

**Subject: IT5026 Operating Systems**

**Student ID: 20232004**

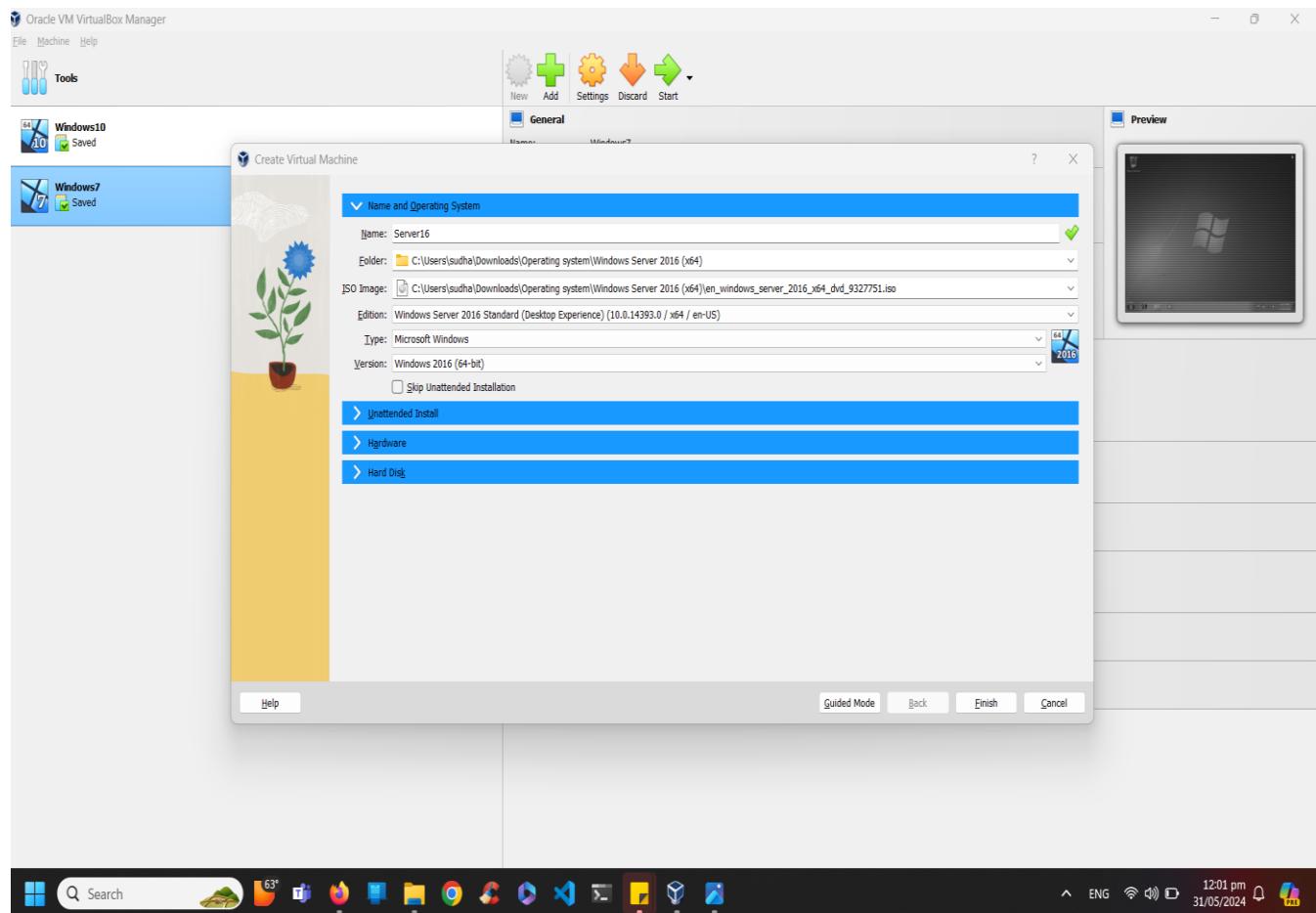
**Student name: Sudharshiya Ganesan**

## **ASSESSMENT 2: PROJECT SCENARIO**

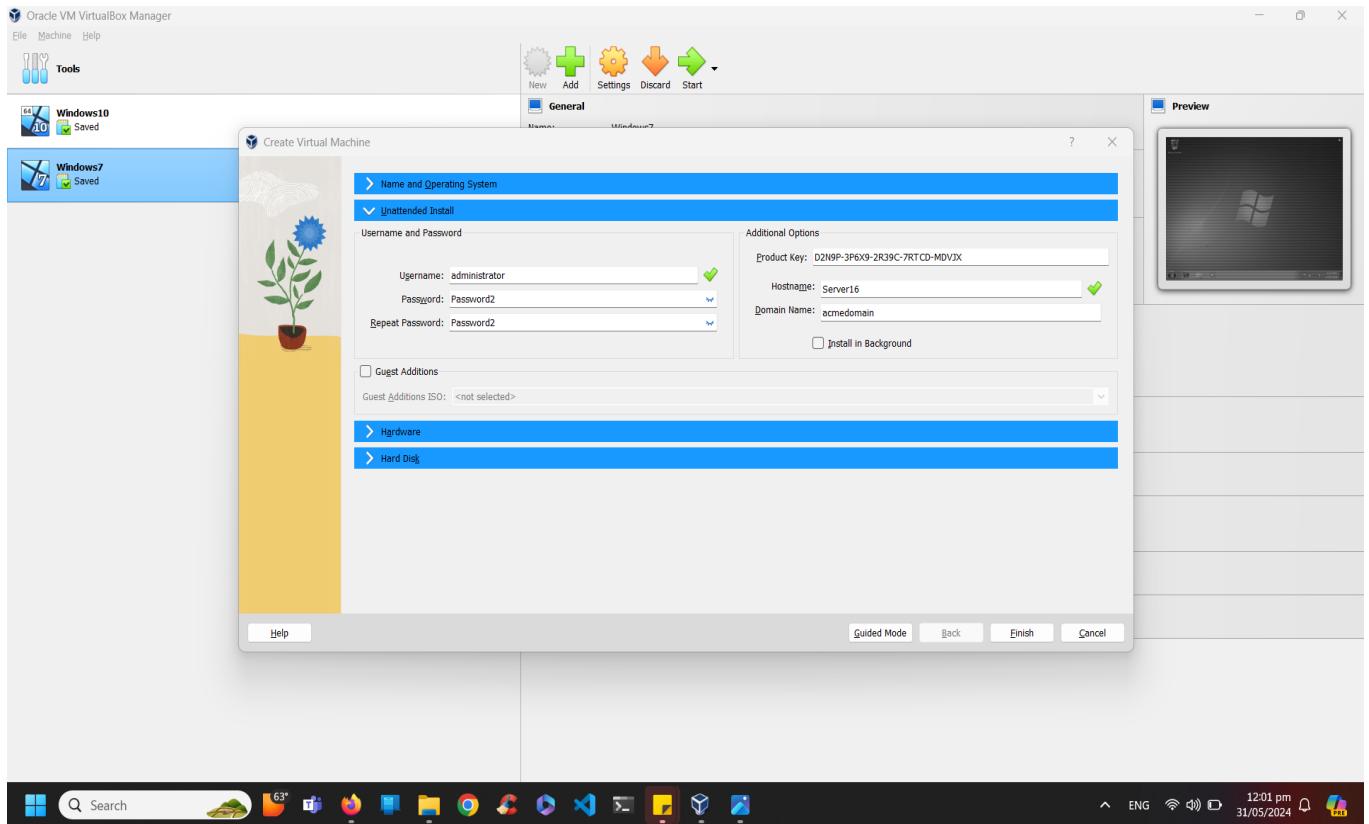
### **TASK1: INSTALL WINDOWS SERVER 2016**

The installation of the windows server 2016 is done with the help of disk image file.

- Initially, give the name for the server, browse the location of the installation files in the ‘Folder’ place and select ISO image file. Refer Fig 1.1

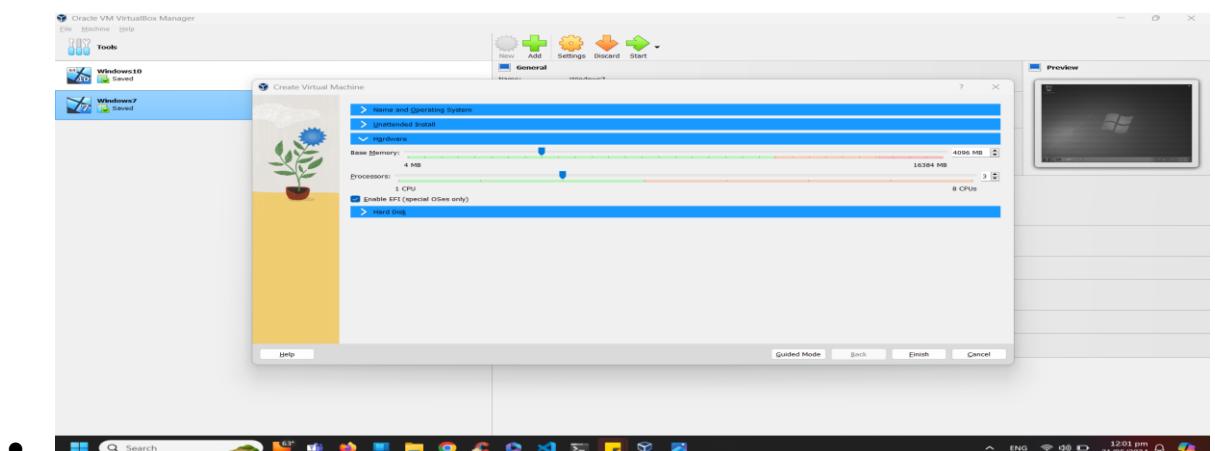


**FIG 1.1 Name and Operating system of SERVER 2016**



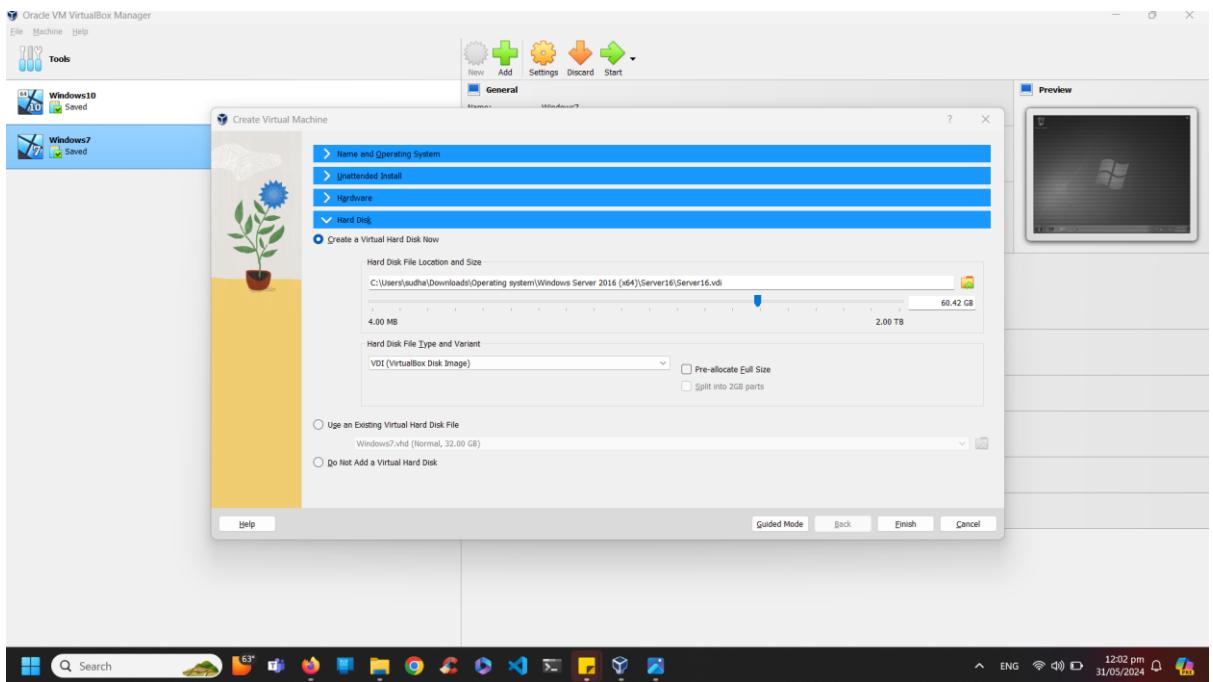
**FIG 1.2 PRODUCT KEY**

- Enter a valid product key to activate the OS and set a logon username and password for the login. Refer Fig 1.2
- Set the Base memory to 3 GB which is equal to 3072 MB and set the processors needed. Refer Fig 1.3



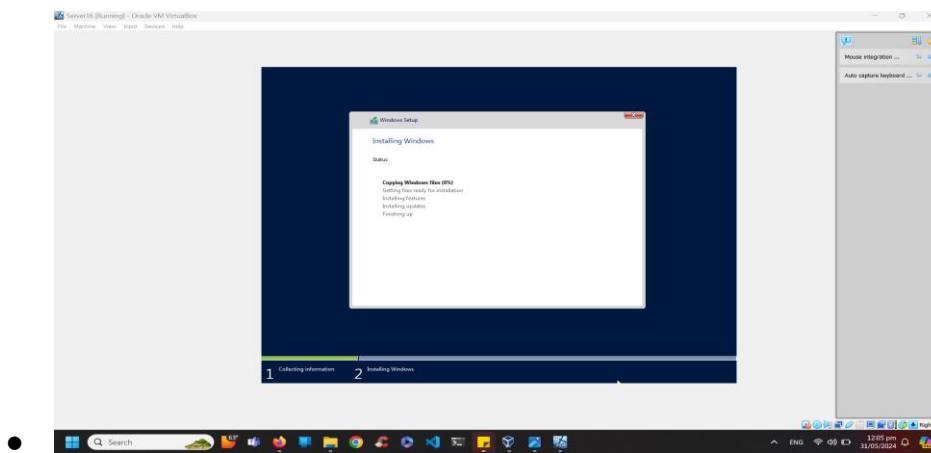
**Fig 1.3 HARDWARE**

- Set the hard disk file location and ‘VirtualBox disk image’ as file type and set the hard disk capacity to 60 GB. Refer Fig 1.4



**Fig 1.4 HARDDISK**

- Installation of the Windows Server 2016 goes through many steps before completion. Refer Fig 1.5



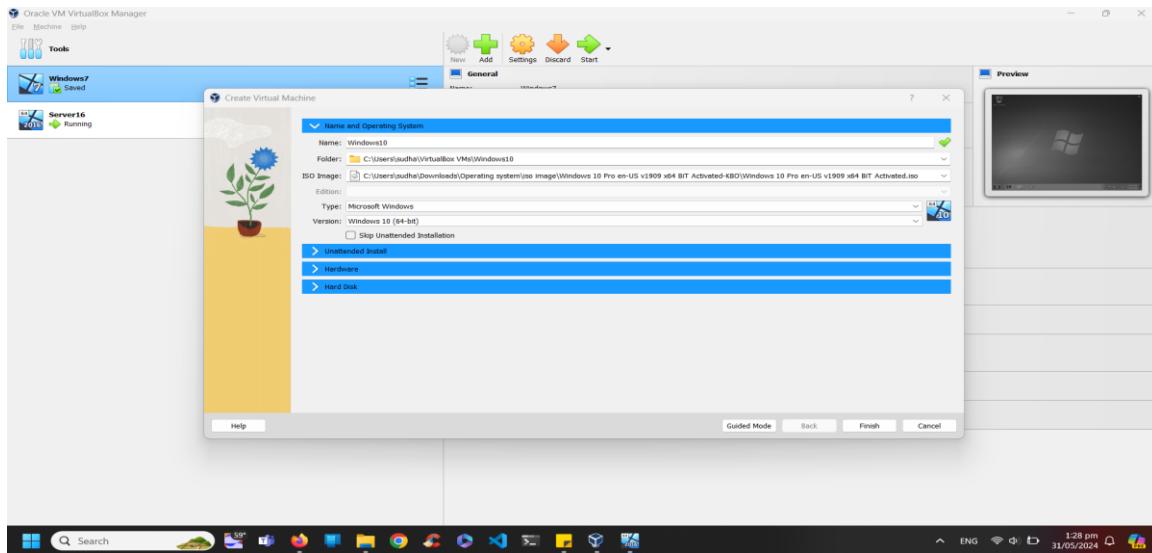
**FIG 1.5 Windows Server Installation setup**

- Logon to the Server 2016 as Administrator and Password2.

## TASK2:

Installation of Windows 10 Client computer:

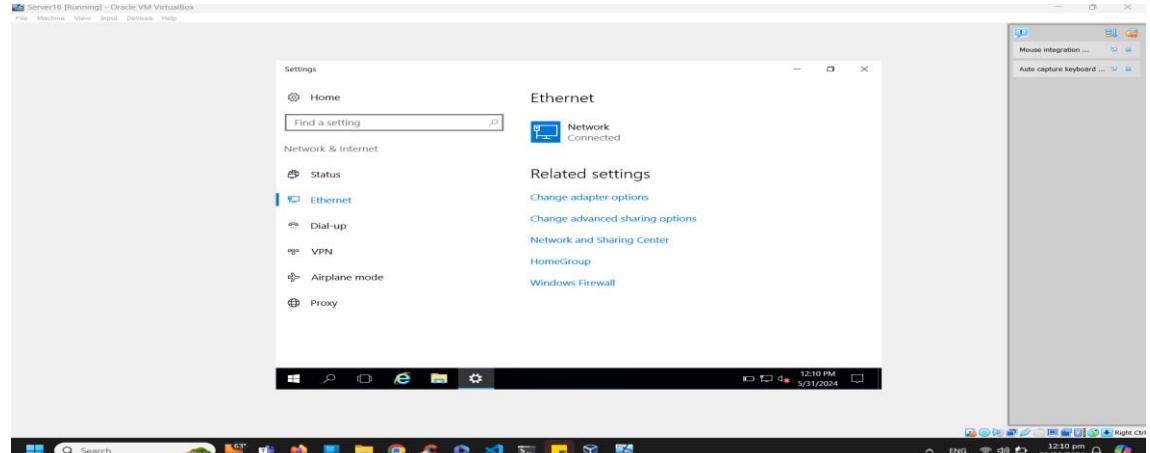
- Select the ISO file folder and image to install the client Windows 10 OS. Refer fig 2.1



**Fig 2.1 Windows 10 client computer installation**

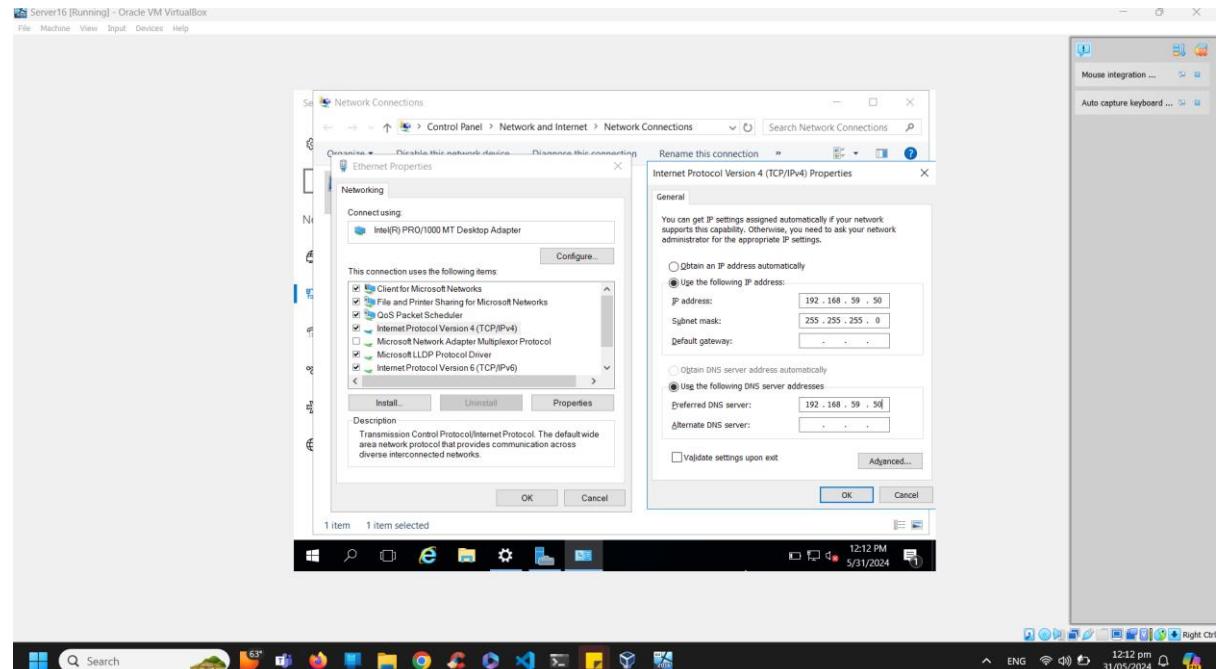
### **Server2016:**

- Go to network and internet settings in Server16 and click ‘change adapter settings’ of the Ethernet as mentioned in Fig 2.2



