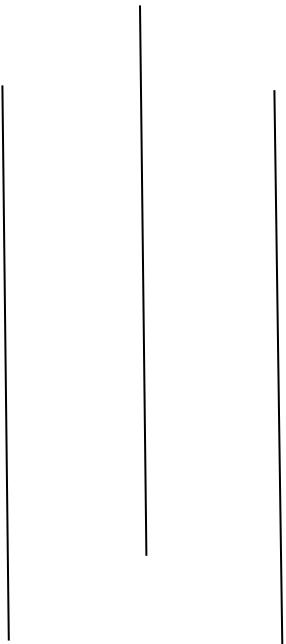


Windows Server 2016



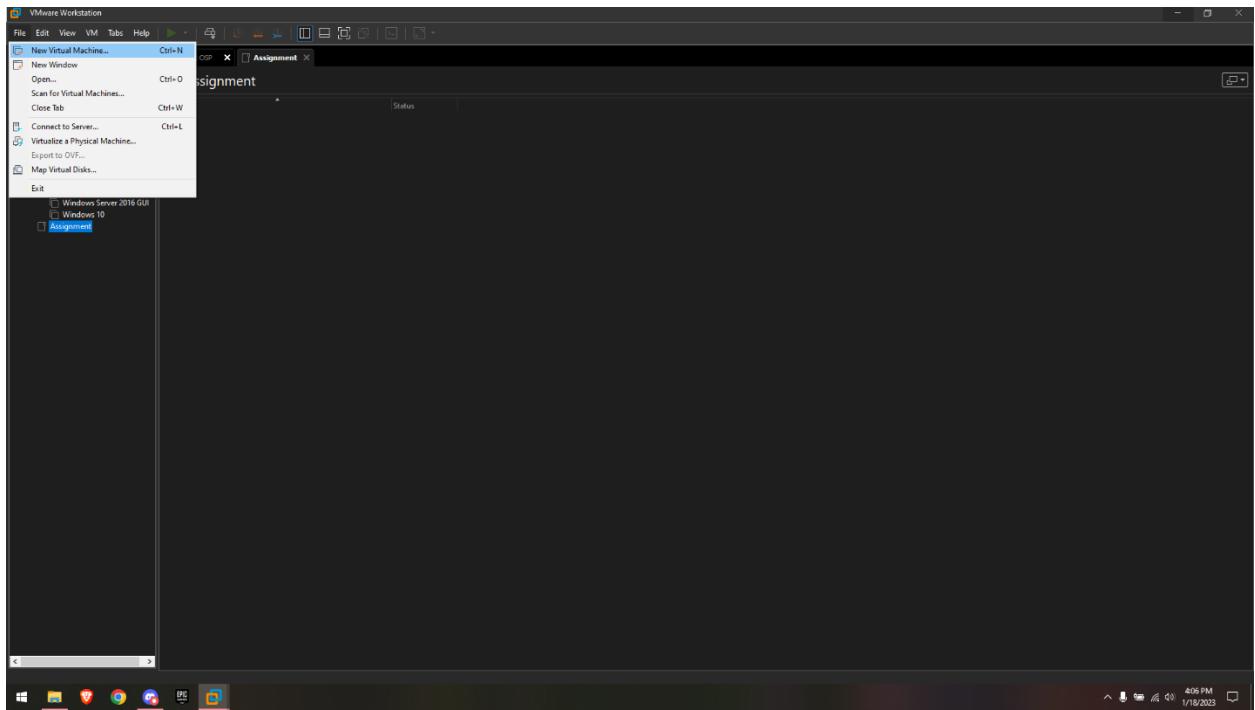
Submitted to:
Department of Windows Server 2016

Submitted by:
Gauranga Gautam

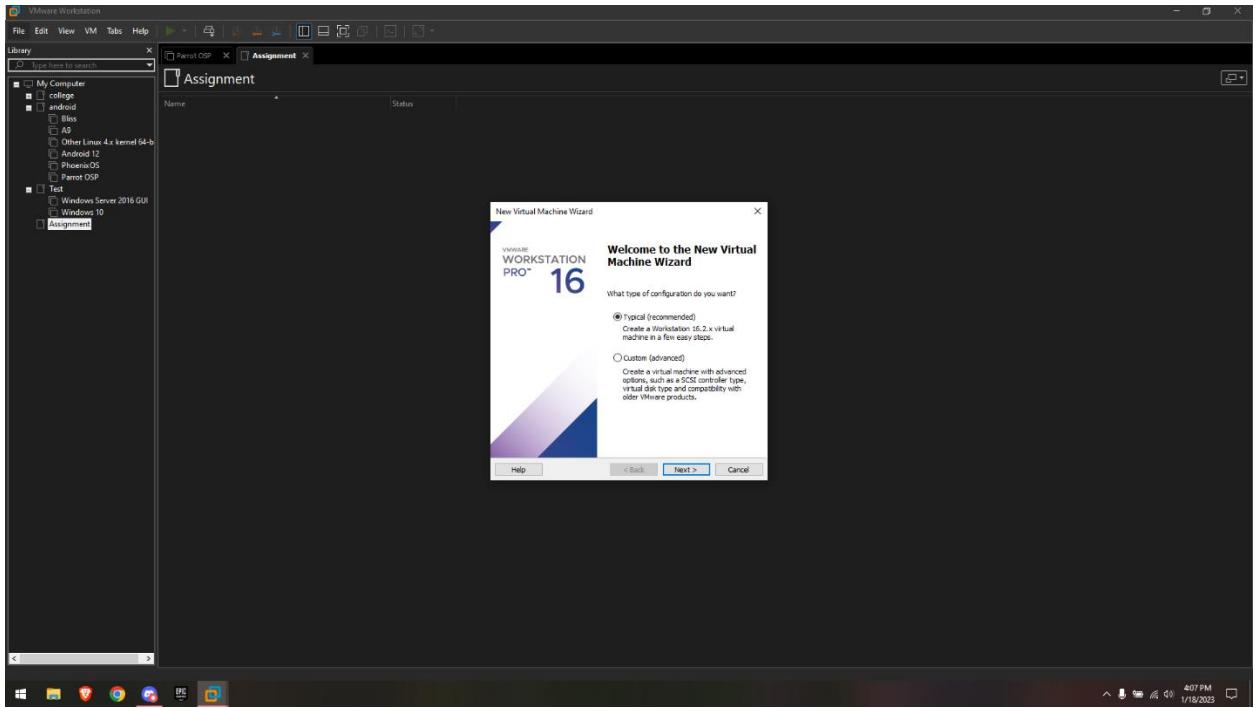
BCS 2nd Semester
Date: January 23rd, 2023

1. Create the new virtual machine to install the windows server 2016.

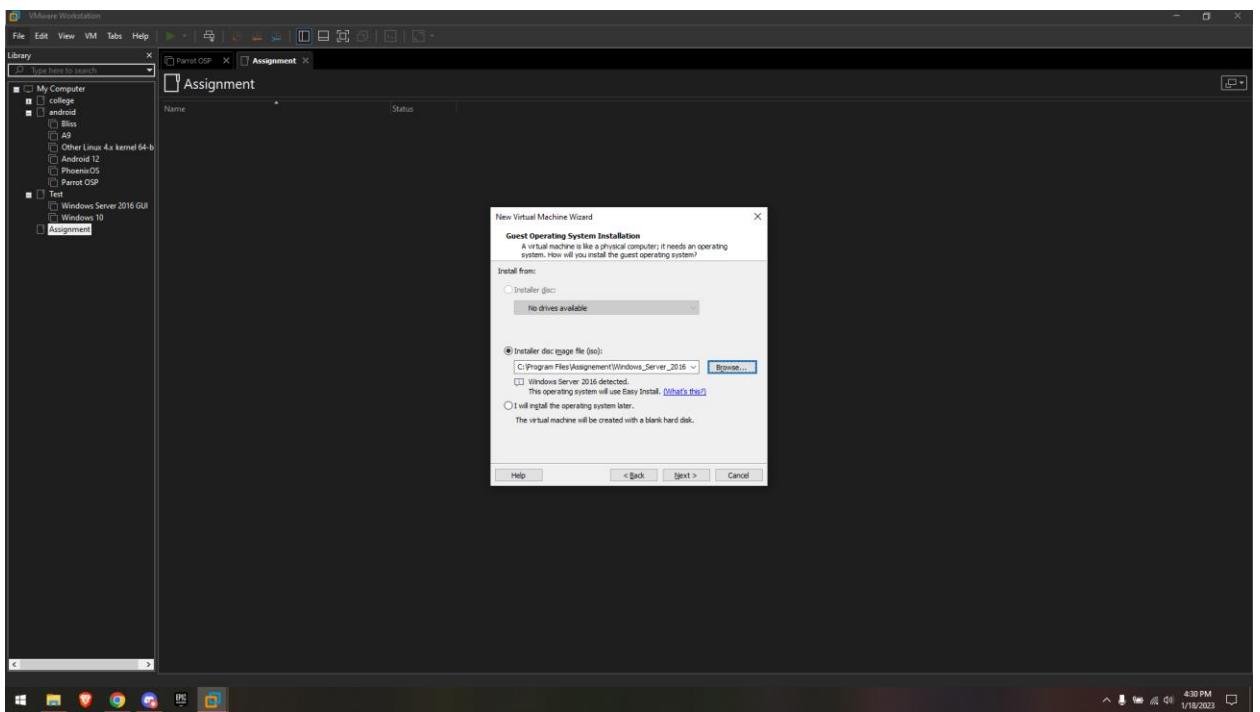
- Download the Windows Server 2016 ISO file from the Microsoft website and save it to your computer.
- Open VMware Workstation and click on "New Virtual Machine" to start the wizard.:



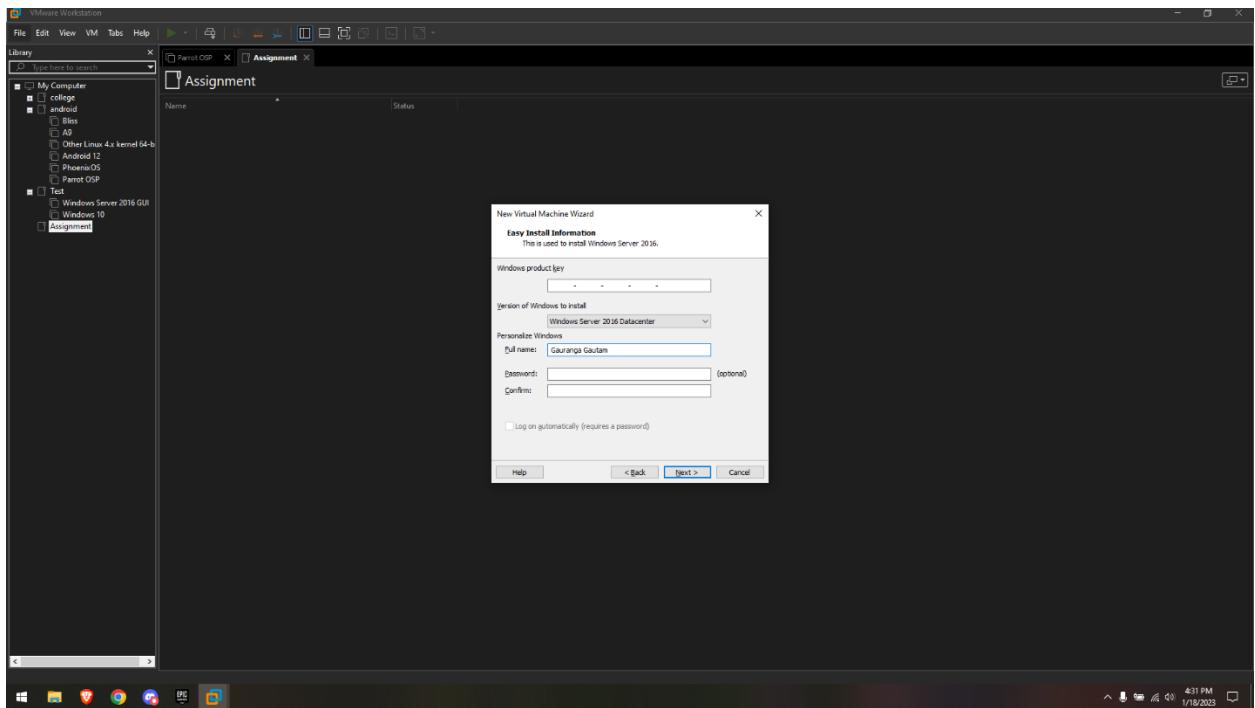
- Choose "Typical" as the configuration type and click Next.:



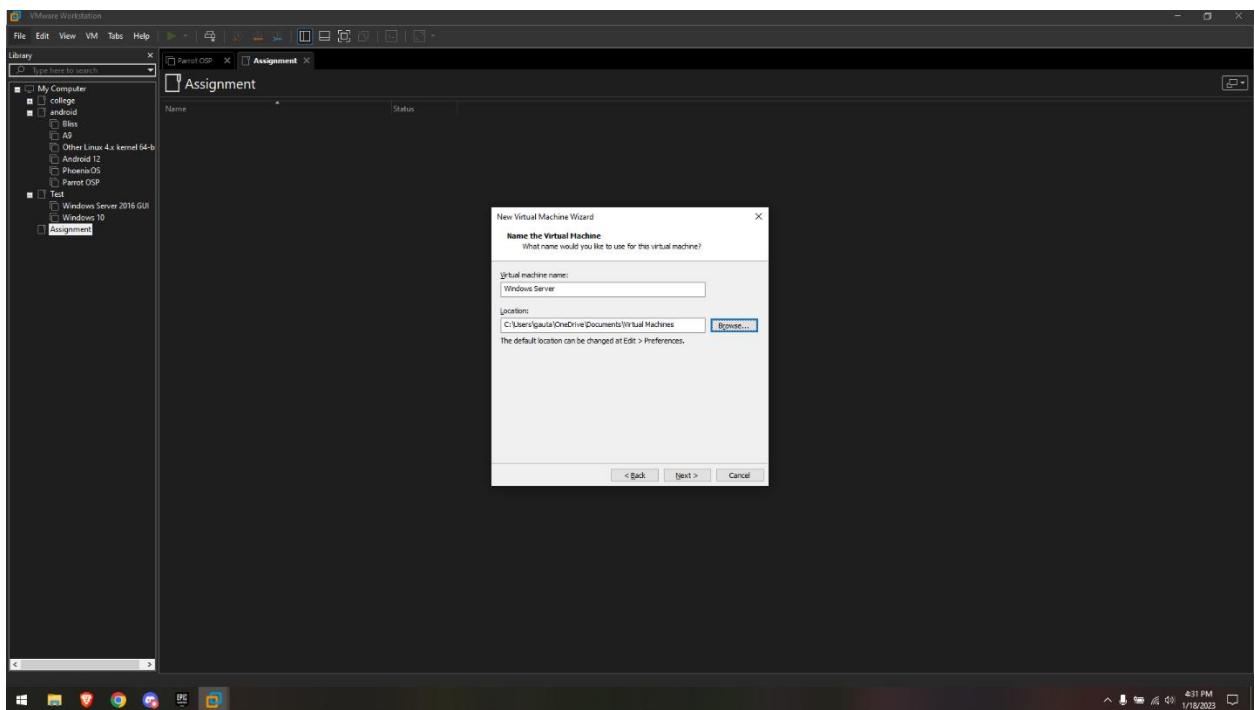
- Select "Installer disc image file (iso)" and click Next.:



- Select and "Windows Server 2016" as the version. Click Next.:

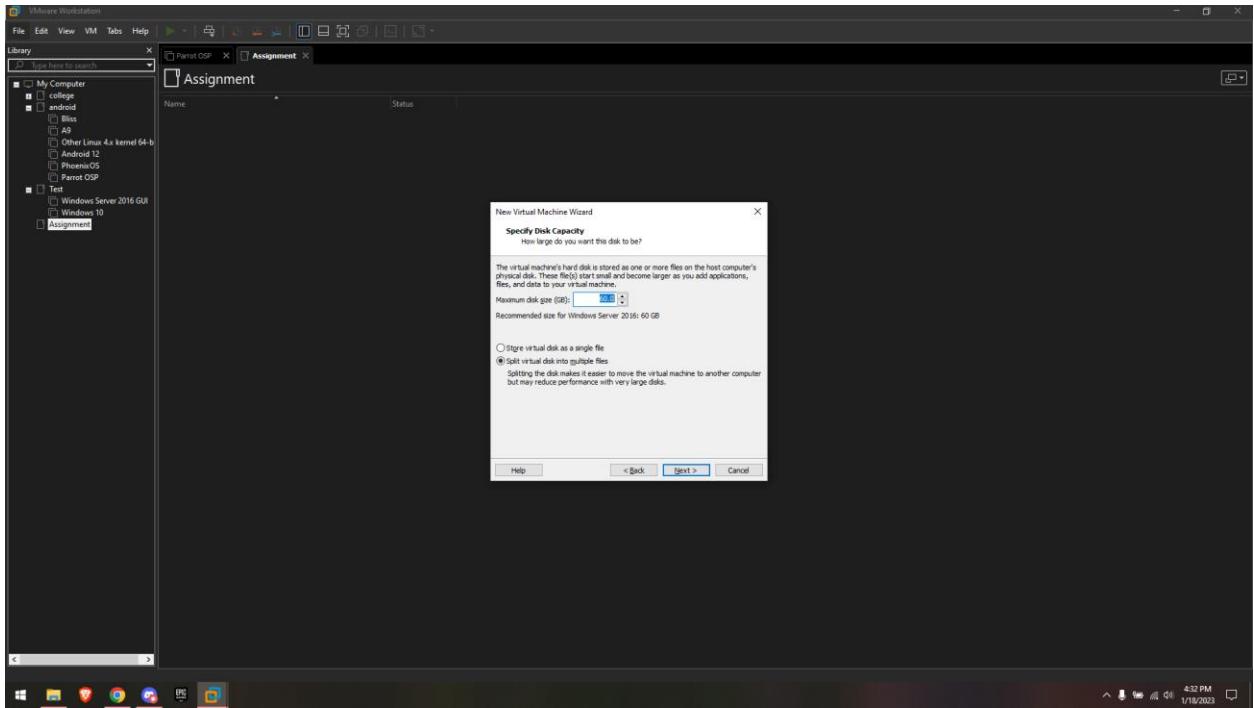


- Enter a name for the virtual machine and select a location to save the files. Click Next.:

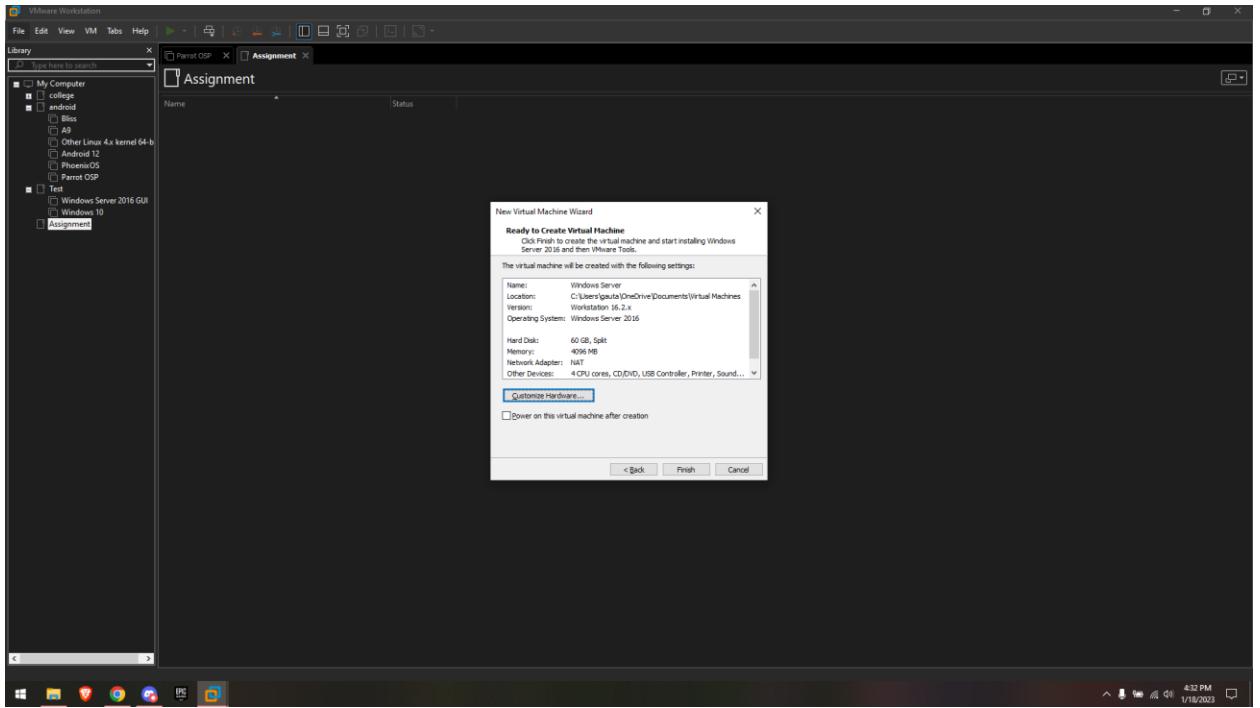


- Allocate the desired amount of memory and processors to the virtual machine and click

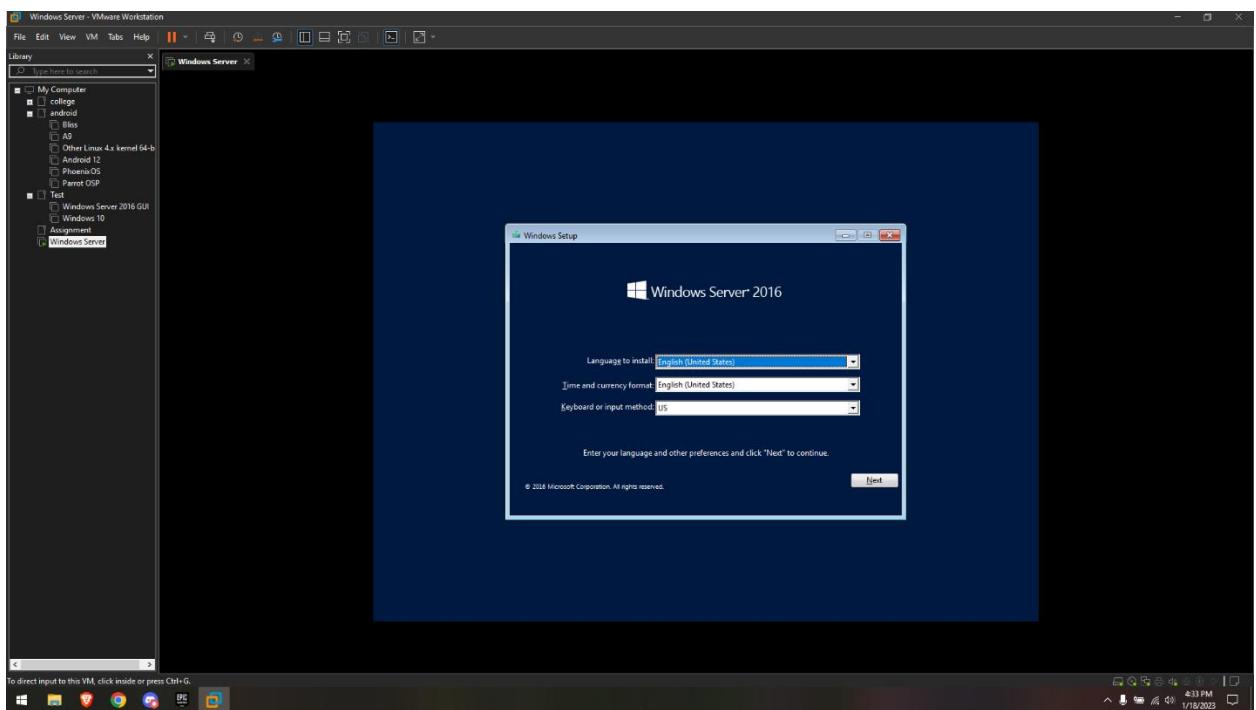
Next.:



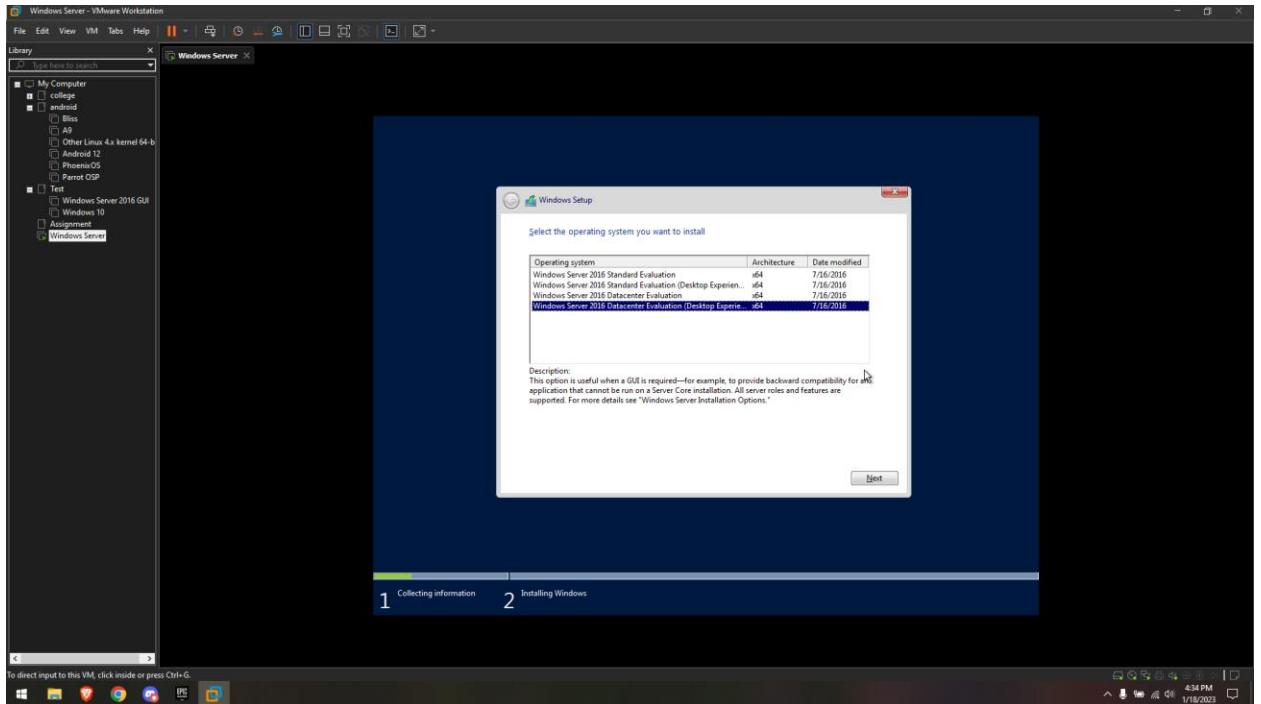
- Finish the wizard by clicking on the "Customize Hardware" button, you can change the hardware settings like number of CPU, RAM, Network Adapter etc.:



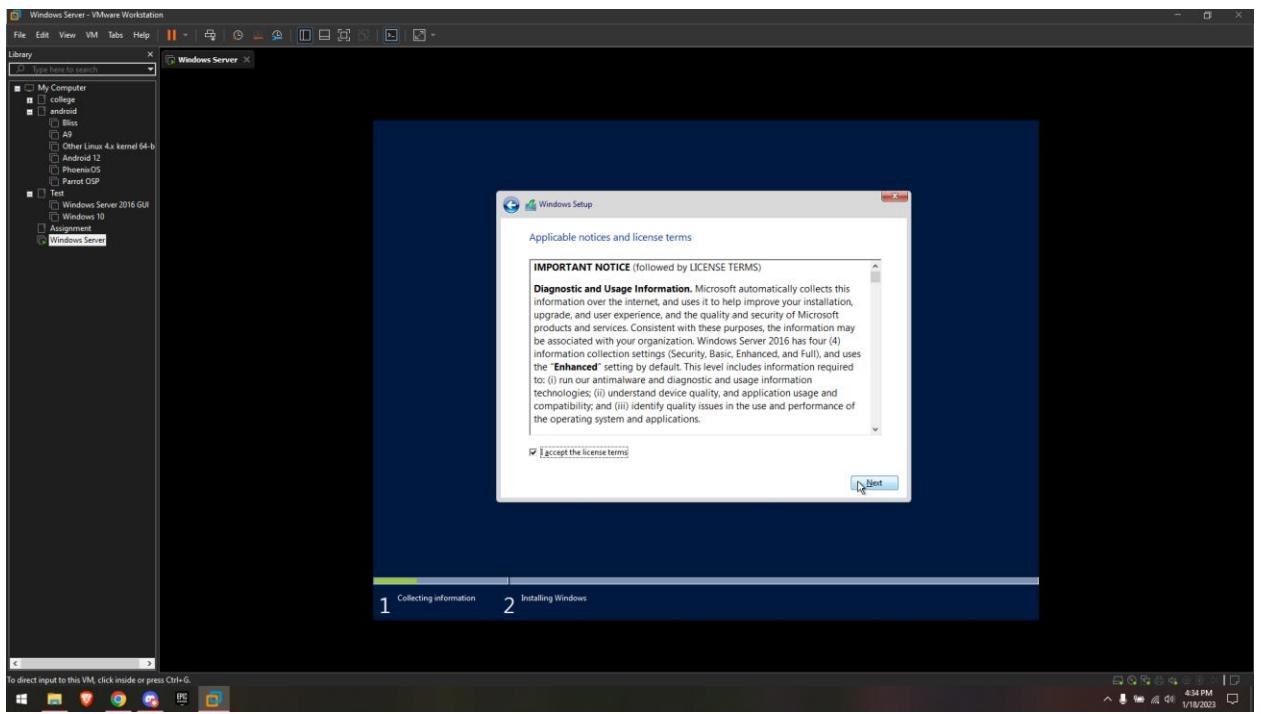
- Once the virtual machine is created, power on the virtual machine and start the installation process by following the on-screen prompts.:
 - Once the installation is complete, you can configure the server settings and start using it as a virtual machine in VMware Workstation.
-
- After that you may select your language an select next.:



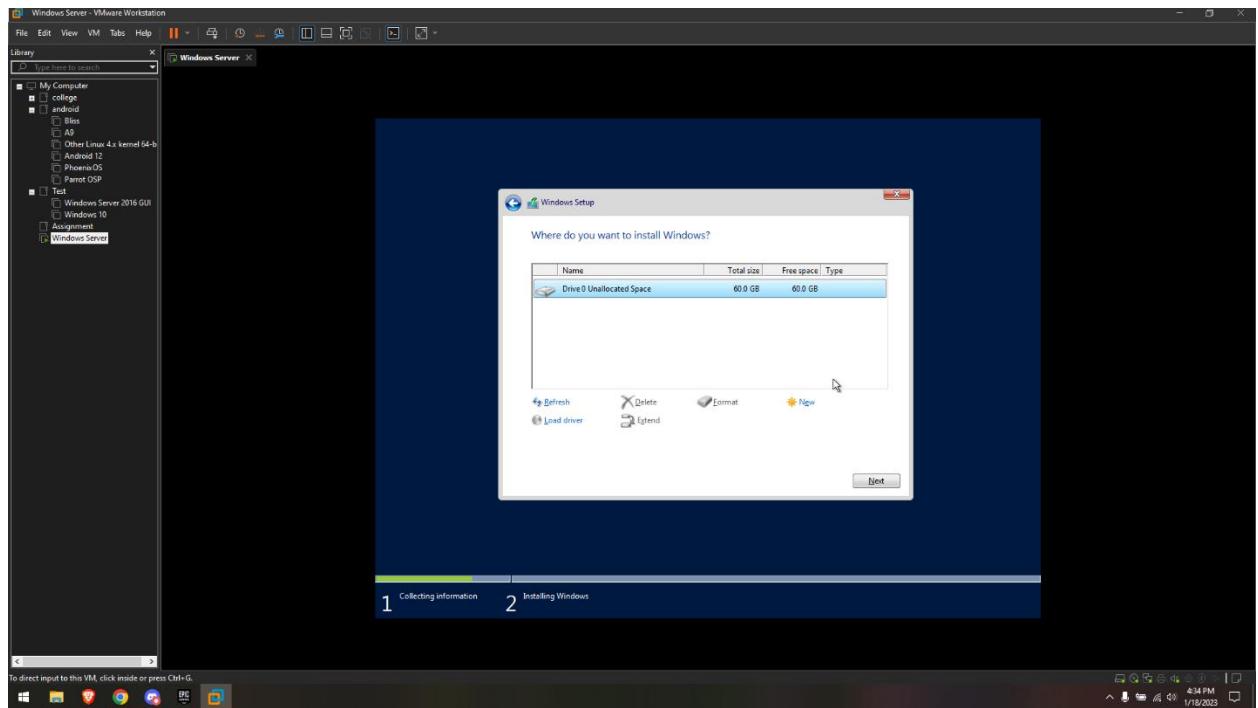
- Then select Windows server Datacenter Evaluation (Desktop Experience).:



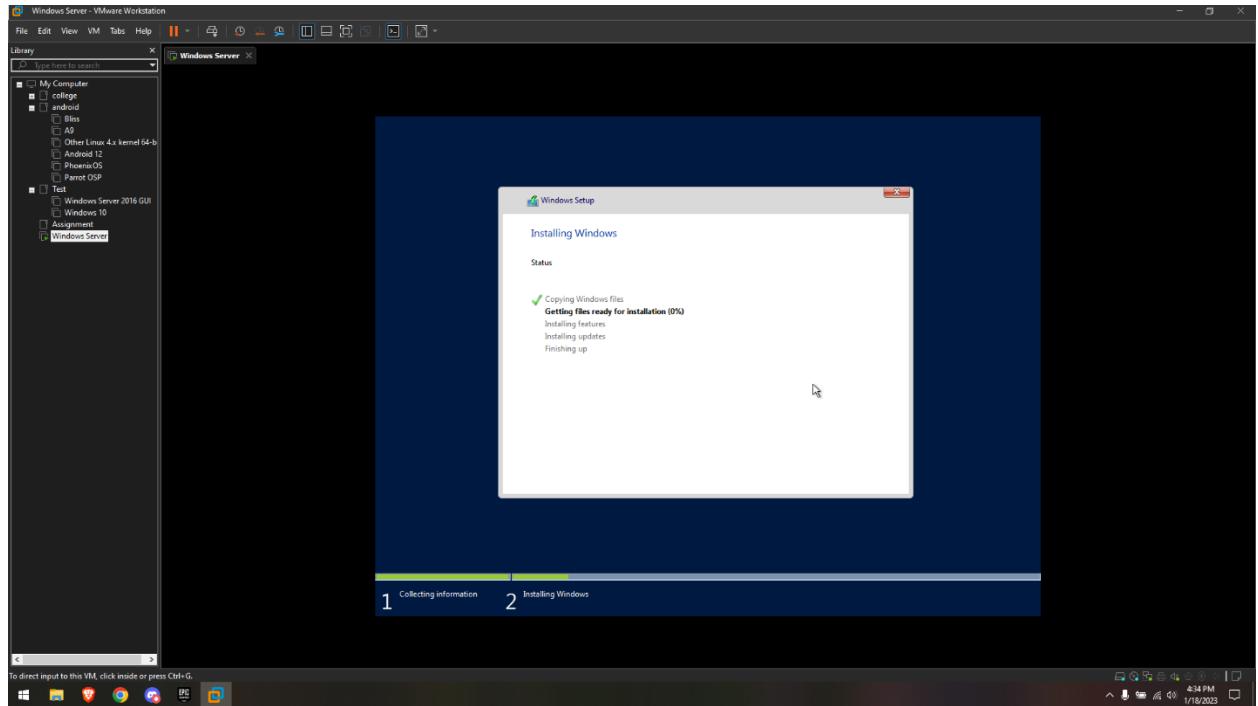
- Tick the “I accept the license terms”



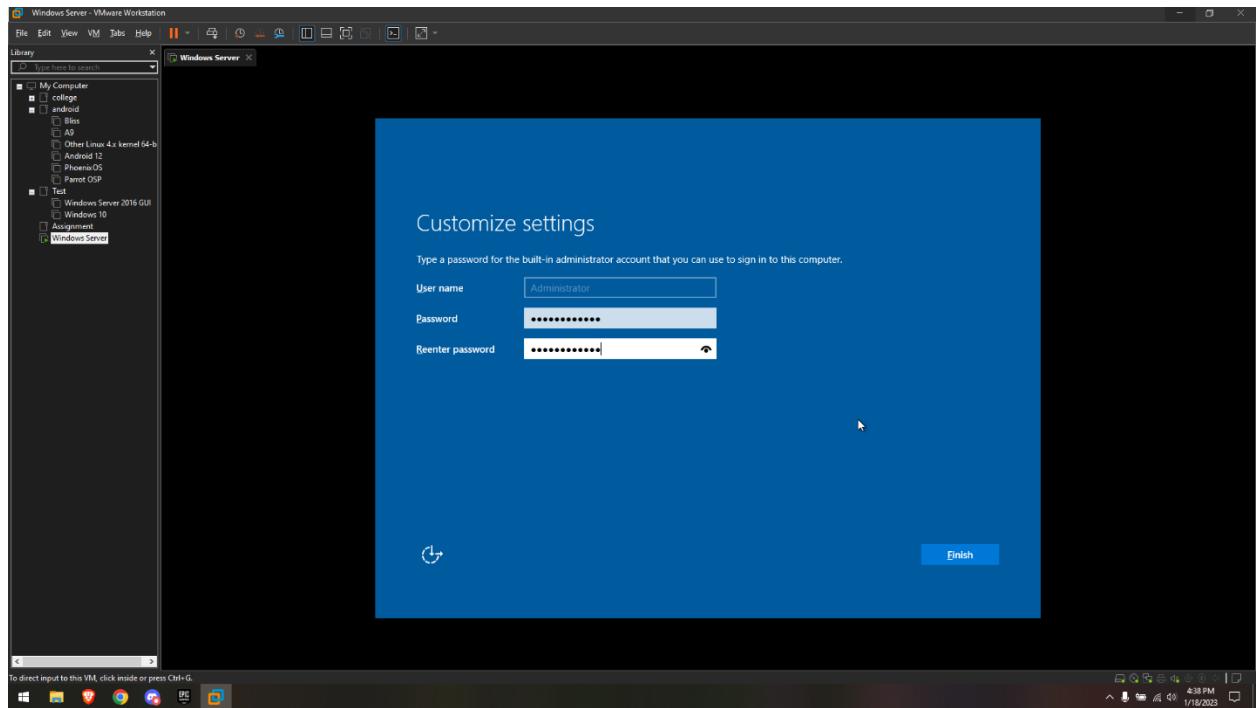
- Select the "Custom" installation option and select the drive where you want to install the Windows server.:



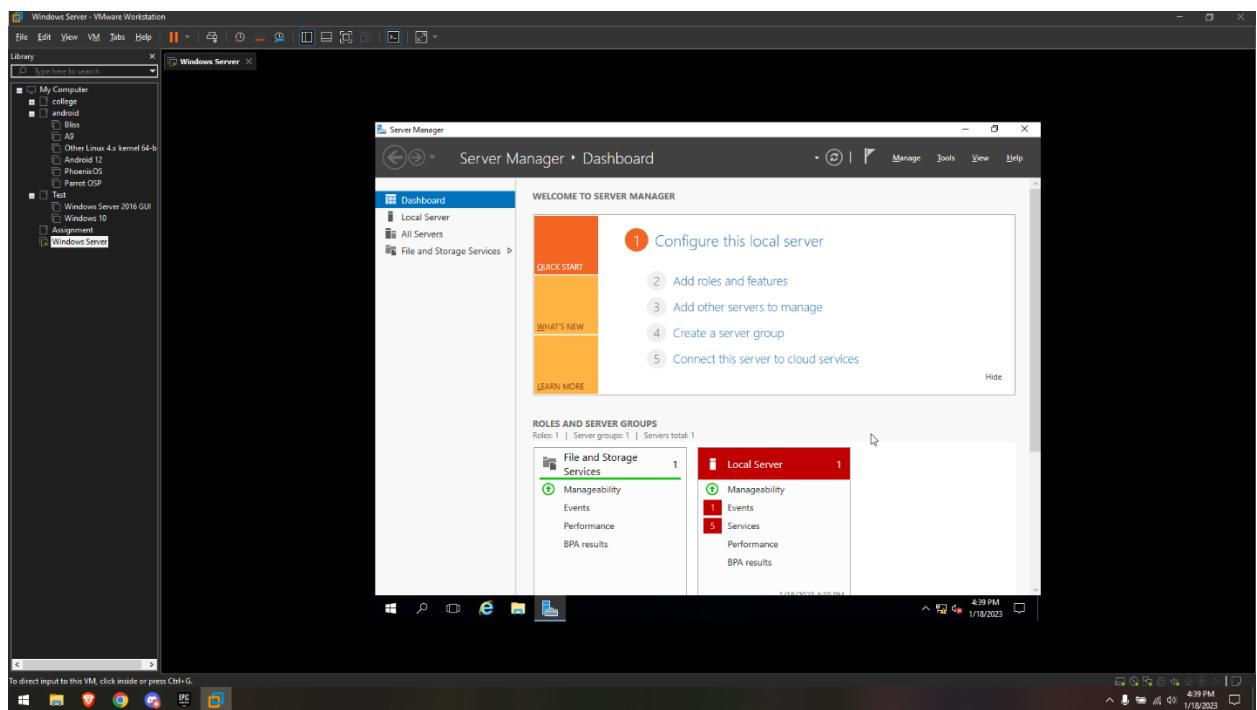
- Wait for the installation process to complete, which may take some time depending on the server's hardware.:



- Once the installation is complete, you will be prompted to set up a local administrator account and configure basic settings for the server.:



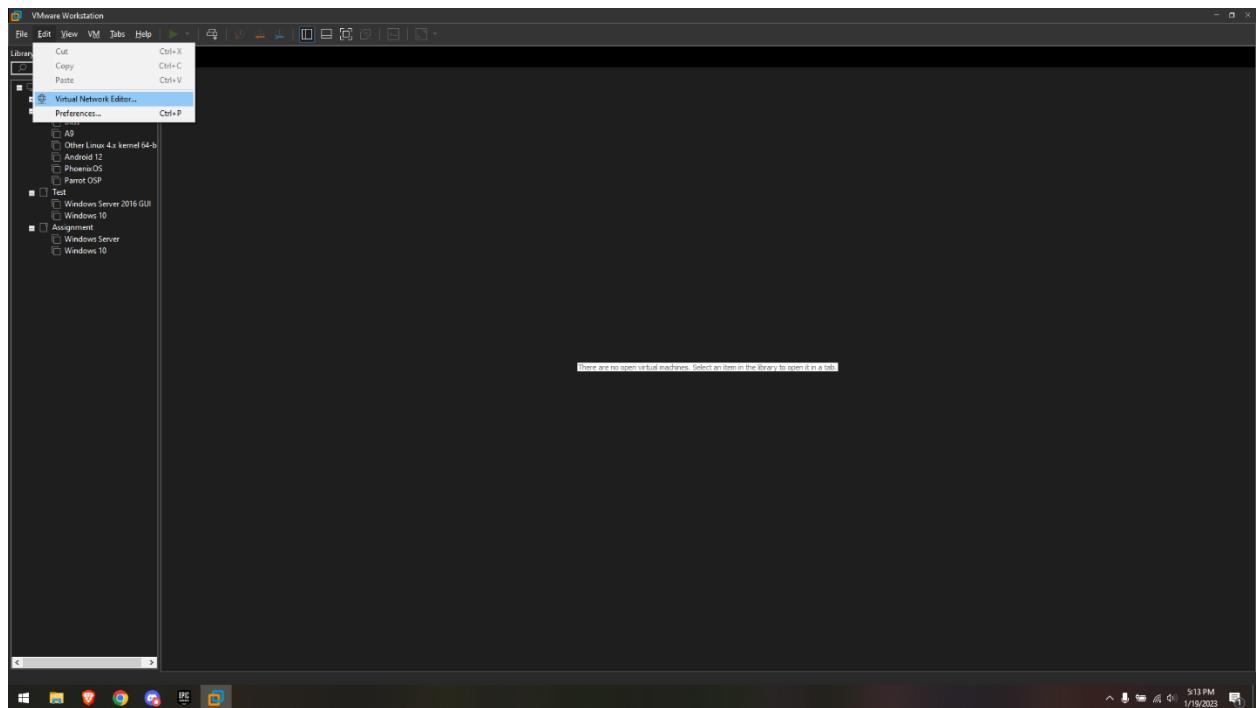
- Once you complete the initial setup, you can start configuring the server for your specific needs, such as adding roles and features, configuring network settings, and setting up user accounts.:



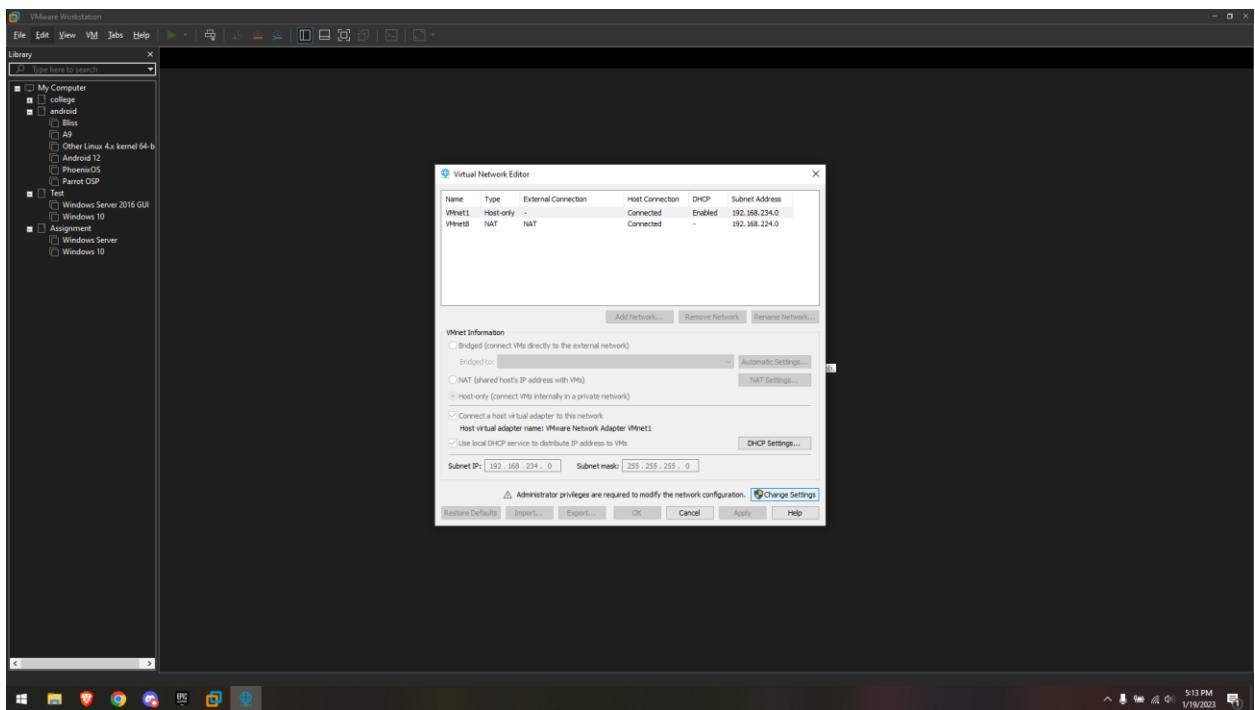
2. Virtual network should not reach other than internal network.

2.1. Disable the DHCP pool.

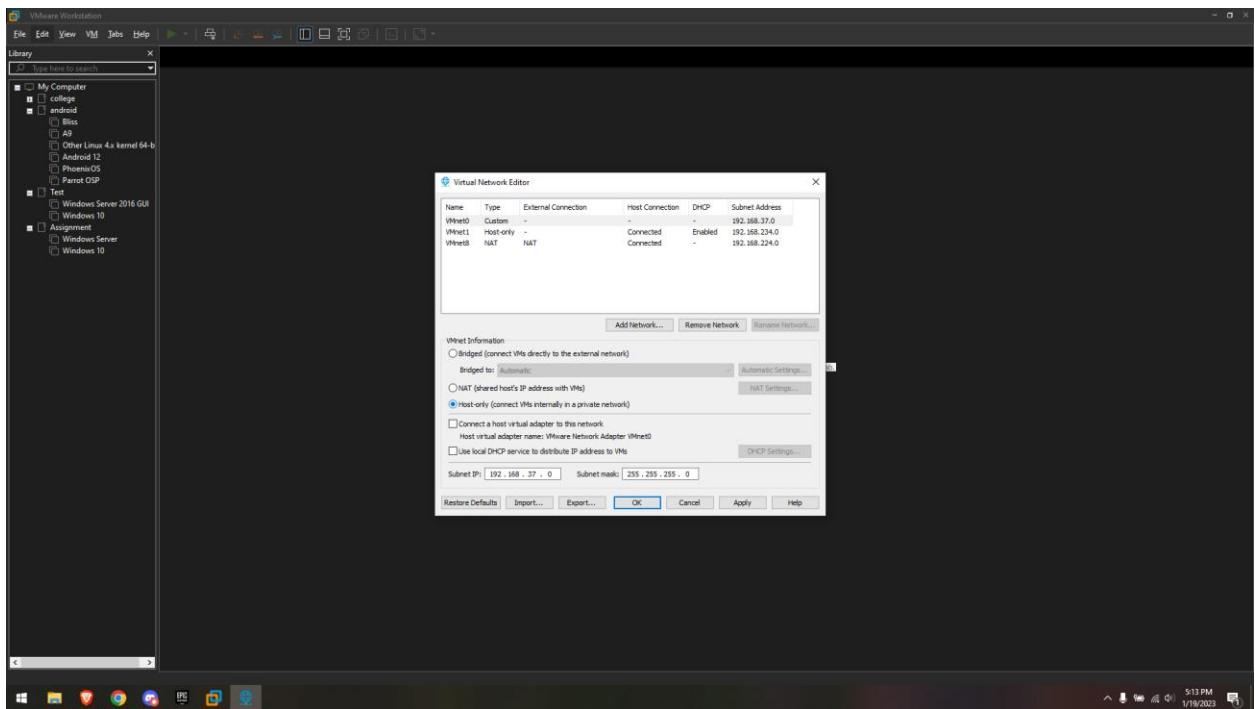
- Click on "Edit virtual machine settings" or "Settings" from the "VM" menu.



