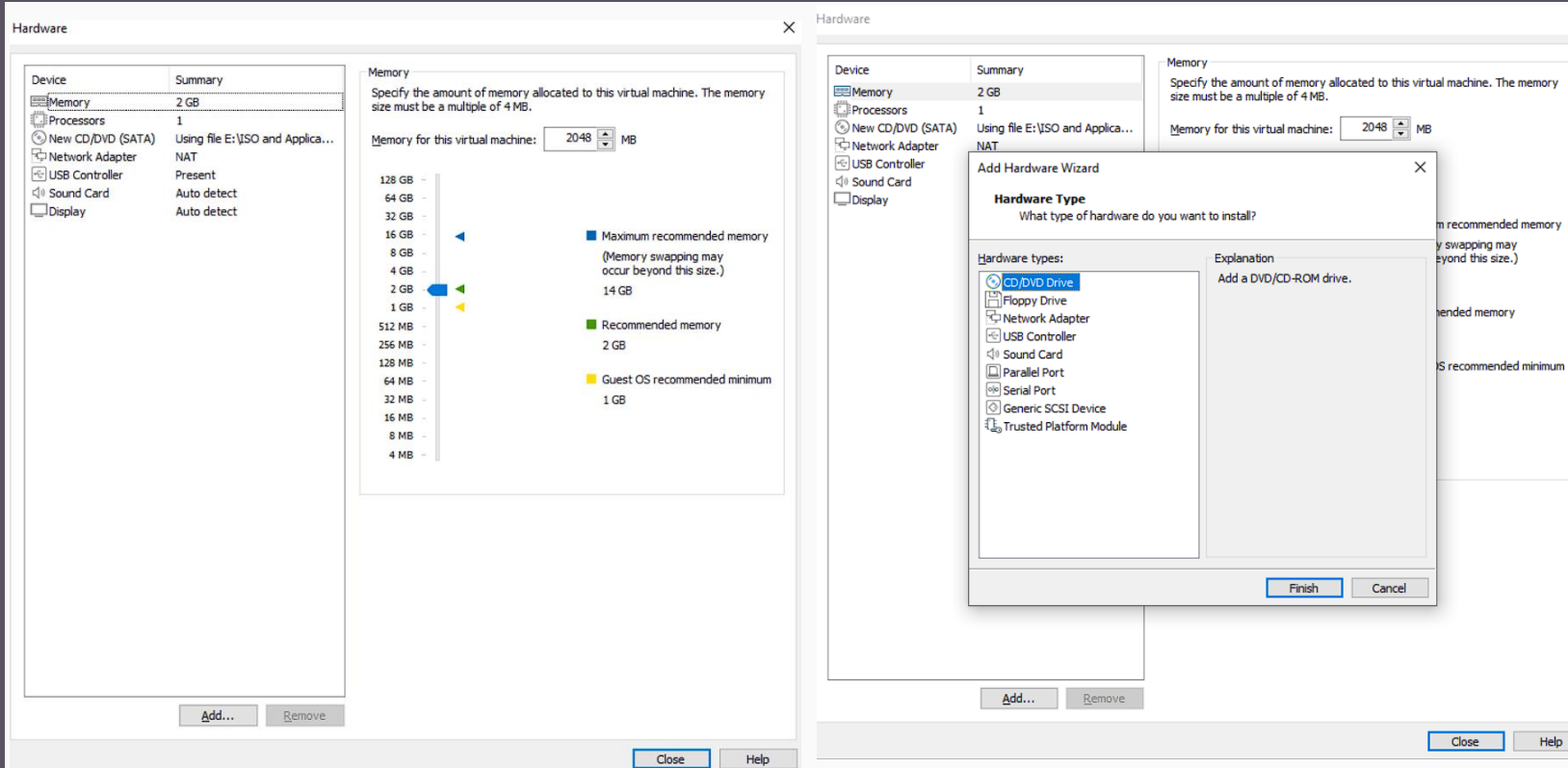
3. Customize Hardware:

- Click on "Customize Hardware" to adjust hardware settings as needed.

4. Wait for Next Steps:

- Follow the prompts and wait for the next steps in the setup process.

Step 8



1. Customize Hardware:

- Increase the memory size and adjust the processor settings as needed.

2. External Drive:

- Note that there is no external drive available, so no changes needed for this option.

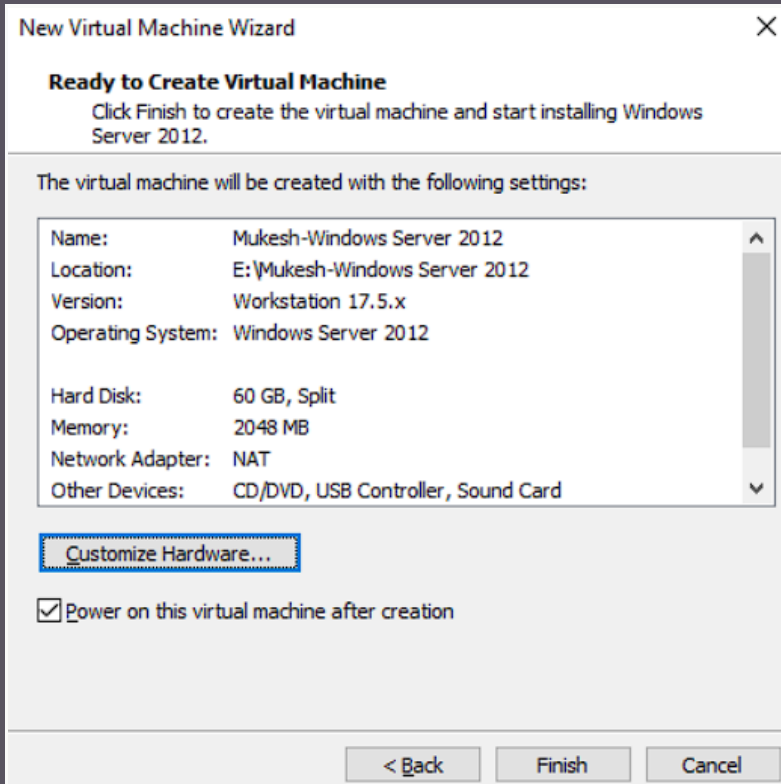
3. Click Close:

- Click the "Close" button to finalize hardware customization.

4. Click Finish:

- Click the "Finish" button to complete the virtual machine setup.

Step 9



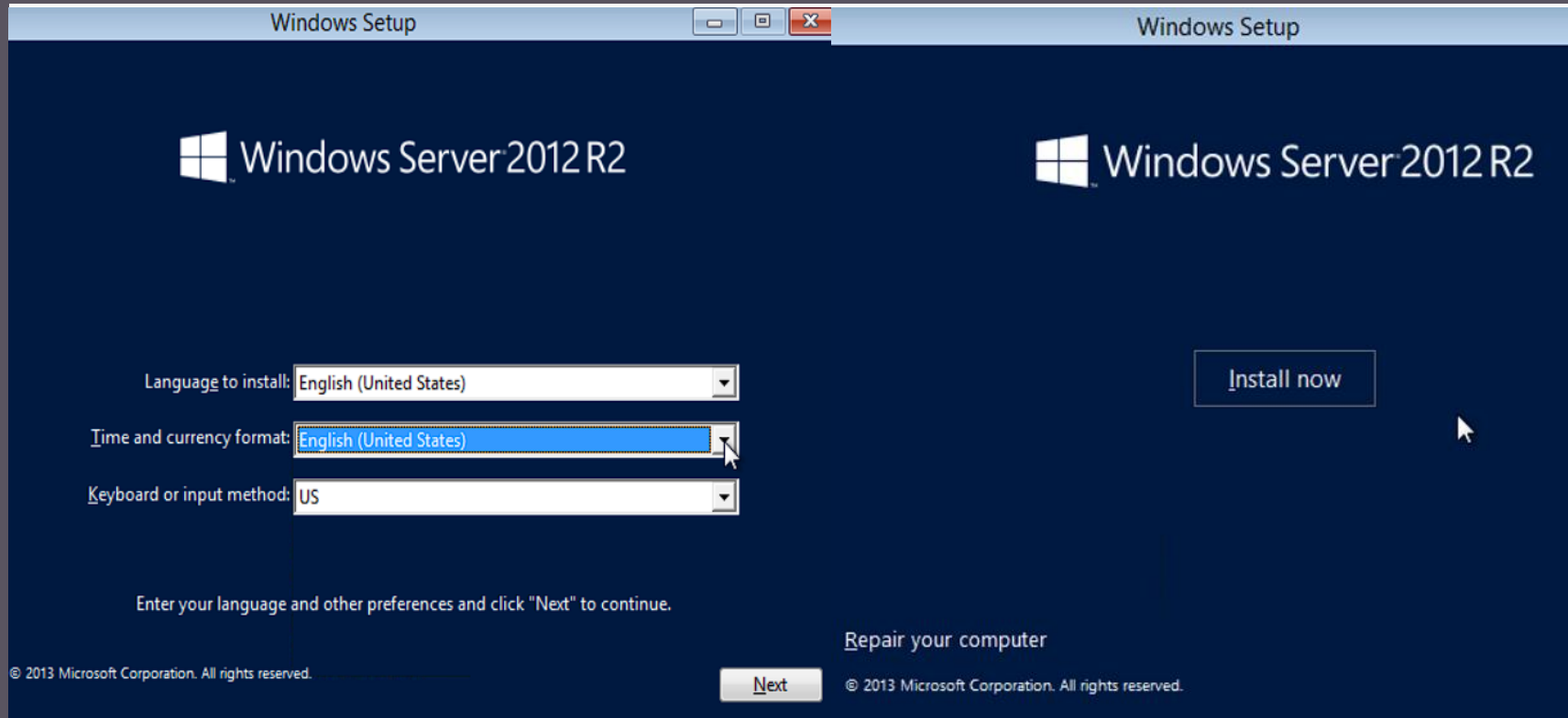
1. Redirect to VMware Starting Page:

- After clicking “Finish,” you will be redirected to the VMware starting page.