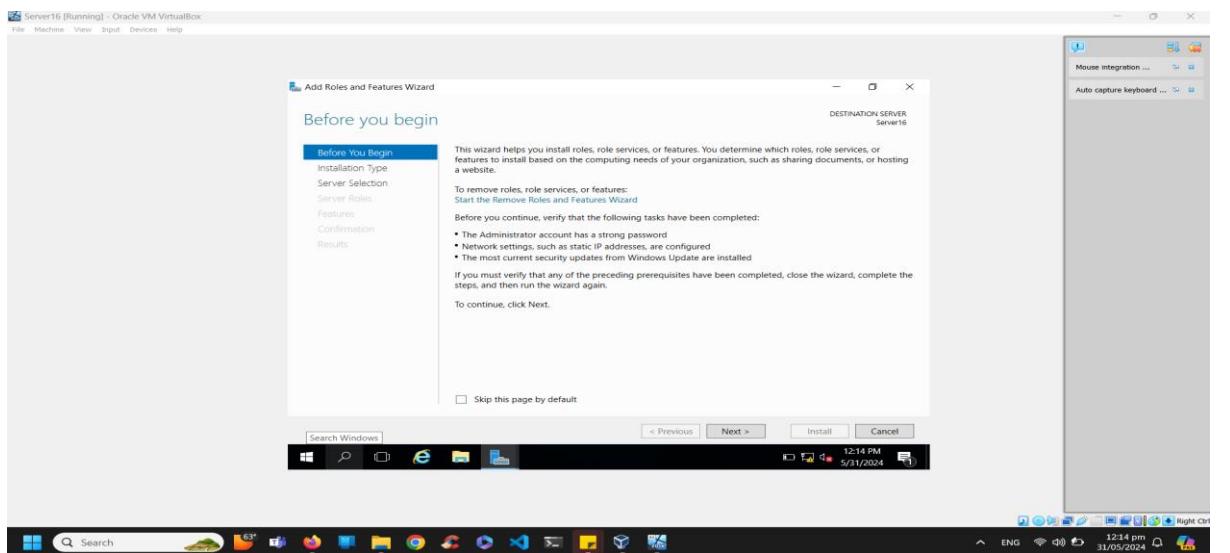
**Fig 2.2 Server16 Ethernet settings**

- Set the static IP address for the server16 as 192.168.59.50 with a subnet mask 255.255.255.0. with the DNS server 192.168.59.50. Refer fig 2.3



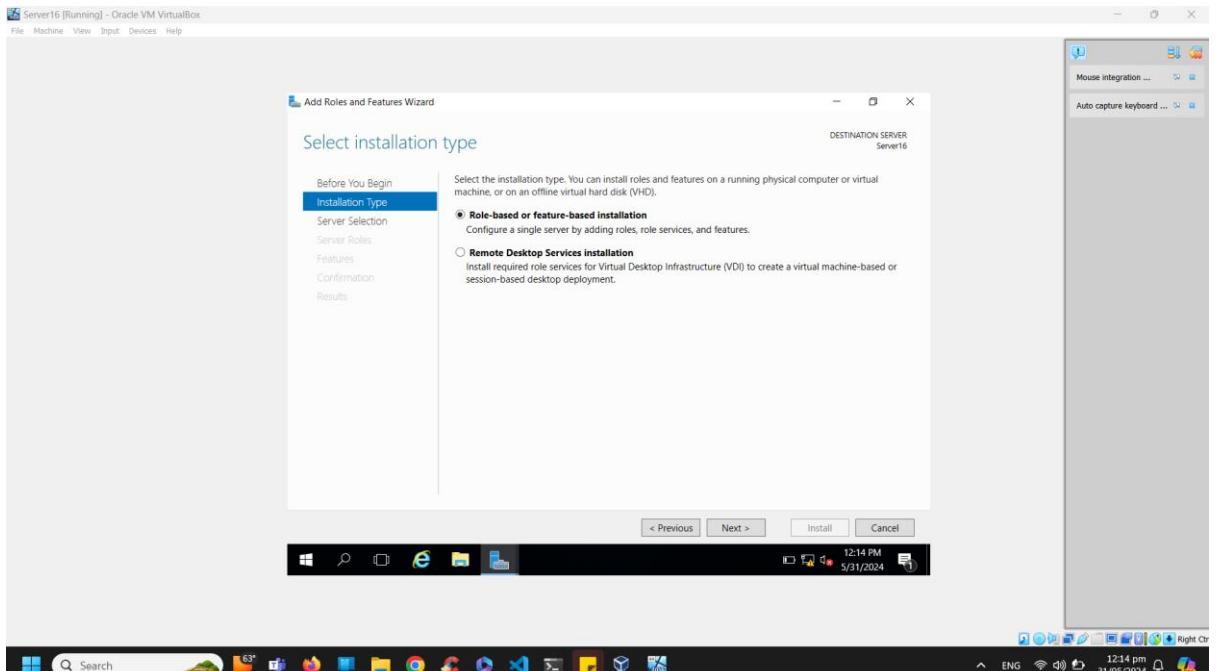
**Fig 2.3 Server16 IPV4 settings**

- Install Active directory from the server manager by clicking on ‘Add roles and features’ step by step Refer Fig 2.4a and click ‘Next’



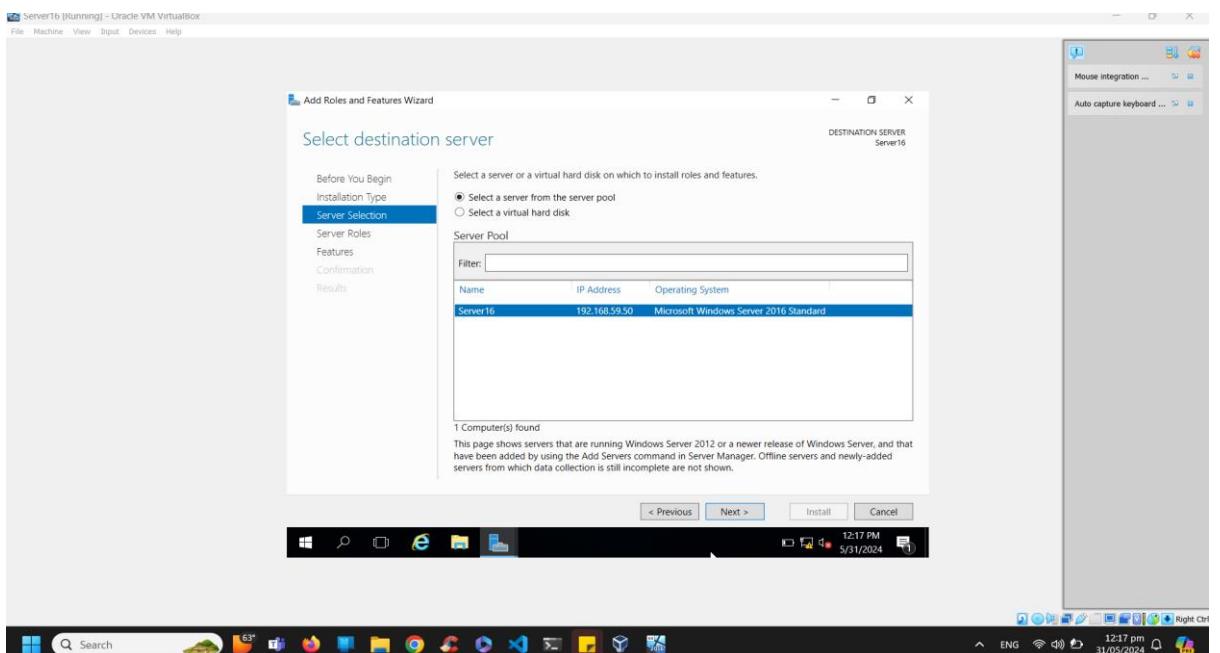
**Fig 2.4a Server Manager- Add roles and features wizard**

- Select Role-based or feature based installation. Refer Fig 2.4b



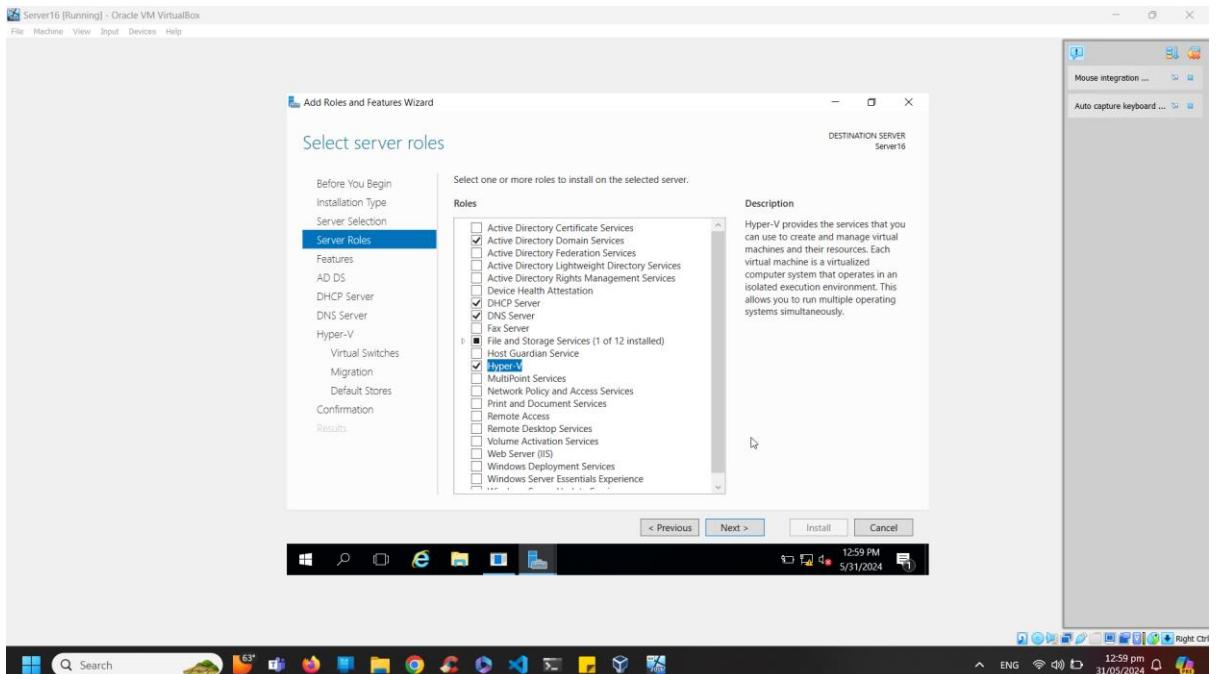
**Fig 2.4b Role-based or feature based**

- Check for the IP address of 192.168.59.50 reflects in the server selection of the add roles wizard. Refer Fig 2.4c



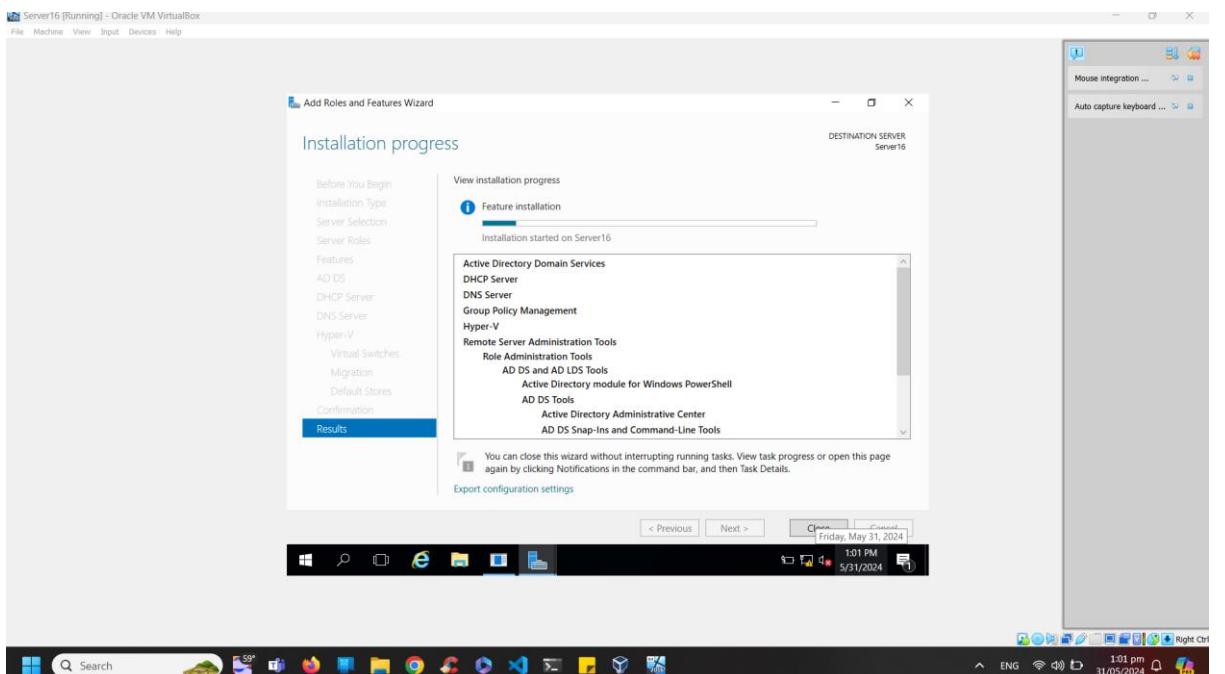
**Fig 2.4c Server selection with the right IP address**

- Select the server roles one by one like Active Directory, DHCP server, DNS Server and Hyper V. Refer Fig 2.4d



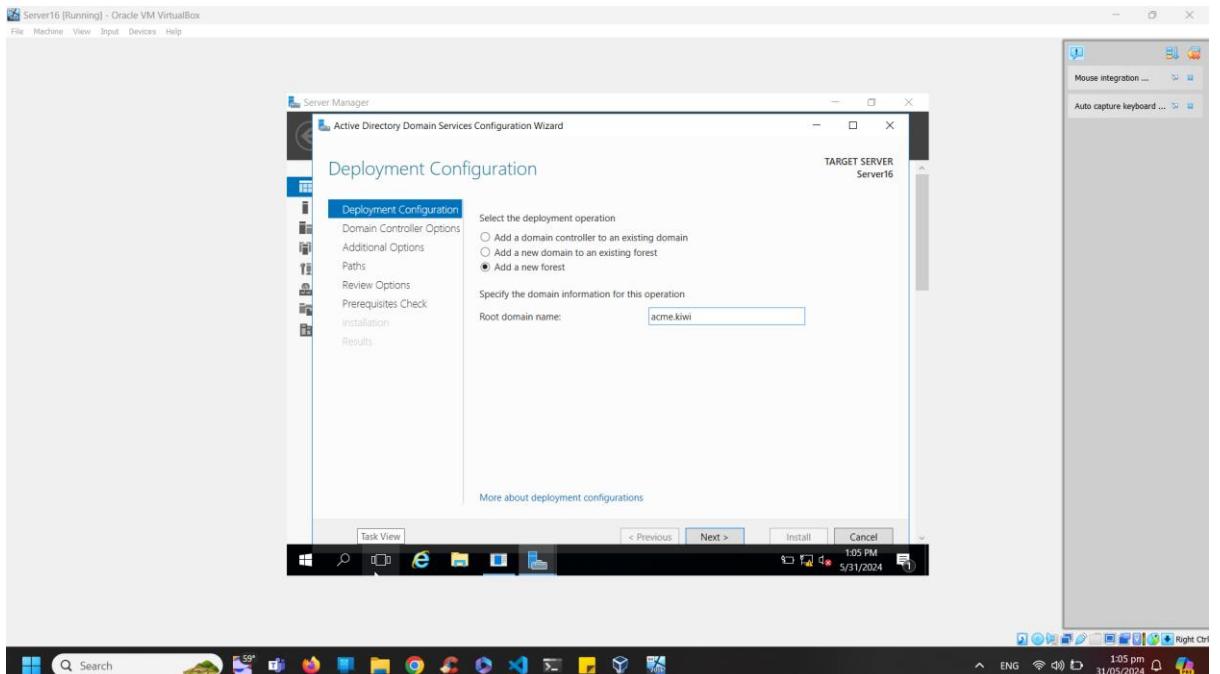
**Fig 2.4d Server roles**

- Once the server roles are added and their required features. The installation of the roles goes through in the server16. Refer Fig 2.4e



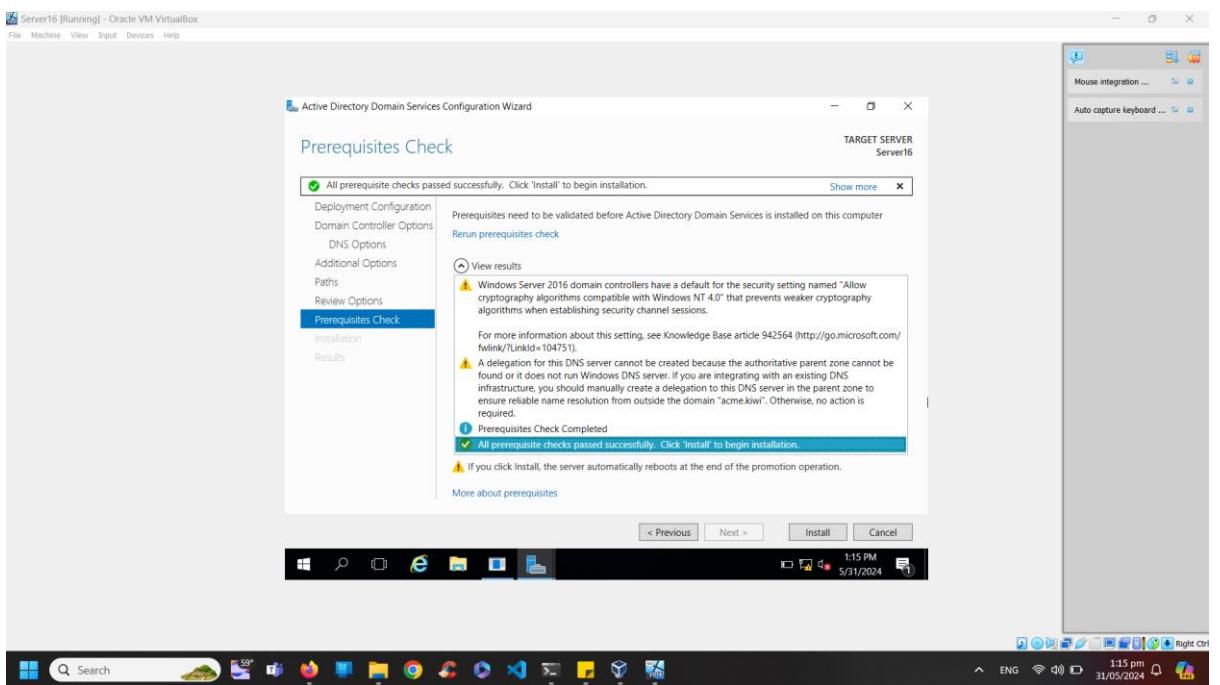
**Fig 2.4e Server roles installation**

- Configure the Active directory by clicking on 'Add new forest' and give the domain name as per FQDN 'acme.kiwi'. Refer fig 2.5



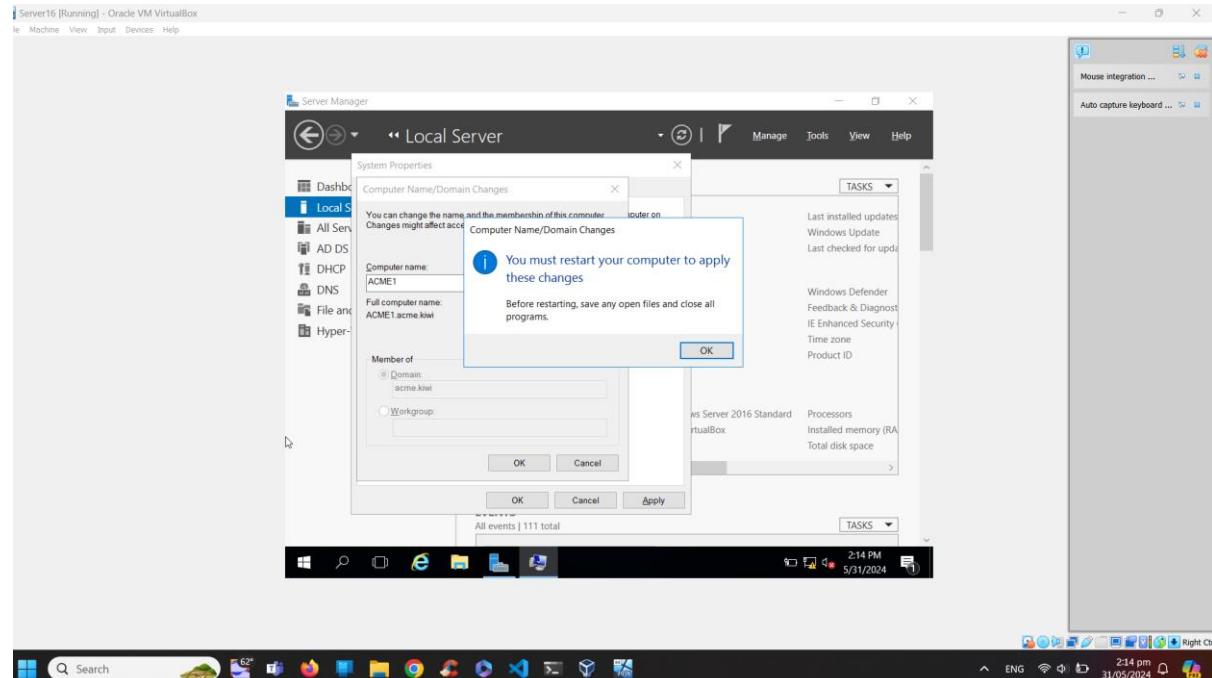
**Fig 2.5a Active directory Configuration**

- Click ‘Next’ after each step and finally all Pre-requisites check is passed successfully for the active directory. Refer Fig 2.5b. Then click ‘Install’ on the wizard.