- Select "Change Settings" from the hardware list.



- Uncheck “Use local DHCP service to distribute IP address to VMS” then apply the settings.

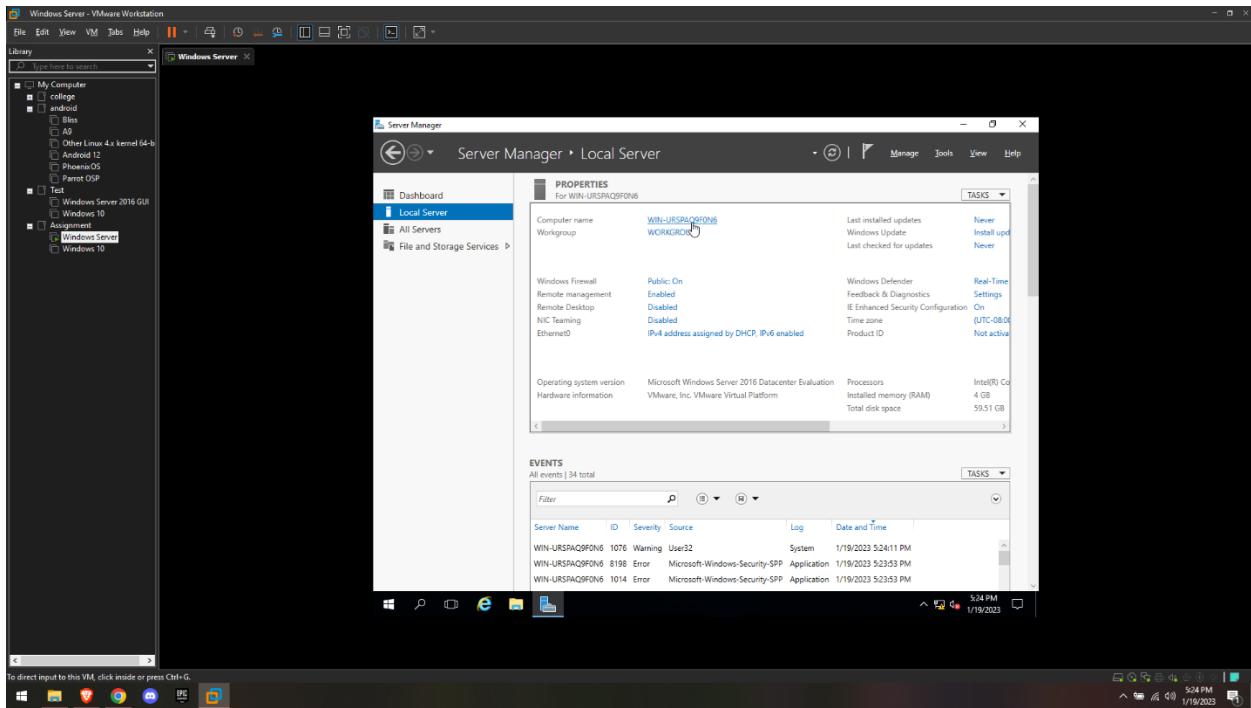


- Power on the virtual machine.
- Once the virtual machine is running, you can verify that the DHCP pool has been disabled by checking the network settings on the virtual machine.

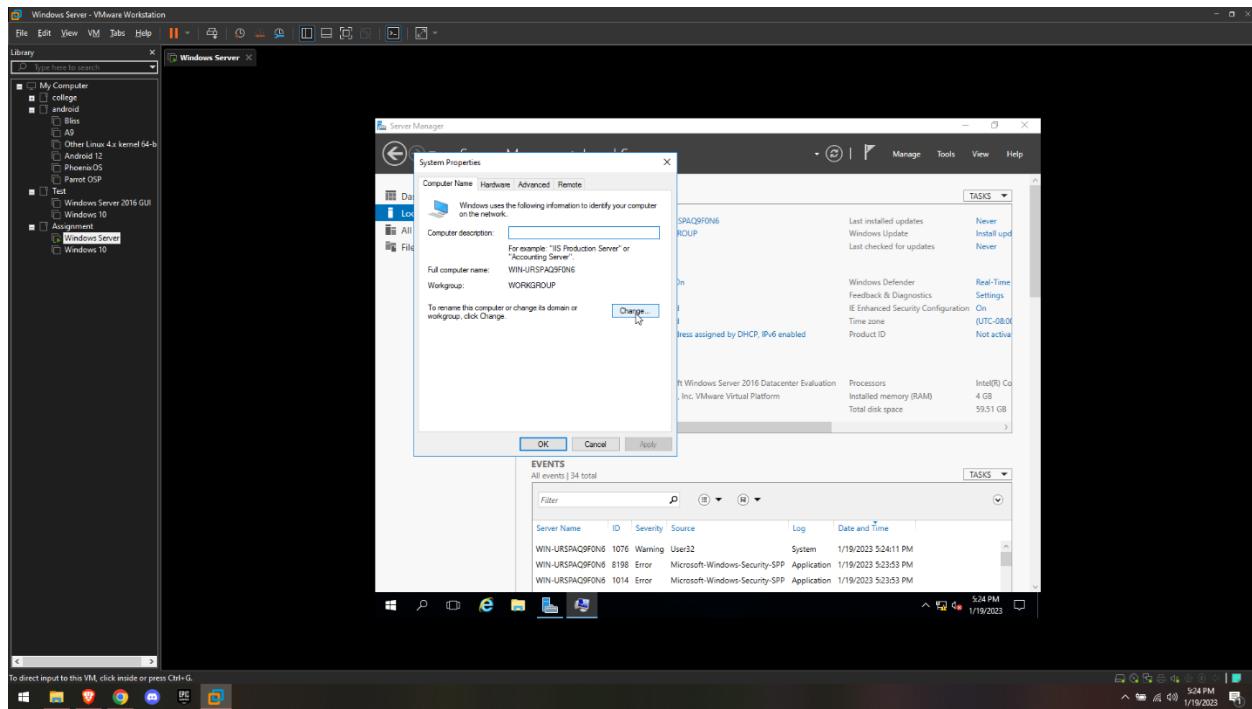
3. Install the windows server 2016 and logon to the machine

3.1. Change the Hostname of the computer as DC1-“ ”.

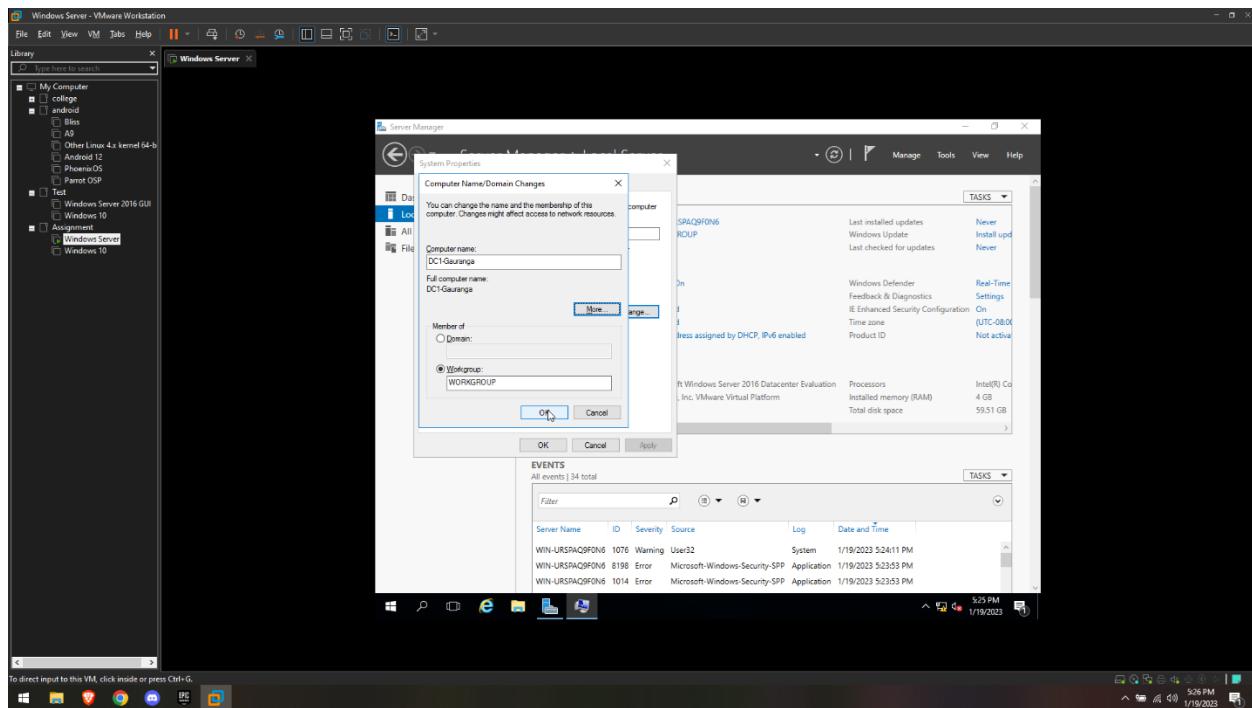
- Open Server Manager and select on the computer name.:.



- After a windows pops up then select change.:.



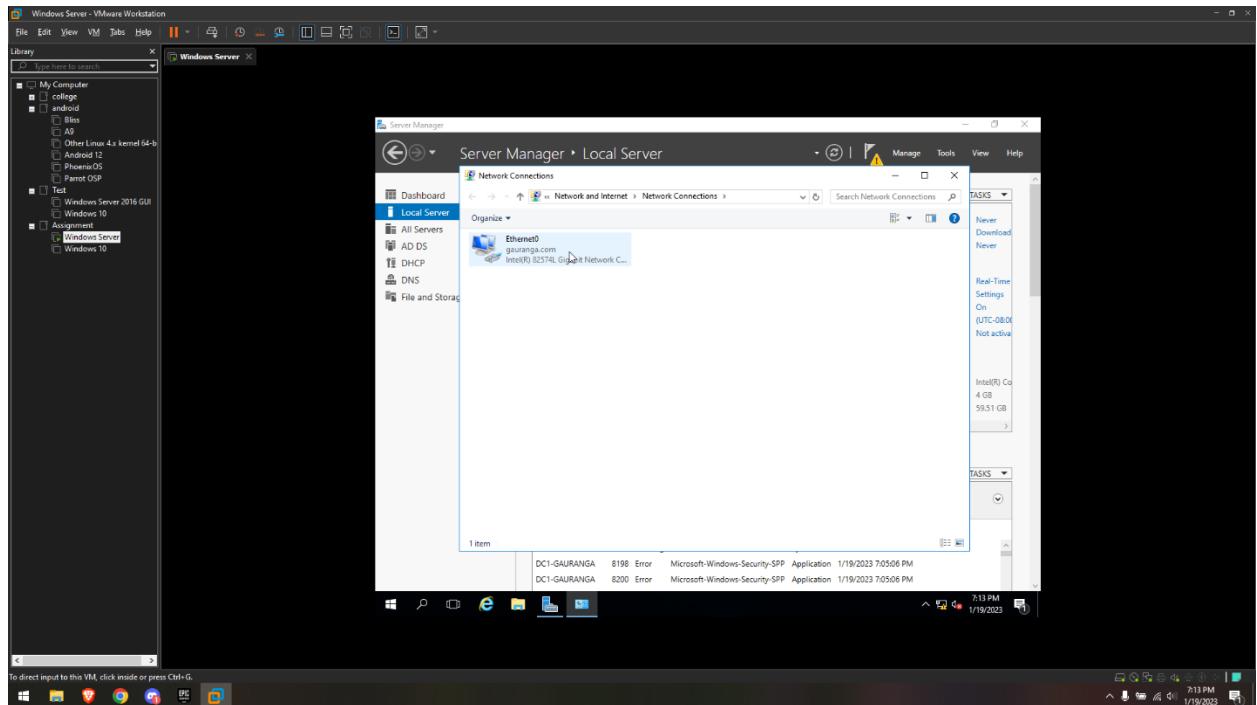
- Then change the name of your server.:.

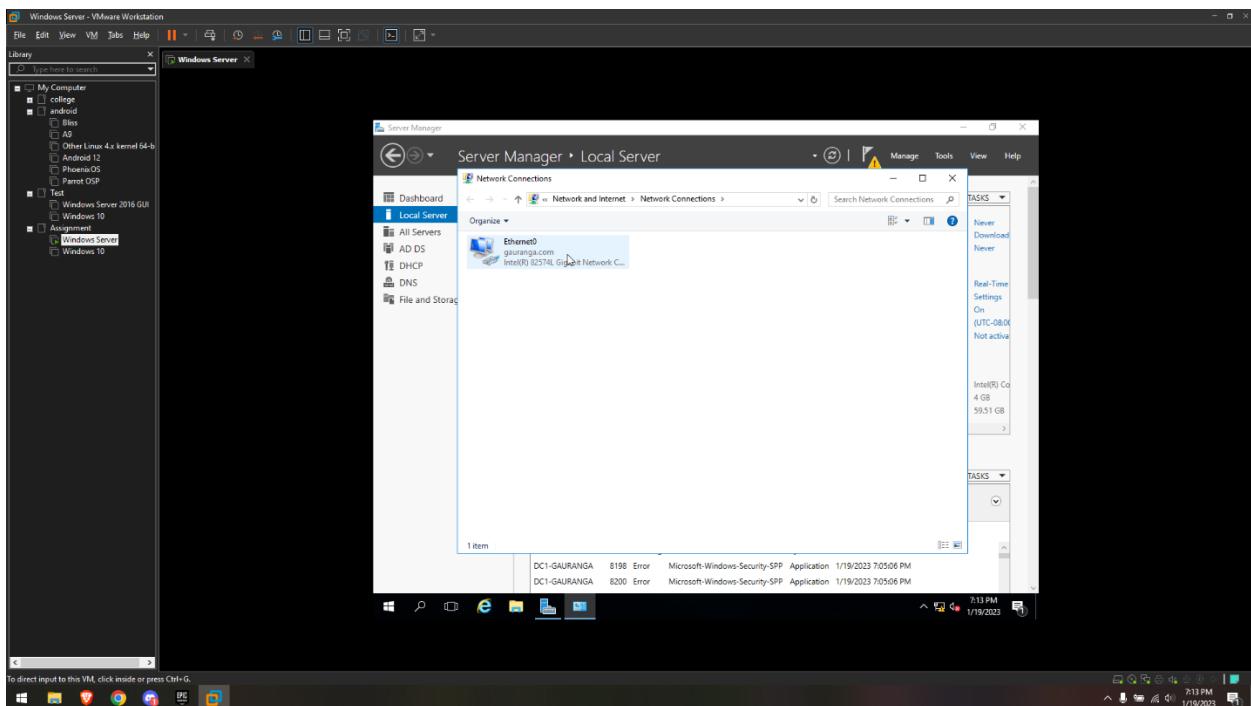


- Then reboot the system.

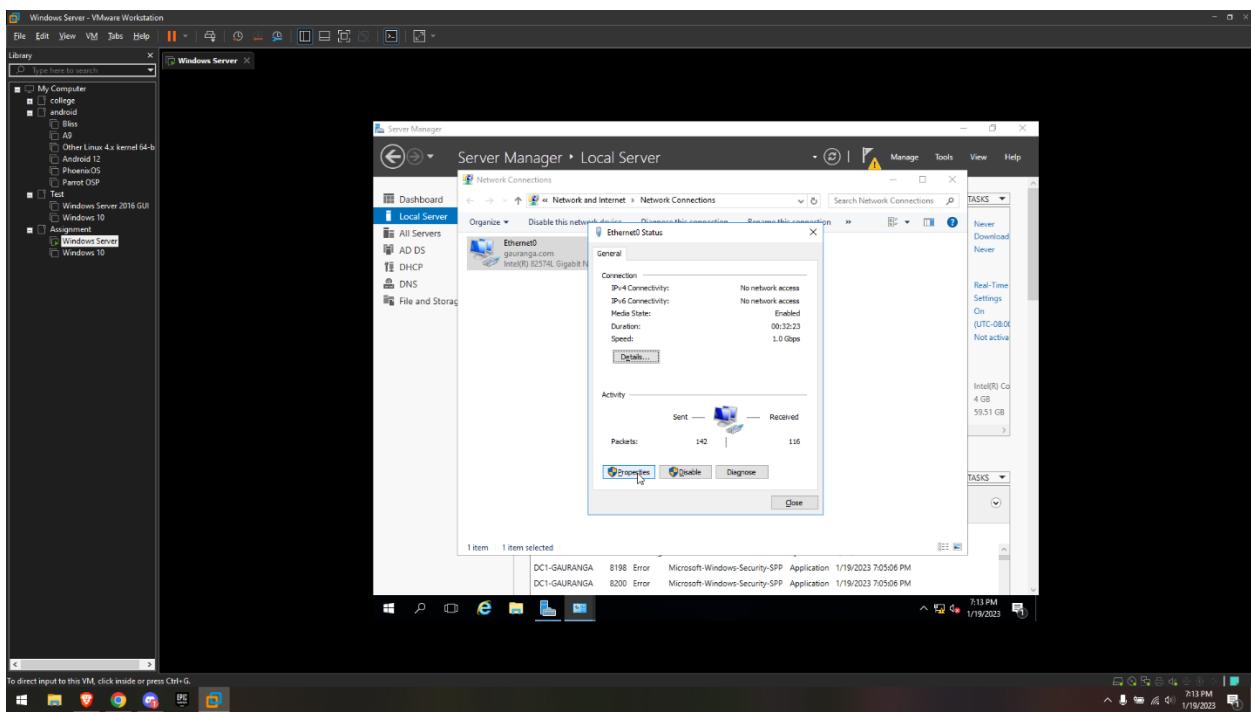
3.2. Assign the static IP of the machine “172.16.xxx.xxx” Netmask is 24, DNS should be assigned localhost.

- Go to network setting and enter Ethernet tab

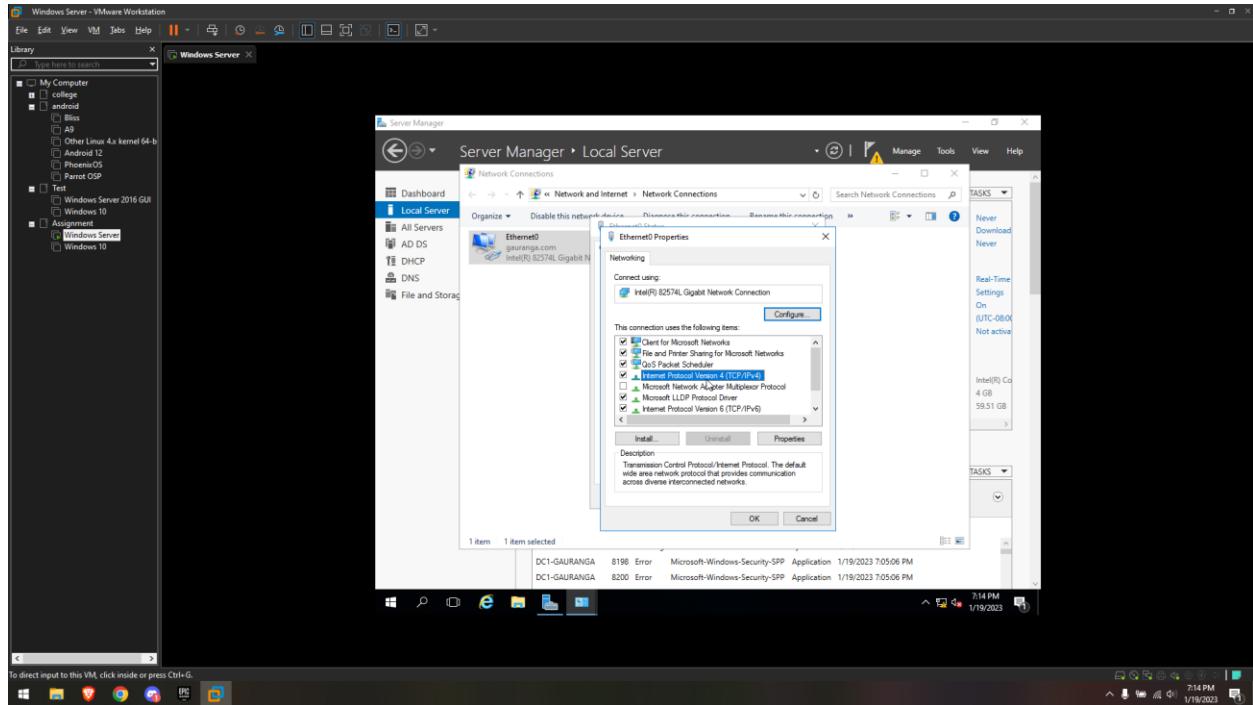




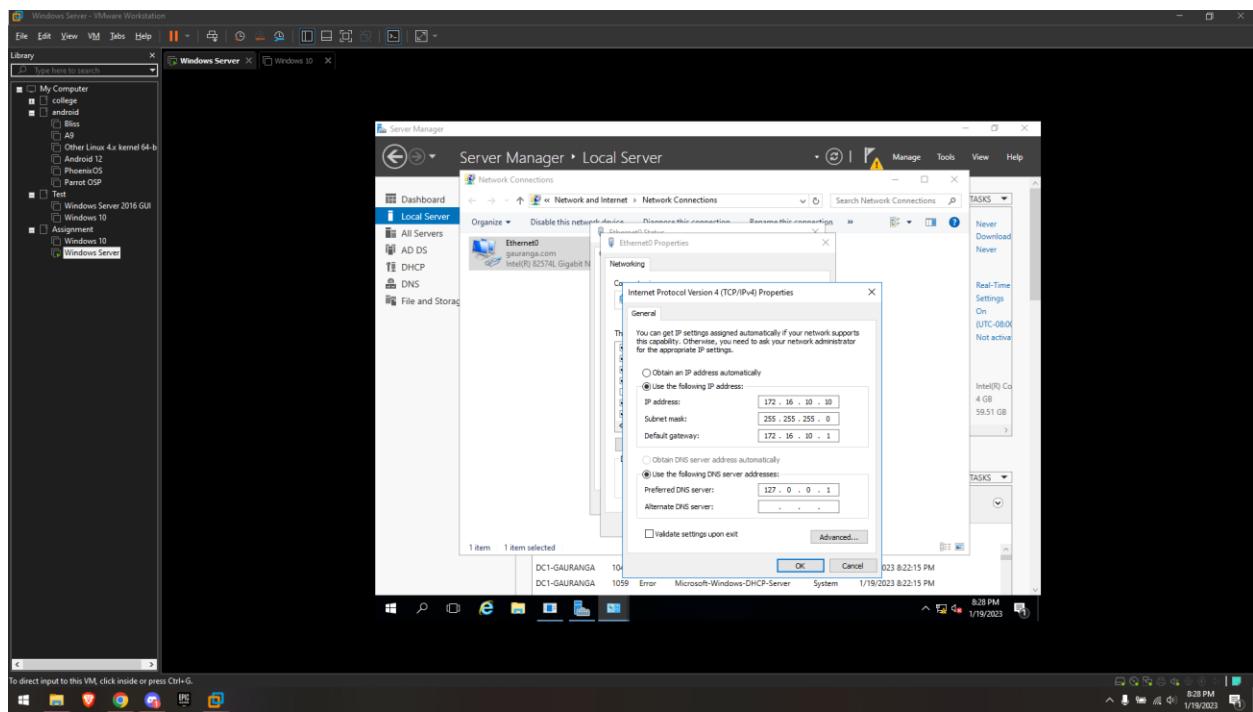
- Click on the properties.:



- Then double click IPV4; It will enter a new tab.:.

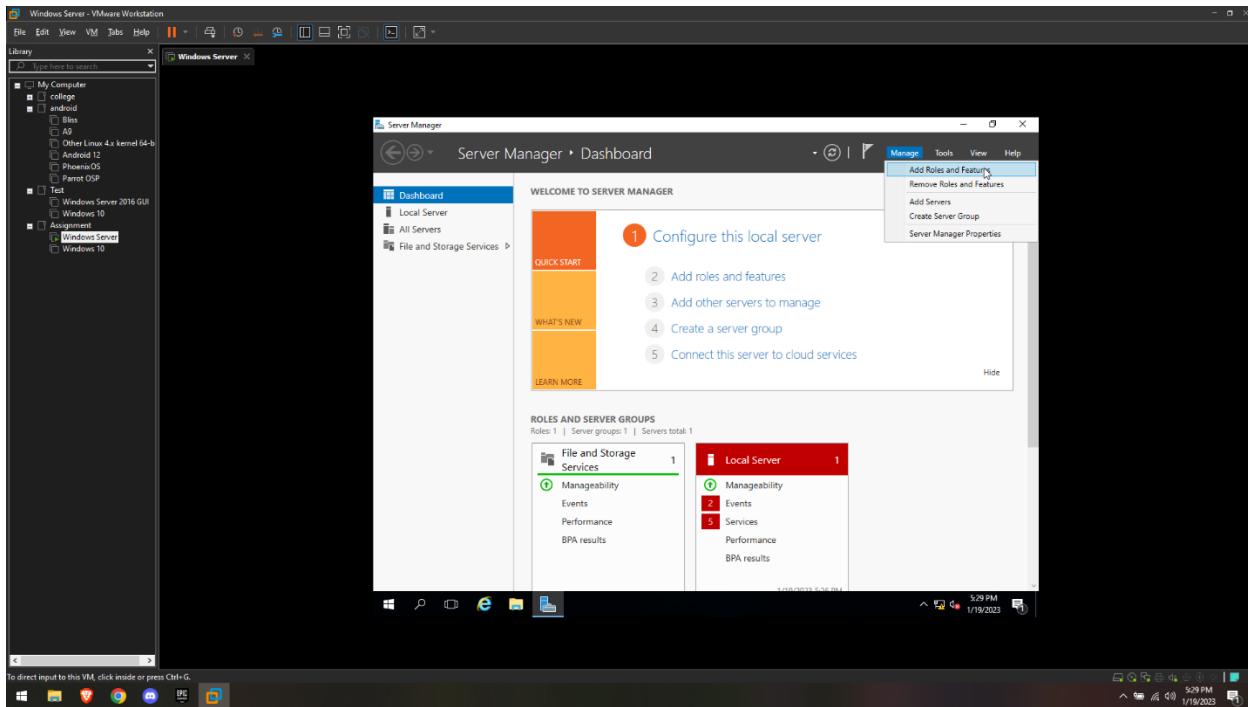


- And assign the given IP.:.