2. View Virtual Machine:

- Here, you can see the newly created virtual machine listed and ready for further actions.

Step 10



1. Select Language:

- Choose your preferred language and click "Next."

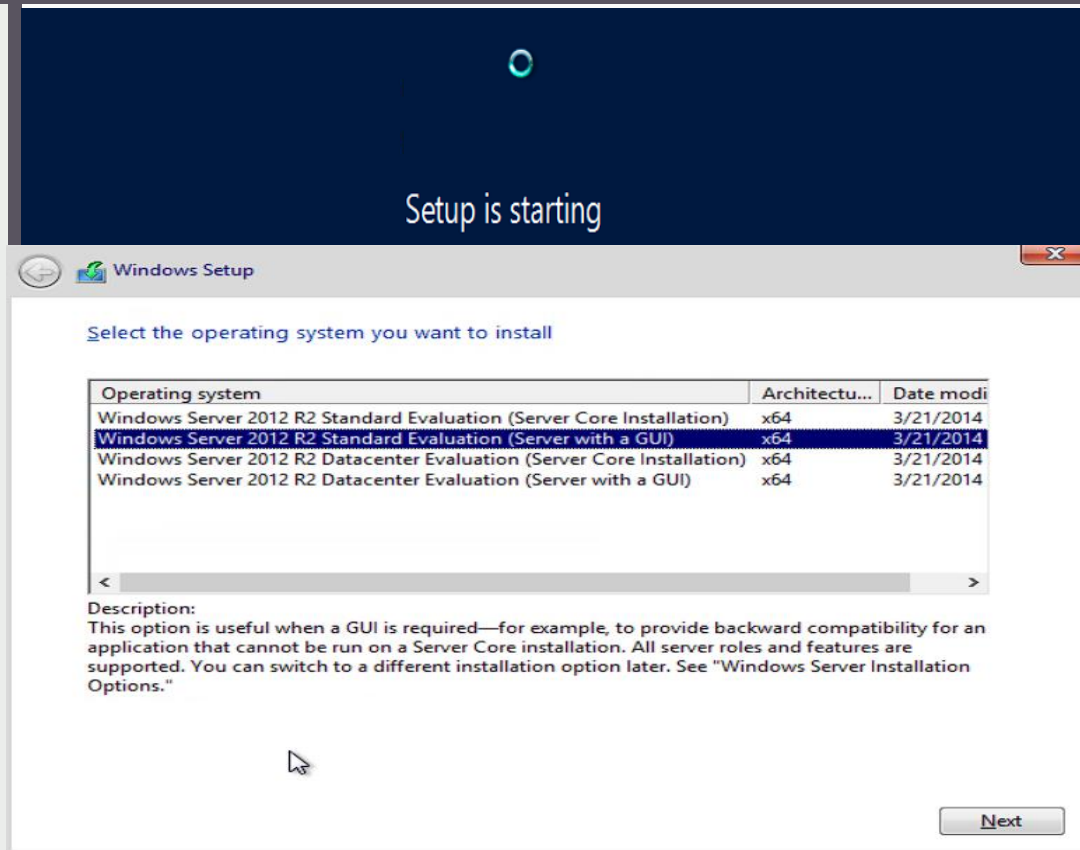
2. Click Install Now:

- Click the "Install Now" button to begin the installation process.

3. Wait for Next Steps:

- Wait for the installation process to proceed and follow the upcoming prompts.

Step 11



1. Select GUI Option:

- Choose the second installation option, which includes the graphical user interface (GUI).

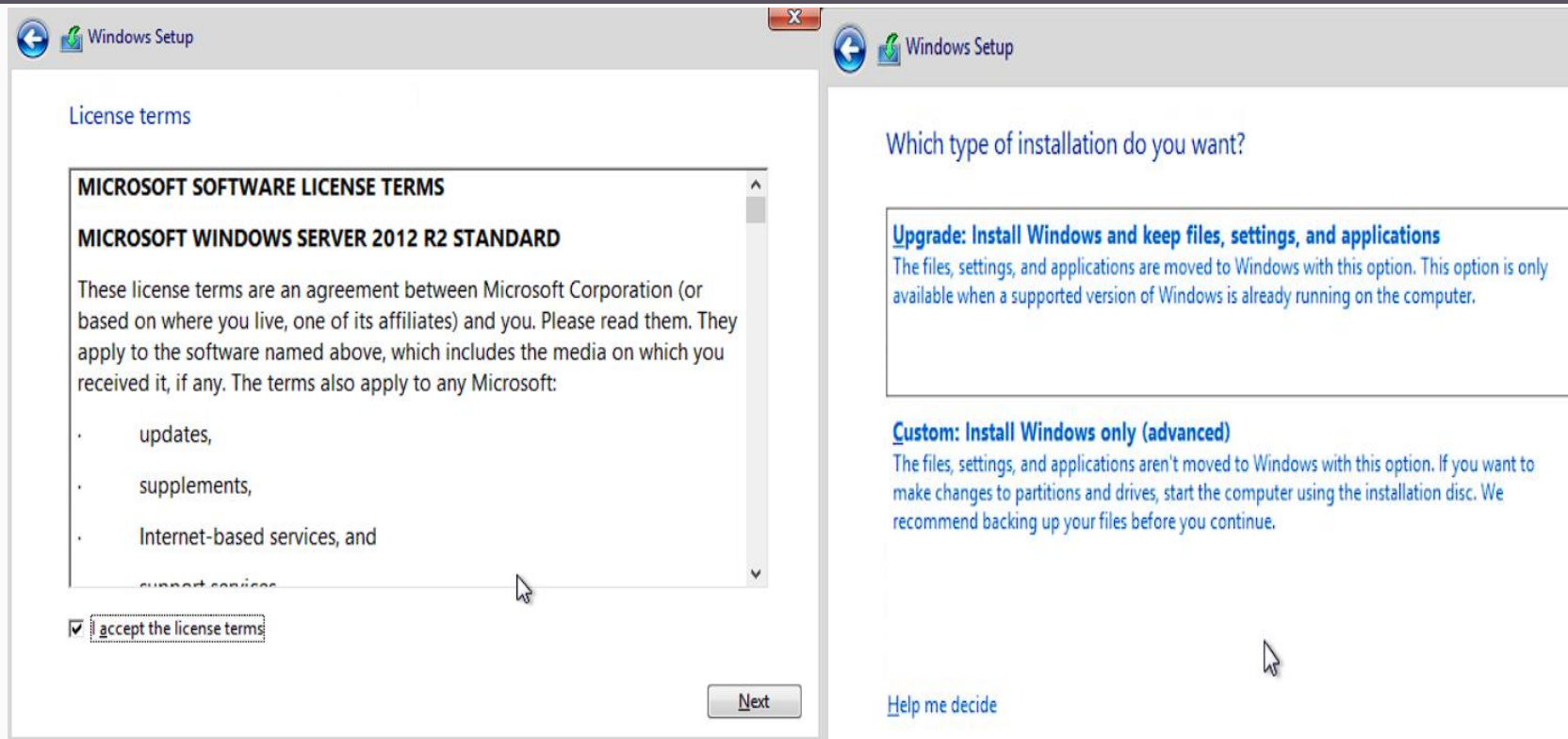
2. Click Next:

- Click the "Next" button to continue with the installation process.

3. Wait for Next Steps:

- Follow the prompts and wait for the installation to proceed.

Step 12



1. Accept License Terms:

- Read and accept the license terms, then click "Next."