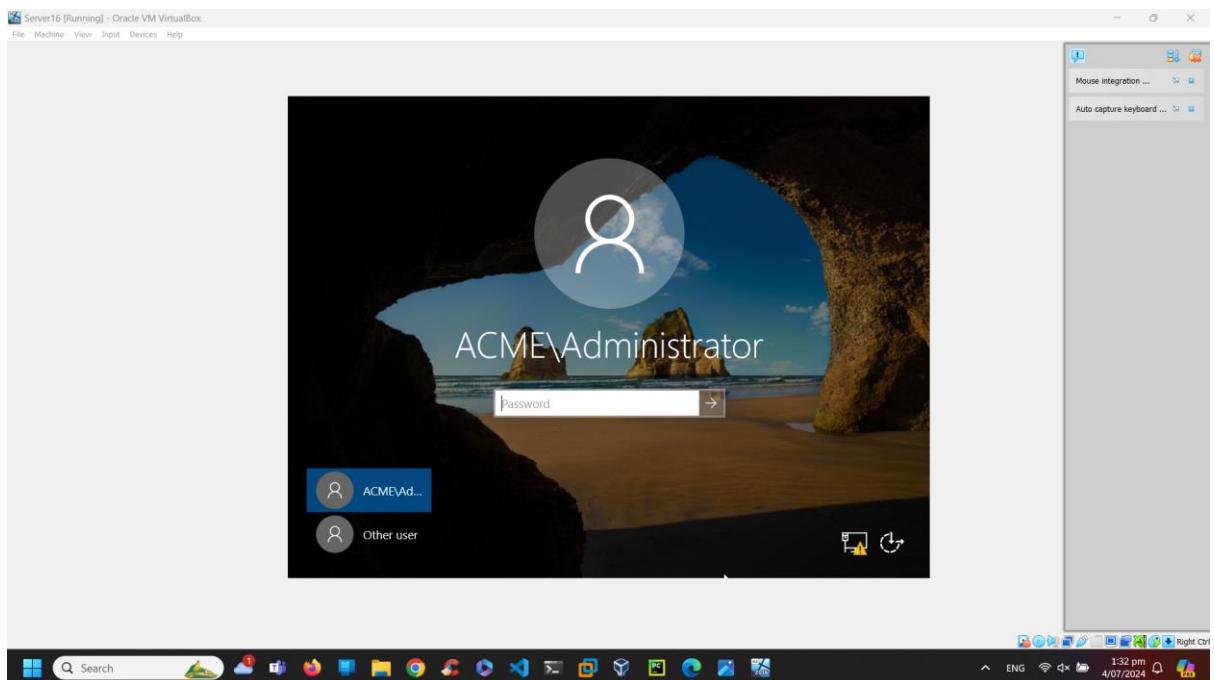
**Fig 2.5b Active directory Pre-requisites check**

- Change the Server16’s Computer’s name as ACME1 and join it to the domain. Refer Fig 2.6a



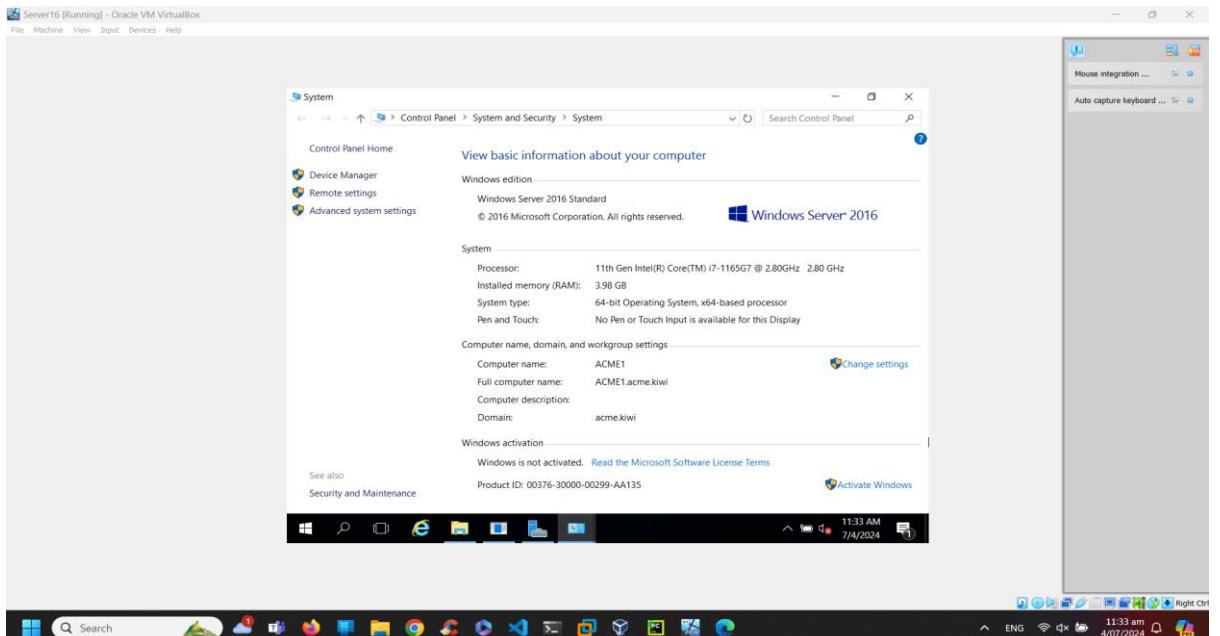
**Fig 2.6a Change computer name and add to the domain**

- Restart the server and log on using ACME/administrator and Password2. Refer Fig 2.6b.



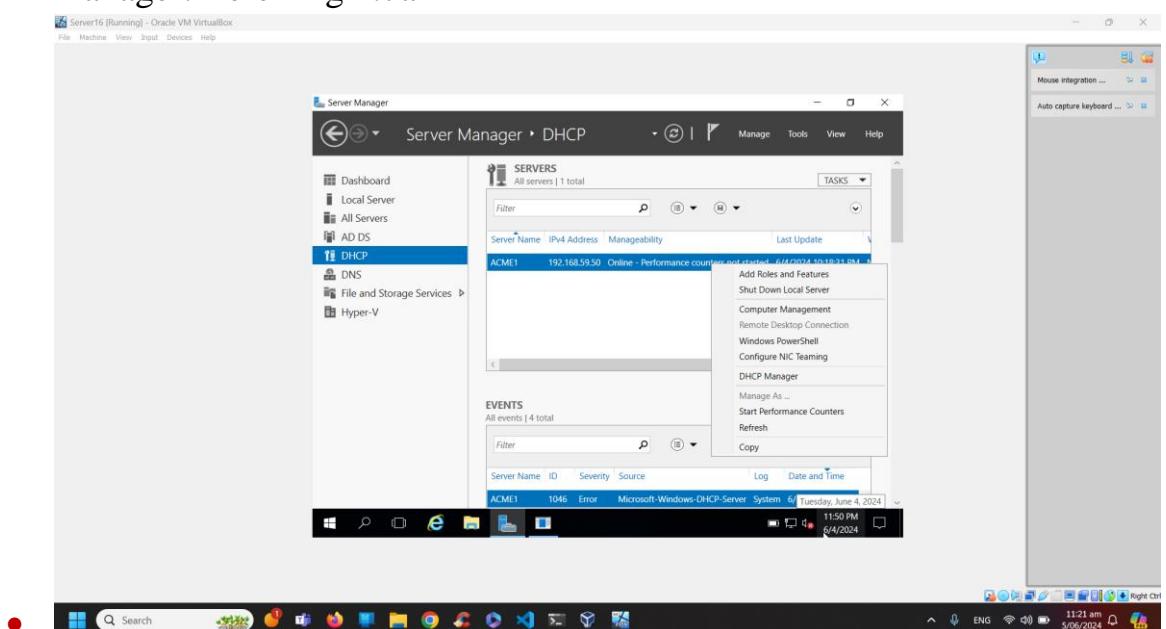
**Fig2.6b Administrator logon- server16**

- Go to ‘Control Panel’ and check the changed computer name and domain name reflects on the system properties. Refer Fig 2.6c



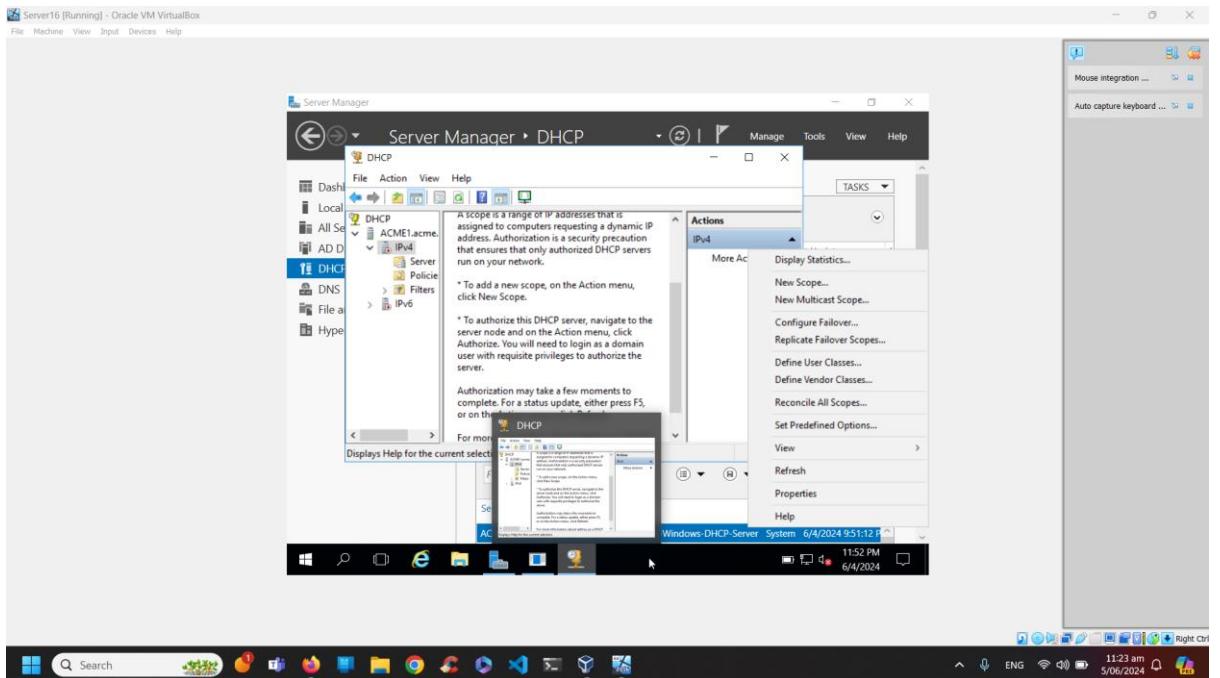
**Fig 2.6c System properties**

- Configure DHCP range through DHCP manager in the server manager. Refer Fig 2.7a



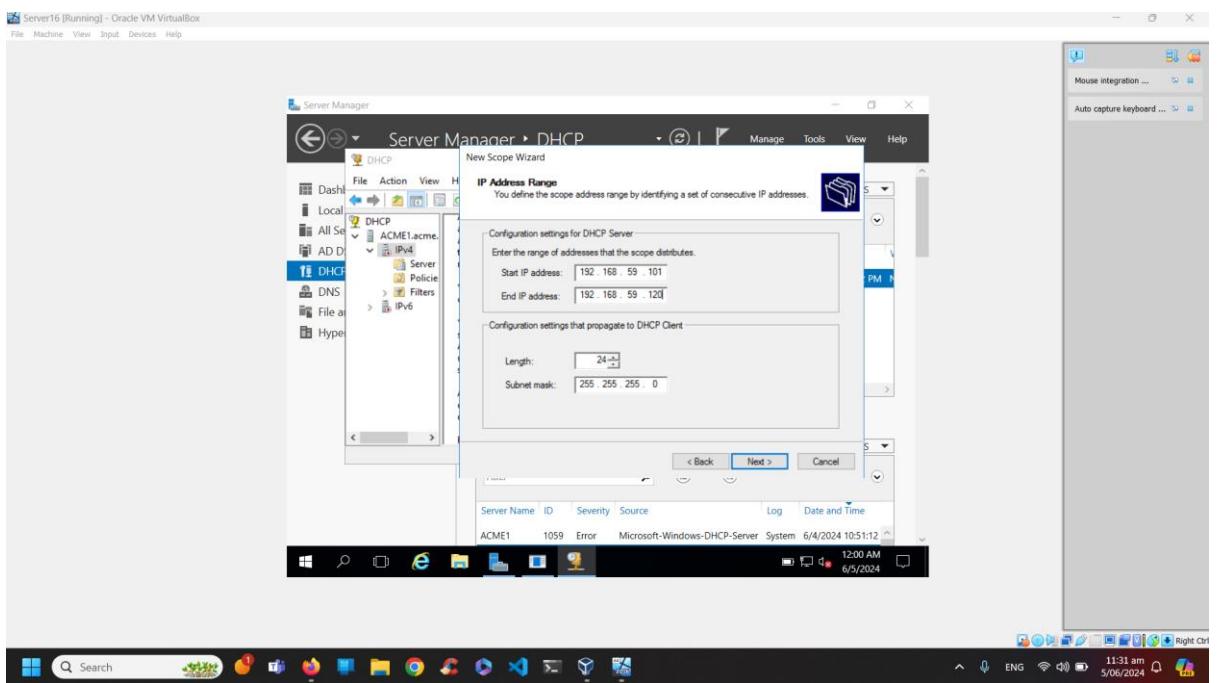
**Fig 2.7a DHCP manager.**

- Set the IP4 in DHCP window and go to Actions- ‘New Scope’. Refer 2.7b



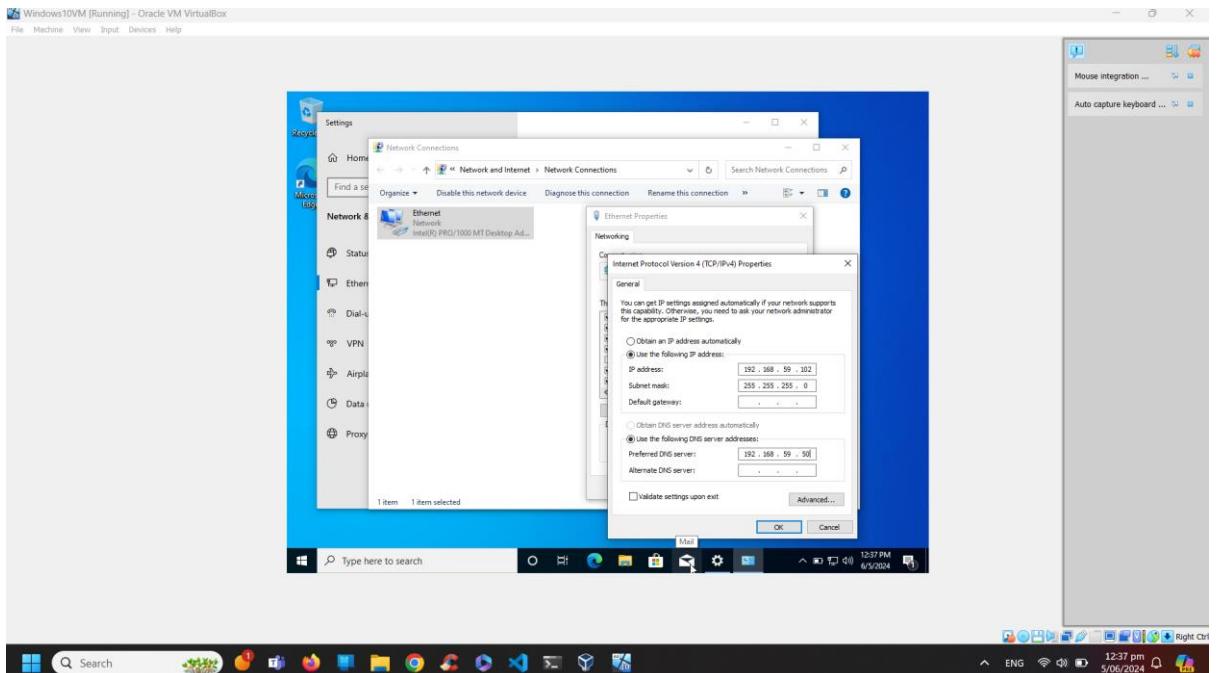
**Fig 2.7b IPv4-New scope**

- Set the Ip range for the DHCP range which is between 192.168.59.101 to 192.168.59.120 in the new scope wizard. Refer Fig 2.7c



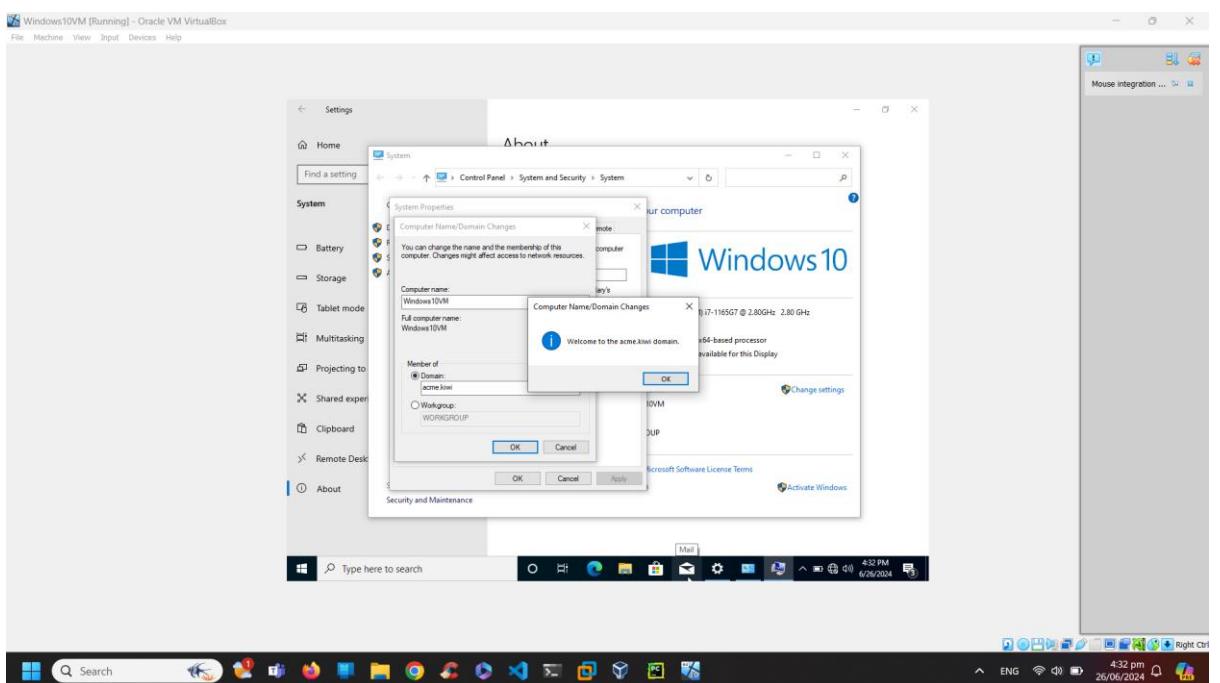
**Fig 2.7c DHCP Range settings.**

- **Windows10 client IP configuration:** Set the IP address in DHCP range. Here I set the client computer with IPv4 address as 192.168.59.102, subnet mask 255.255.255.0 and DNS server IP address as 192.168.59.50. Refer Fig 2.8