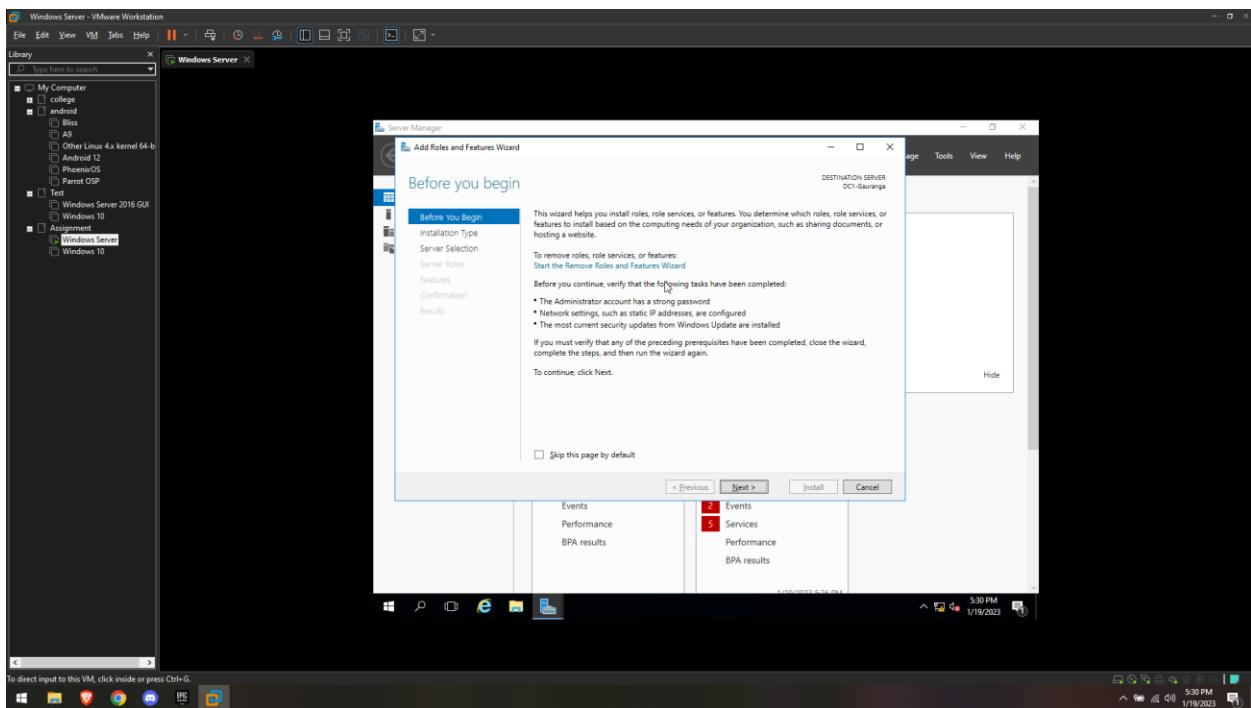


4. Define the server post configuration and make changes.:

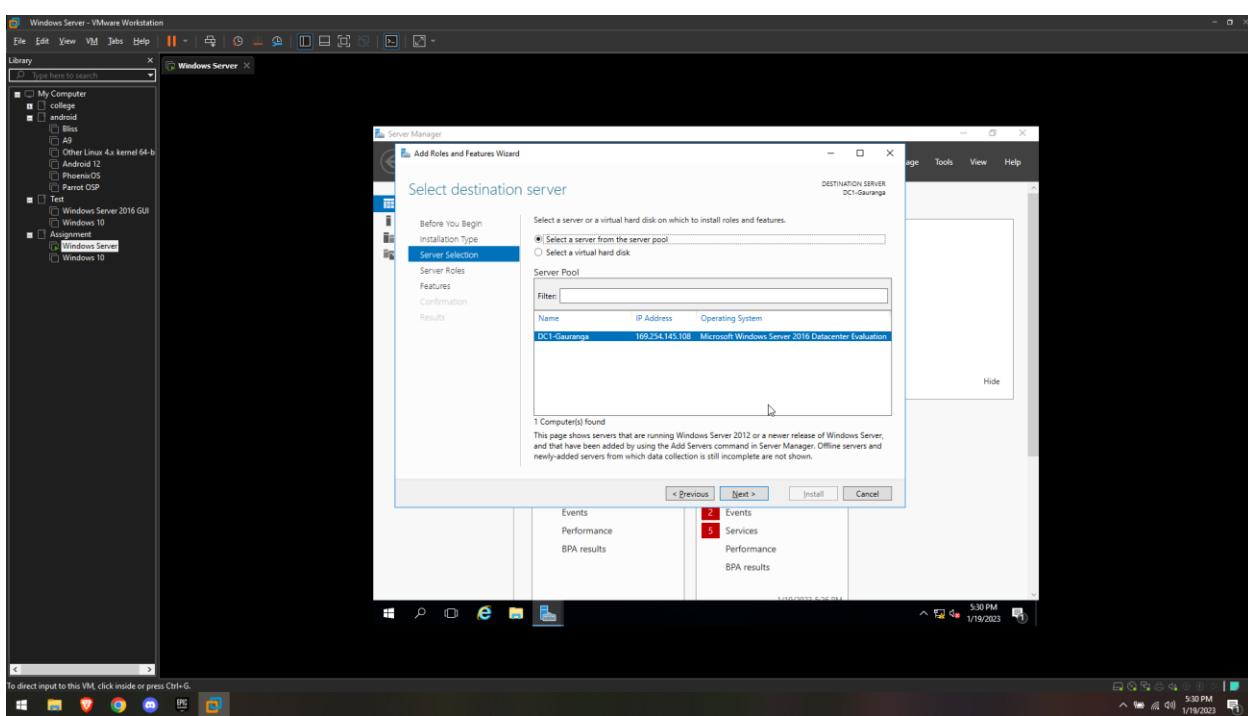
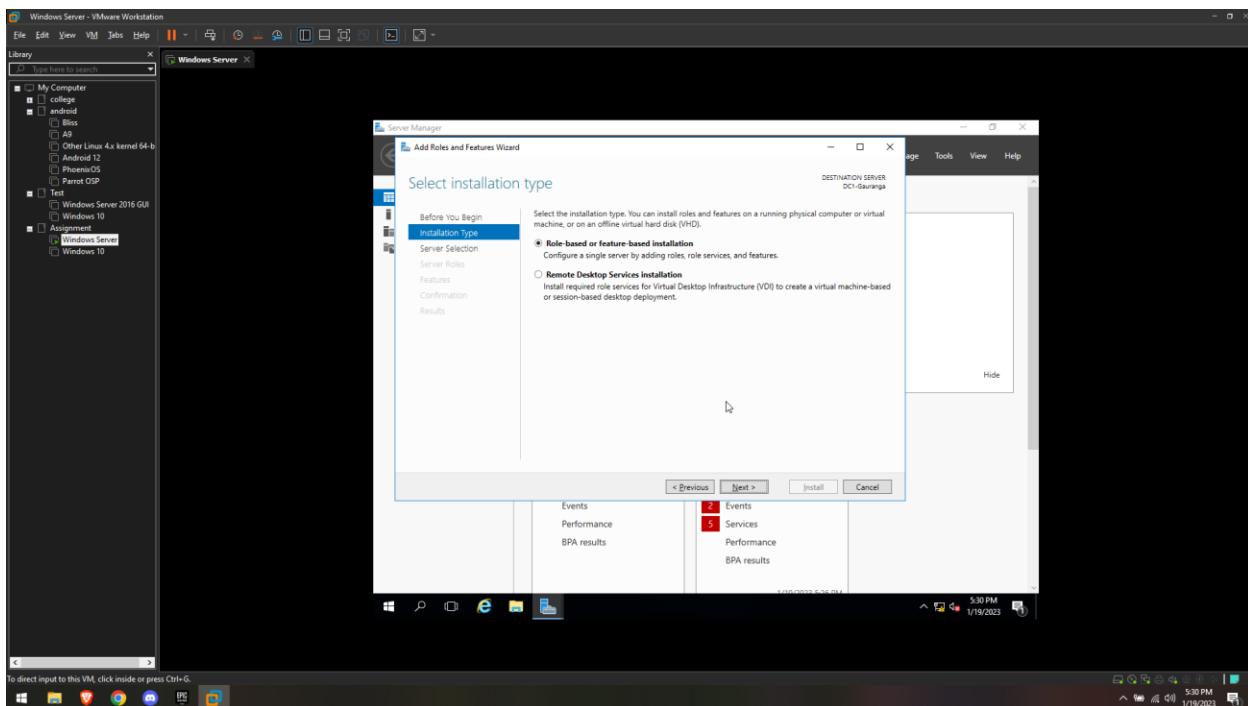
- In the Server Manager, click on the Manage menu and select Add Roles and Features.



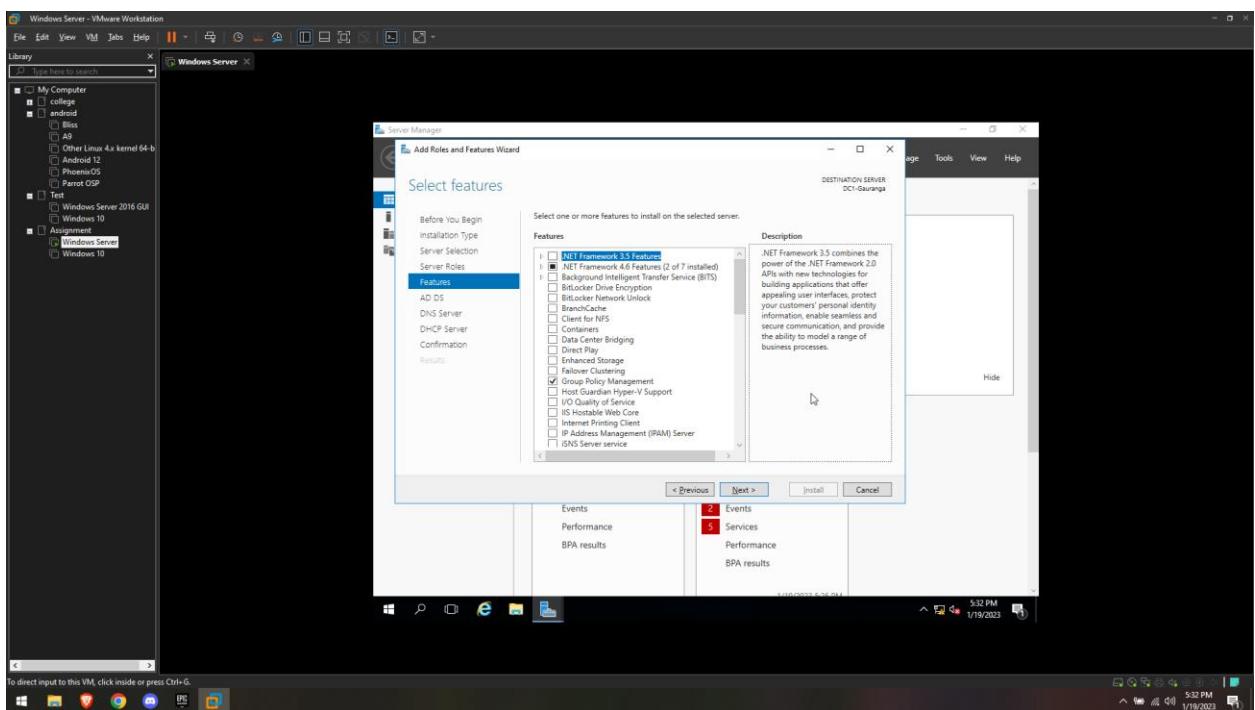
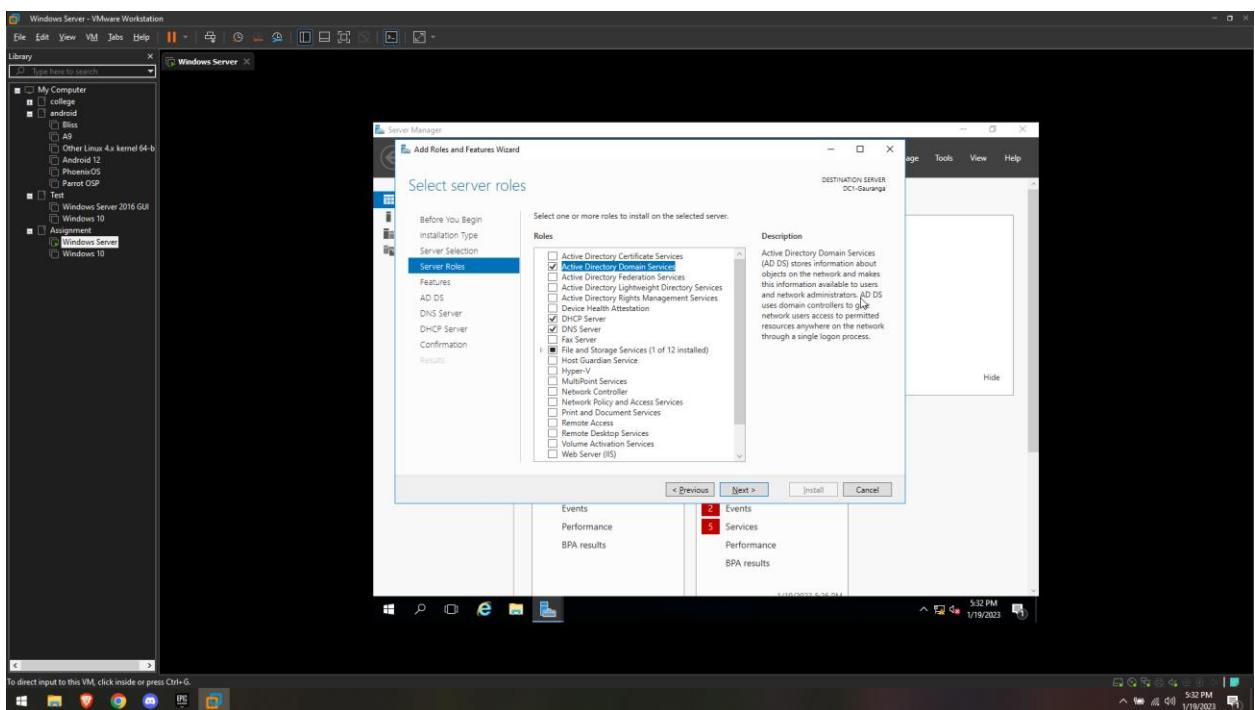
- Follow the prompts in the Add Roles and Features Wizard to install the Active Directory Domain Services role. This will include the promotion of the server to a domain controller.

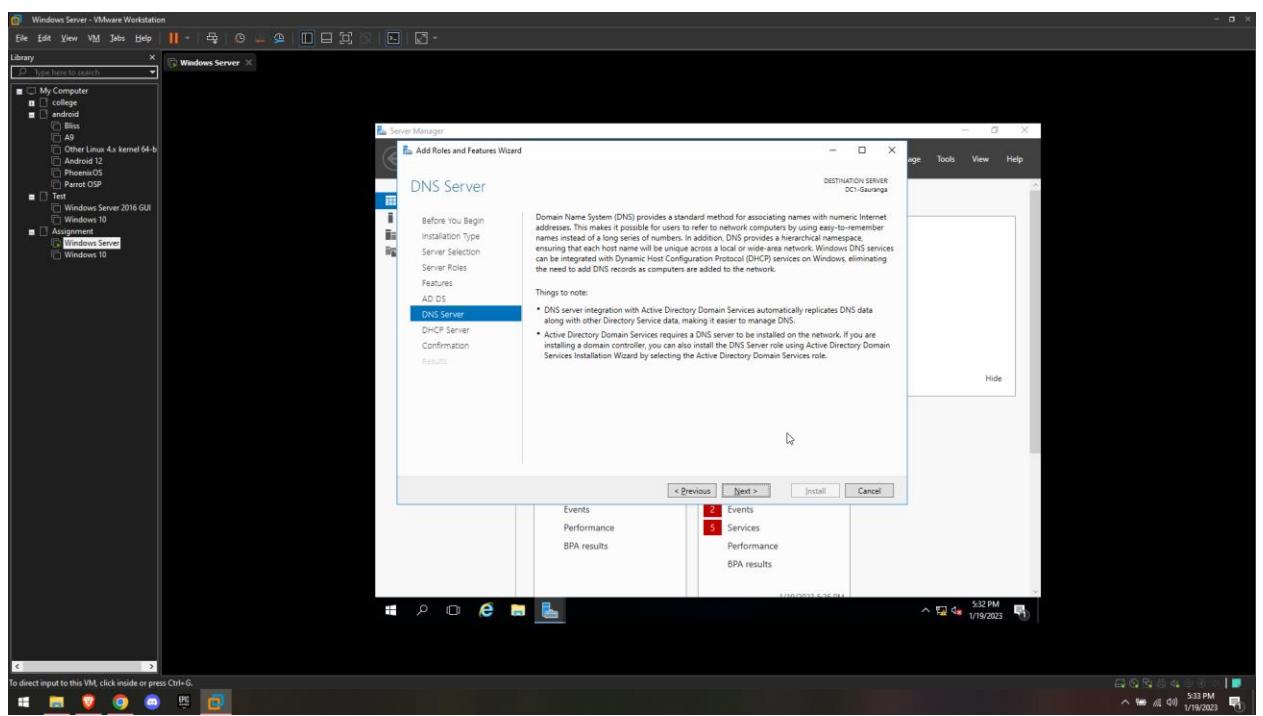
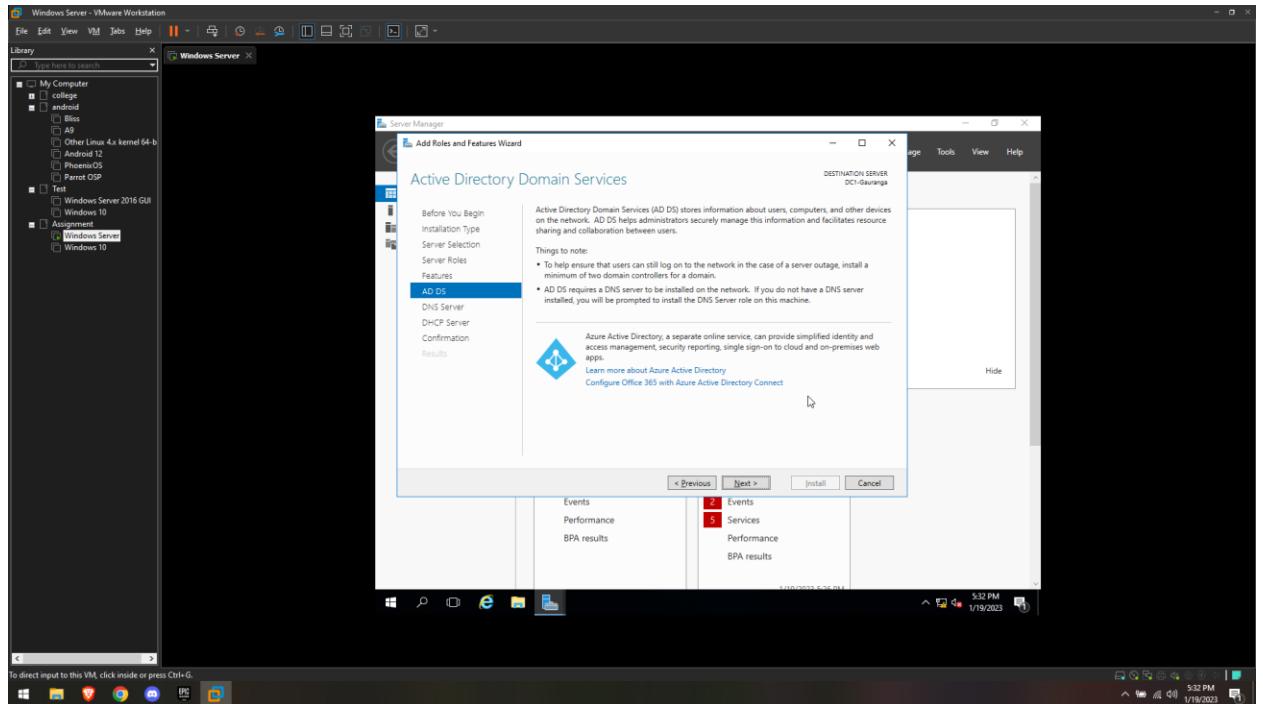


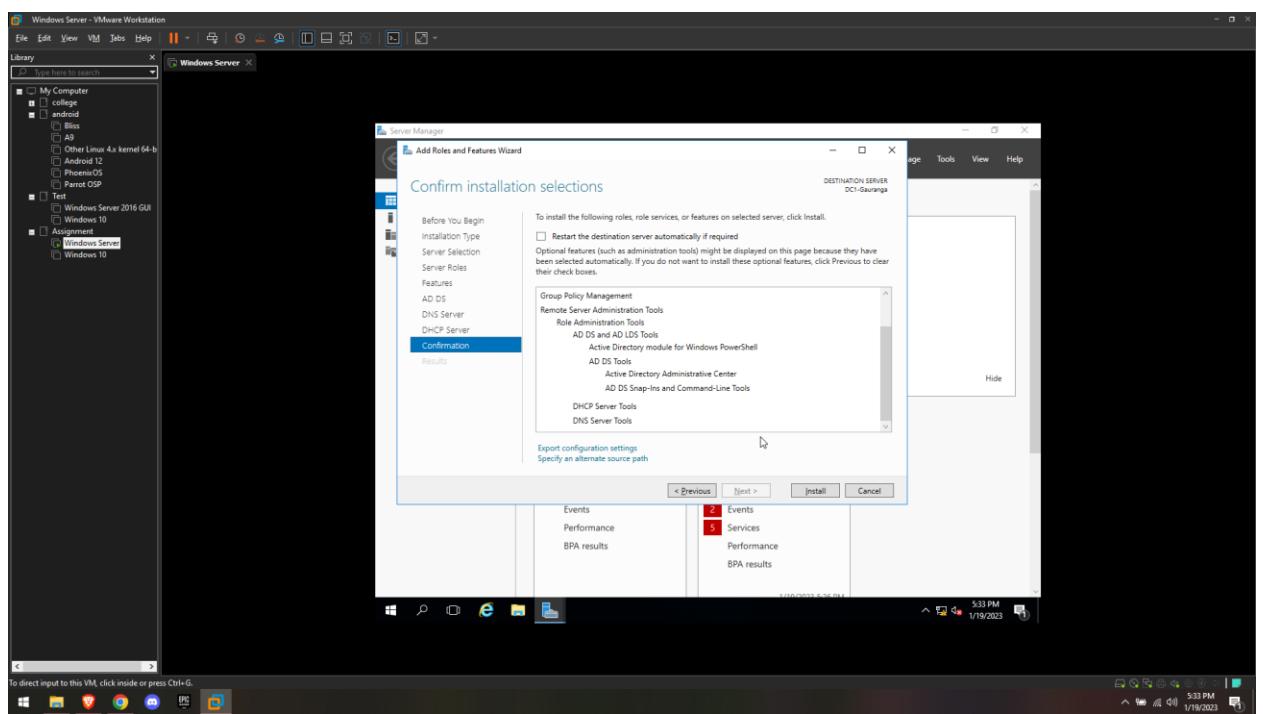
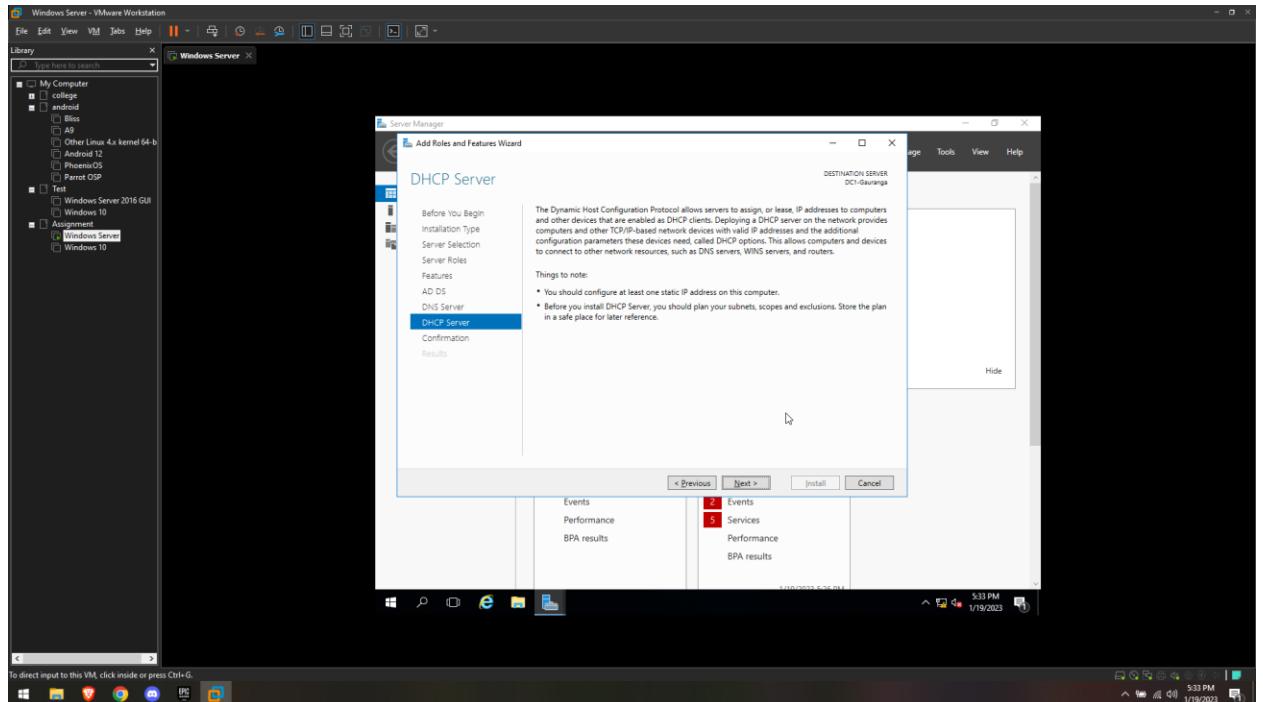
- Follow the prompts to complete the installation.