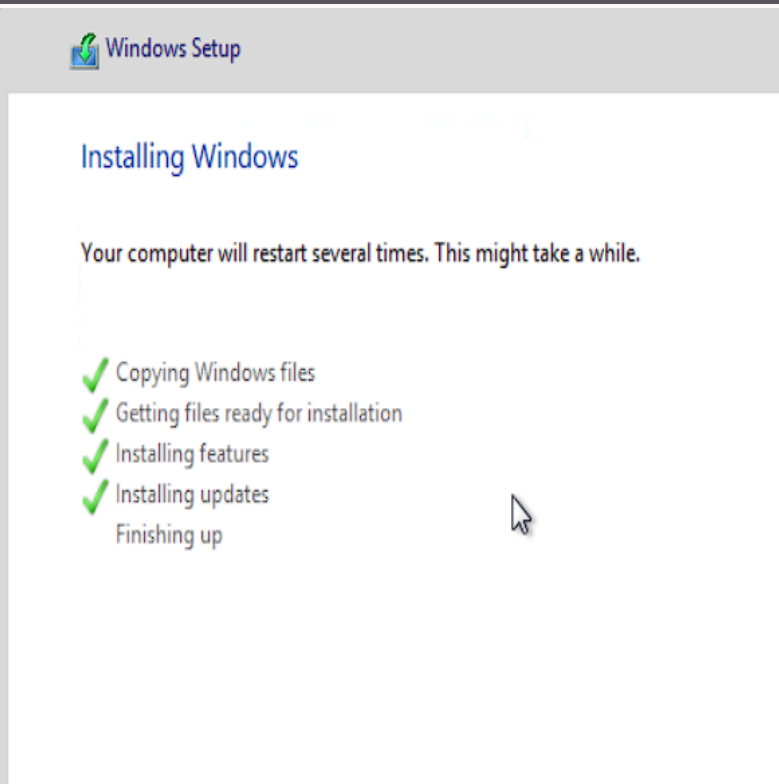
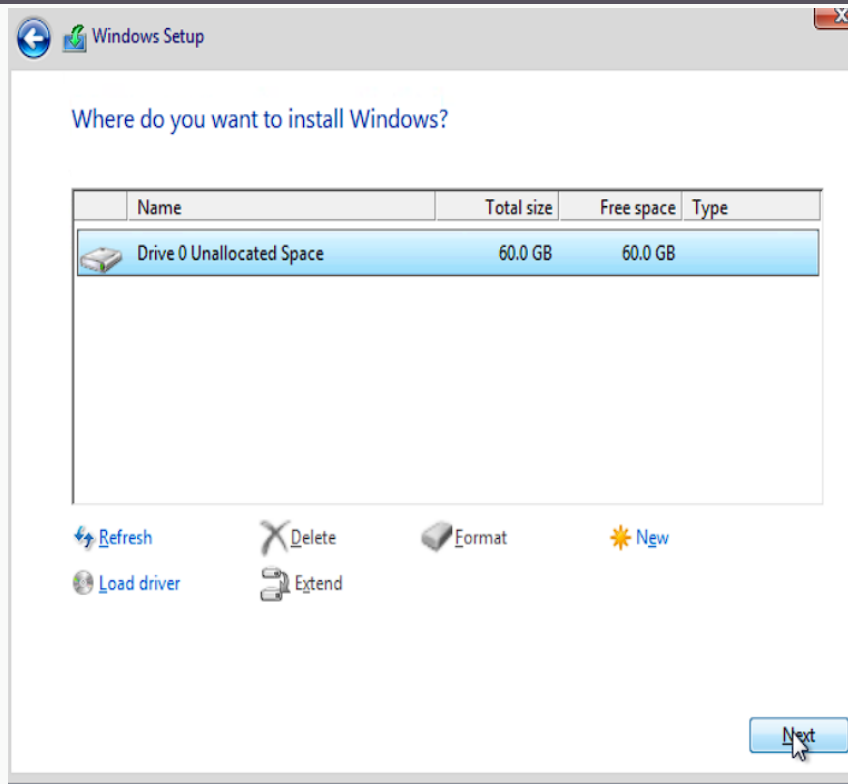
2. Choose Installation Type:

- Select "Custom: Install Windows only (advanced)" from the options.

3. Wait for Next Steps:

- Follow the prompts and wait for the installation process to continue.

Step 13



1. Select Disk:

- Ensure the disk that was previously selected is highlighted.

2. Click Next:

- Click the "Next" button to start the Windows installation process.

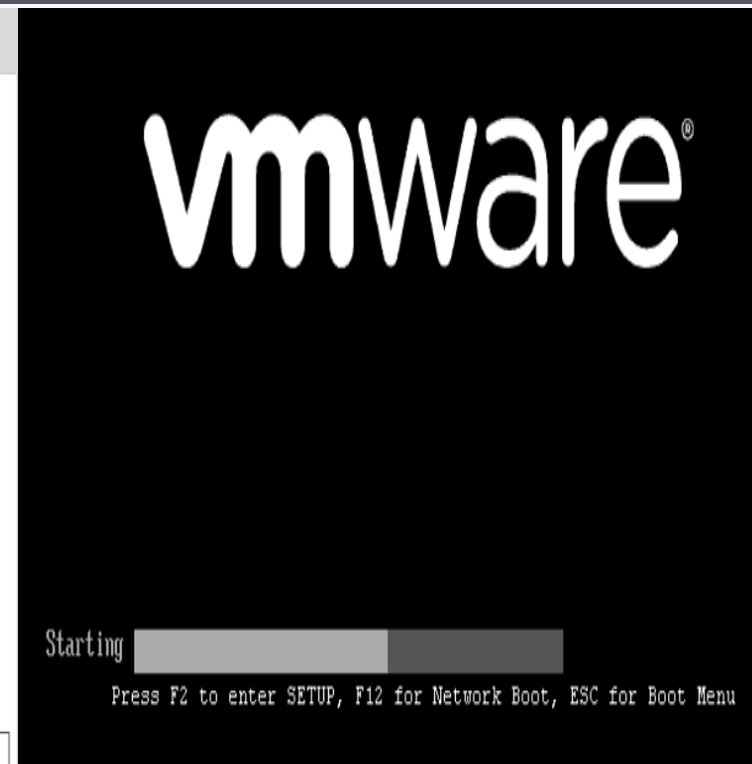
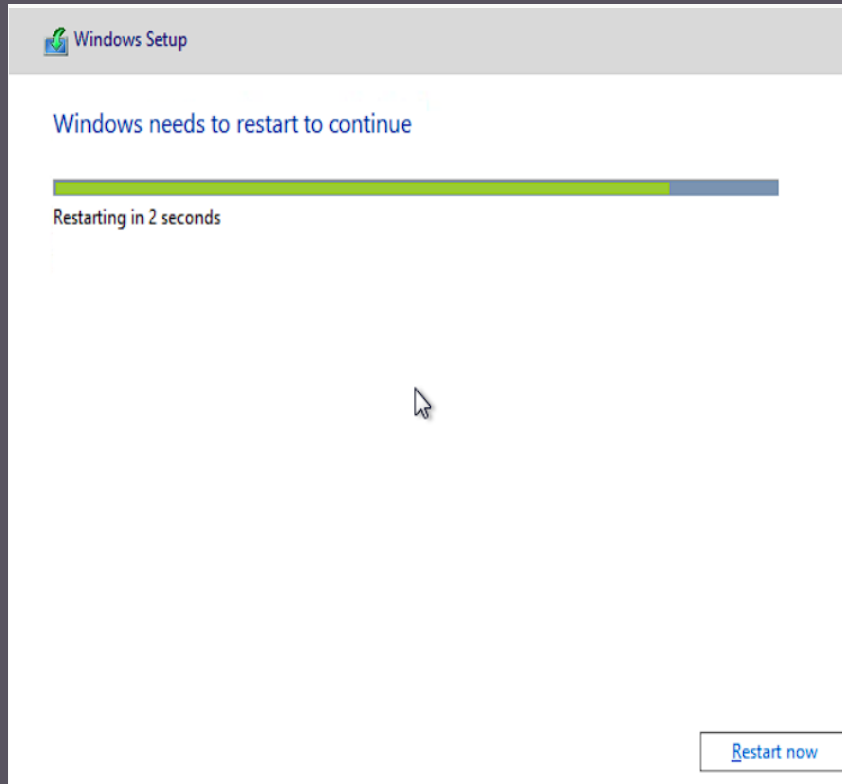
3. Wait for Installation:

- The system will begin installing Windows Server 2012.

4. Click Next:

- After the installation completes, follow any additional prompts and click "Next" to proceed with the setup.

Step 14



1. Click Restart:

- Click the "Restart" button to reboot the virtual machine.

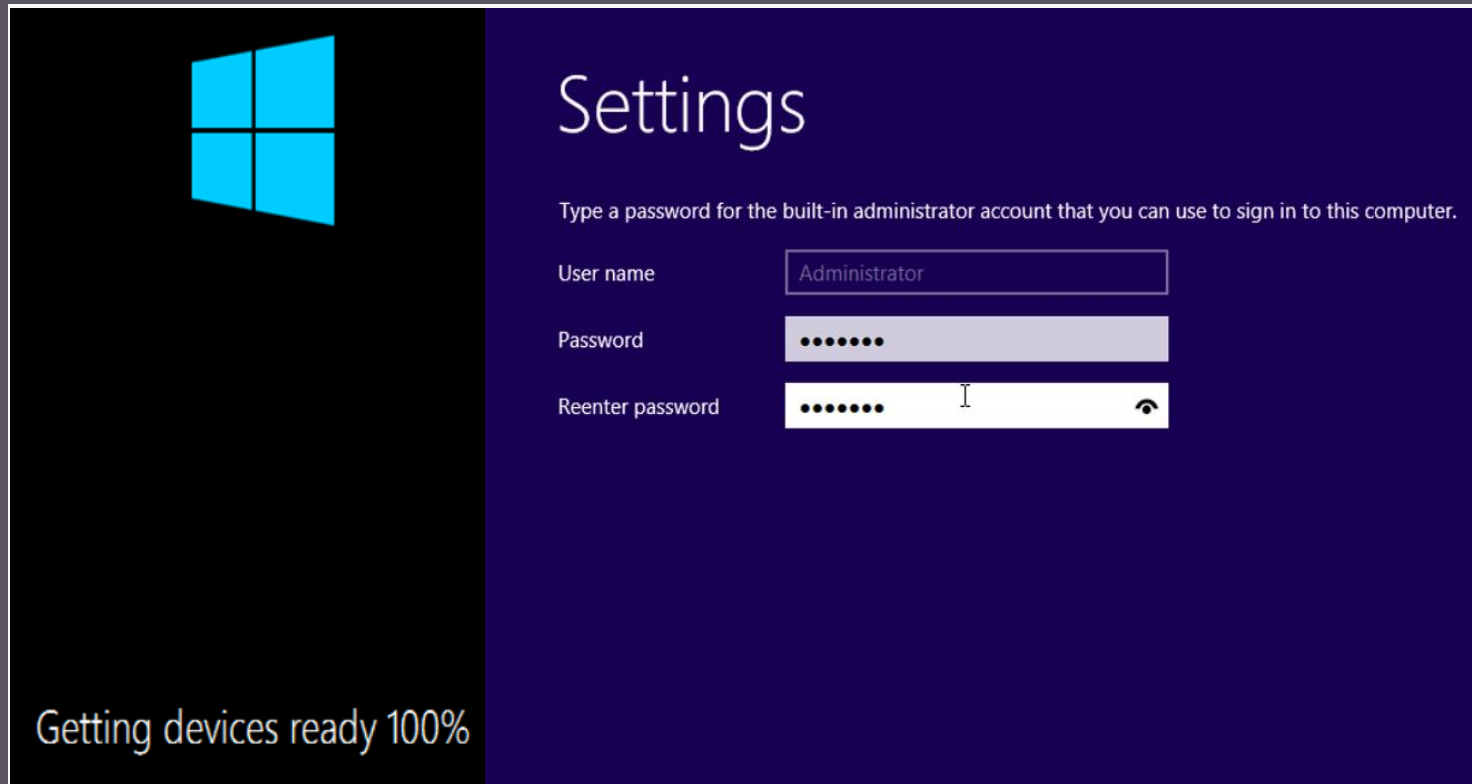
2. Redirect to VMware Starting Page:

- The system will restart and redirect you to the VMware starting page.

3. Wait for Further Steps:

- Wait for the virtual machine to boot up and follow any additional setup prompts as needed.

Step 15



1. Device Setup:

- Wait until the progress bar shows "Getting devices ready" and reaches 100%.

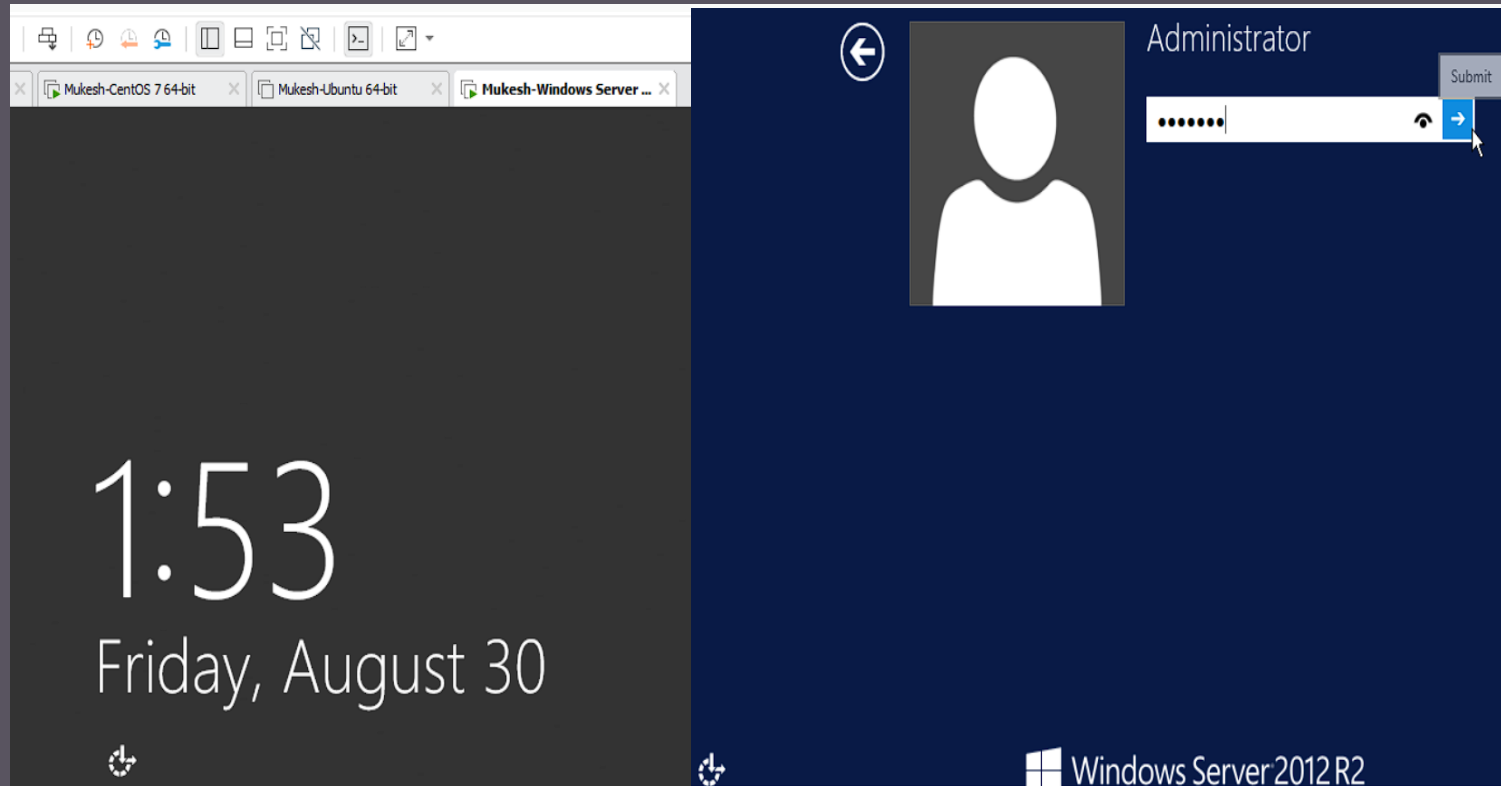
2. Enter Password:

- You will be prompted to enter a password. Ensure the password meets all specified criteria (e.g., length, complexity, and character requirements).

3. Proceed with Setup:

- Follow any additional prompts to complete the setup process.

Step 16



1. Press Ctrl + Alt + Del:

- Press Ctrl + Alt + Del to access the login screen.

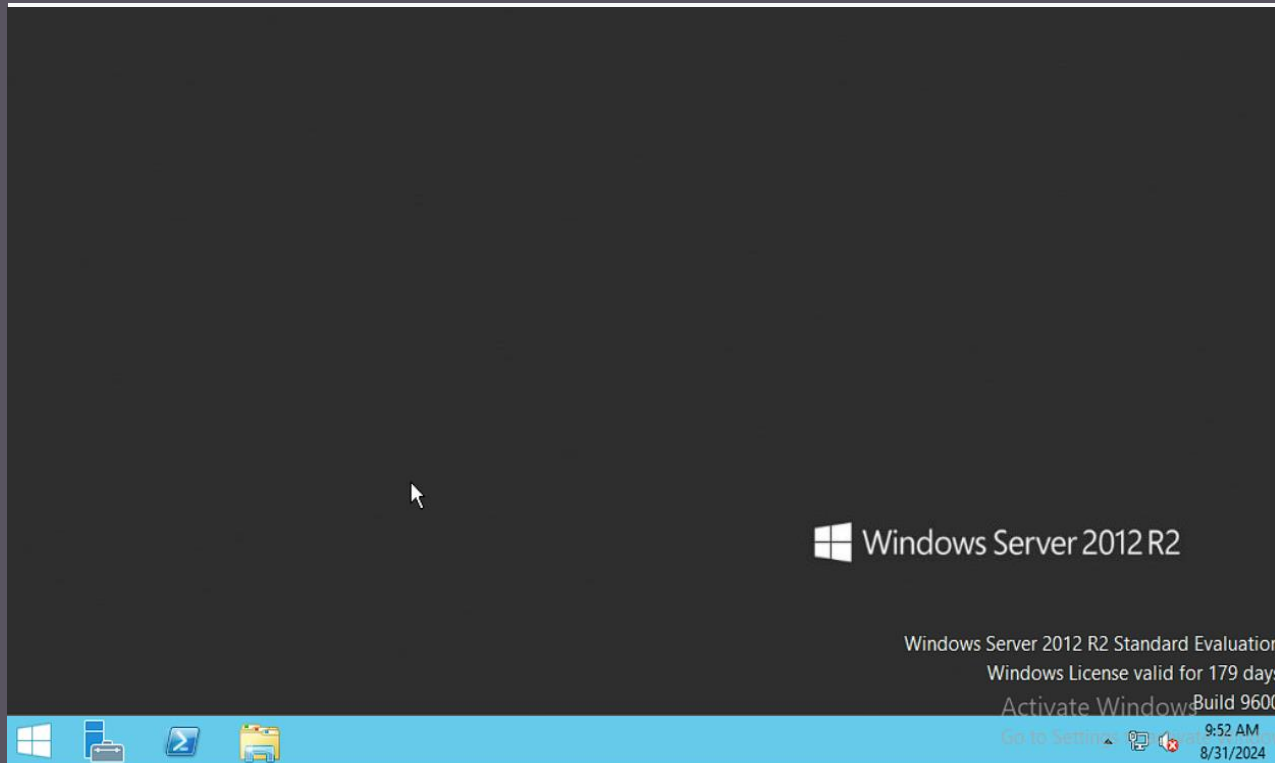
2. Wait for Login Page:

- Wait for the login page to appear.

3. Enter Password:

- Enter the password you set up and press Enter to log in.

Step 18



1. Verify Installation:

- Once you see the Windows Server 2012 desktop screen, it indicates that the installation was successful.

2. Ready to Use:

- The server is now ready to use and you can start configuring or using it as needed.