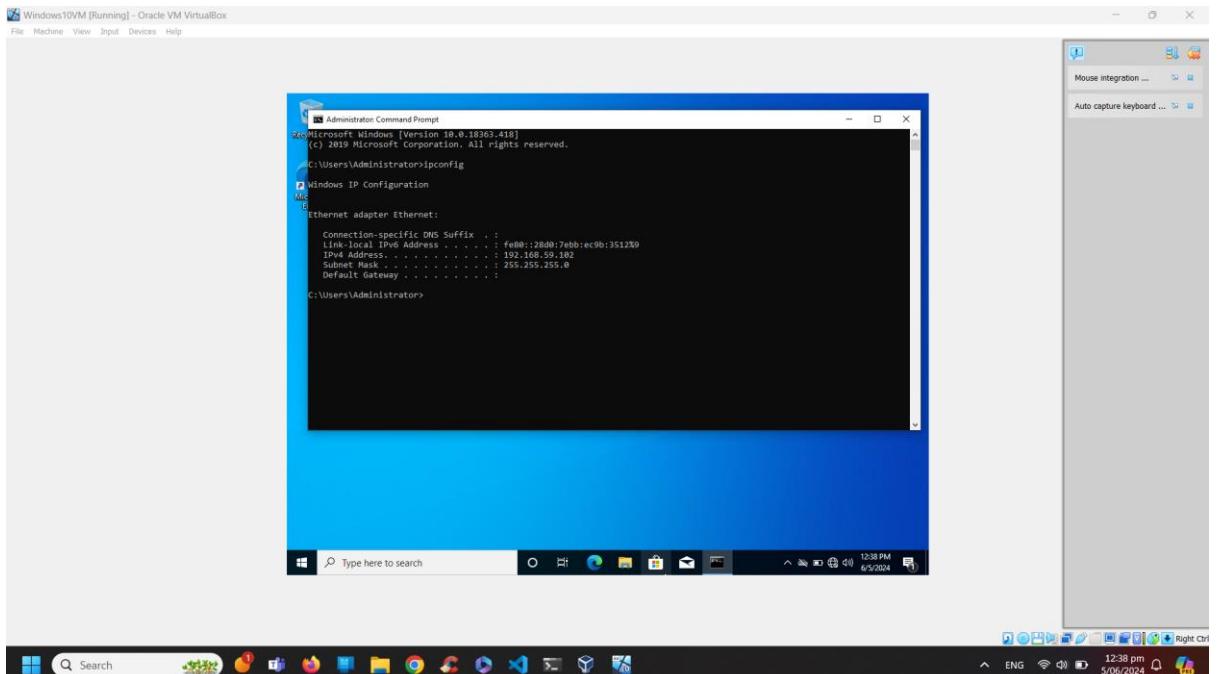
**Fig 2.8 Windows 10 IPV4 settings.**

- Join windows10 to the domain acme.kiwi. Refer Fig 2.9



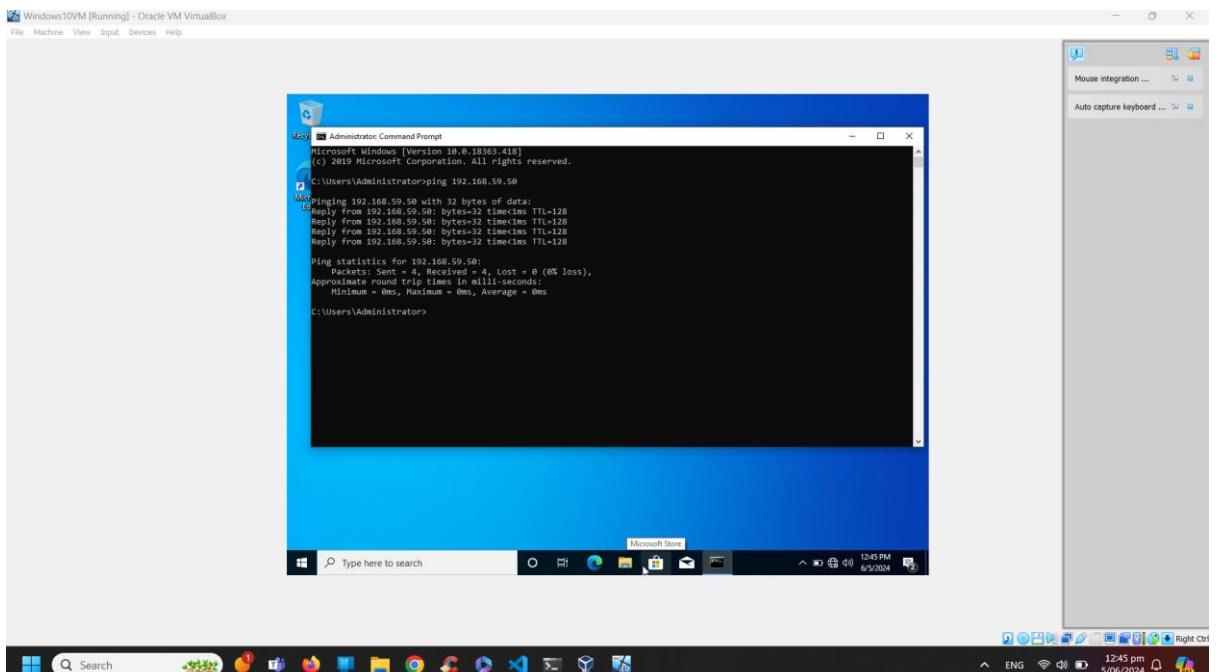
**Fig 2.9 Windows 10 joins the domain**

- Check ipconfig in the command prompt of windows10. Refer Fig 2.10



**Fig 2.10a Windows10 command prompt-ipconfig**

- Check the connectivity between the server and client by using command prompt again with ‘ping’ Refer 2.10b



**Fig 2.10b Windows10 command prompt-ping server**

- Check the network adapter of both server and client in ‘Internal adapter’ or ‘Lan1 segment’. Fig 2.11

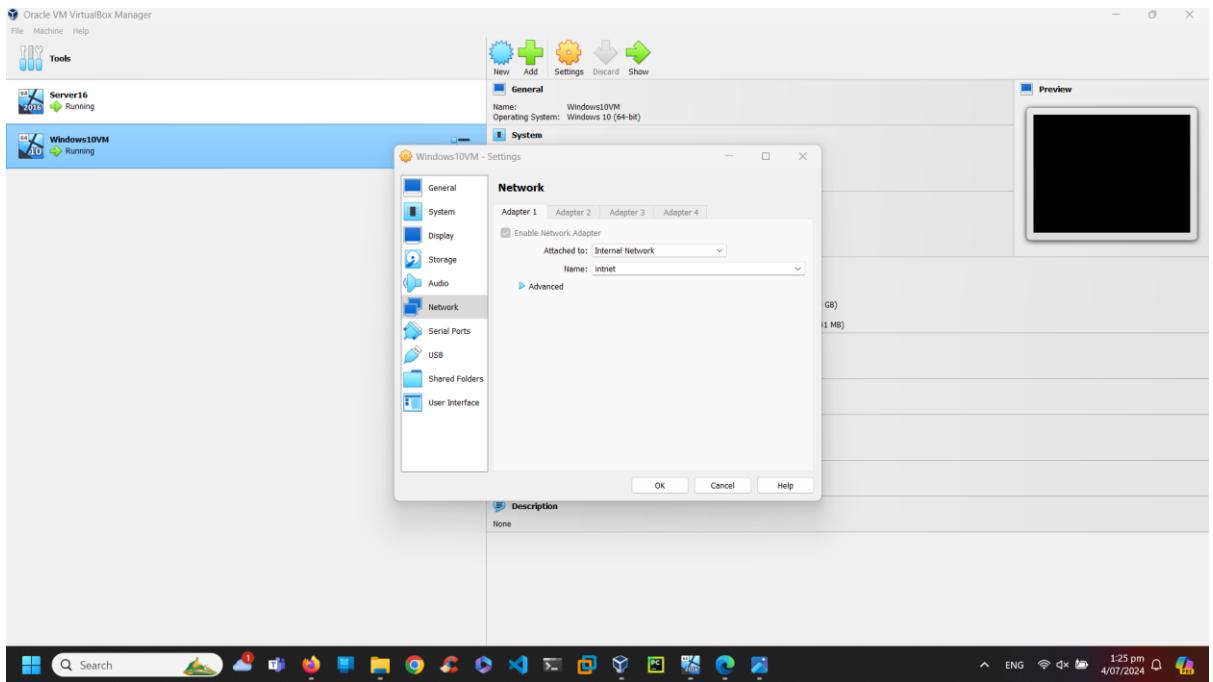


Fig 2.11 Network adapter of the client and server

### TASK 3: Creating users and groups in Server 2016

- Select ‘AD Users and computers’ in server manager. Ref Fig 3.1

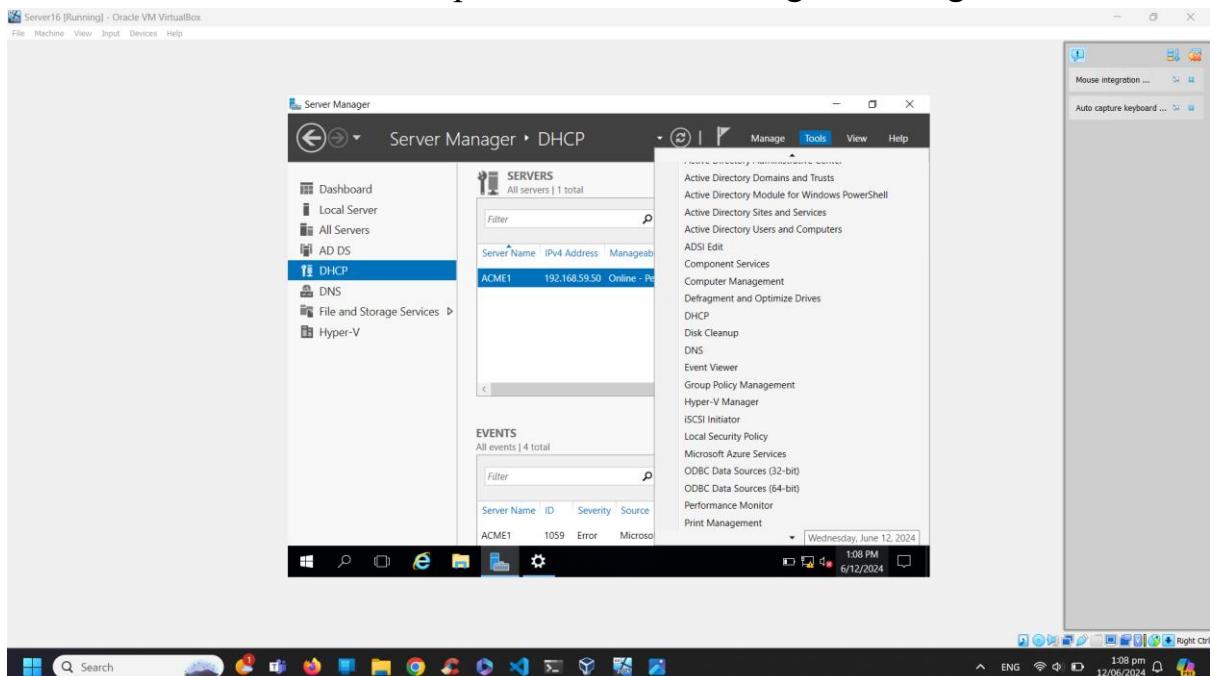


Fig 3.1 Users and computers

- Select new groups like Administration, Finance, HR, Sales, Writers, Production and Editors, some of them are shown in Fig 3.2a to 3.2d

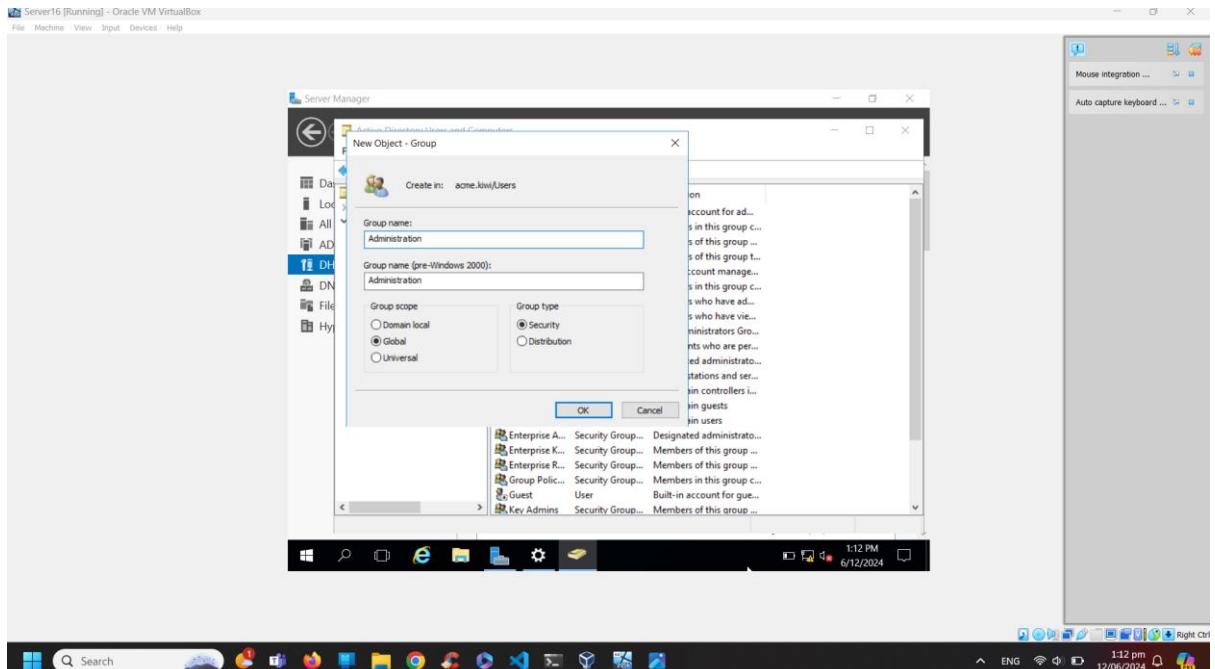


Fig 3.2a Administration group

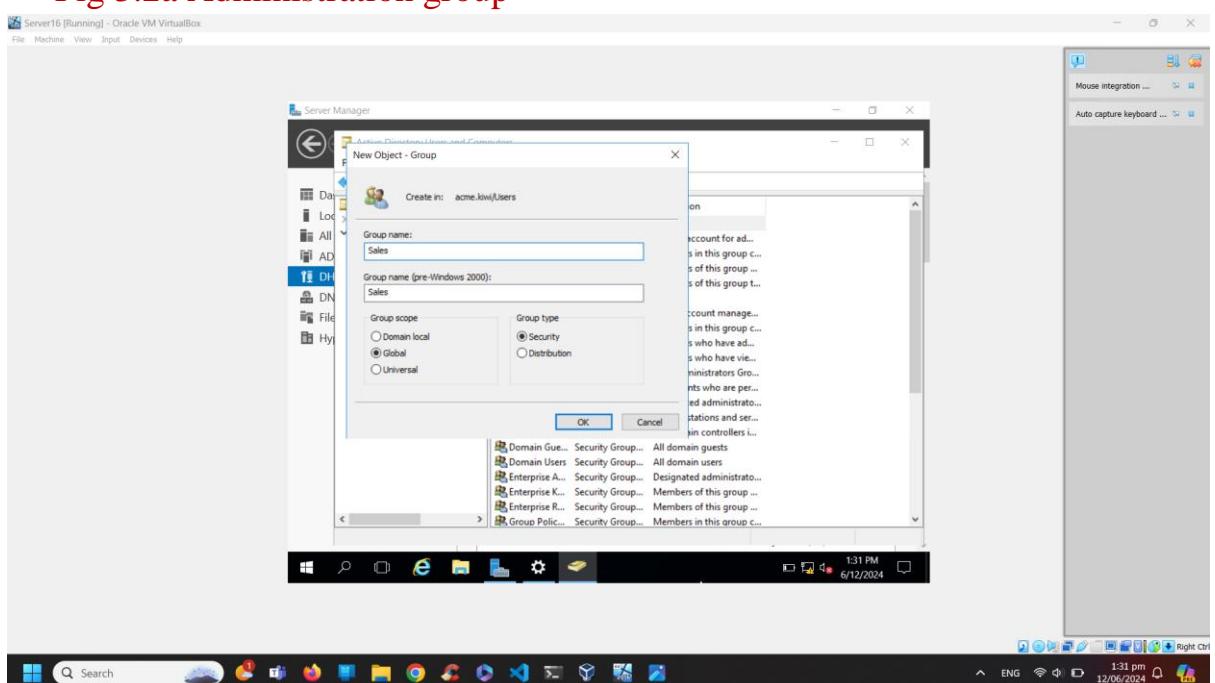
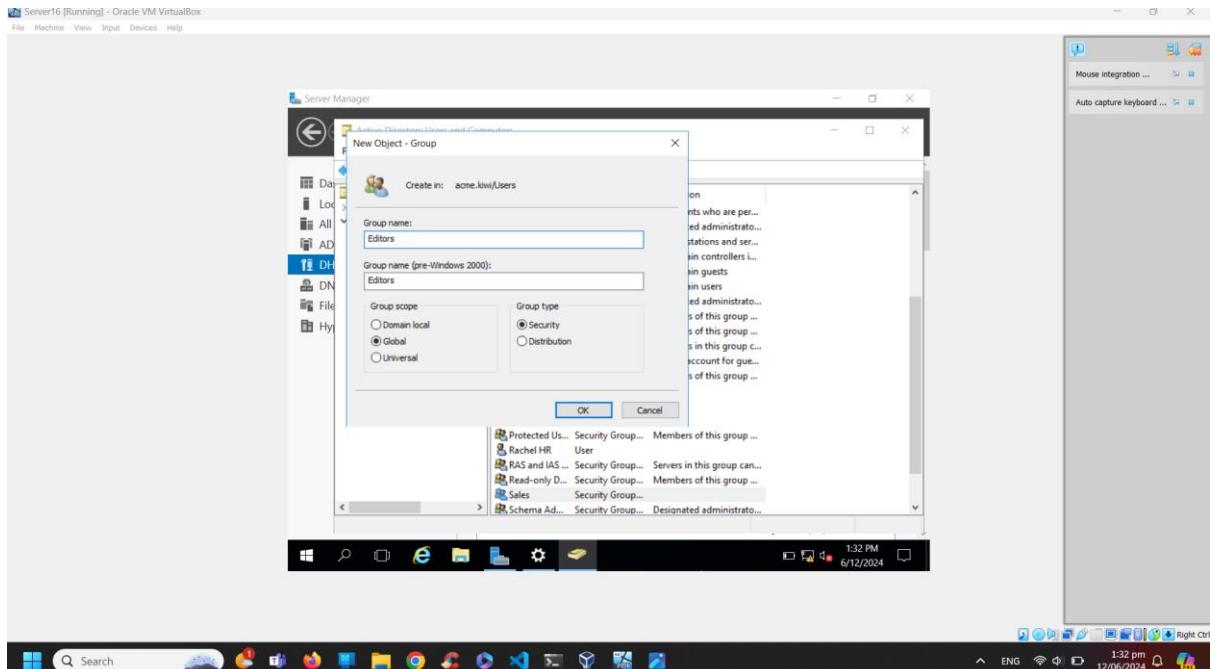
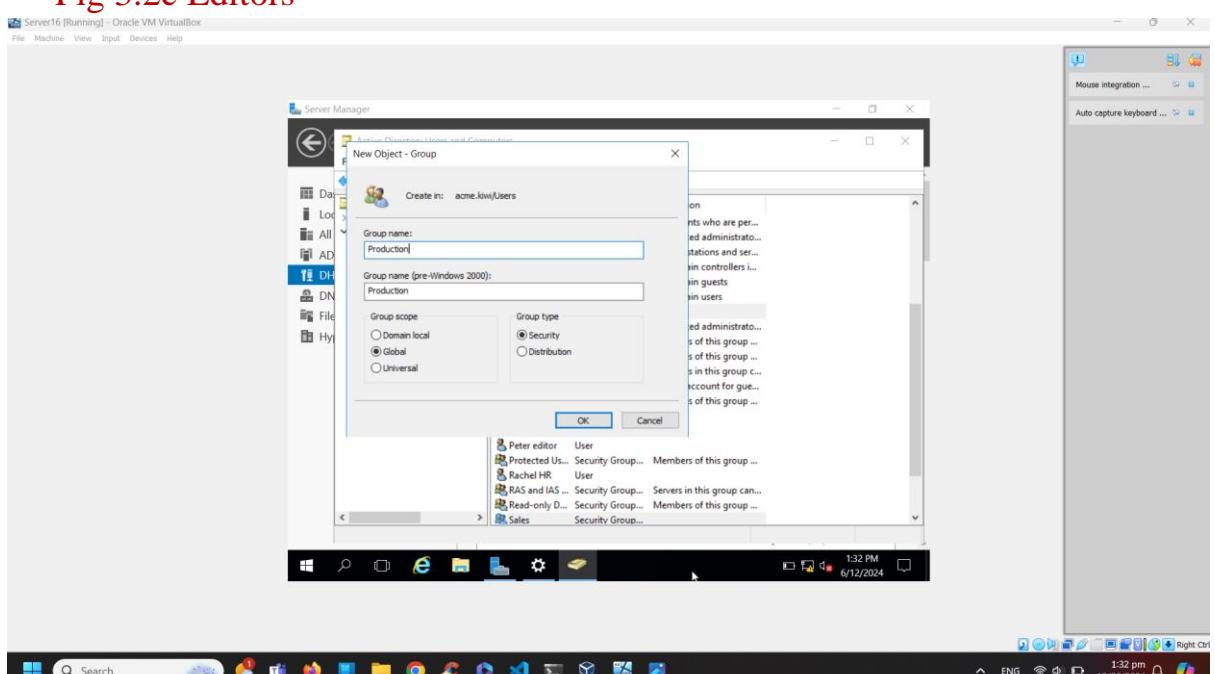