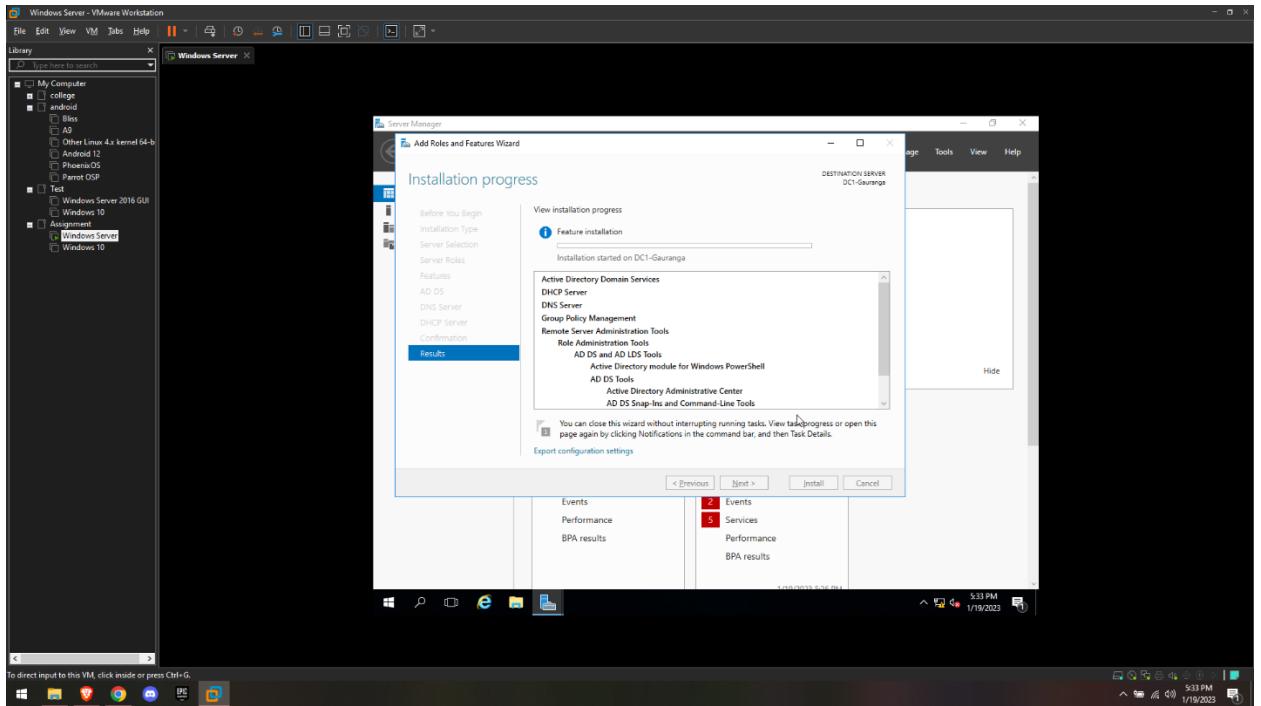


- Check ADDS.:



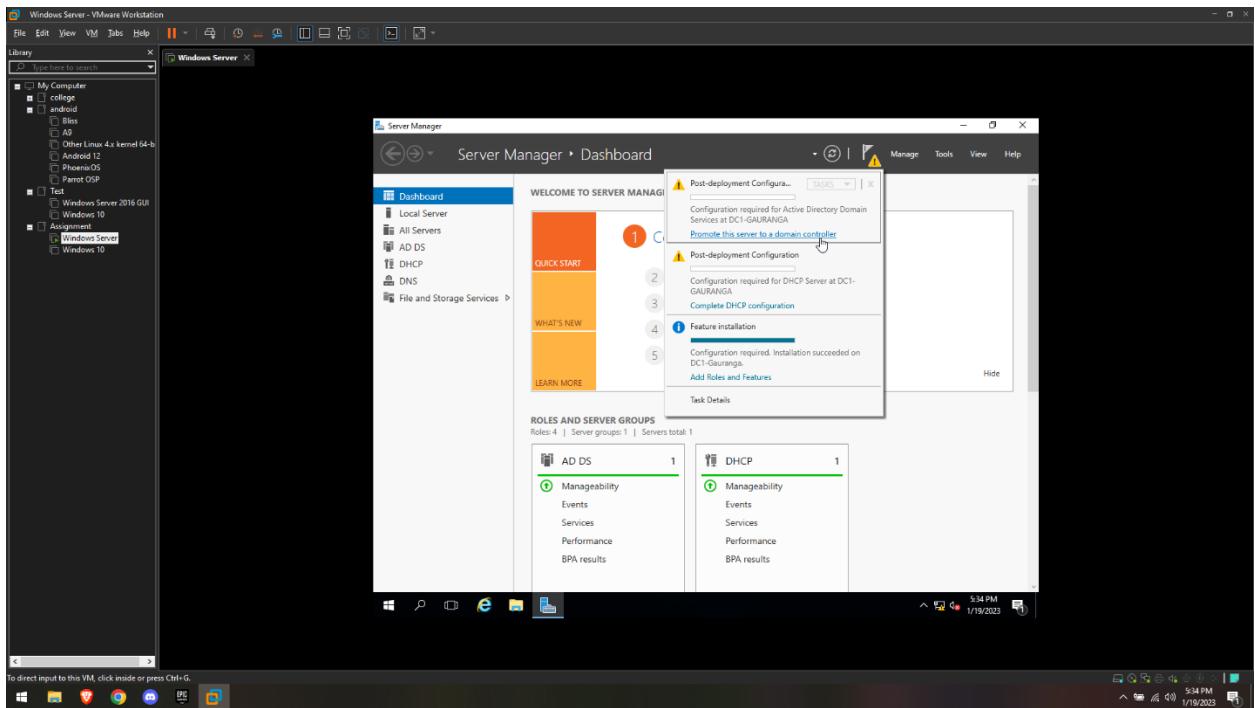




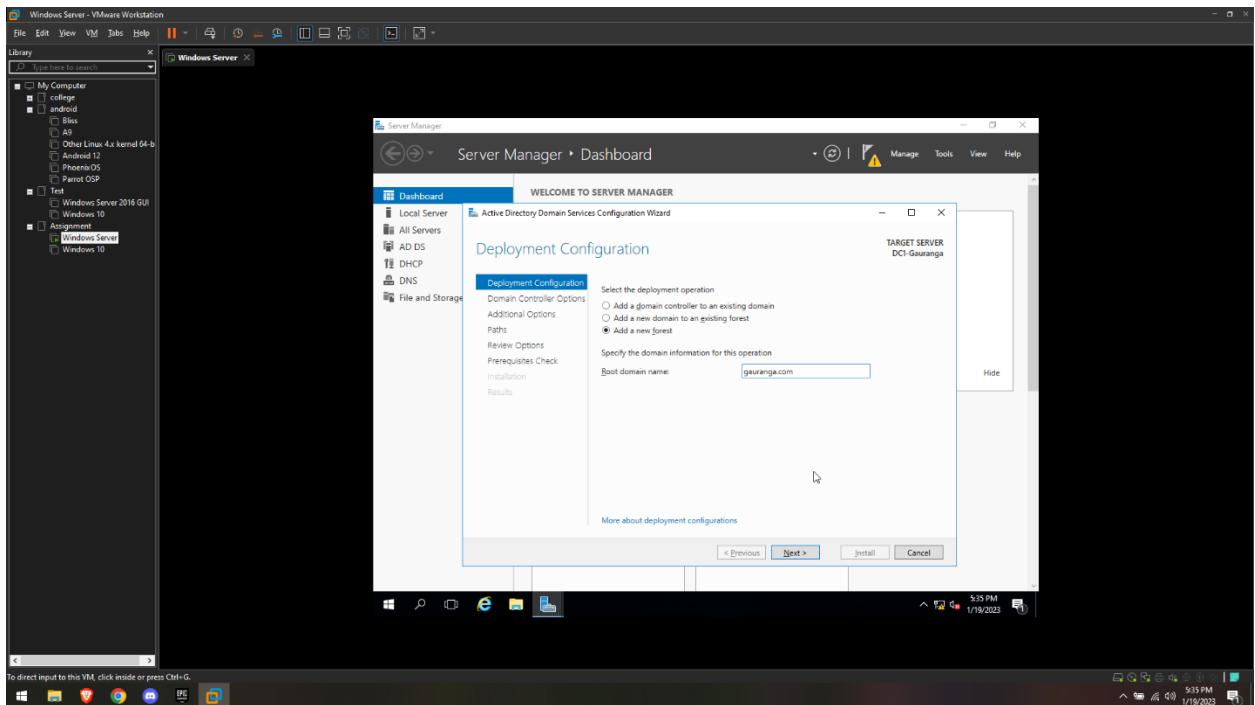


5. Assign the server role as ADDSand domain name should be your name followed with “dot” com. e.g Gauranga.com.

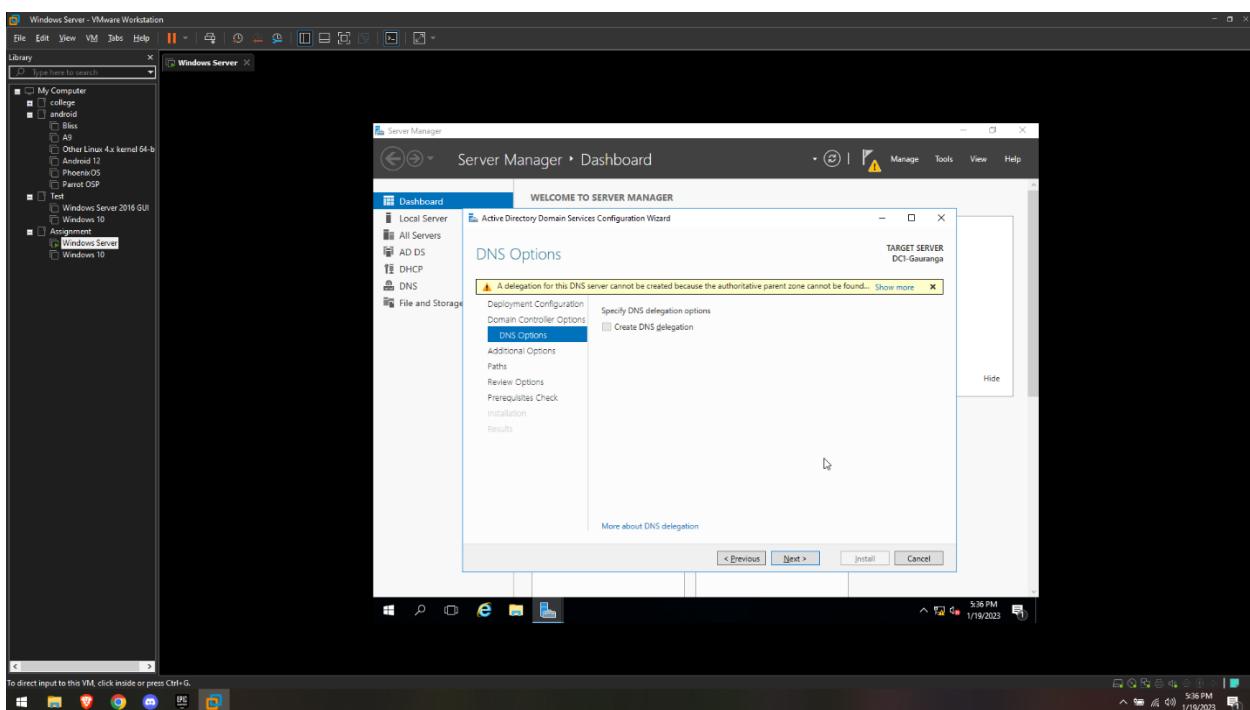
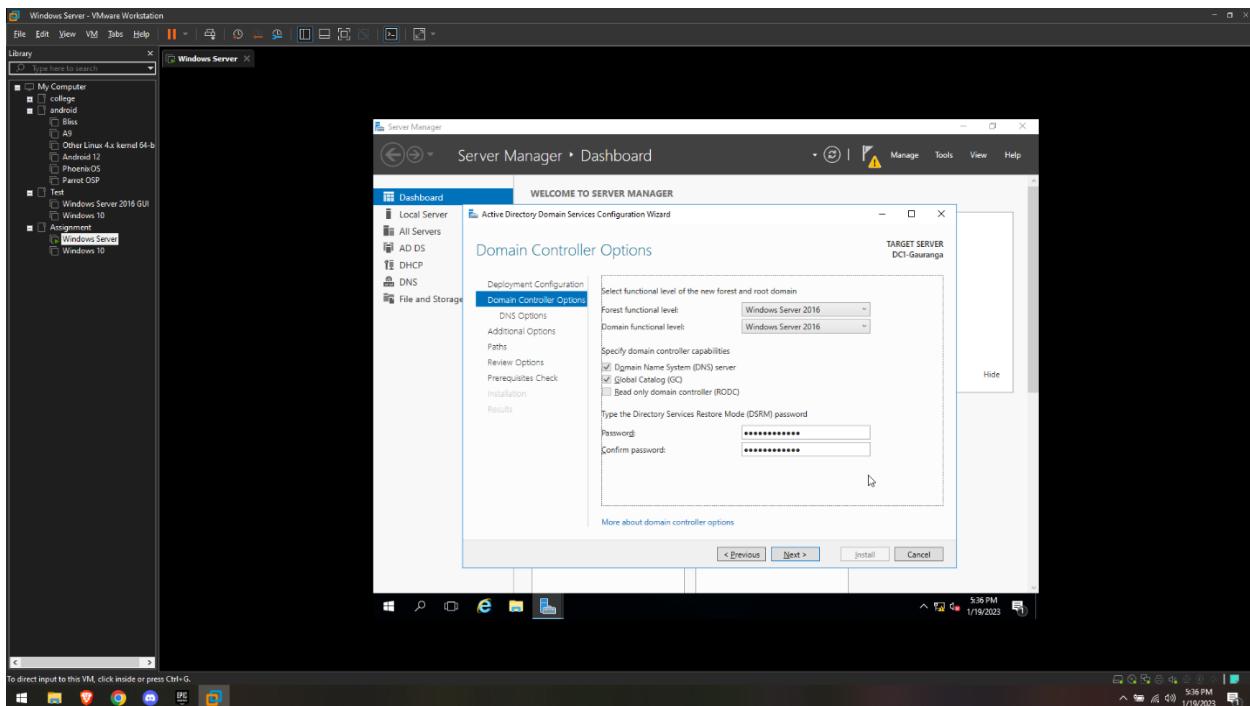
- Then select “Promote this server to a domain controller”

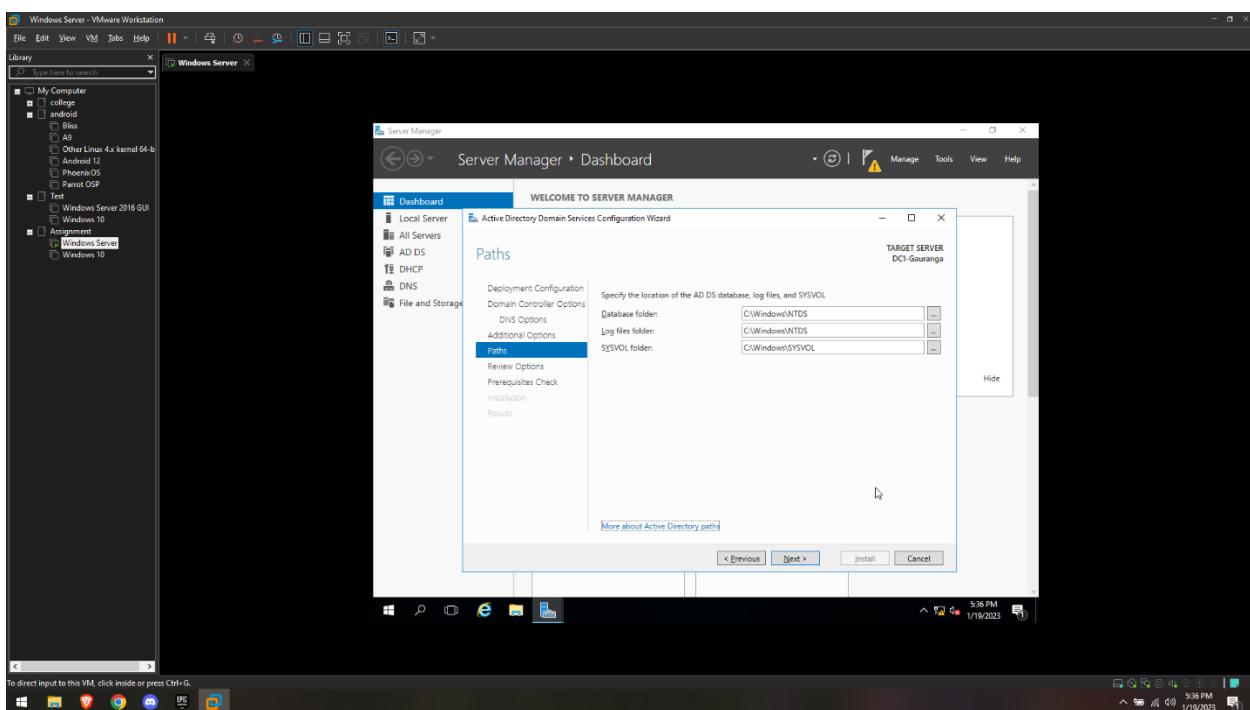
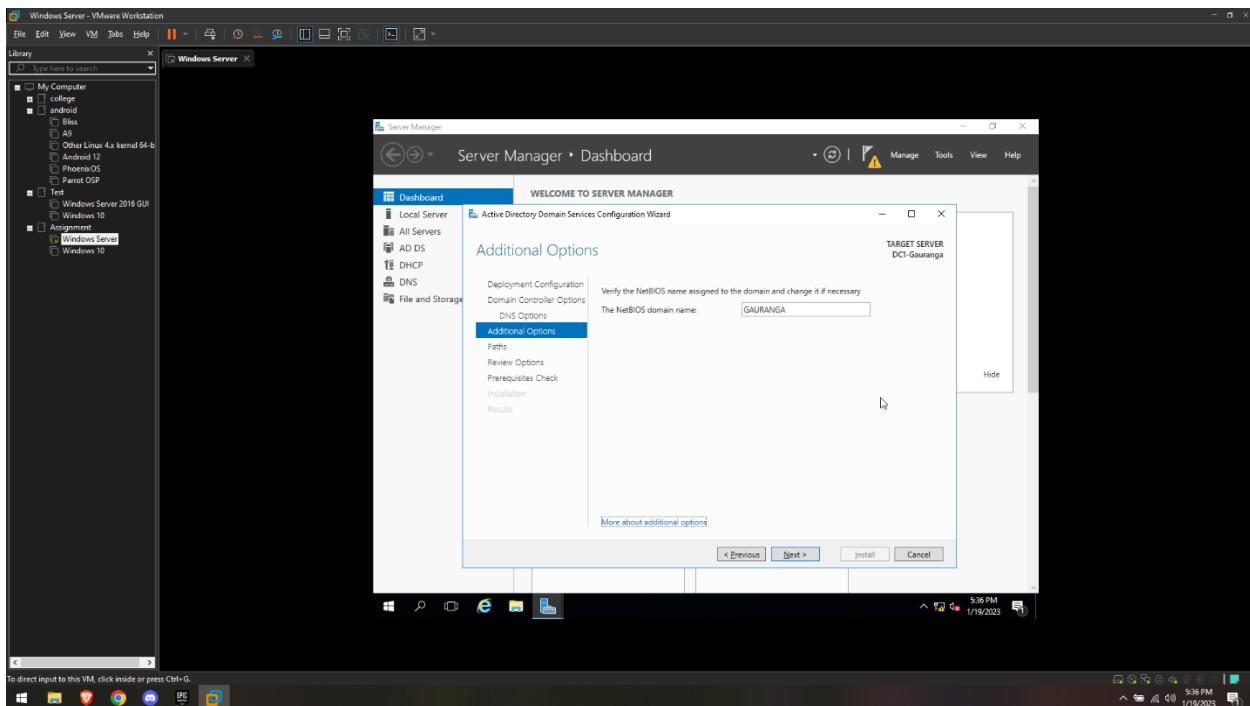


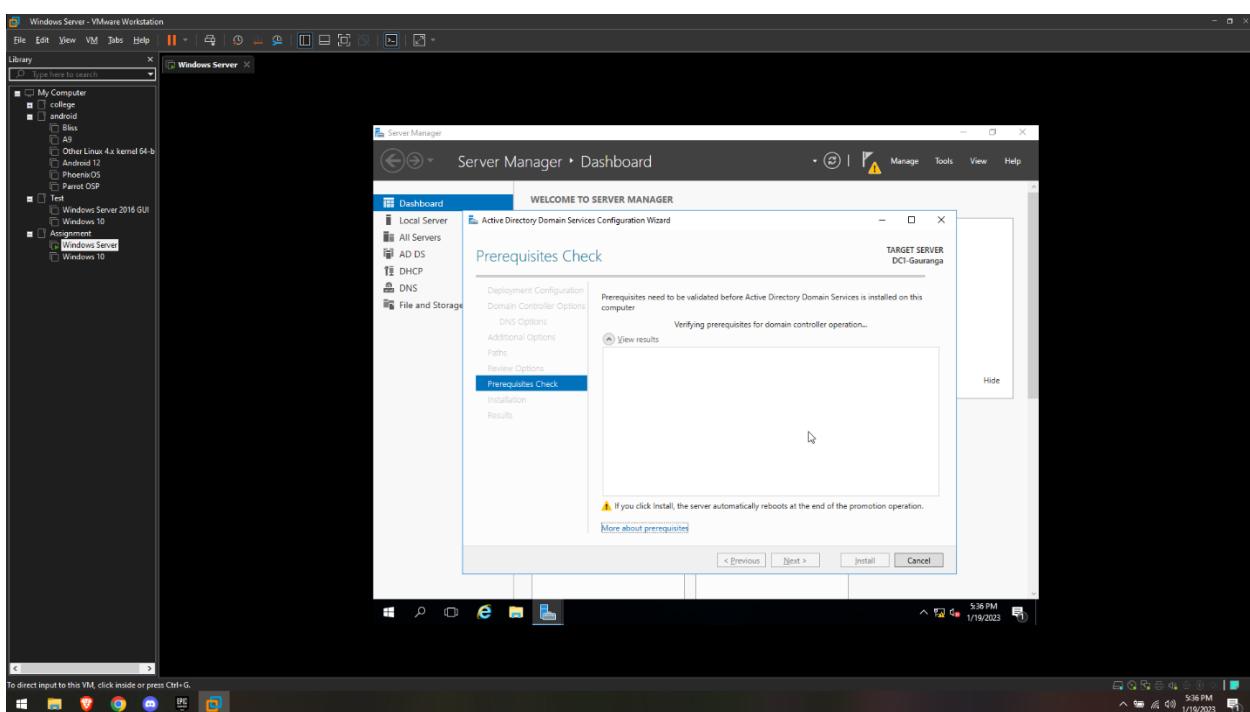
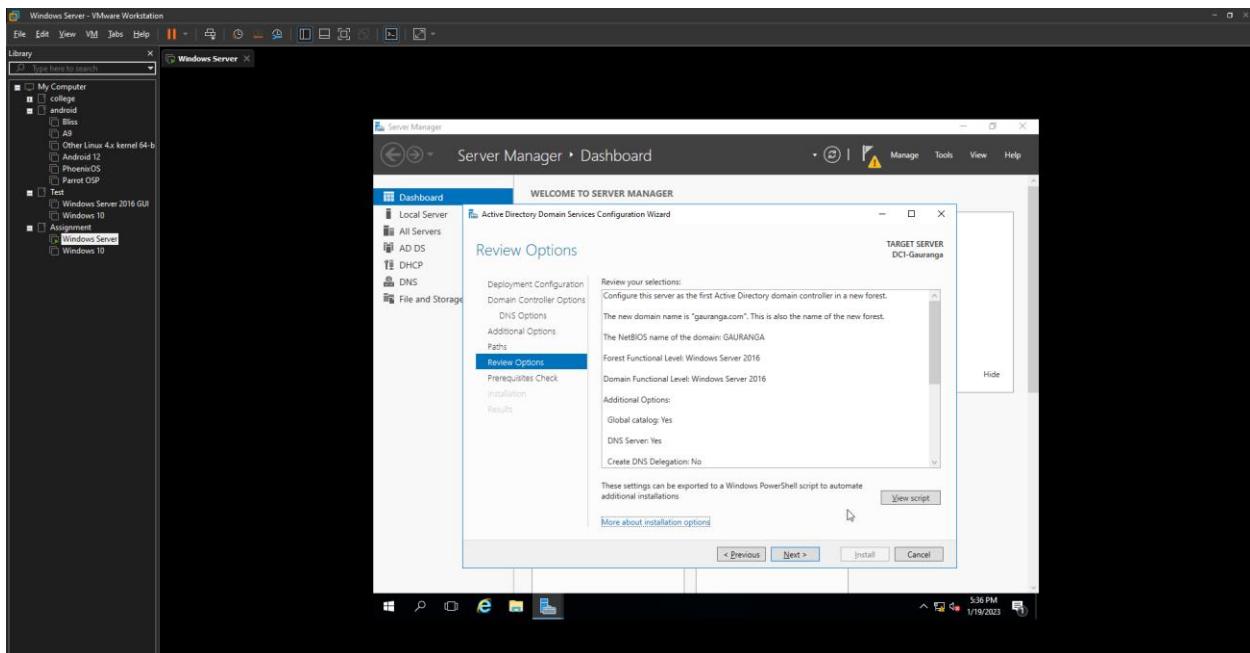
- Select "Create a new domain in a new forest" if this is the first domain controller in your organization and "Add a new domain controller to an existing domain" if you already have one.