Post-Installation configuration in Windows Server 2012

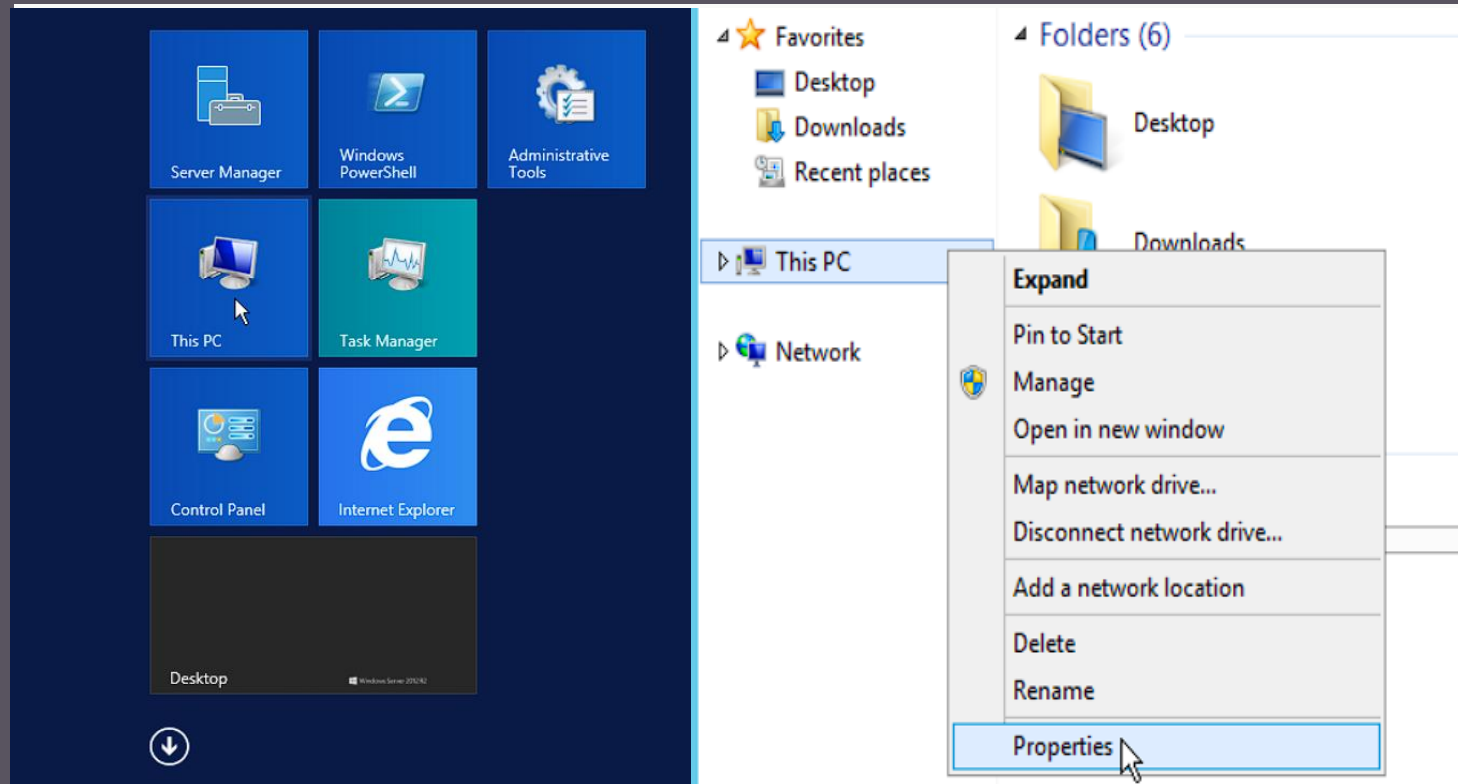
System Information

Disk Partitioning Information

Network Configuration

User Account & Groups Management

System Information



1. Open This PC:

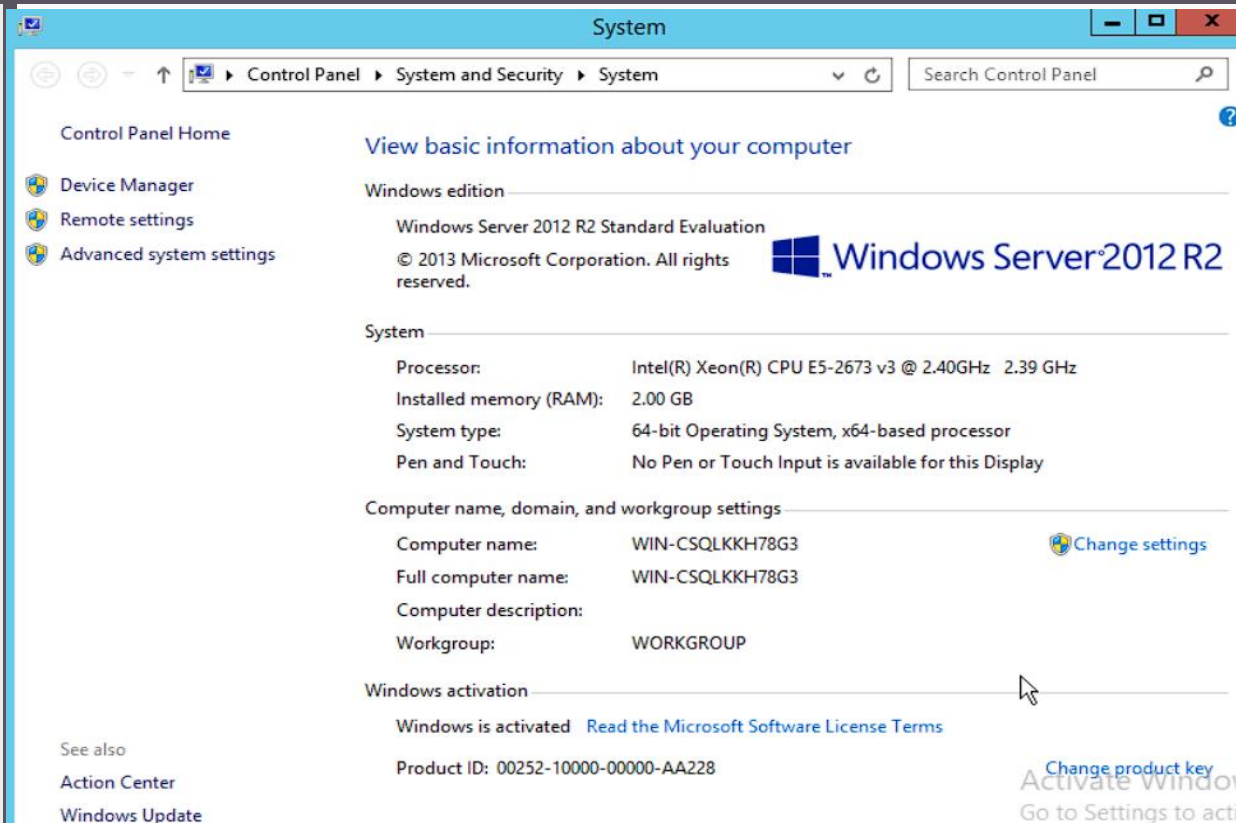
- Click on "This PC" on the desktop or from the Start menu.

2. Right-Click on This PC:

- Right-click on "This PC" and select "Properties" from the context menu.

3. View System Properties:

- The System Properties window will appear, displaying information about the Windows Server 2012 operating system.



1. Processor Information:

- Processor: Intel Xeon R (or similar, depending on your setup).

2. Memory:

- Installed Memory (RAM): 2 GB.

3. System Type:

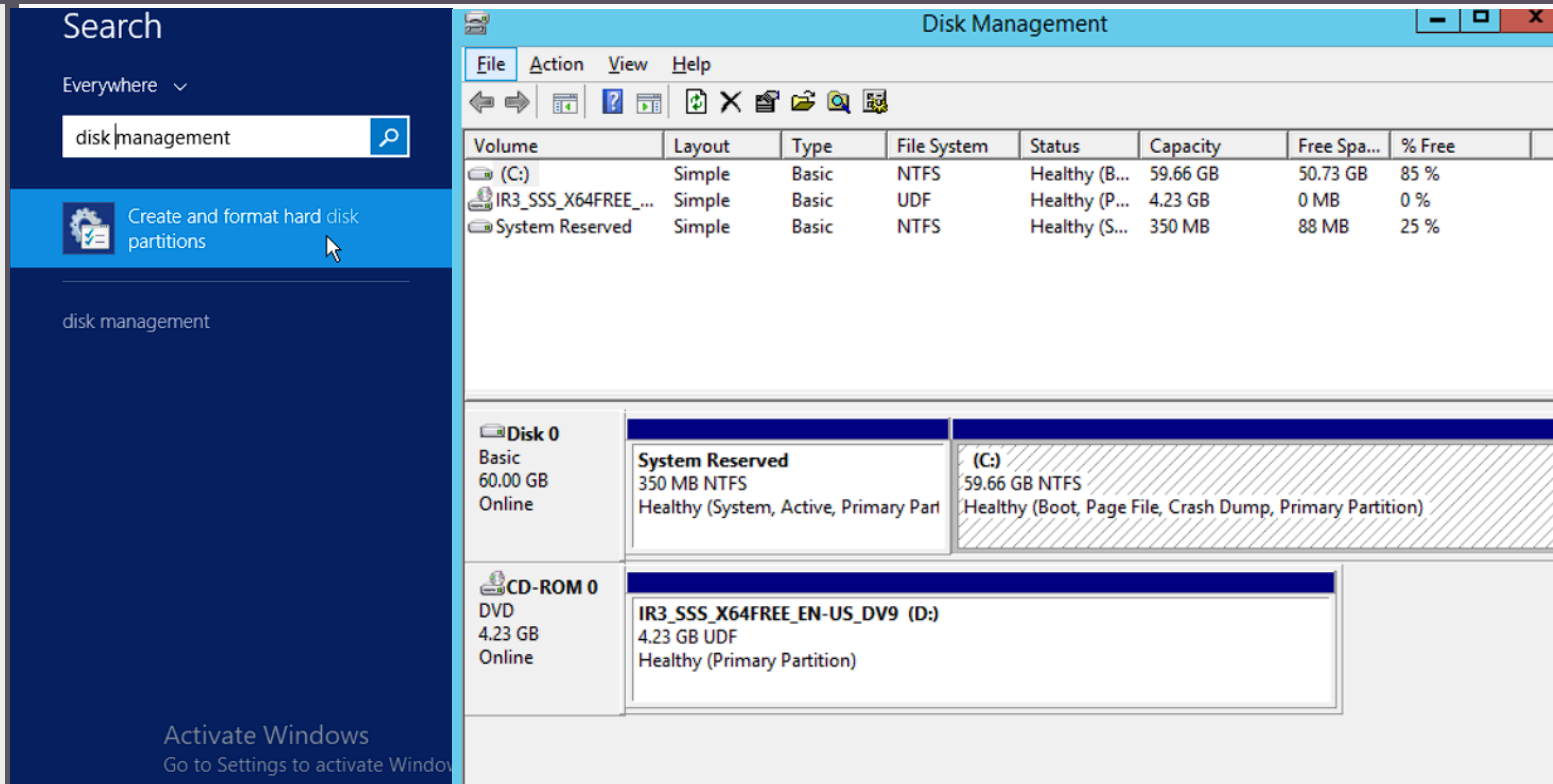
- System Type: 64-bit operating system.