Fig 3.2b Sales



**Fig 3.2c Editors**



**Fig 3.2d Production**

- HR and Finance are the sub-groups of administration which can be done by ‘Add to a group’. So, the members of administration are HR and Finance. Refer Fig 3.3a and 3.3b

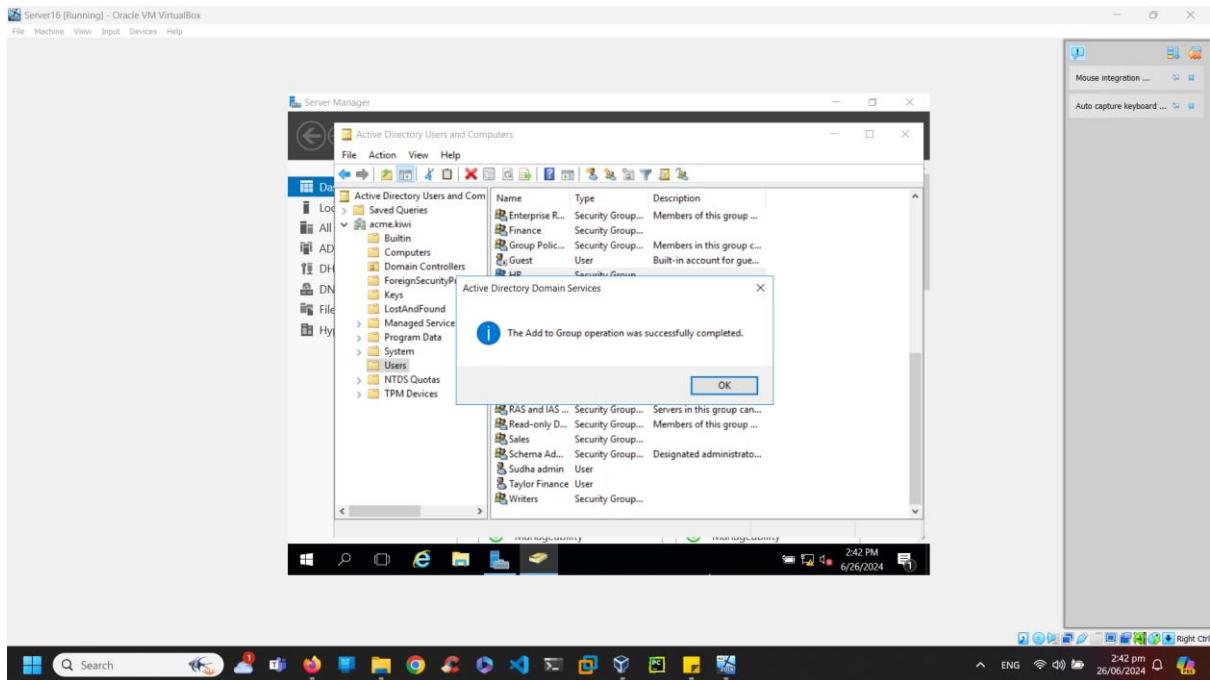


Fig 3.3a Add to a group

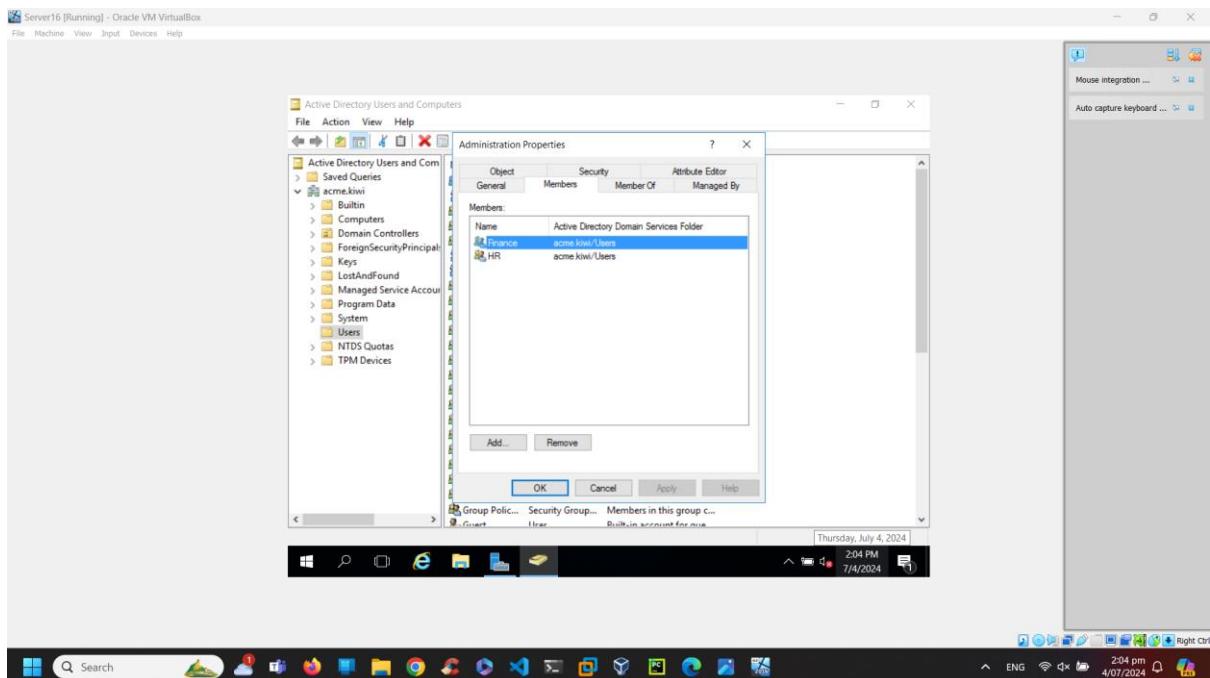


Fig 3.3b subgroups

- Creating the staffs/users ID and join them to the specific groups as mentioned in the description. One of the user's Id creations is shown Fig 3.4a and Fig 3.4b

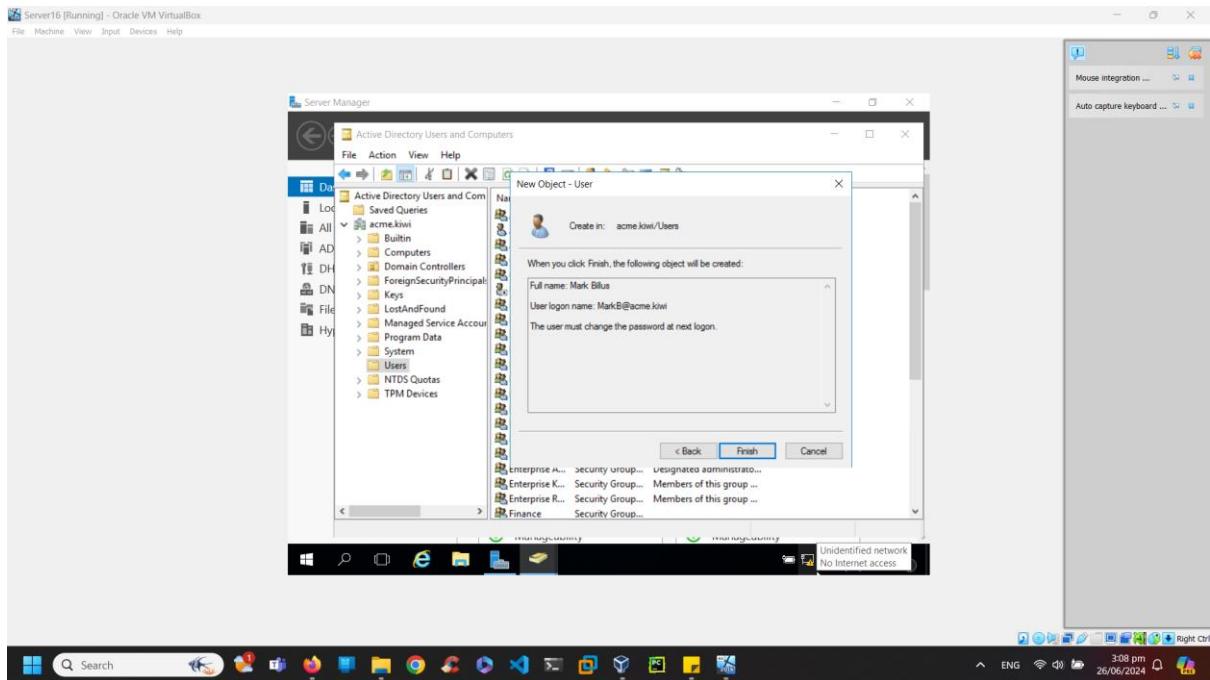


Fig 3.4a Mark Billus-User of writers group

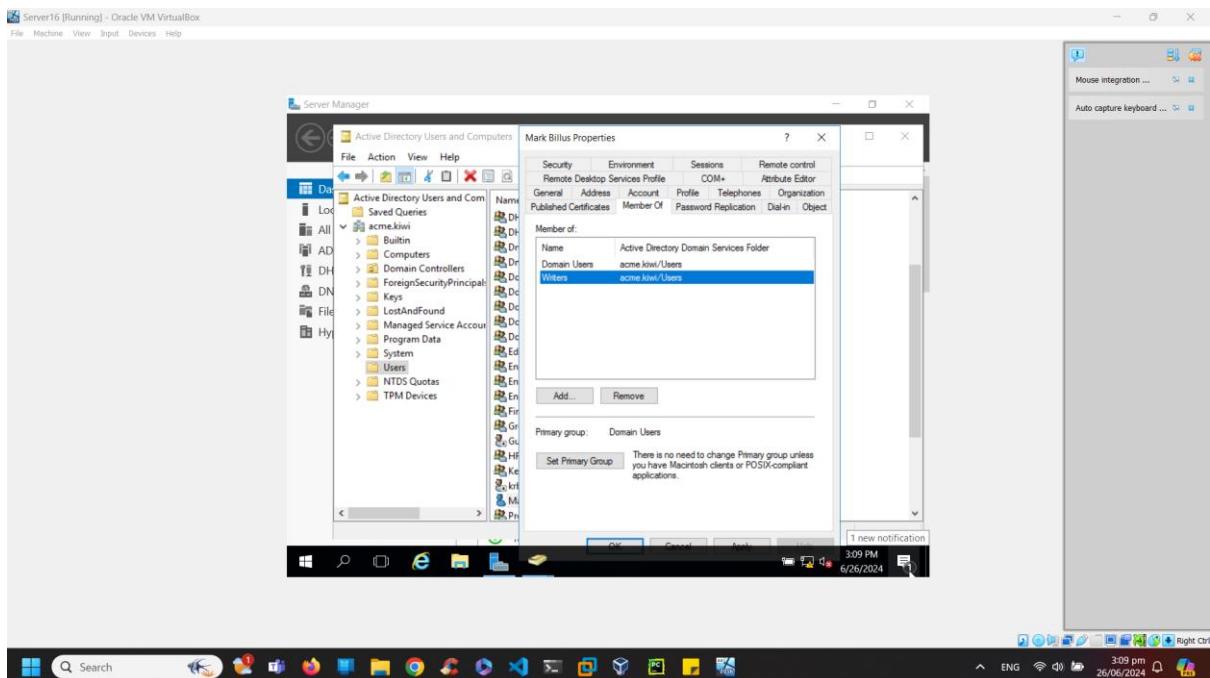


Fig 3.4b member of Writers group

- The user of the sales: Miki Haneyama account is created, and password change is added on her first login. Refer Fig 3.5a and Fig 3.5b
- The User is trying to log on from the client computer using their email id and given password. Refer Fig 3.5c, Fig 3.5d and Fig 3.5e