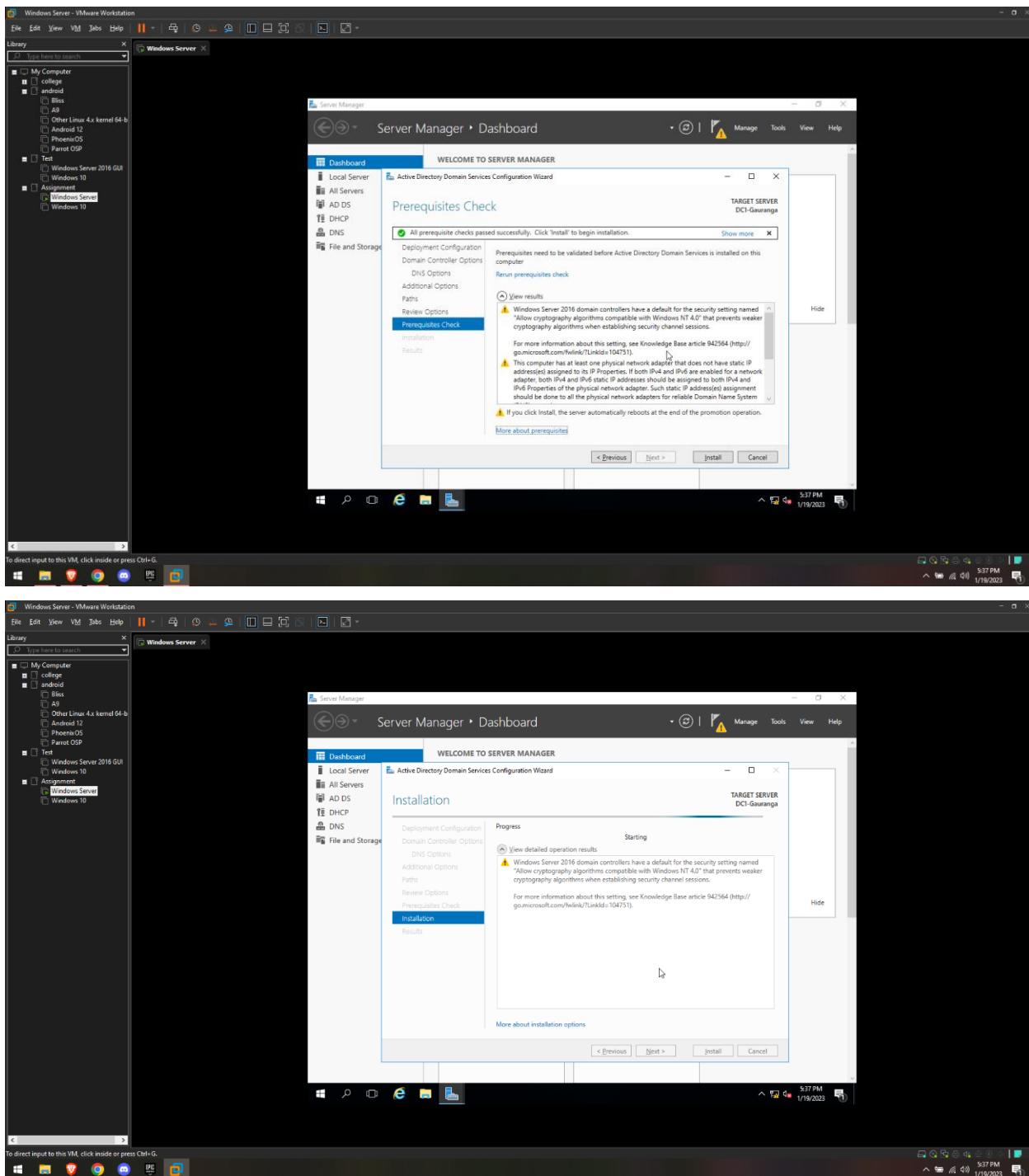


- Provide the necessary information to configure ADDS and complete the setup.:







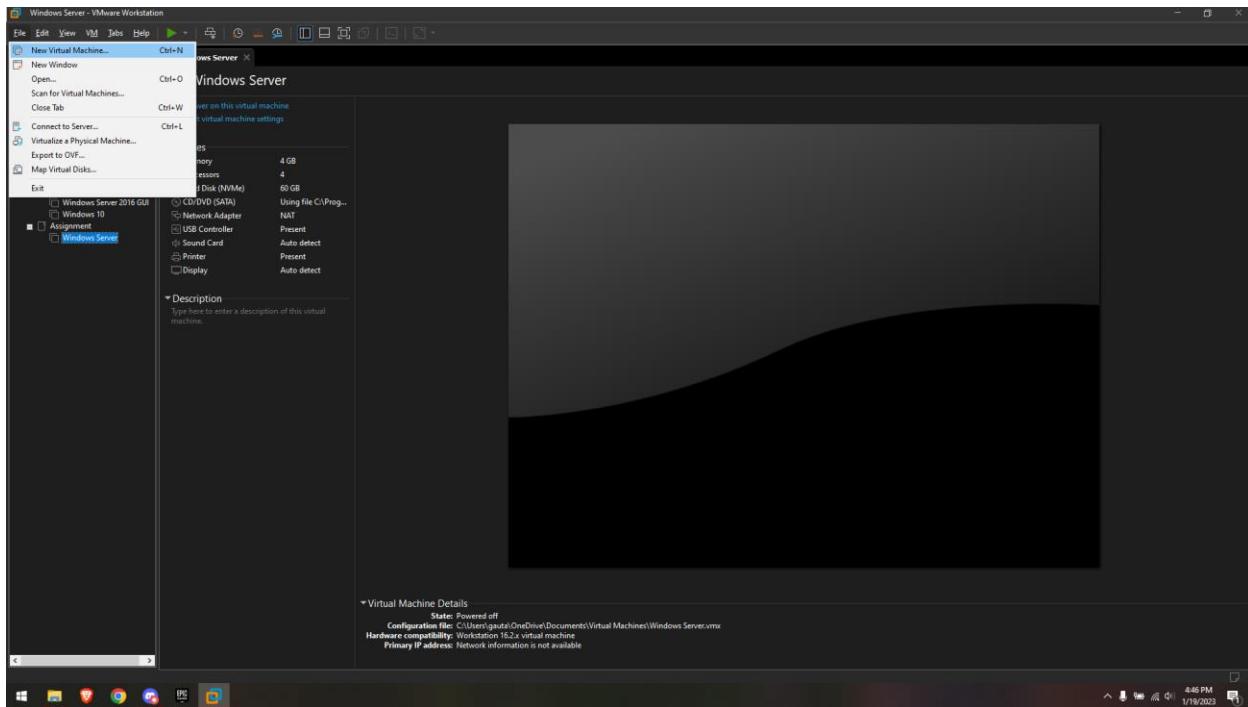


- When the installation is complete, you will be prompted to restart the server.

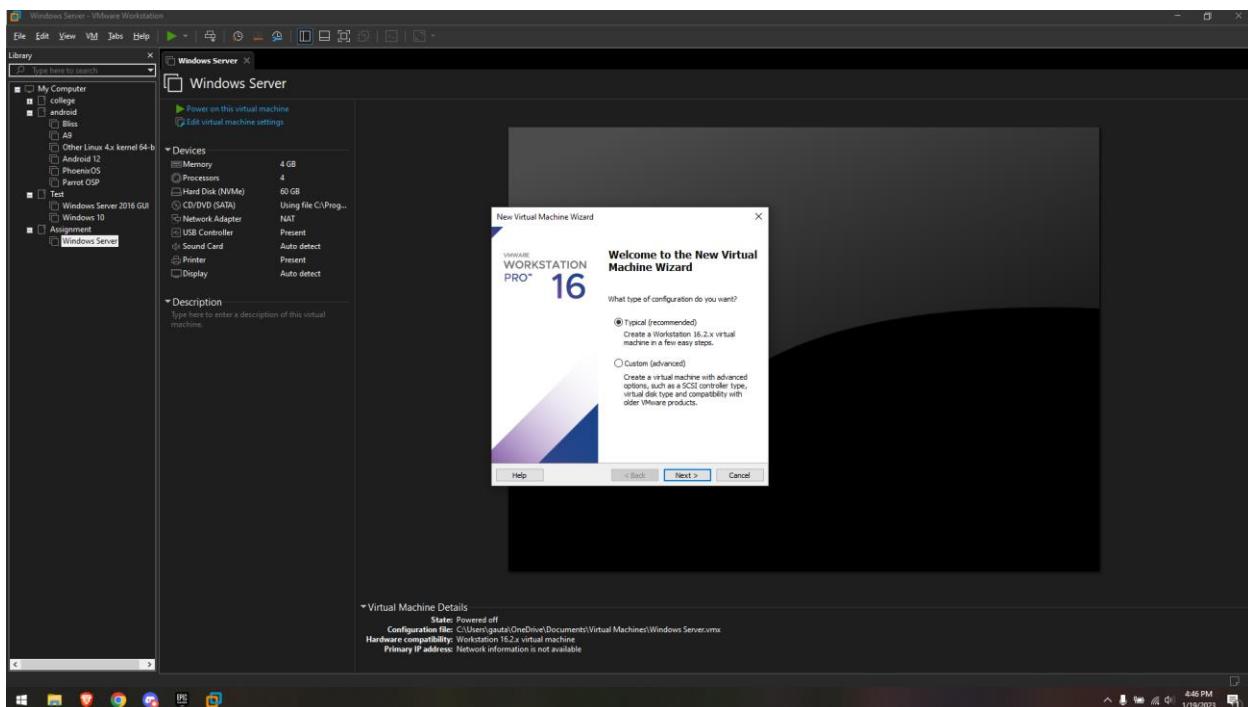
6. To complete the below task, you should need two more virtual machine a Win10 and Score.

WINDOWS 10 :

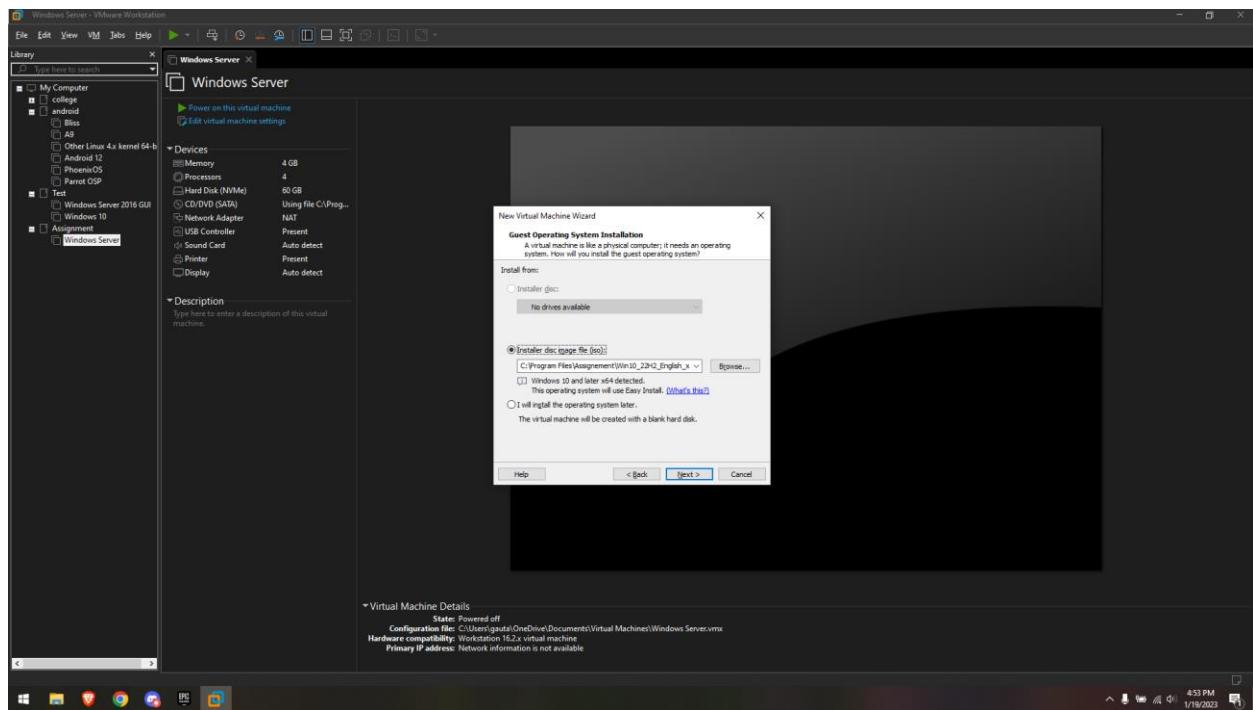
- Open VMware and select "Create a New Virtual Machine"



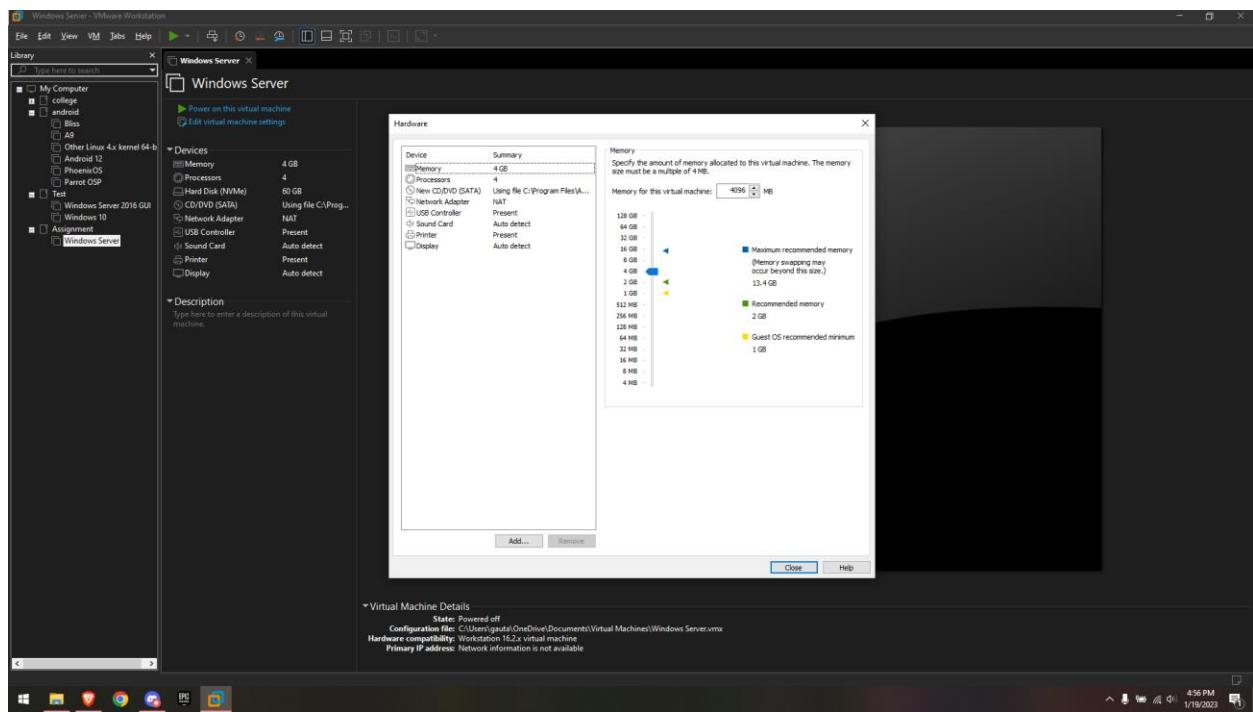
- Select "Typical" option and click next



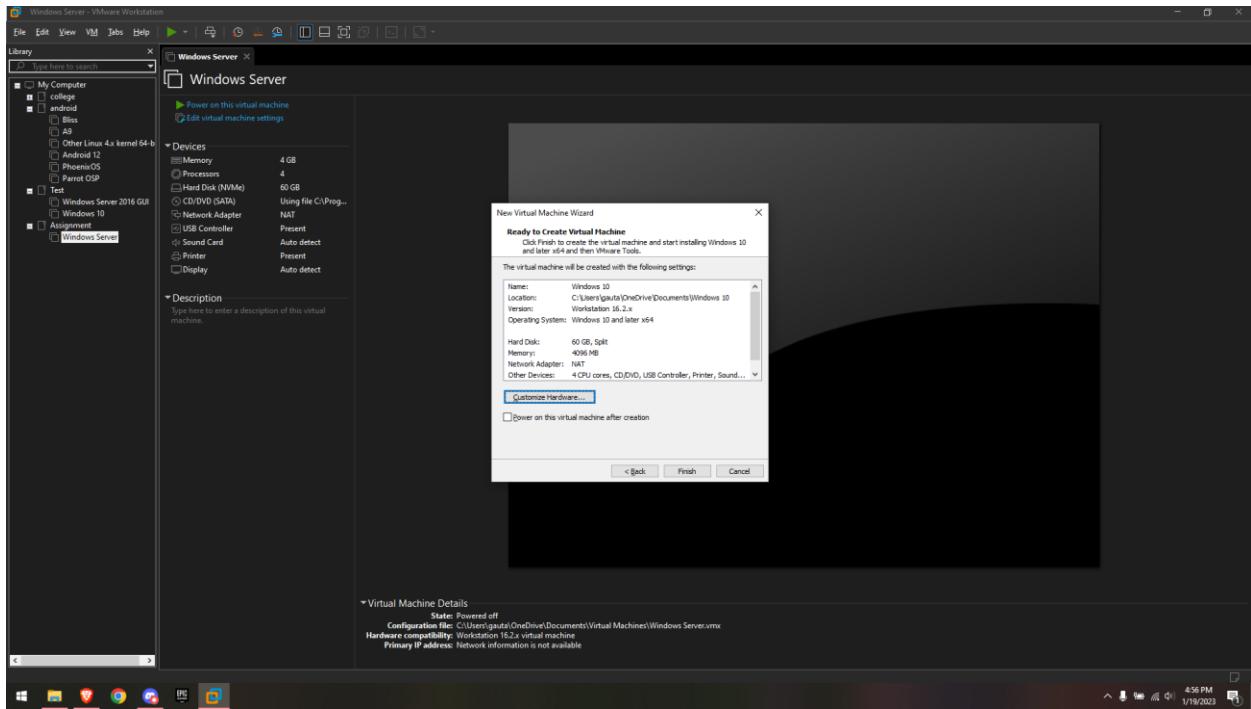
- Select the "Installer disc image file (iso)" option and click next



- Assign the amount of RAM and hard disk space you want to allocate to the virtual machine.



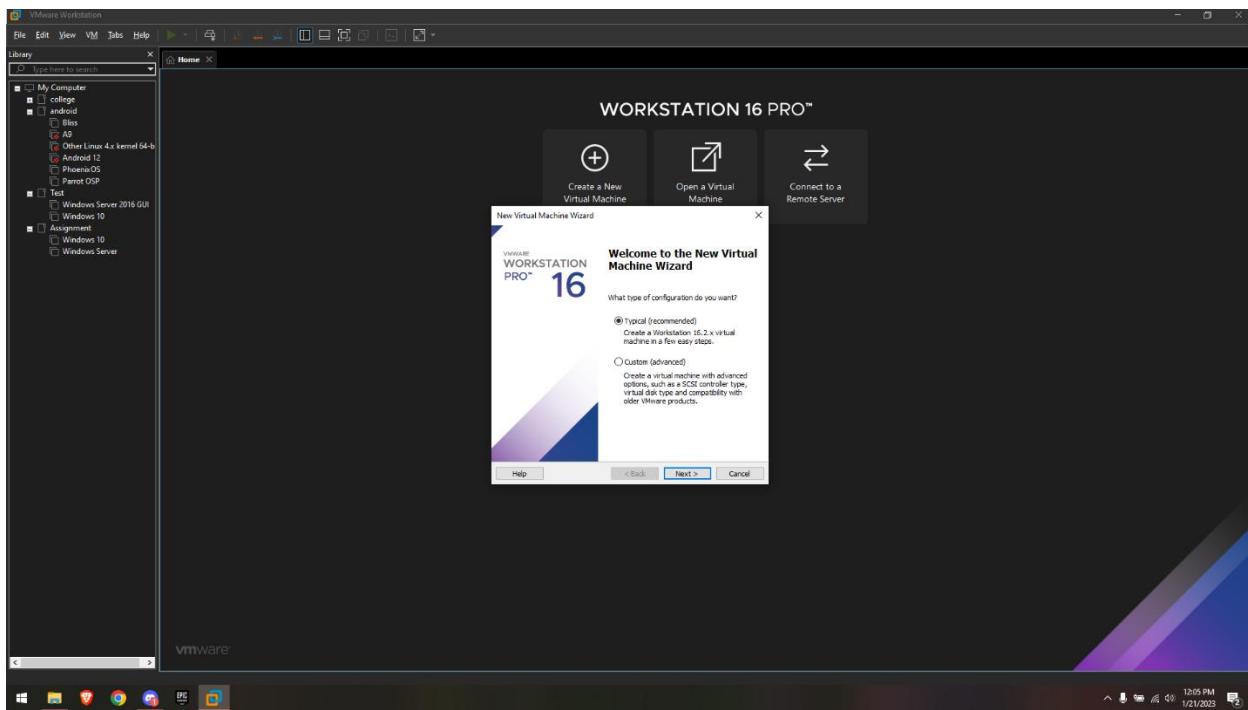
- Click Finish to create the virtual machine.



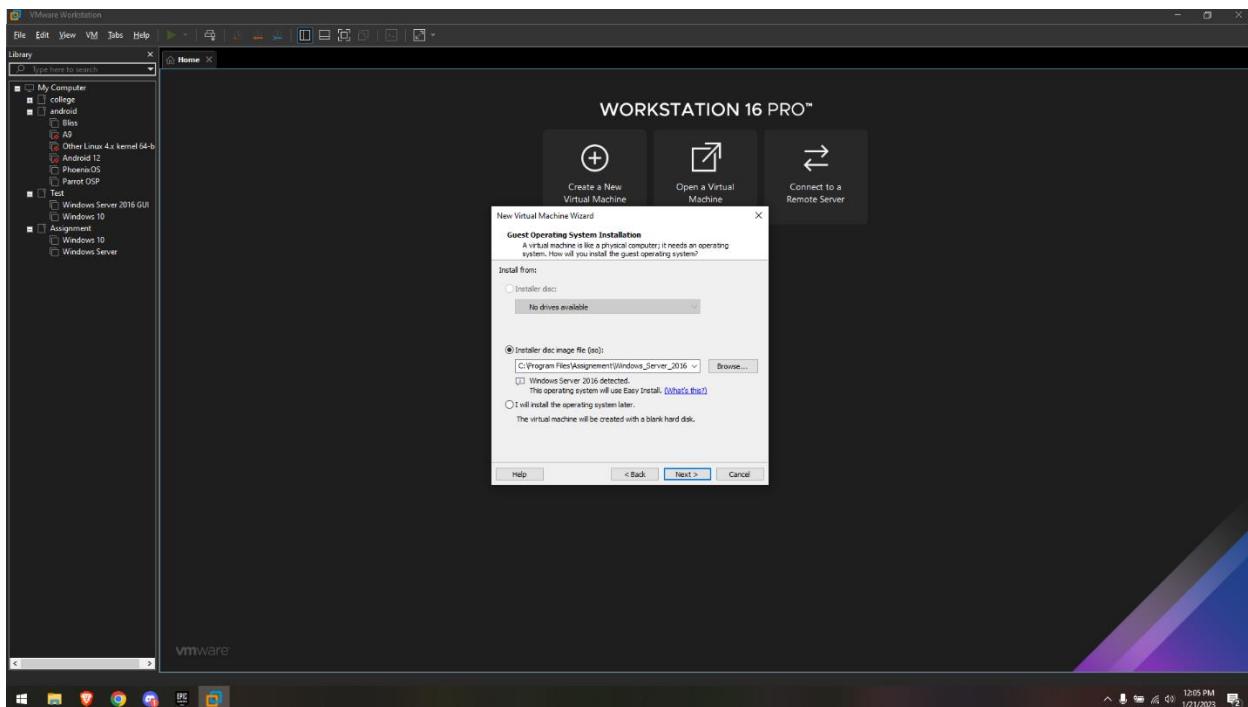
- Then Power on the Machine you will be ready to use windows 10.