4. Computer Name:

- Computer Name: WIN-CSQLKKH78G3 (or a similar name assigned to your system).

This information provides an overview of your server's hardware and system configuration.

Disk Partitioning Information



1. Open Disk Management:

- Search for "Create and format disk partitions" and open the tool.

2. Manage Volumes:

- Shrink Volume: Right-click the volume, select "Shrink Volume," and specify the size.

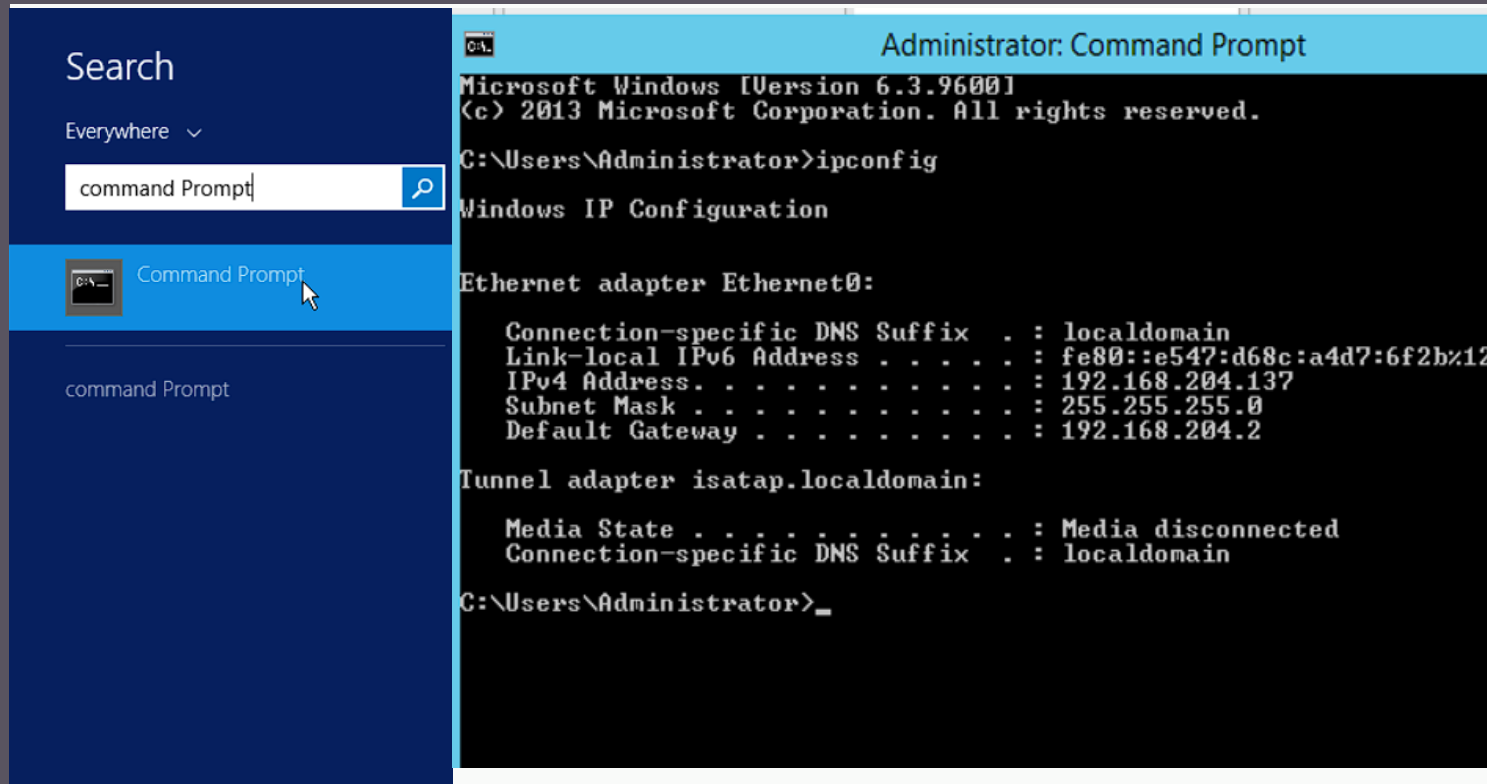
- Extend Volume: Right-click the volume, select "Extend Volume," and follow the wizard.

3. Create and Format Disks:

- Create New Volume: Right-click unallocated space, select "New Simple Volume," and follow the wizard.

- Change File System: Choose the file system type during the formatting process.

Network Configuration



1. Open Command Prompt:

- Search for "Command Prompt" in the search bar and open it.

2. View IP Configuration:

- Type `ipconfig` and press Enter to see your IP address and other network information.

3. Additional Network Commands:

- **Ping:** Type `ping [hostname or IP address]` to check connectivity to another network device.

- **Nslookup:** Type `nslookup [hostname]` to query DNS records and resolve domain names to IP addresses.

User Account & Groups Management



1. Open Control Panel:

- Search for and open "Control Panel" from the Start menu or search bar.

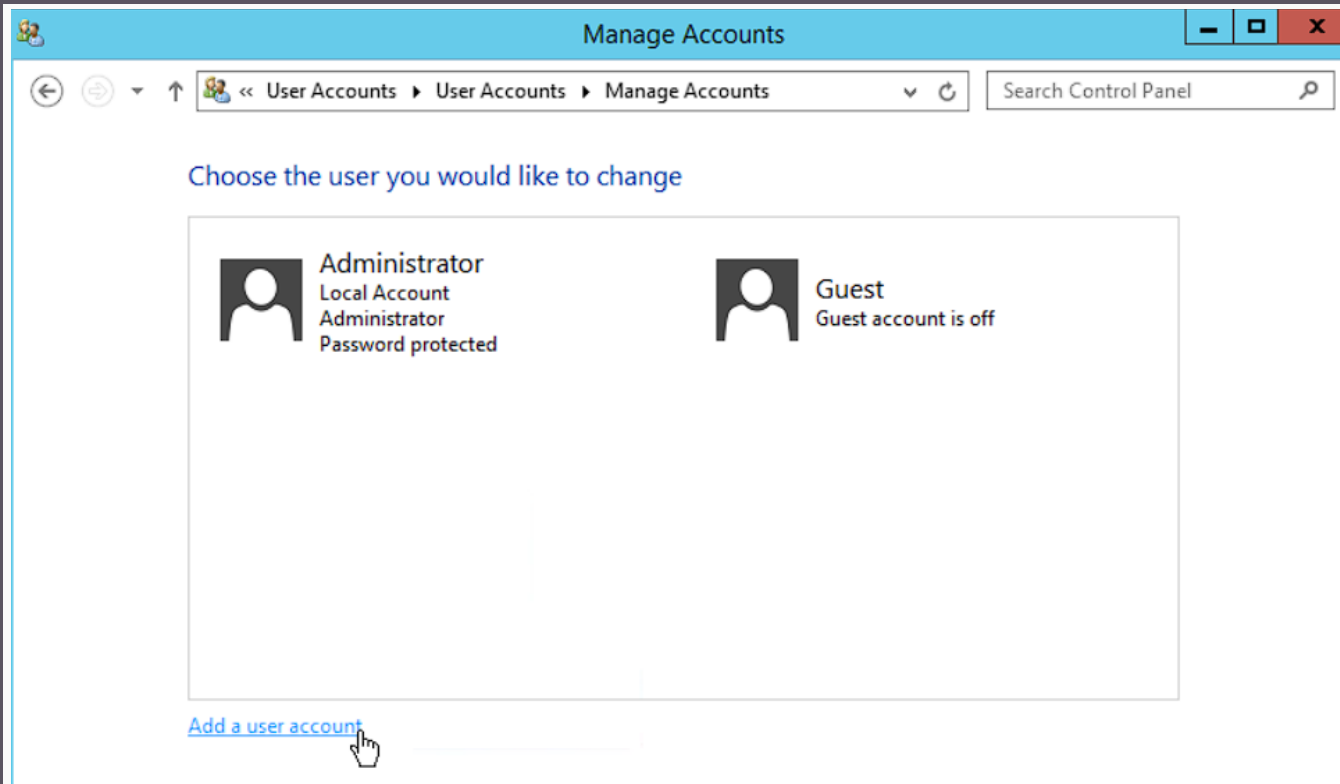
2. Click on User Accounts:

- In the Control Panel, click on "User Accounts."