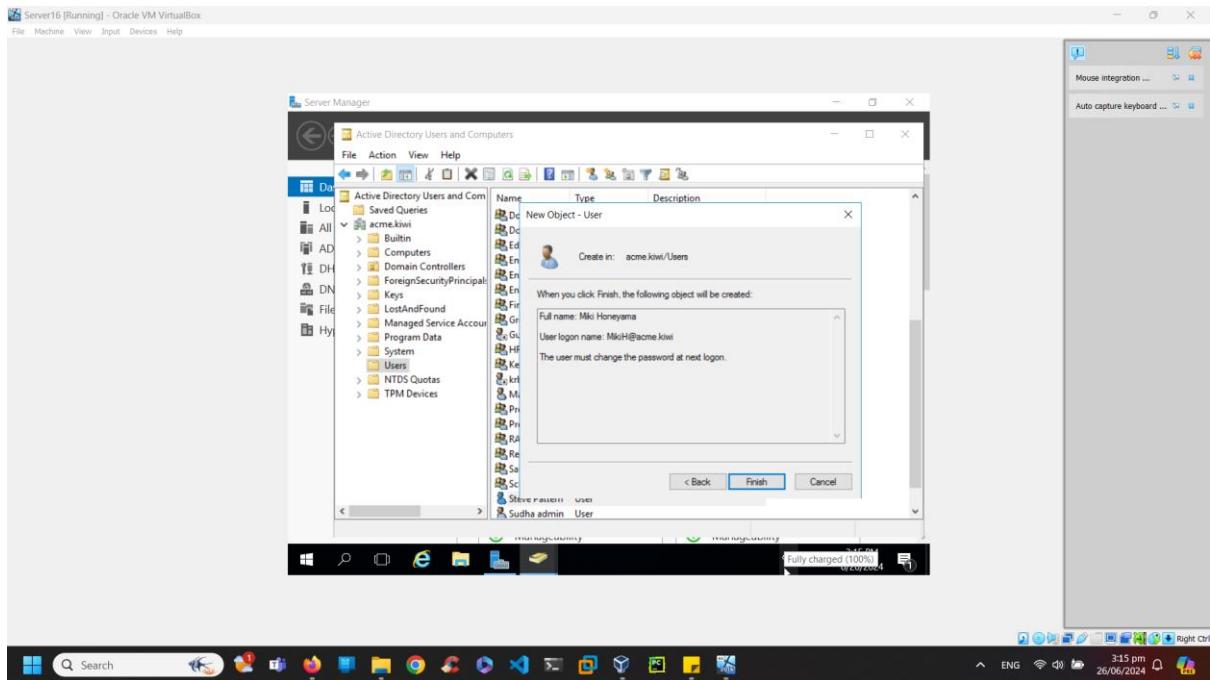


Fig 3.5a Miki Haneyama-user of sales

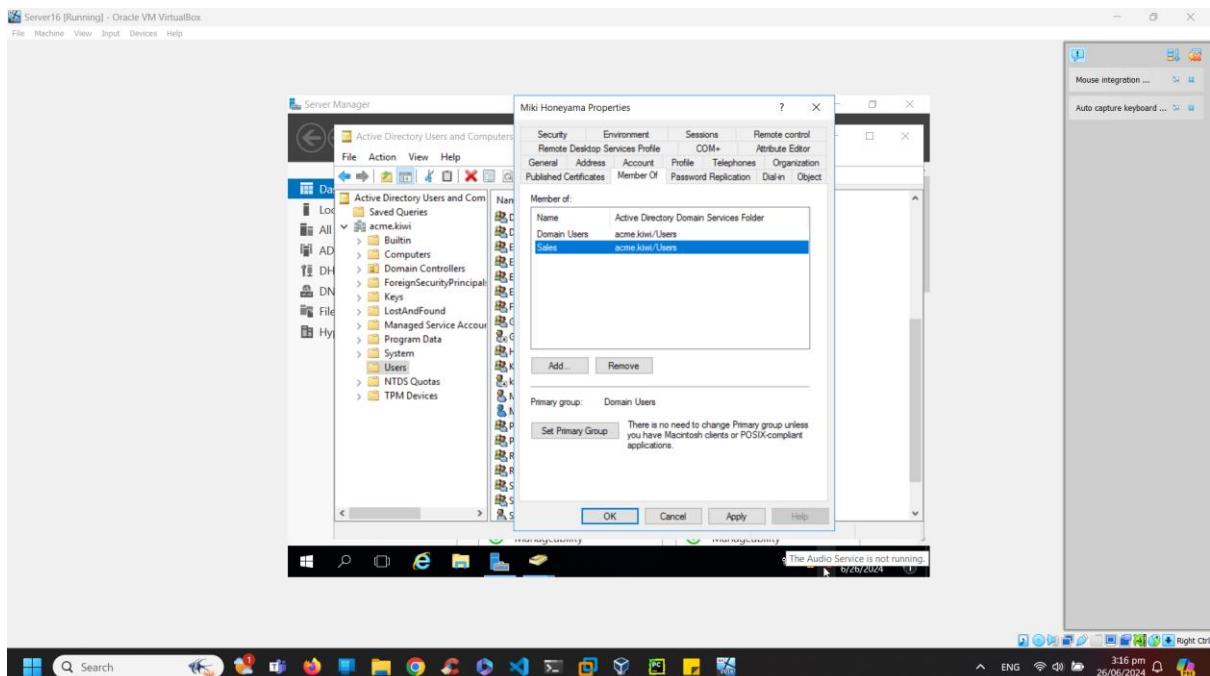


Fig 3.5b Member of sales group

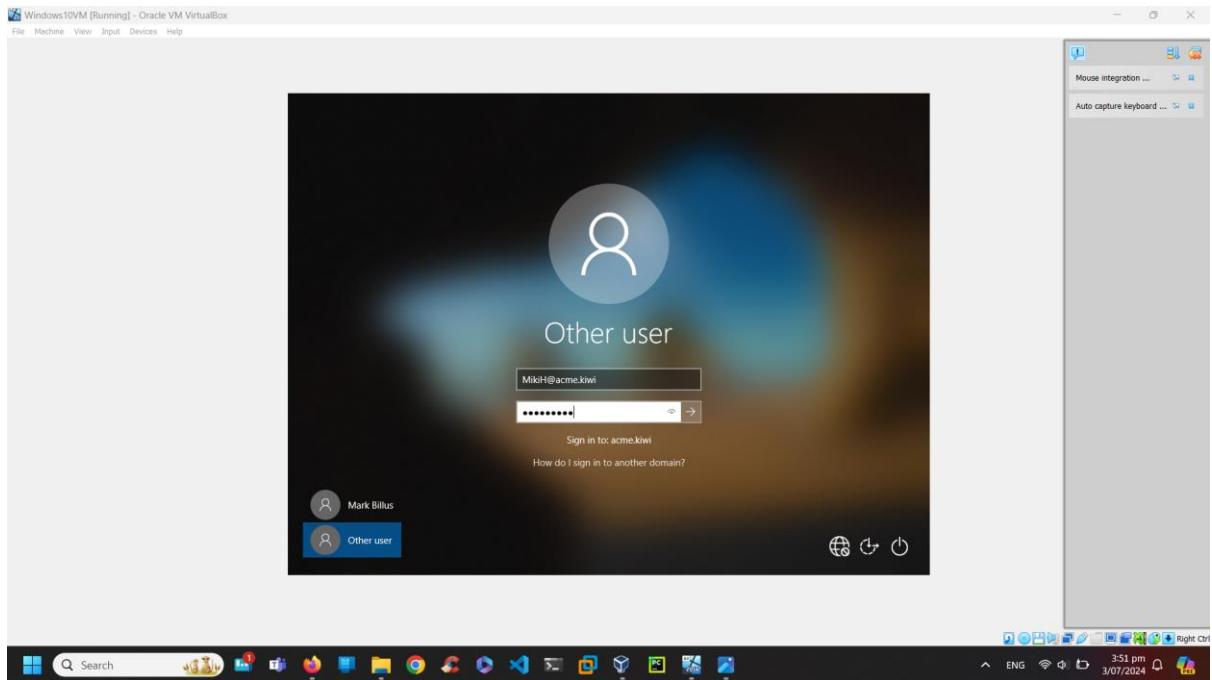


Fig 3.5c the user logon from windows10 with her email id

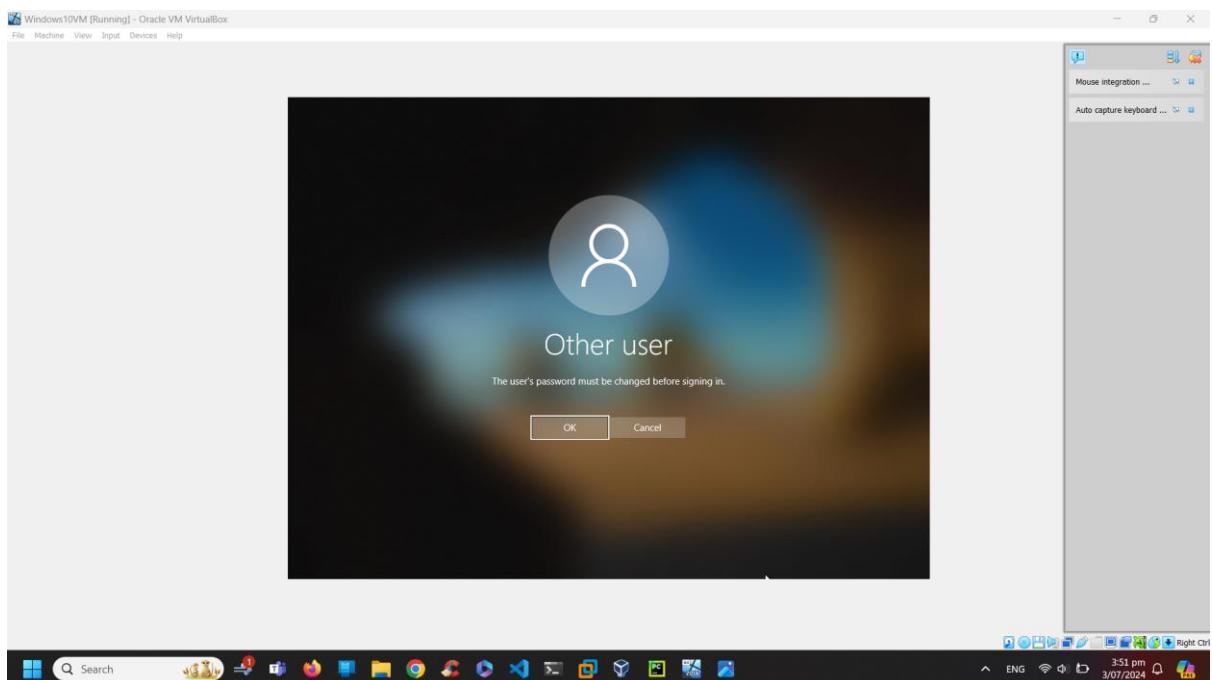


Fig 3.5d Request to change password

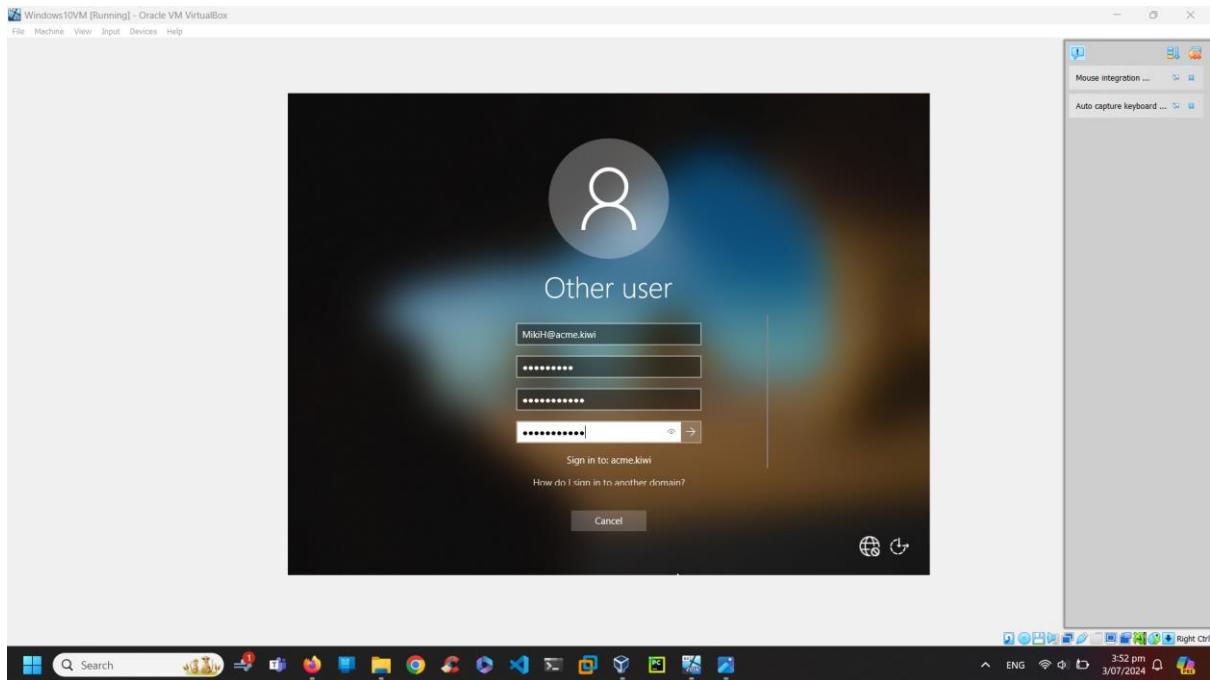


Fig 3.5e Change the password on first logon

### Other Users and their groups:

All he Users and their groups are created, and it is shown in fig 3.6a

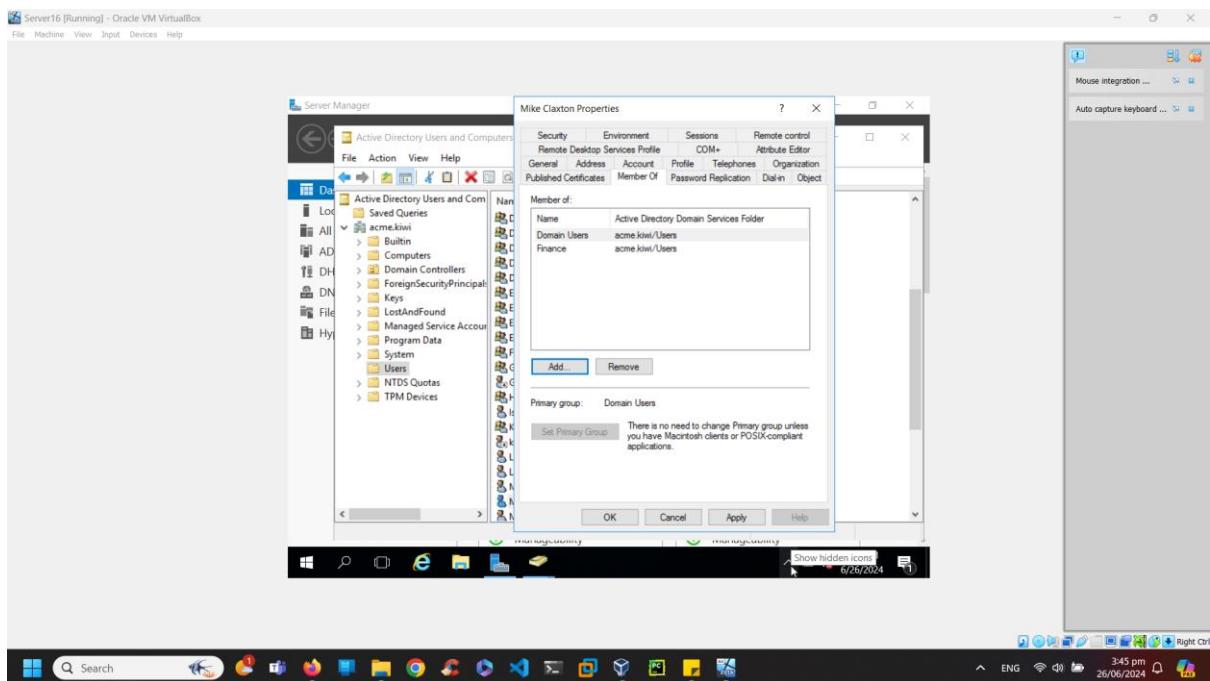


Fig 3.6a Mike Claxton of Finance department

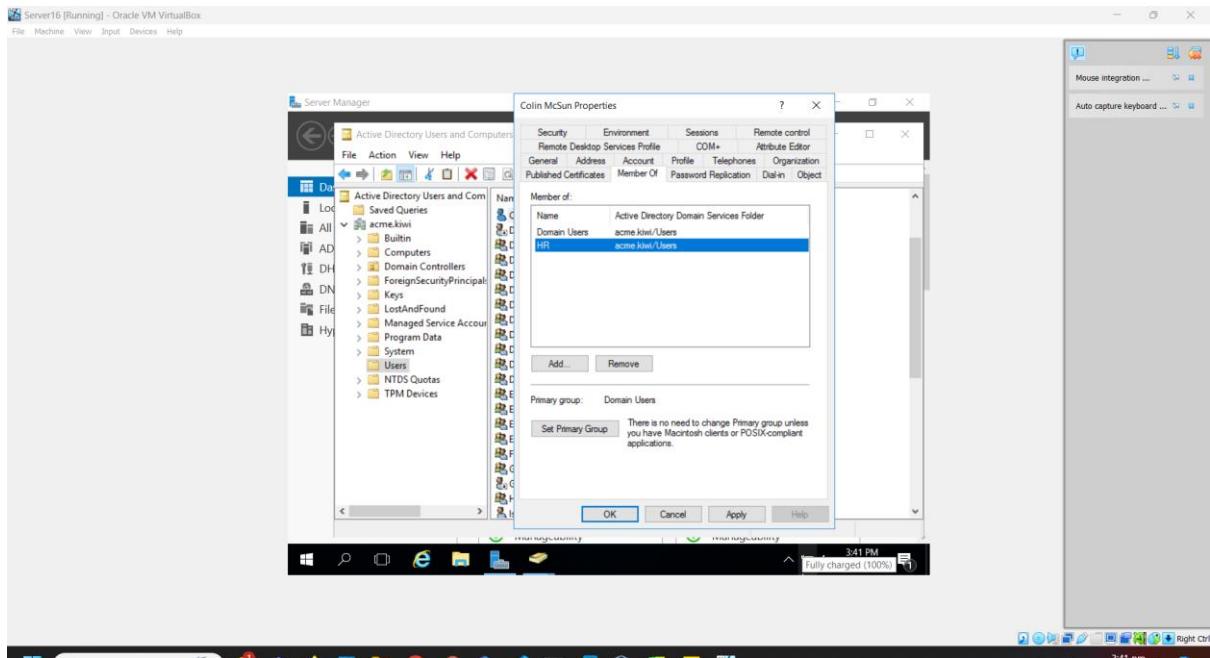


Fig 3.6b Colin McSun of HR department

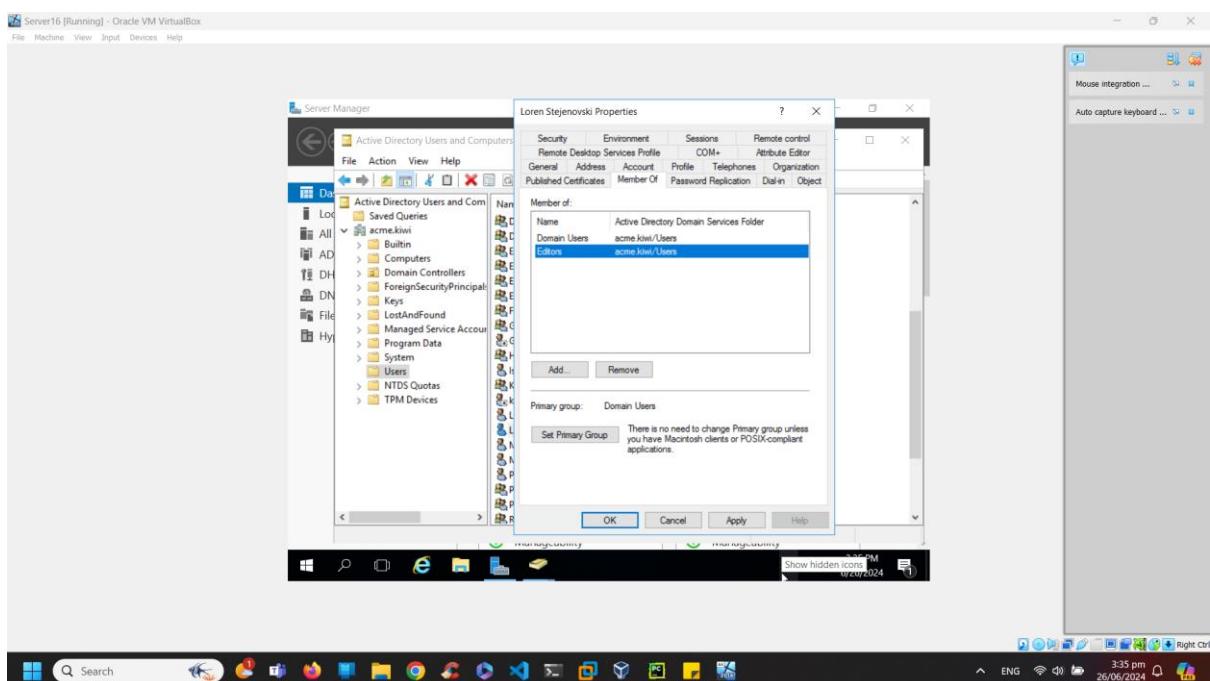
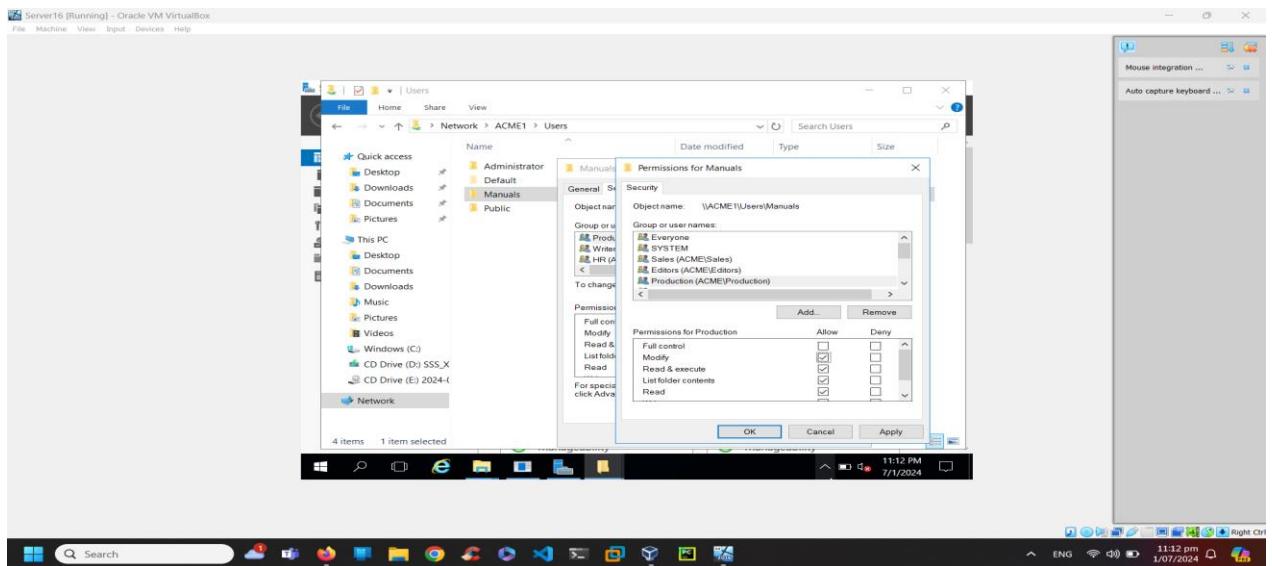


Fig 3.6c Loren of Editors department

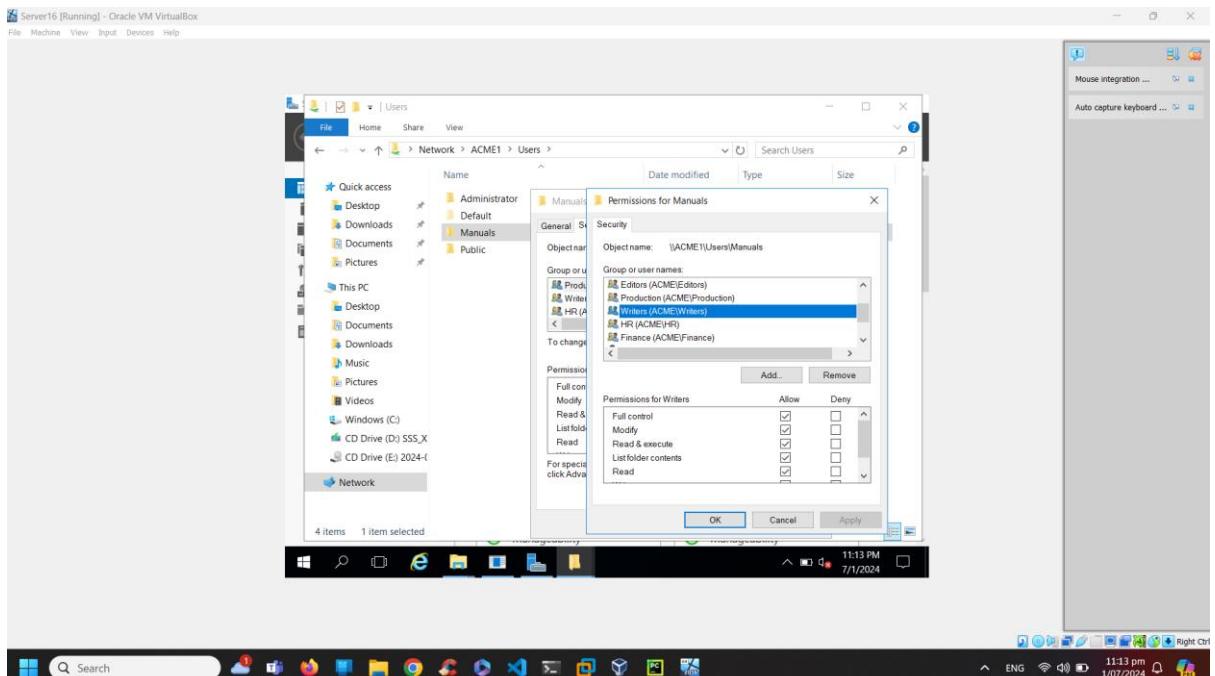
#### TASK 4: Access control for all departments.