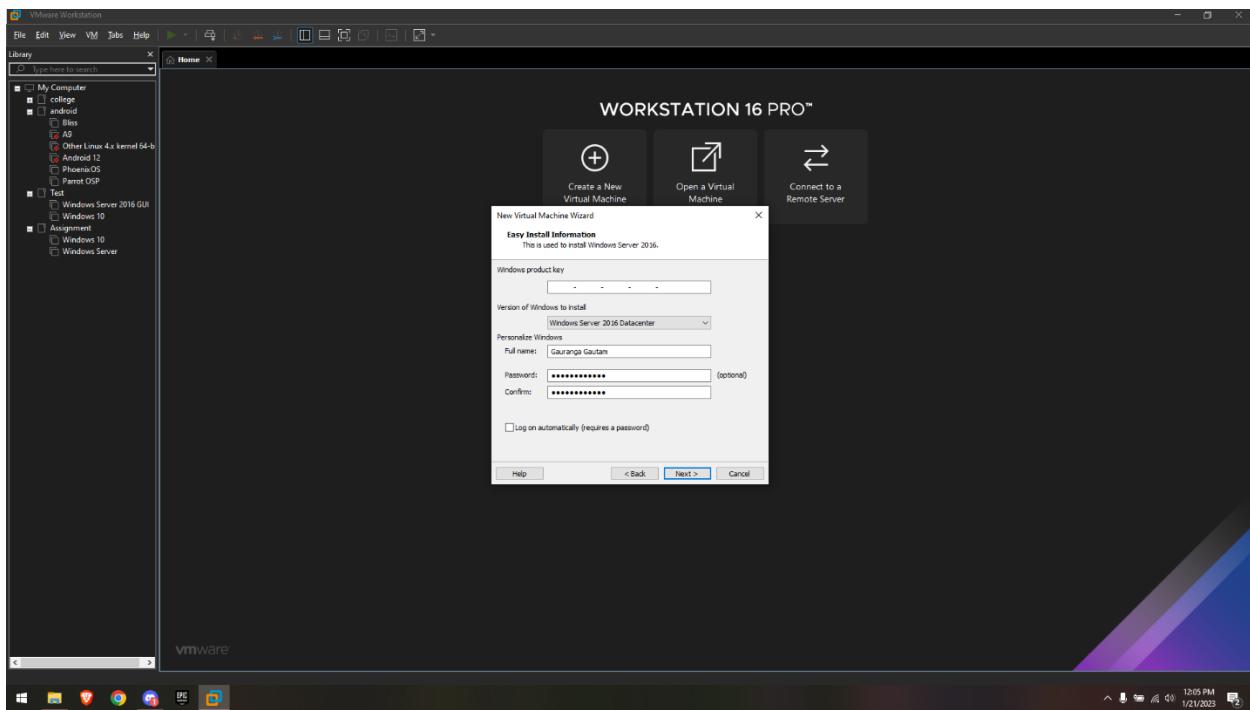
Windows Score:

- Open VMware and create a new virtual machine. Select "Typical" for the configuration type and choose "Microsoft Windows" as the guest operating system.

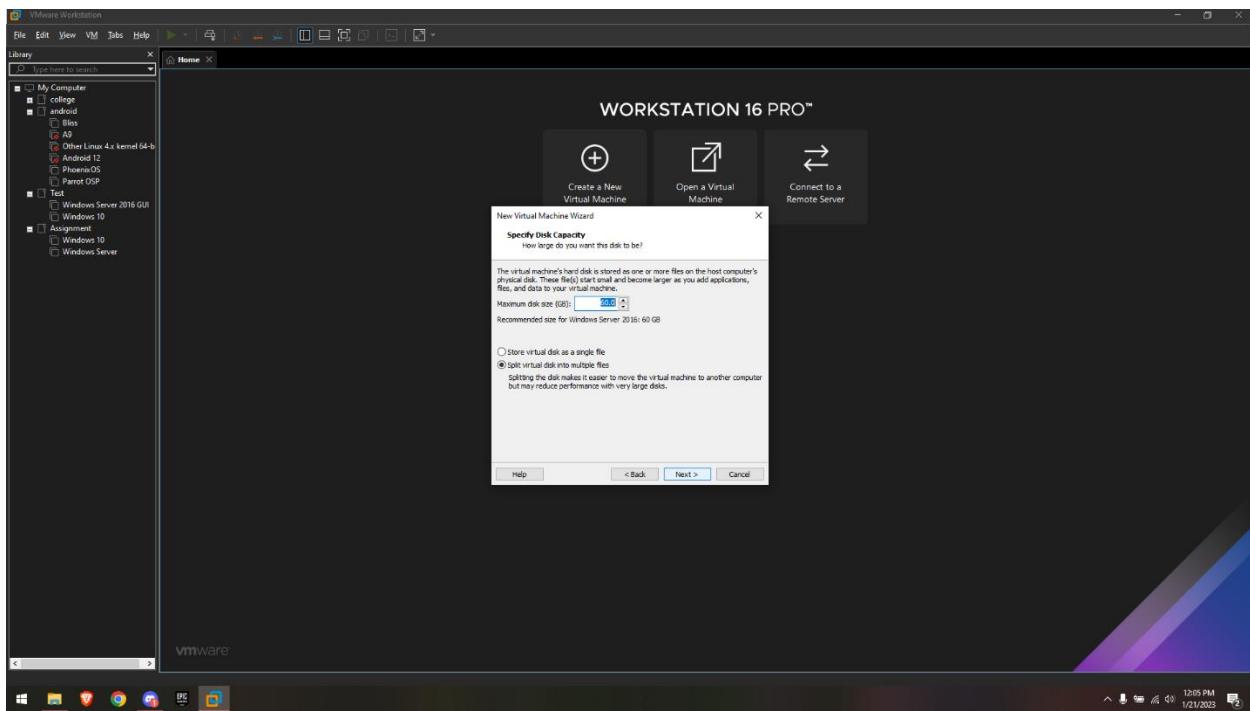


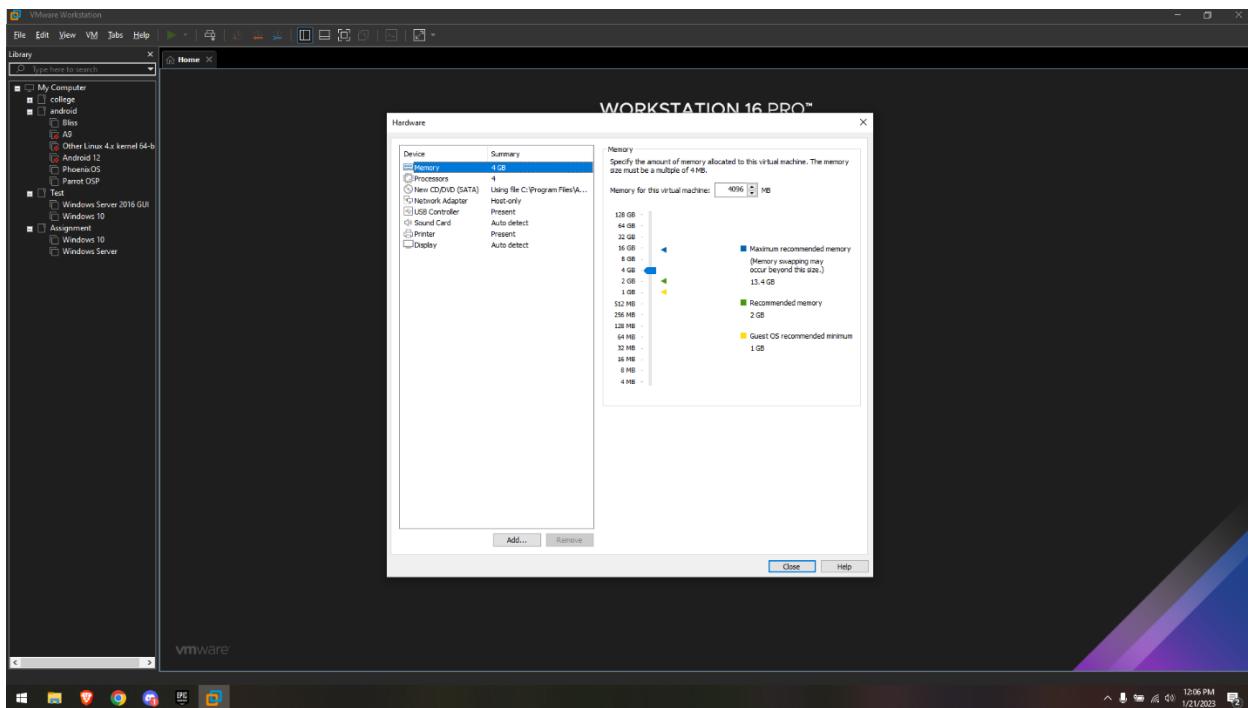
- Select the version as "Installer disc image file (iso)" and hit next.



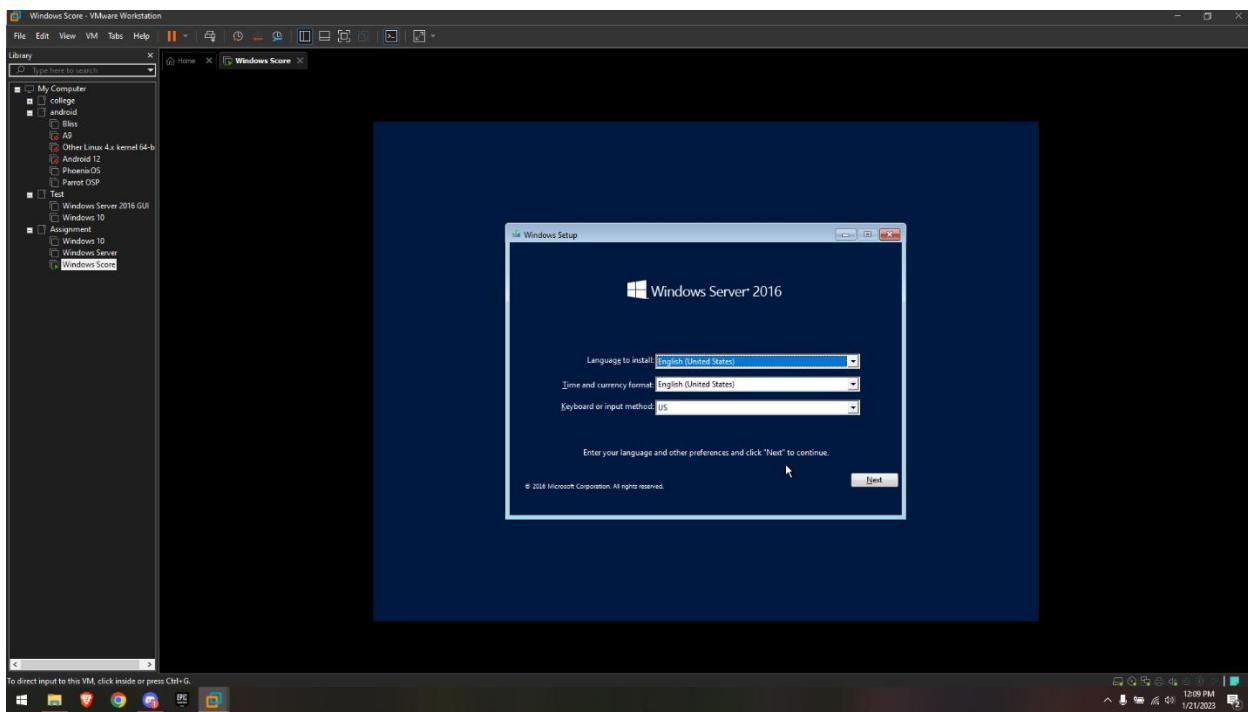


- Assign the amount of RAM, CPU and hard drive space to the virtual machine according to your needs.

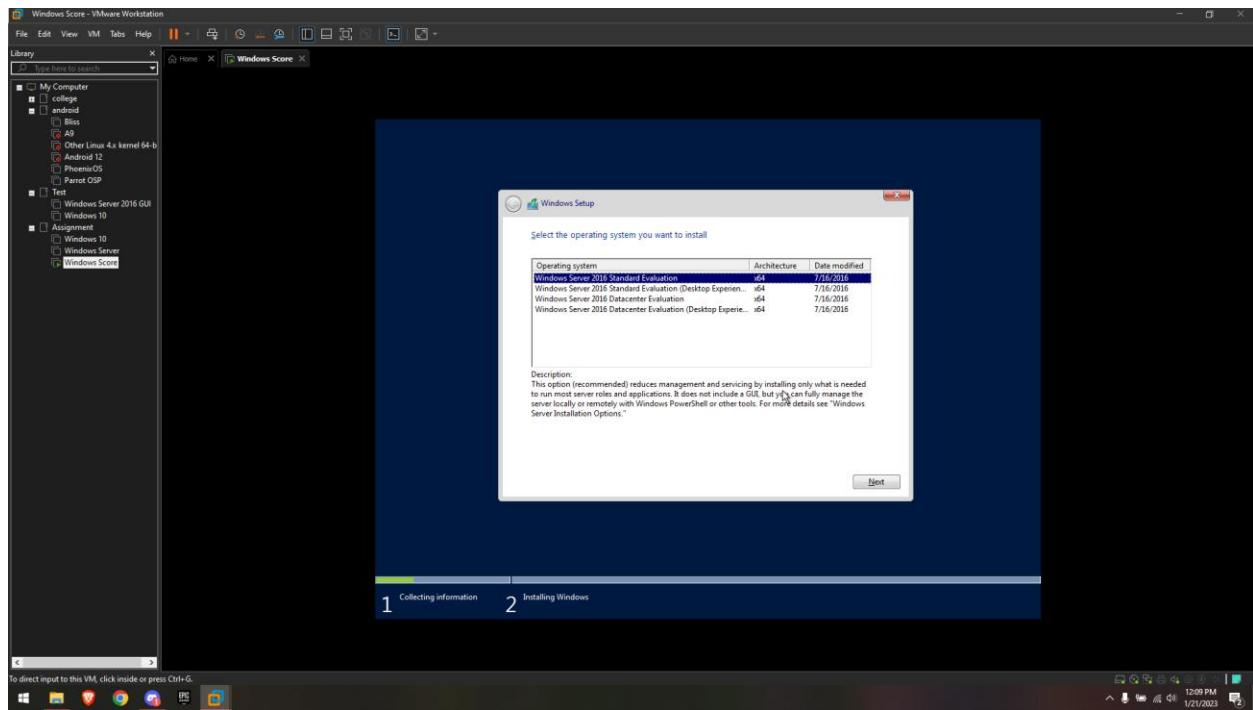




- Complete the wizard and start the virtual machine. The installation process will begin.

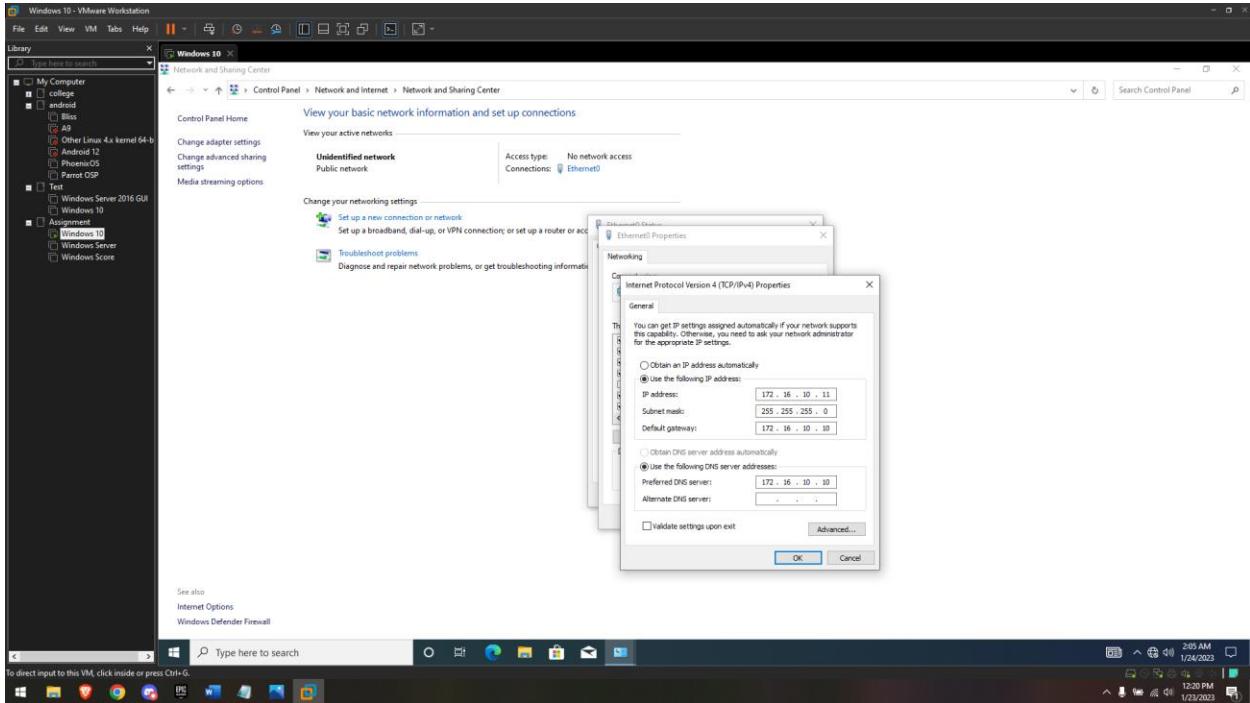


- The process is same as Windows Server Desktop experience; but we need to select Windows Server 2016 Standard Evaluation.:

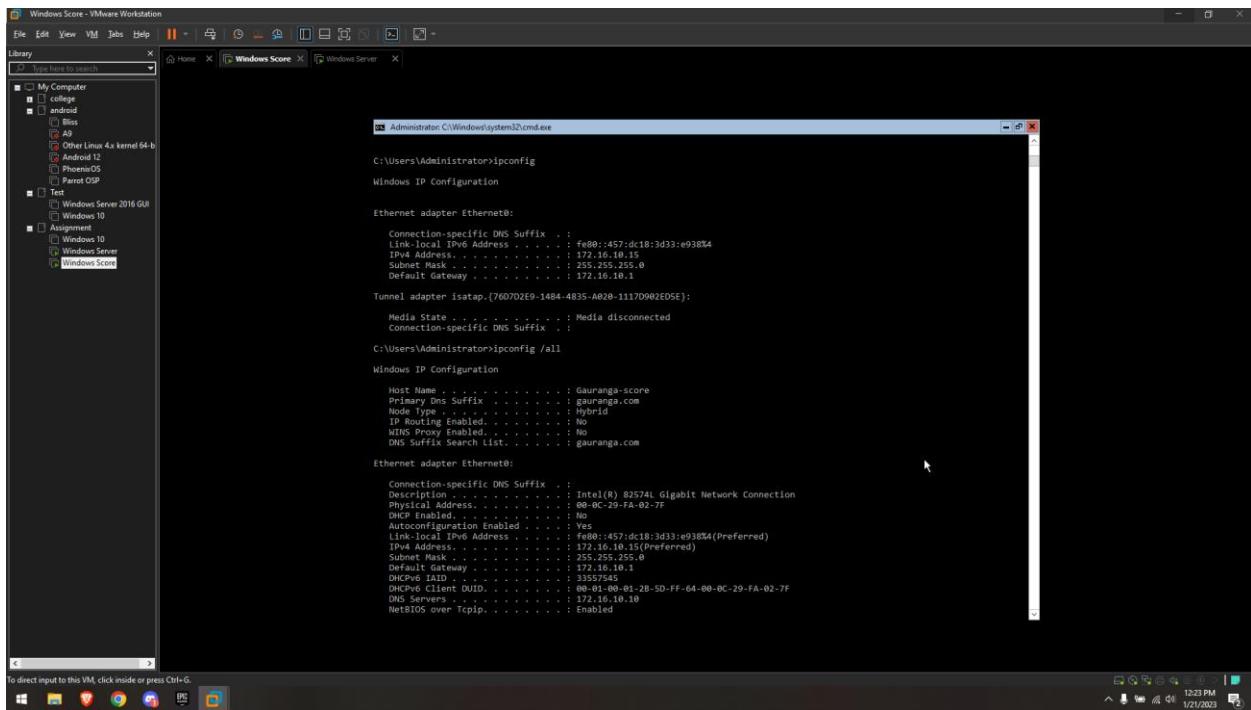


- After that Score is ready to run.