3. Wait for Next Process:

- Wait for the User Accounts section to load and display options for managing user accounts.

Step1



1. Click on Add New User Account:

- In the User Accounts section of the Control Panel, click on "Add a new user in PC settings" or "Add a new user account."

2. Follow Prompts to Create User:

- Follow the prompts to enter the user details and set up the new account.

Step 2

Choose a password that will be easy for you to remember but hard for others to guess. If you forget, we'll show the hint.

The following user will be able to sign in to this PC.

User name: mukesh

Password: ••••••

Reenter password: ••••••

Password hint: rps

Local account: mukesh

Next Cancel Finish

1. Enter User Details:

- Provide a username and a strong password. Ensure the password includes uppercase and lowercase letters, special characters, and is at least 8 characters long.

2. Click Next:

- Click "Next" to proceed with the setup.

3. Click Finish:

- Click "Finish" to complete the account creation process.

Step 3

Choose the user you would like to change



Administrator
Local Account
Administrator
Password protected



mukesh
Local Account
Password protected



Guest
Guest account is off

[Add a user account](#)

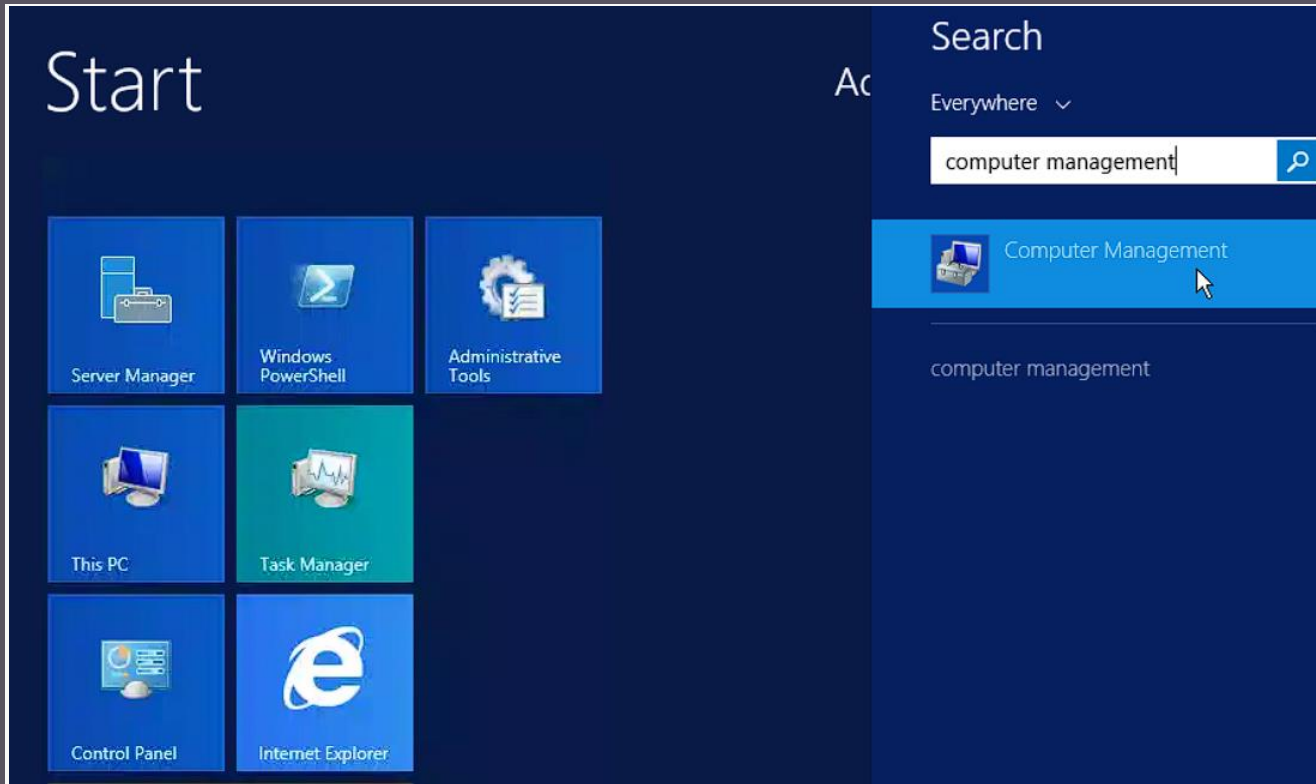
1. New User Creation Confirmation:

- You should see the newly created user account with the name Mukesh.

2. Completion:

- This confirms that the user account creation process in Windows Server 2012 has been successfully completed.

Step 4



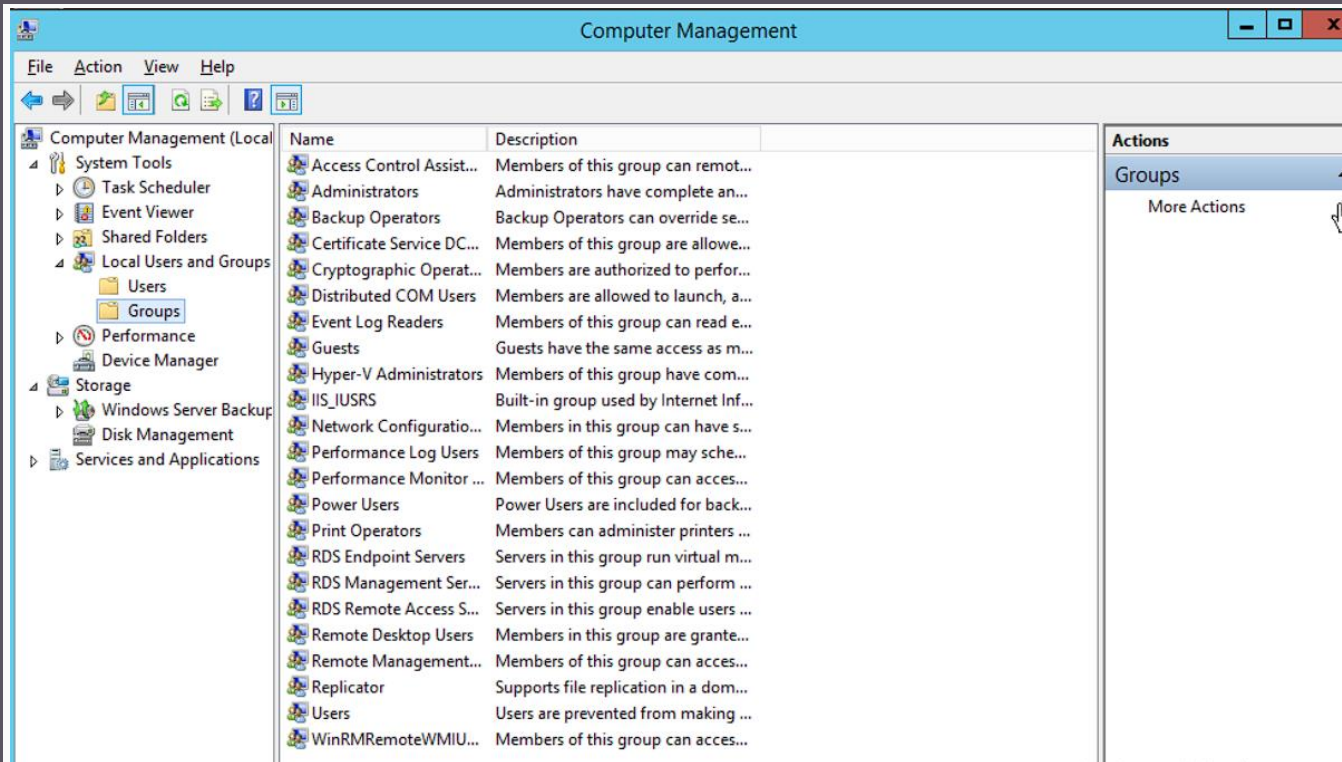
1. Search for Computer Management:

- Search for "Computer Management" in the search bar and open the application.

2. Wait for Next Steps:

- Wait for the Computer Management window to load and follow the subsequent steps for creating a group.

Step 5



1. Open Computer Management:

- Search for and open "Computer Management".