- Create a shared folder ‘manuals’ in Server 2016 and set the permissions for each group. Fig 4.1a shows permission set for production group to **Modify**
- Set permissions for Editors and writers as **Full control**. Refer Fig 4.1b and 4.1c

- Set Finance and HR as **Read**. Refer Fig 4.1d and Fig 4.1e



**Fig 4.1a Production- Modify**



**Fig 4.1b Writers as full control**

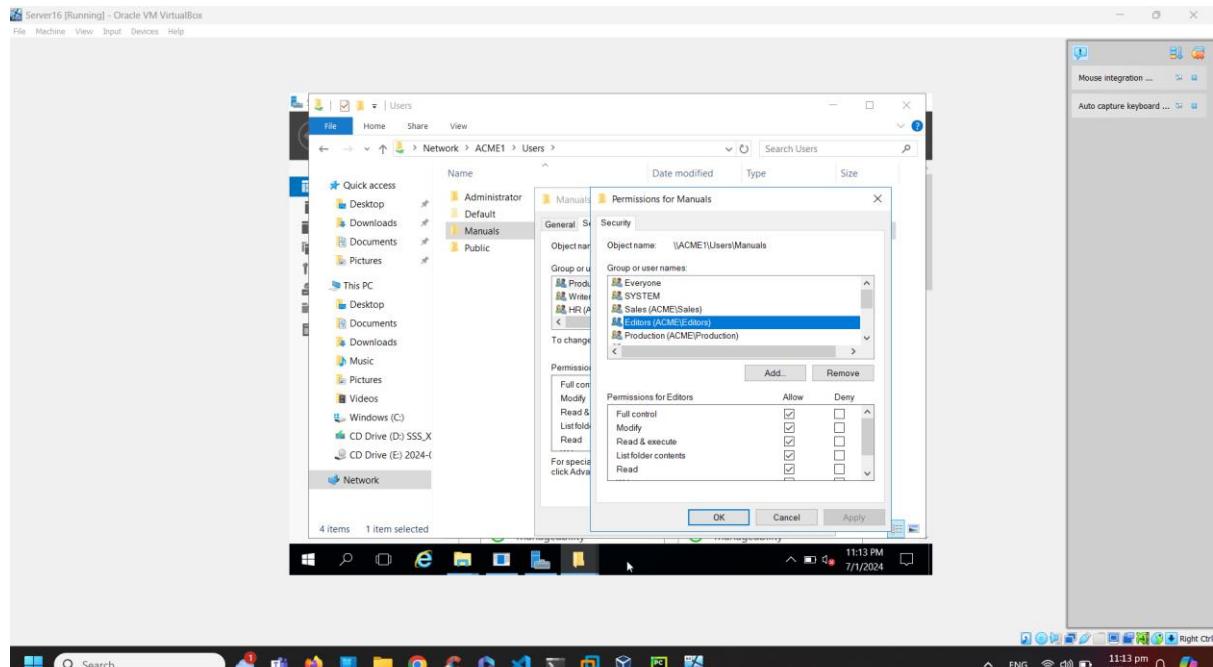


Fig 4.1c Editors as full control

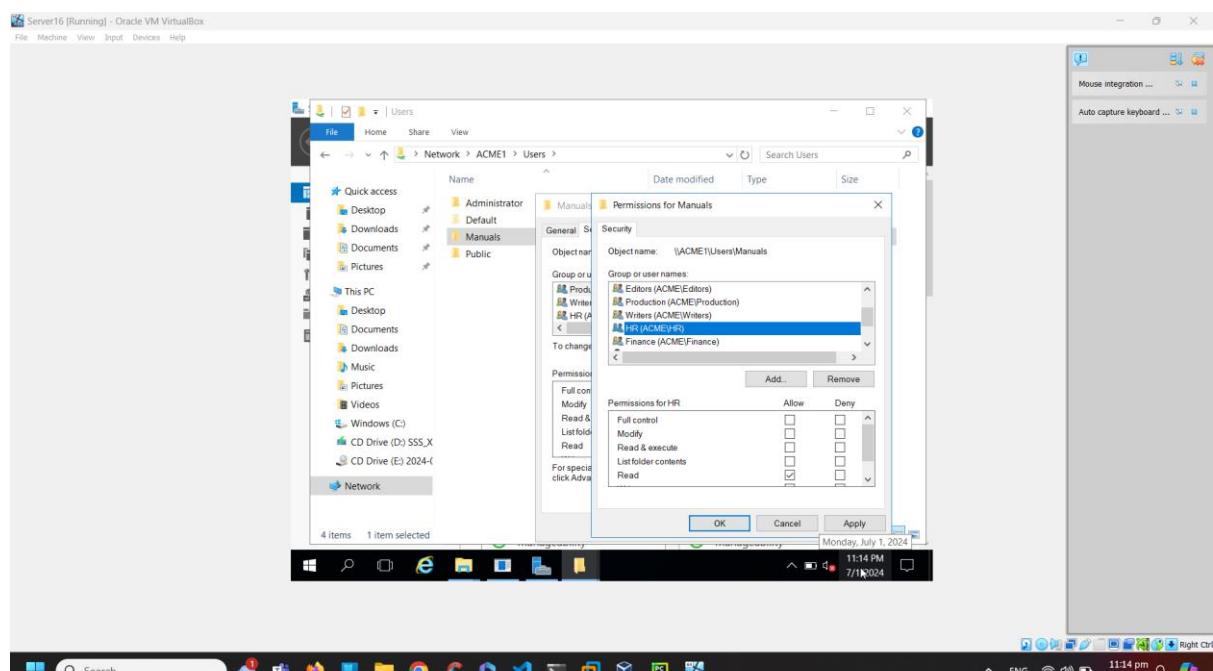


Fig 4.1d HR as Read

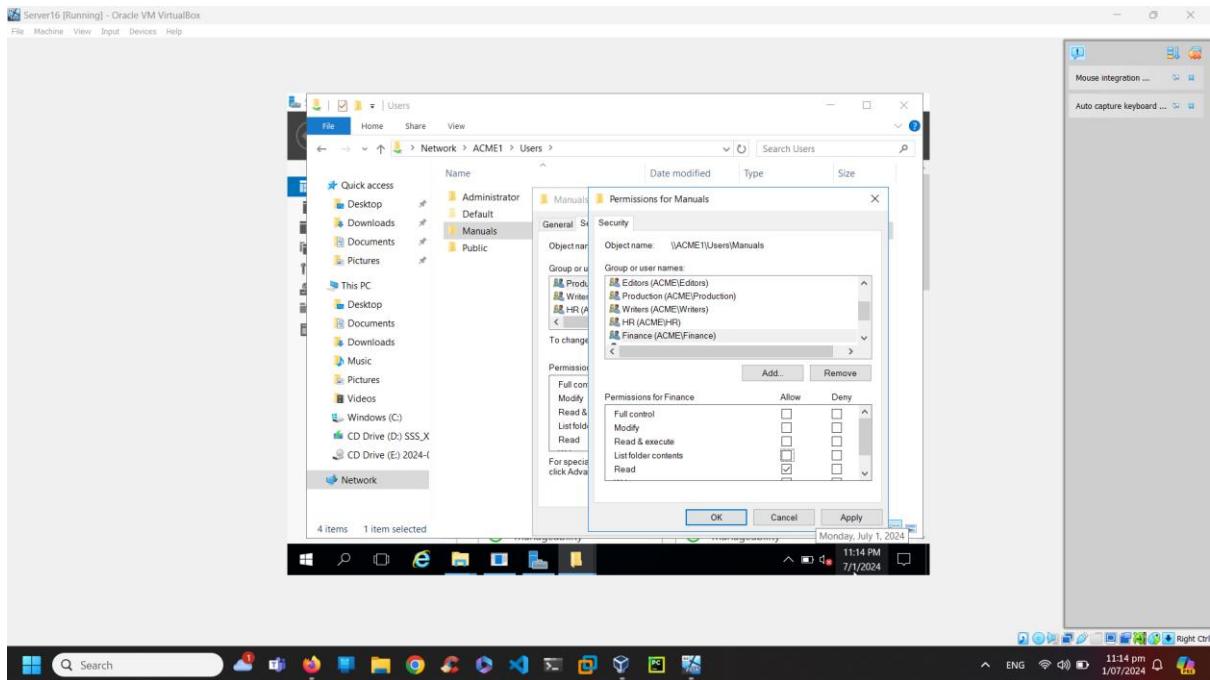


Fig 4.1e Finance as Read

- The overall access for the manuals to all departments is shown in Fig 4.2

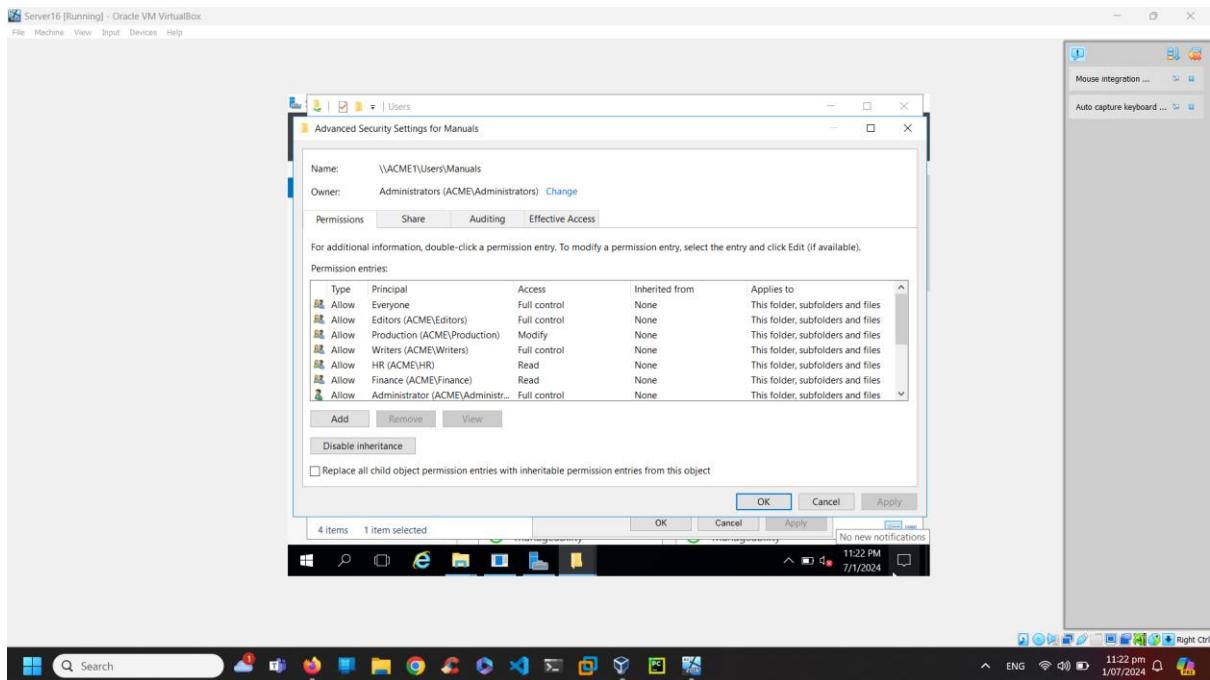


Fig 4.2 Access for manuals

- Mapping **manuals** from C drive of server as M in windows 10 using mapping network drive. Fig 4.3a

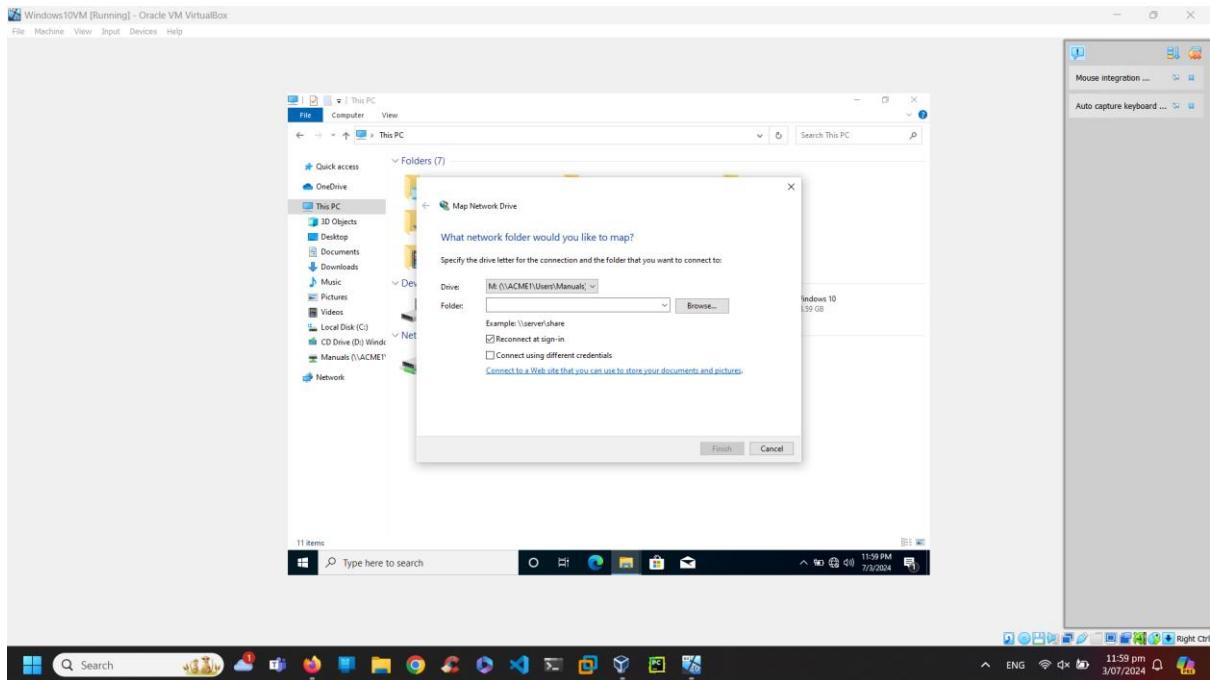


Fig 4.3a Map manuals in windows 10

- Manuals is displayed as M drive after mapping in windows 20. Refer fig 4.3b

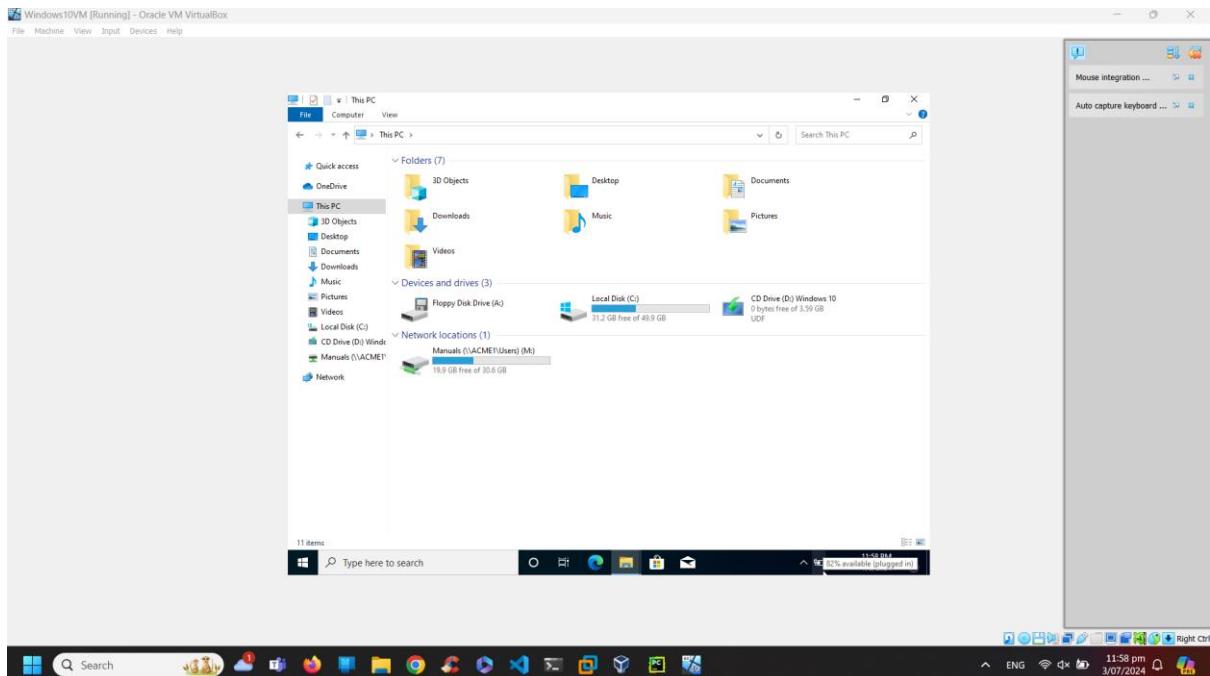


Fig 4.3b Mapped drive M: Manuals

- Trying to logon a user with 'read' Permission to create a WordPad in Manuals under the mapped drive. Here I have logged on with Mike Claxton of Finance department who has 'read' permissions and I have tried to create a new document which is **denied**. Refer Fig 4.4

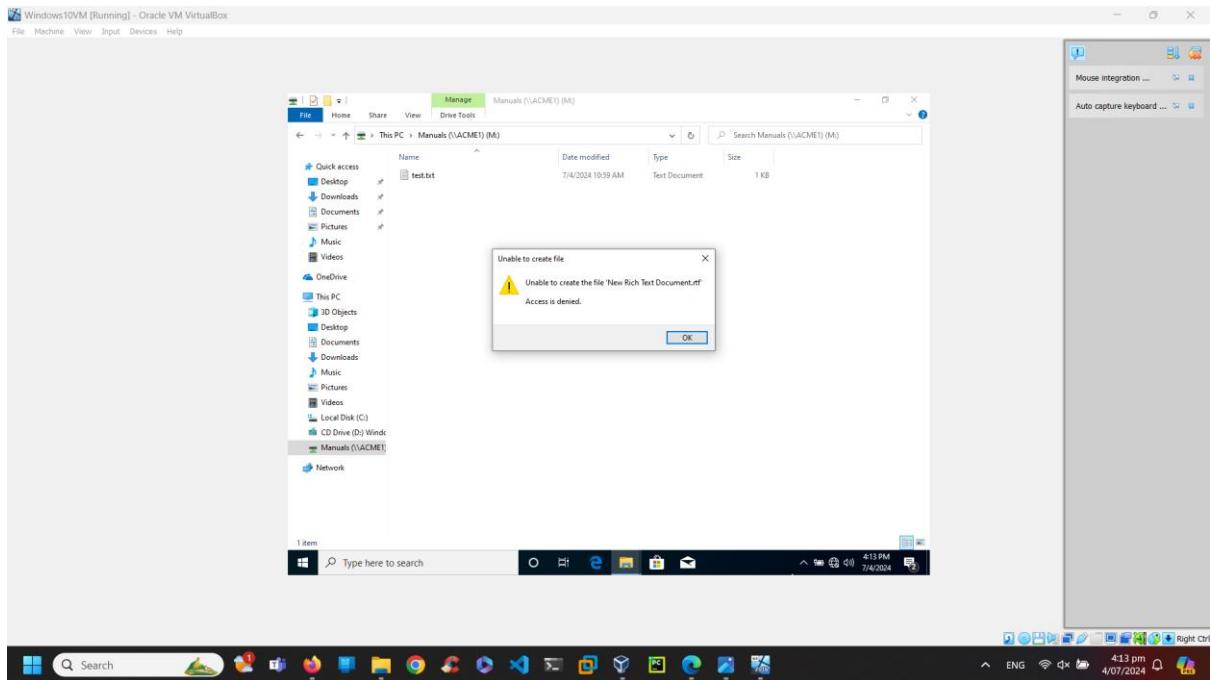


Fig 4.4a Access denied creating file in user Mike Claxton

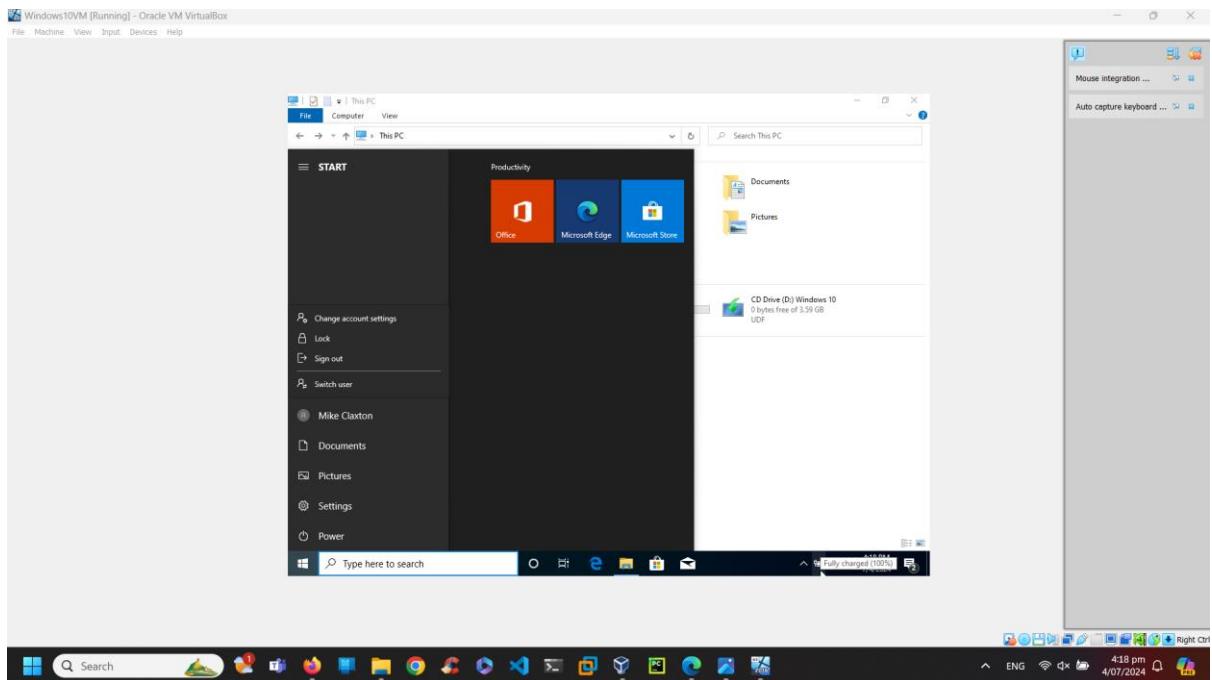


Fig 4.4b Mike Claxton- User

## TASK5: Network printer

- Add the Printer HP540 series in the server 2016, install the driver Refer Fig 5.1a and name it as HP 540. Refer 5.1b