7. Assign the static IP for windows 10 machine. Network should same like DC1.



8. Assign the Static IP for server core. You must use powershell command to assign the IP for the server core and hostname change.:



9. Create the OU as shown.

9.1. HO- Gauranga

9.1.1. Gauranga -GAP

9.1.1.1. Computers

9.1.1.1.1. Gauranga -Win10

9.1.1.2. Users(allow to used PS script to create multiple users.)

9.1.1.2.1. Gauranga-GAP

9.1.1.2.2. Gauranga -GAP1

9.1.1.2.3. Gauranga -GAP2

9.1.1.3. Servers

9.1.1.3.1. score1

9.1.2. Gauranga-PR

9.2. PKR-BR- Gauranga

9.2.1. Front-desk- Gauranga

9.2.1.1. Users

9.2.1.2. Computers

9.2.2. DevOPS- Gauranga

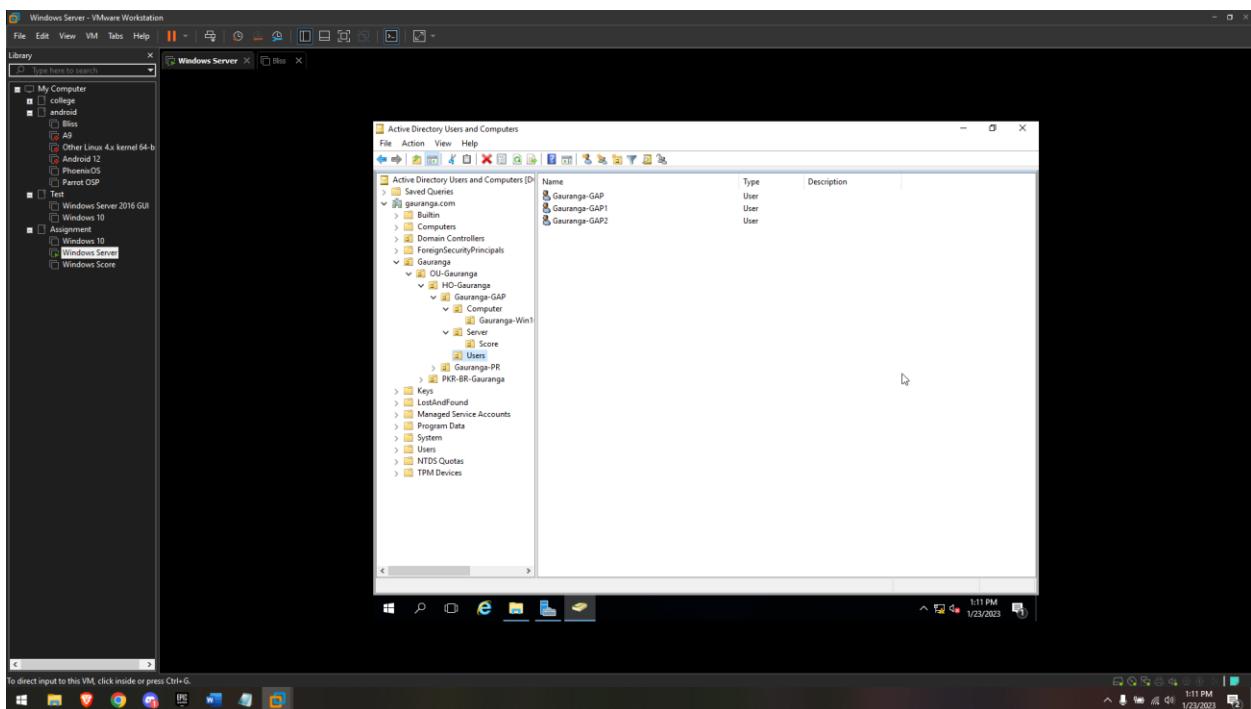
9.2.2.1. Users

9.2.2.1.1. DevOPS-PKR- Gauranga

9.2.2.1.2. DevOPS-PKR- Gauranga1

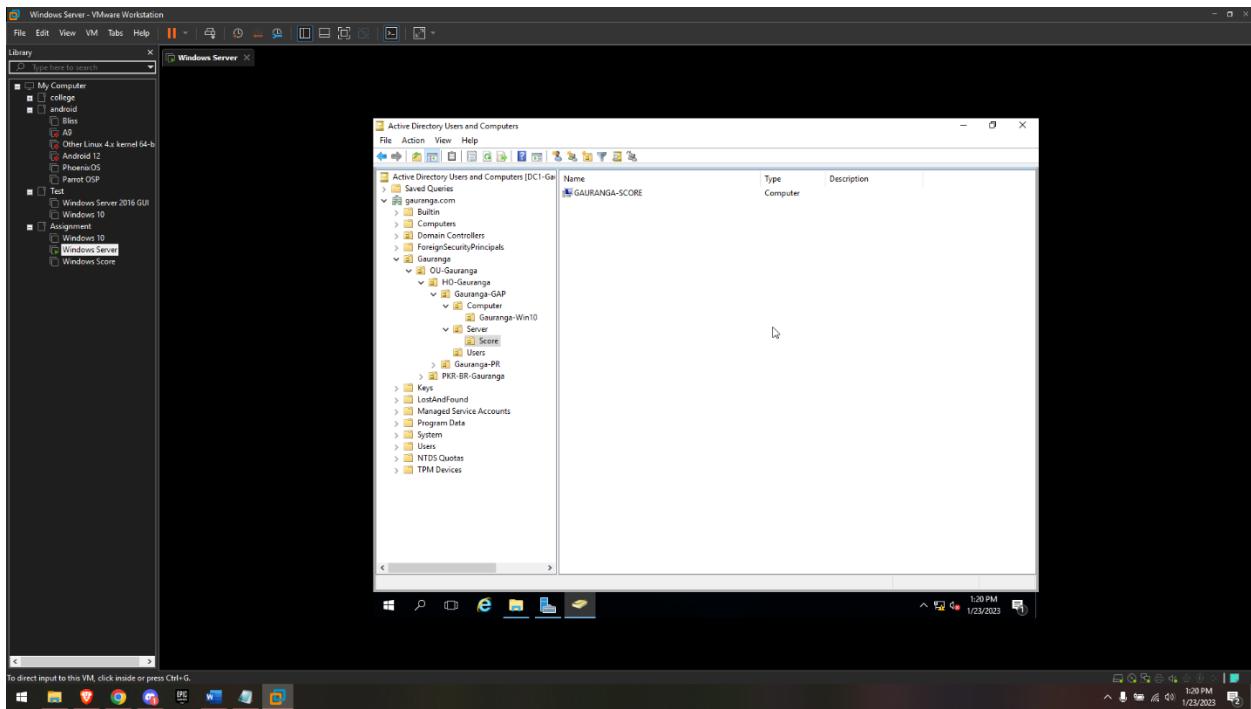
9.2.2.2. Test-SRV- Gauranga

9.2.2.2.1. JS-SRV- Gauranga

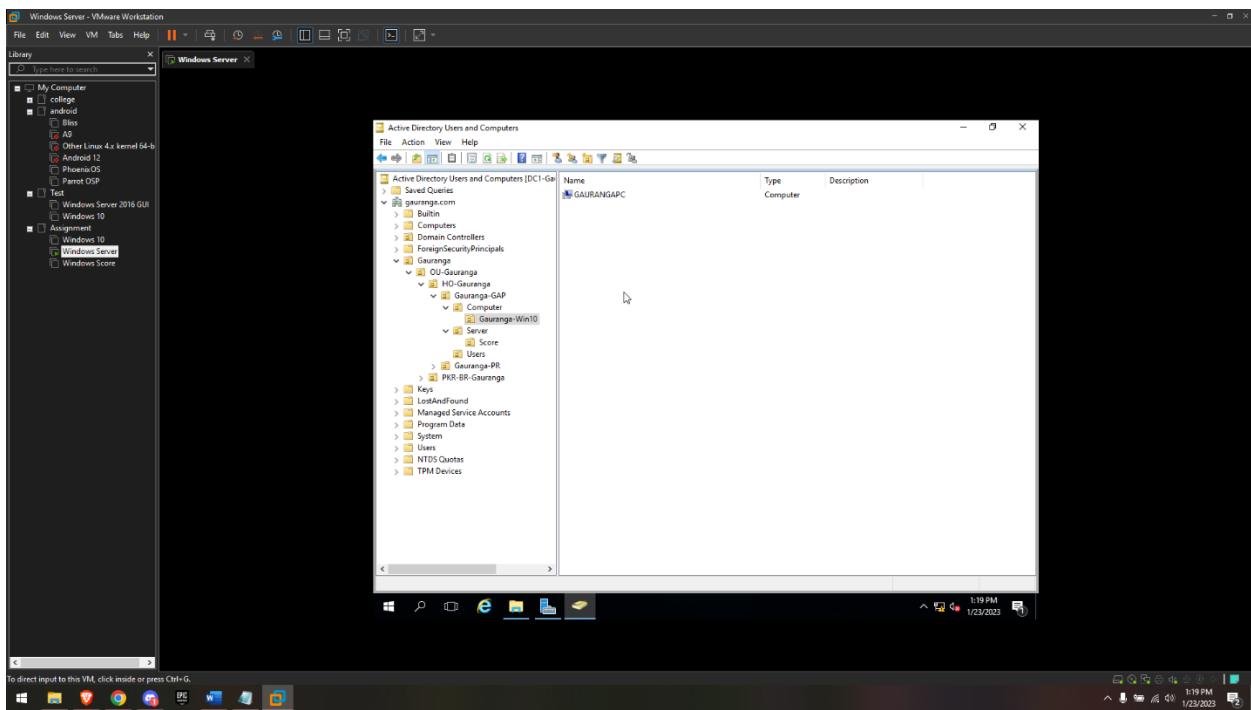


9.3. Domain join the Win10 and score server.

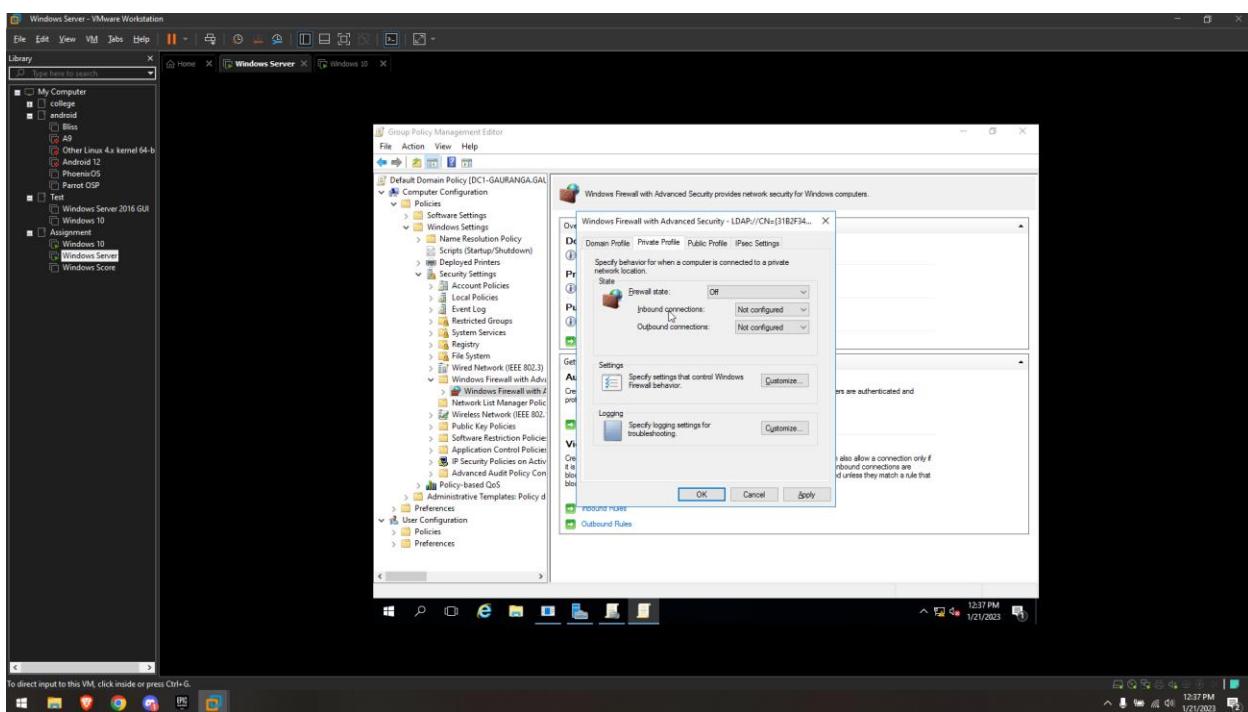
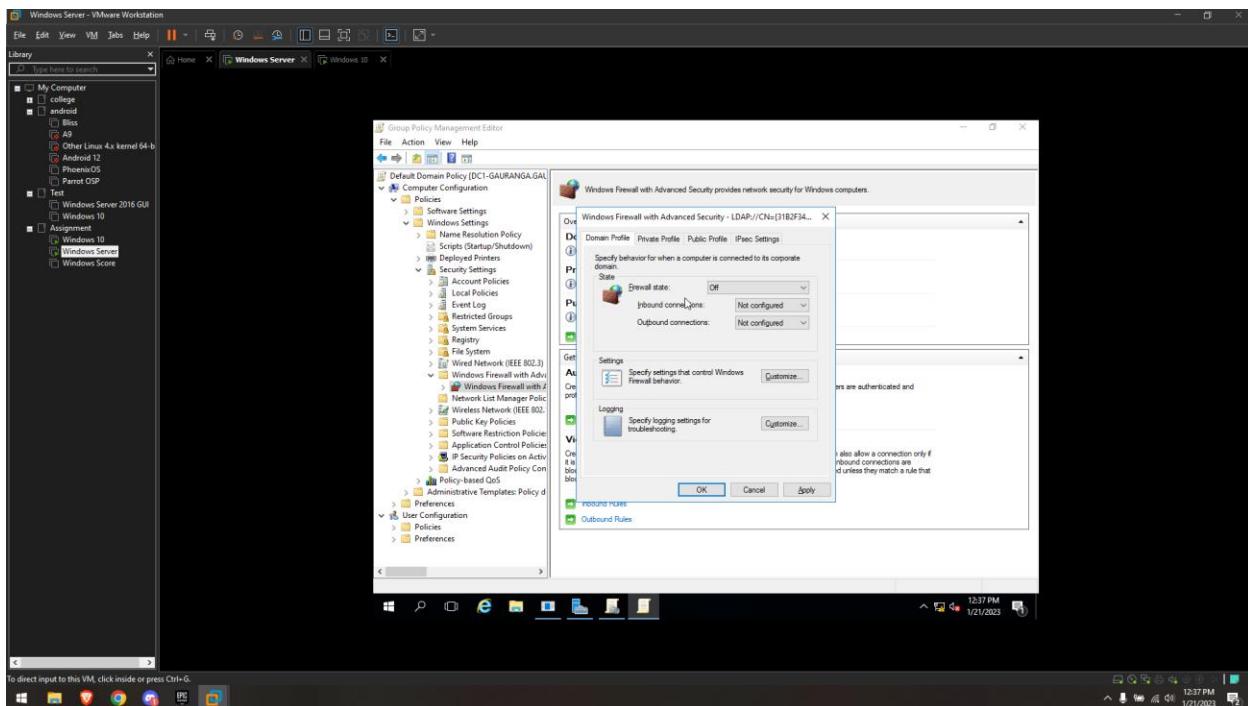
Windows 10 :

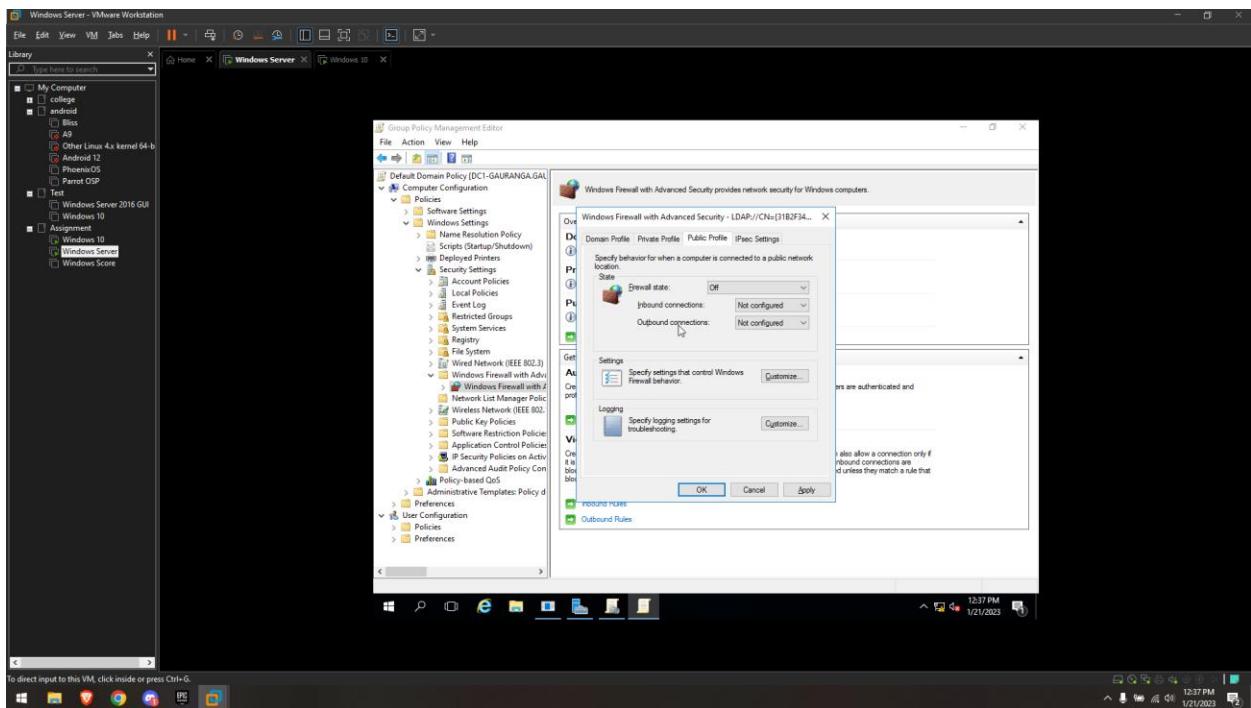


Score Server :



9.4. Create “disable firewall policy” and apply only to the computers child OU under the HO’s Finance OU.





9.5. Apply the password policy as mention in below configuration

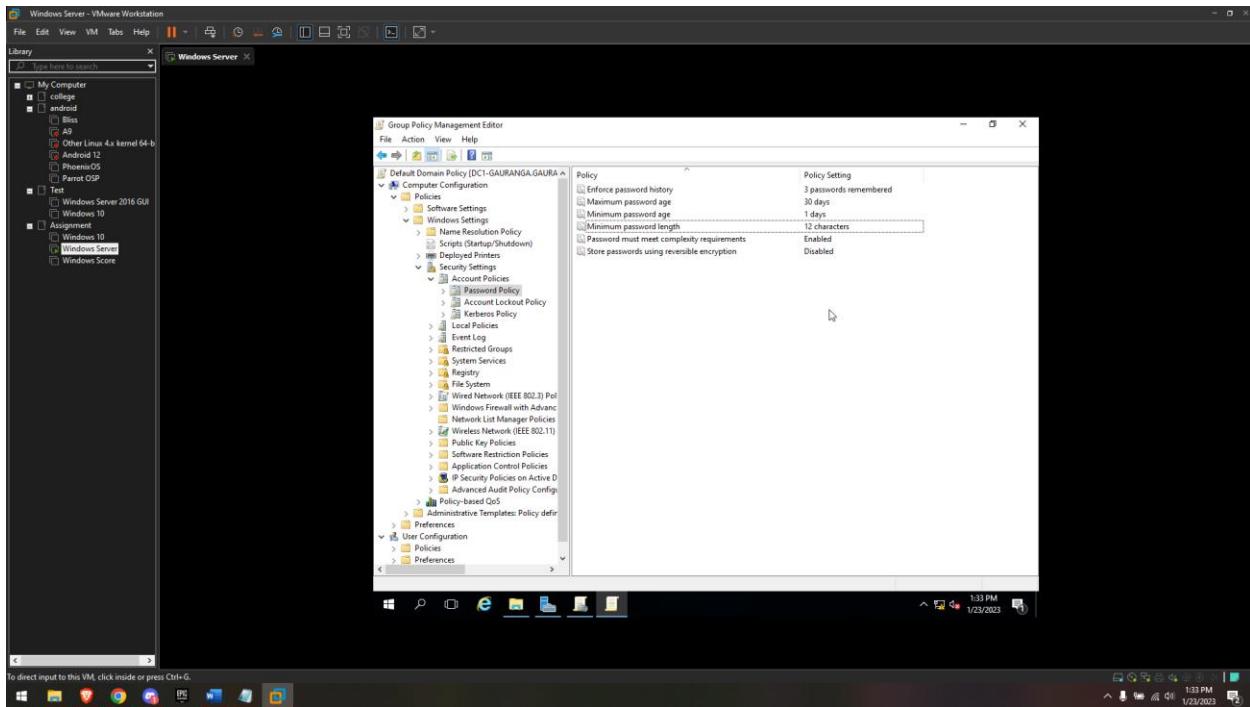
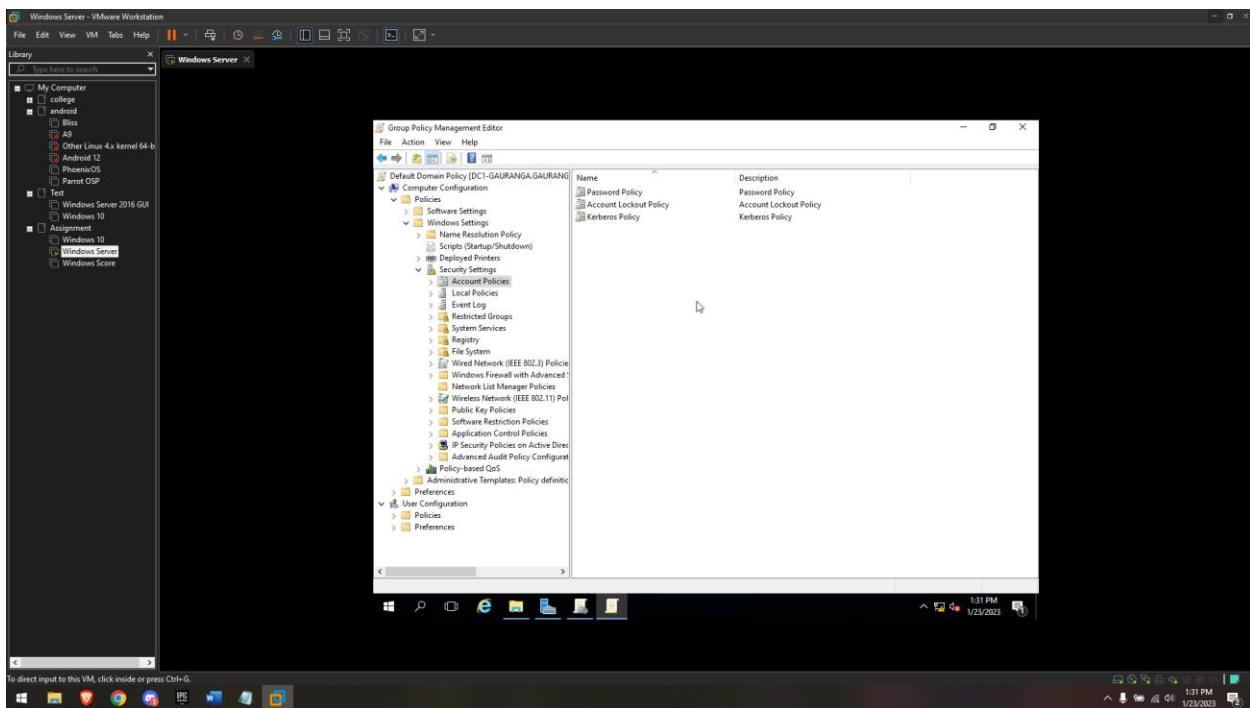
9.5.1. Password History= 3

9.5.2. Max Age=30

9.5.3. Min Age= 1

9.5.4. PW length= 12

9.5.5. PW complexity= enable



9.6. Review the “explain” tab of the “Password must meet complexity requirements” policy under the password policy setting, and justify it in your own word.

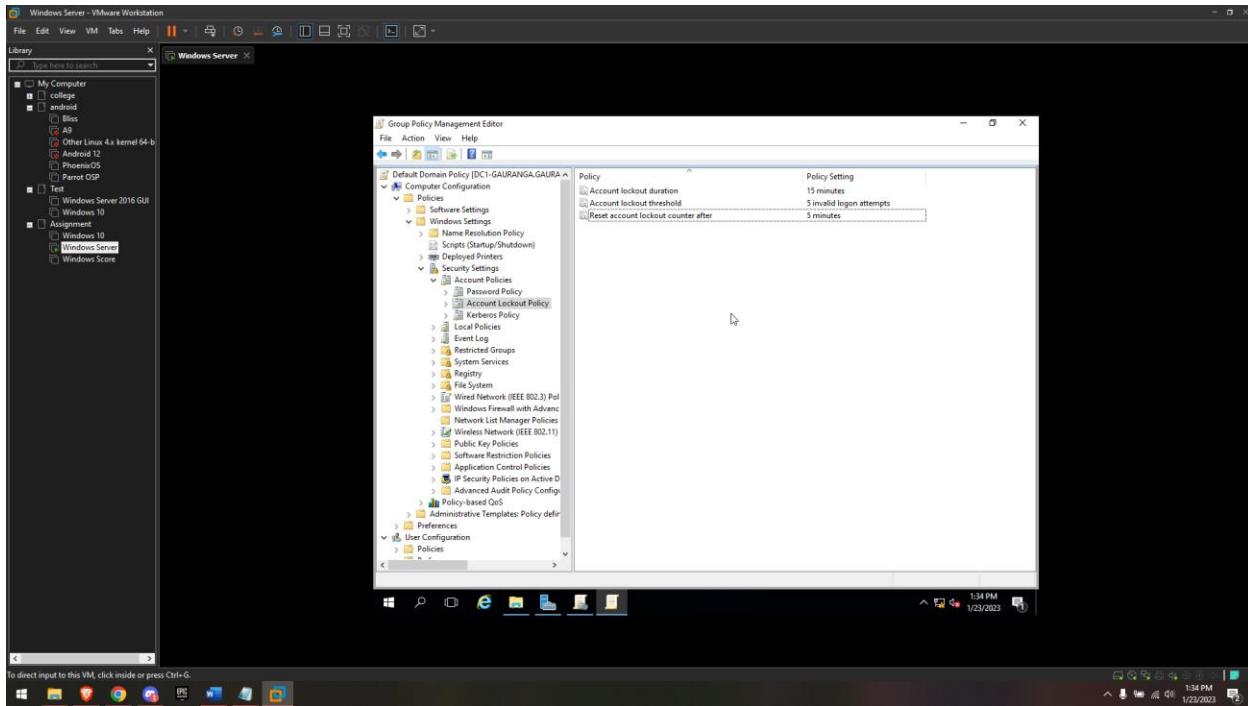
- The "Password must meet complexity requirements" policy is a security feature in Windows Server 2016 that ensures that passwords are not easily guessable or predictable. This policy requires that passwords meet certain complexity requirements, such as including a mix of uppercase and lowercase letters, numbers, and special characters. The goal of this policy is to make it more difficult for hackers or unauthorized users to guess or crack a password, thus increasing the security of the system.
- In the "explain" tab of the policy, it will provide more details about the complexity requirements that a password must meet in order to be considered valid. It may include information such as the minimum length of the password, the types of characters that must be included, and any other specific requirements. It is important to note that by enabling this policy, it could make it more difficult for users to remember their passwords. But it is a necessary step in order to increase the security of the system.

9.7. Apply the “account lockout policy” to all the computer under the domain. Make sure you apply below settings.

9.7.1. Reset account lockout counter after= 5

9.7.2. Account lockout threshold= 5

9.7.3. Account lockout duration= 15



9.8. Explain the account lockout policy configuration and why it is important to apply?

- The account lockout policy is a security feature in Windows Server 2016 that prevents unauthorized access to a user's account by locking the account after a specified number of failed login attempts. This helps to protect against brute force attacks, where an attacker repeatedly attempts to guess a user's password.
- The configuration of the account lockout policy involves setting the number of failed login attempts that will trigger the lockout, as well as the duration of the lockout. It is important to apply this policy in Windows Server 2016 because it helps to prevent unauthorized access to sensitive information and reduces the risk of security breaches. Additionally, it also helps to prevent attackers from using automated tools to guess passwords and gain access to the system. It is also important to note that, too many lockouts might cause the legitimate user difficulty to login back and it is advisable to have a balance between security and usability.

THE END