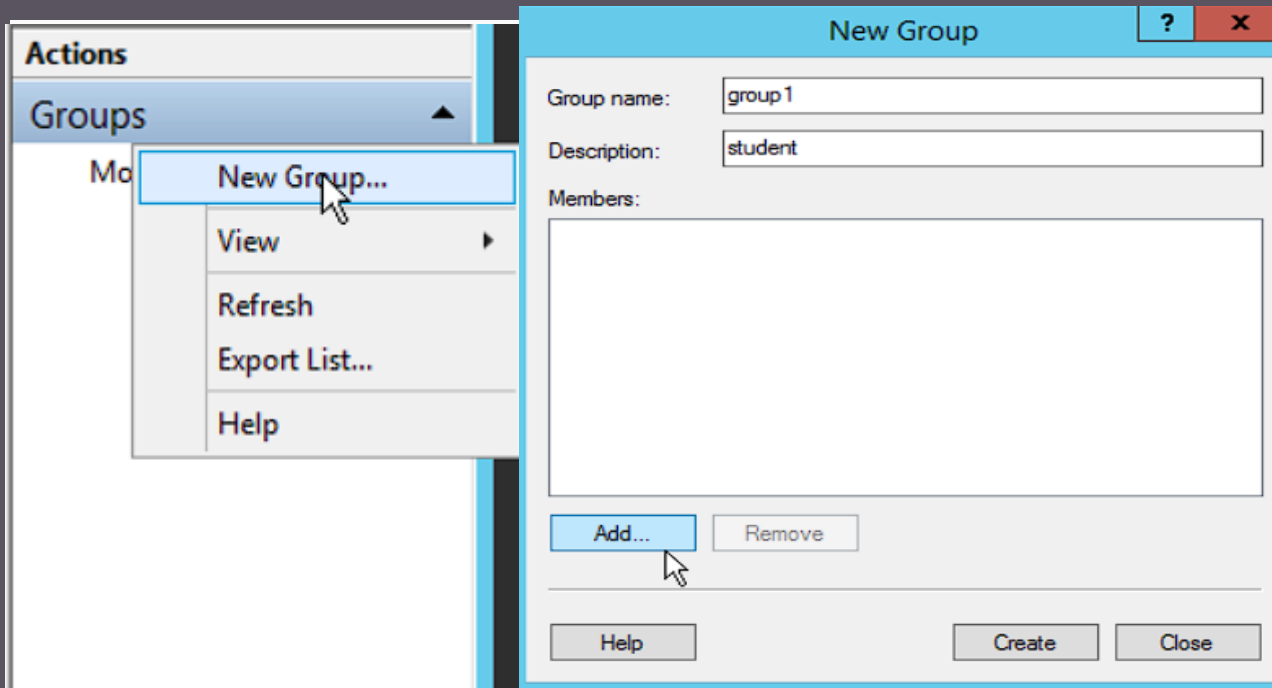
2. Navigate to Local Users and Groups:

- In the Computer Management window, click on "Local Users and Groups".

3. Select Groups:

- Click on "Groups" to view existing groups.

Step 6



1. Create a New Group:

- Right-click on the top pane, select “New Group...” from the context menu to create a new group.

Certainly! Here’s how to complete the group creation process:

2. Provide Group Details:

- Group Name: Enter a name for the new group.
- Description: Optionally, provide a description for the group.

3. Add Users to the Group:

- Click on the “Add...” button to include users in the group.

Step 7

The image shows two overlapping Windows dialog boxes. The 'Select Users' dialog box on the left has a title bar with 'Select Users' and a close button. It contains fields for 'Select this object type:' (set to 'Users or Built-in security principals'), 'From this location:' (set to 'WIN-CSQLKKH78G3'), and 'Enter the object names to select (examples):' (with 'mukesh' entered). It also has buttons for 'Object Types...', 'Locations...', 'Check Names', 'Advanced...', 'OK', and 'Cancel'. The 'New Group' dialog box on the right has a title bar with 'New Group', a help button, and a close button. It contains fields for 'Group name:' (set to 'group1') and 'Description:' (set to 'student'). Below these is a 'Members:' list containing 'mukesh'. At the bottom are buttons for 'Add...', 'Remove', 'Help', 'Create', and 'Close'. A mouse cursor is pointing at the 'OK' button in the 'Select Users' dialog, and another is pointing at the 'Create' button in the 'New Group' dialog.

1. Add Users:

- In the "New Group" window, click "Add...".

- Enter the usernames you want to add to the group and click "OK".

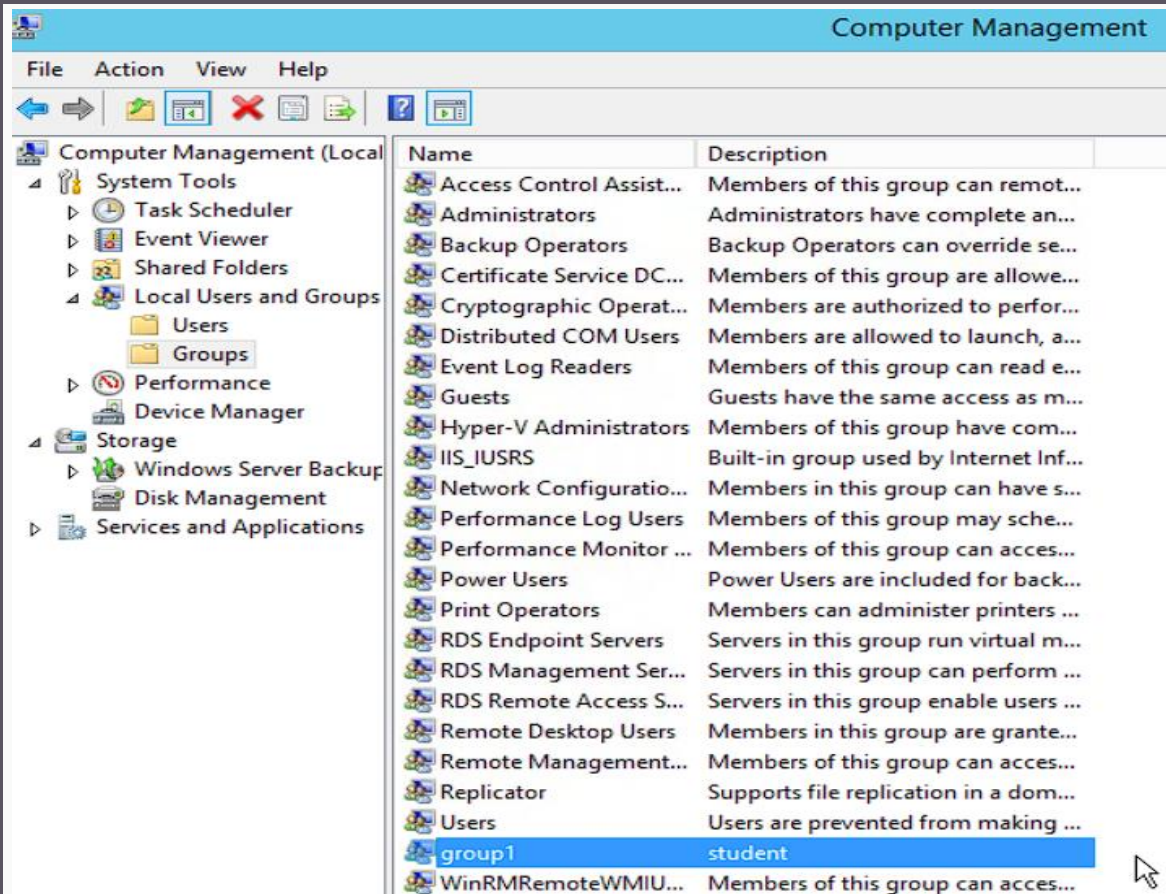
2. Create Group:

- Click "Create" to finalize the creation of the new group.

3. Confirm Group Creation:

- The new group will now appear in the list of groups.

Step 8



1. Group Creation Confirmation:

- You should see "Group1" (or the name you chose) appearing in the list of groups.

2. Completion:

- This confirms that the group creation process in Windows Server 2012 was successfully completed.

Project Scope

Understand the Windows Boot

Process: Gain a clear understanding of how the Windows Server 2012 boot process works, from powering on the system to loading the operating system

Ensure the System Boots: Verify that the system successfully boots into Windows Server 2012, confirming that the OS is correctly installed and operational.

Prerequisites and Project Requirements

Knowledge of Hardware

Components: Familiarity with the essential hardware components of a server, such as CPU, RAM, and storage devices.

Basic Understanding of Windows

Server 2012: A fundamental grasp of the Windows Server 2012 operating system, including its installation and configuration processes.

Understanding of Windows Boot

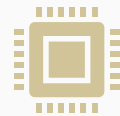
Process: An understanding of how the Windows boot process functions, including the role of BIOS/UEFI, boot loader, and OS initialization..

Deliverables



Set the Time Zone and Language:

Configure the appropriate time zone and language settings during the installation process.



Configure Hard Disk Space and Memory Size:

Allocate and configure the necessary hard disk space and memory size according to system requirements.



Set the Administrator Password:

Set Administrator Password: Create and set a secure password for the Administrator account during installation.



Create a User and Set the Password:

Add a user account with a secure password.



Ensure the Kernel Modules Loaded:

Confirm that all necessary kernel modules are loaded during boot.



Ensure the System Boots:

Verify that the system successfully boots into the Windows Server 2012 operating system after installation.

Summary

Boot Process Overview :

Recap of the stages from POST to kernel initialization.

Configuration Tasks:

Summary of key setup tasks including time zone, disk space, and Administrator password.

Successful Boot Check:

Importance of verifying that the system boots with all components and modules properly loaded.

Conclusion

Importance of Proper Configuration:

Ensuring that Windows Server 2012 is configured correctly for optimal performance.

Impact on System Reliability:

Proper setup affects system stability and security.

Final Checks:

Regularly verify system settings and updates to maintain a healthy server environment.

THANK YOU

Mukesh Yadav

Batch name : Data Centre - Batch 7
cloud username : 24NAG2180_U07

Git username : b166user05