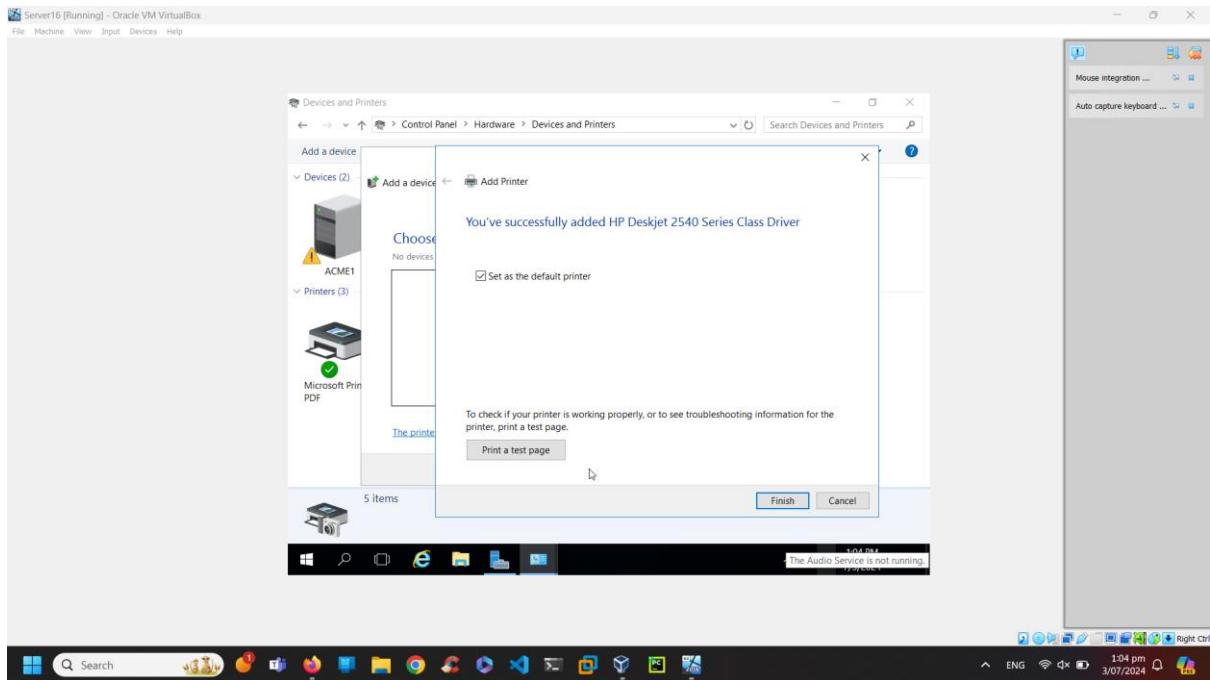


Fig 5.1a Printer driver

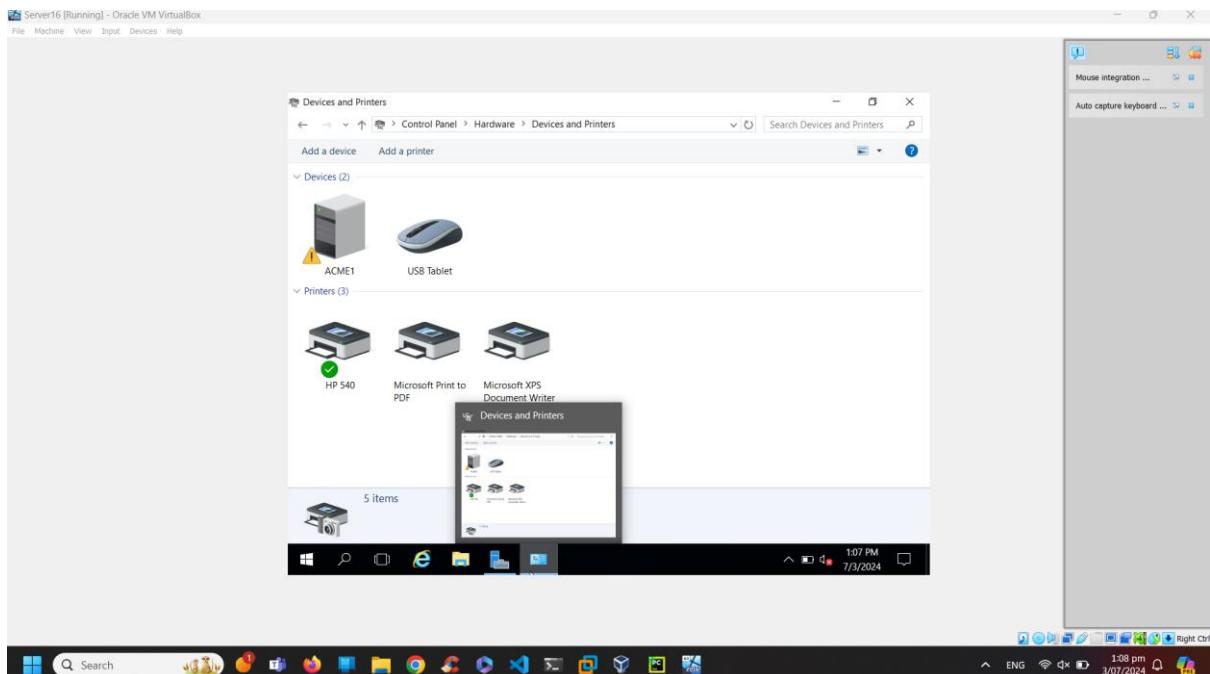


Fig 5.1b Printer HP 540

- Share the printer with the client computers. Click on the checkbox which has 'Render print options for the client computers. Refer Fig 5.2a

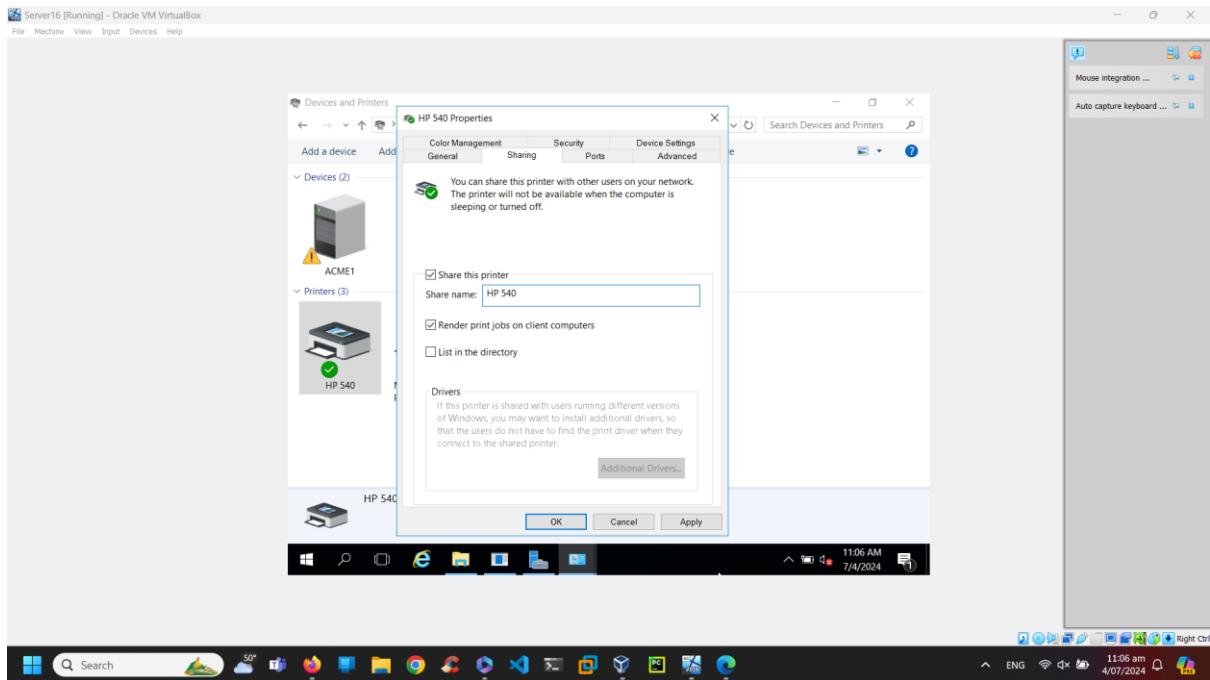


Fig 5.2a Sharing with clients

- Open Client computer and find the printer in windows 10 and add it to the device. Refer Fig 5.2b

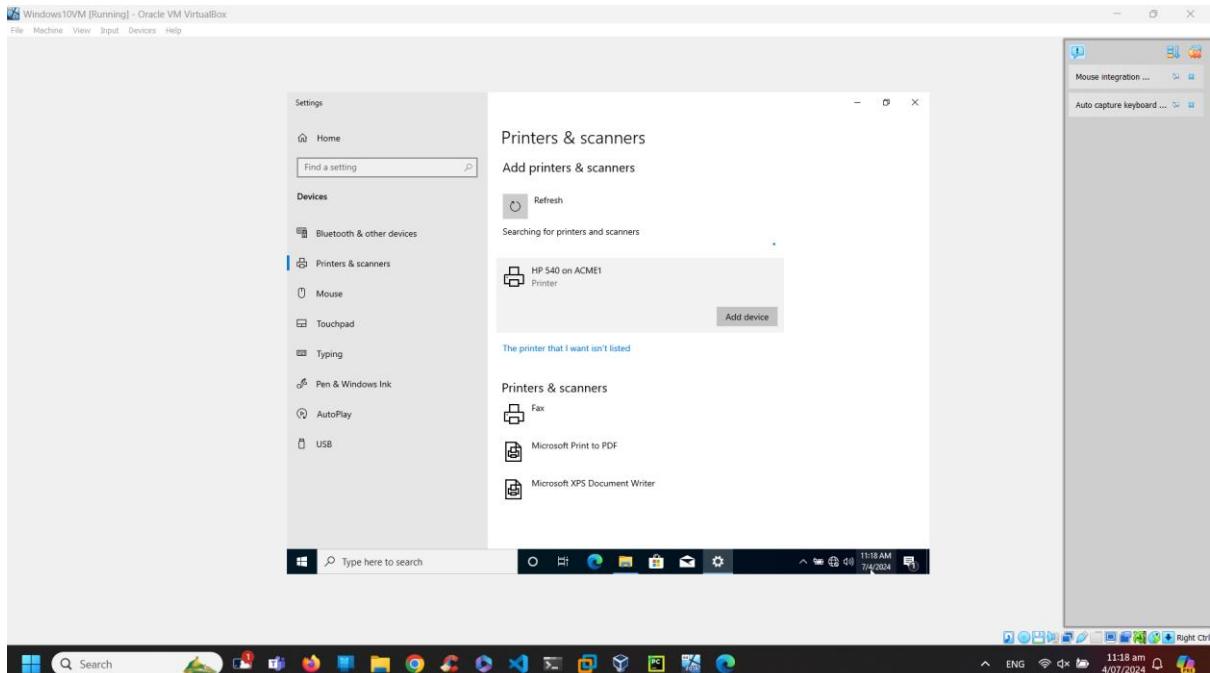


Fig 5.2c Shared printer in the client computer

- The printer HP 540 on ACME1 is ready for the clients to print. Refer Fig 5.3

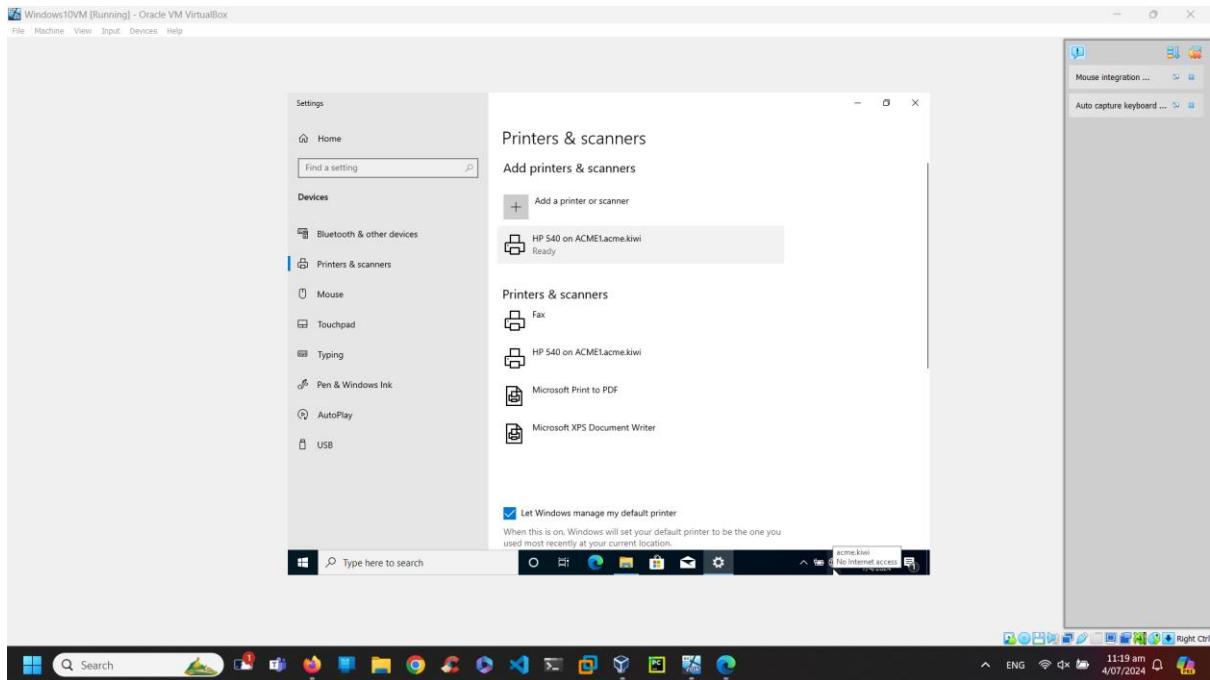


Fig 5.3 HP540 printer- ready status

## TASK6: Monitor Disk Activity

- Go to Task manager and the ‘Performance’. Then, check for the disk performance. The disk activity when copying files in the server is shown in fig 6.1

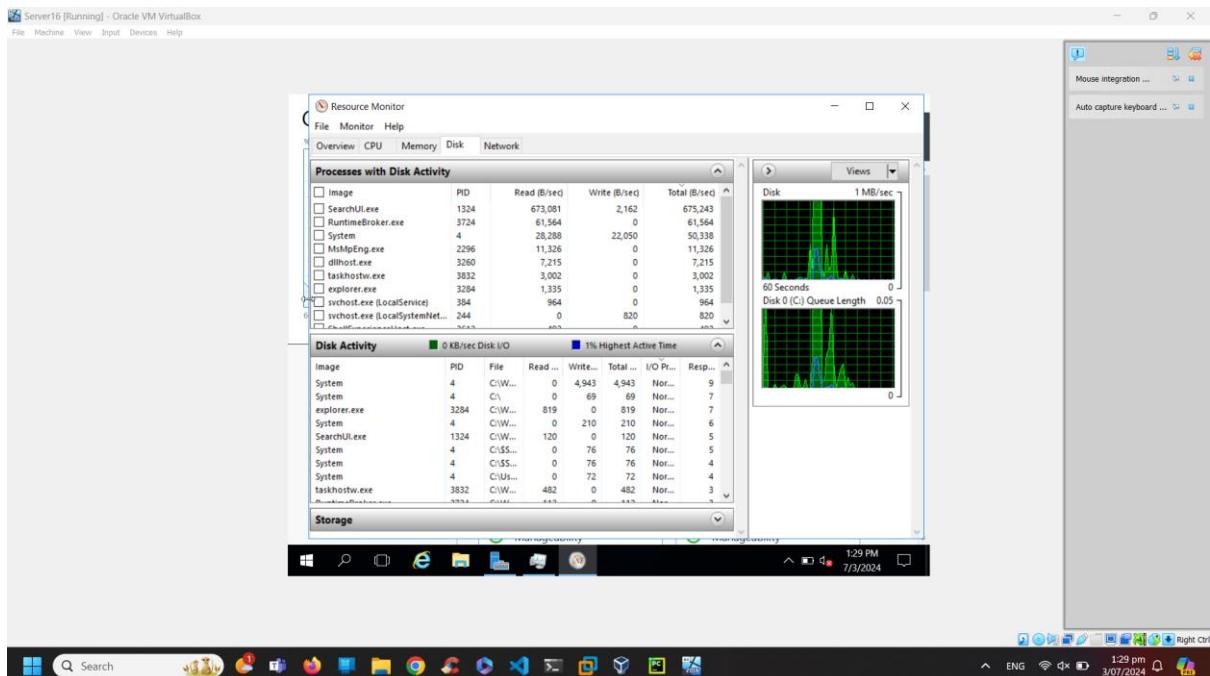


Fig 6.1 Disk activity

## TASK7: Create mirror

- Create a new simple volume after ‘Shrink volume’ in disk 0 of capacity 60 GB and name it as mirror with drive M. Now, two almost equal volumes of drive://C and Mirror:/M is created in disk management. Refer Fig 7.1

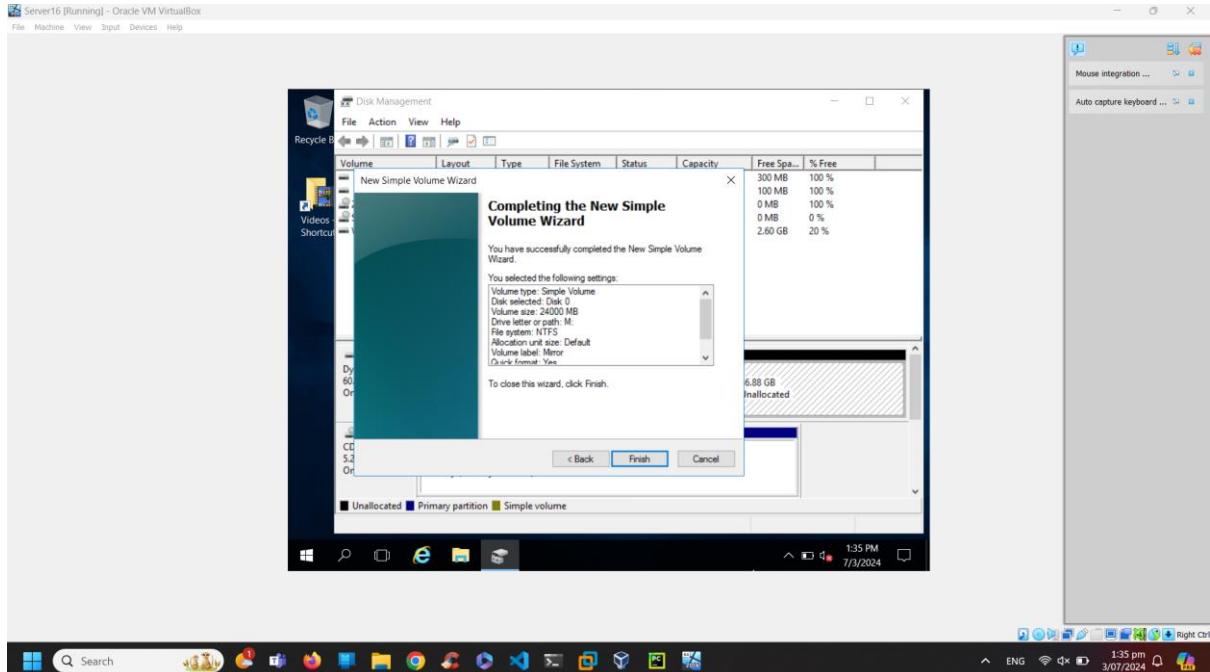


Fig 7.1 new simple volume

- Right click and add it to a mirror volume. Refer fig 7.2

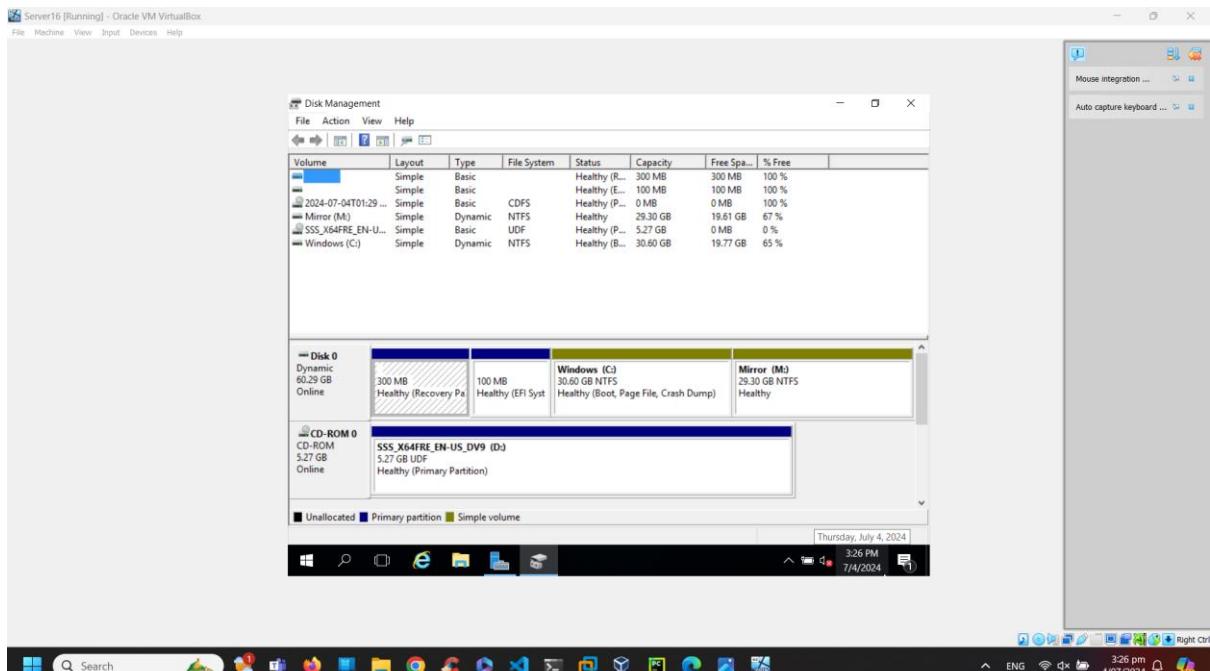


Fig 7.2 Disk management

## TASK 8: Backup

- Add roles in the server manager to enable ‘Windows server Backup features’ which is shown in Fig 8.1a and 8.1b

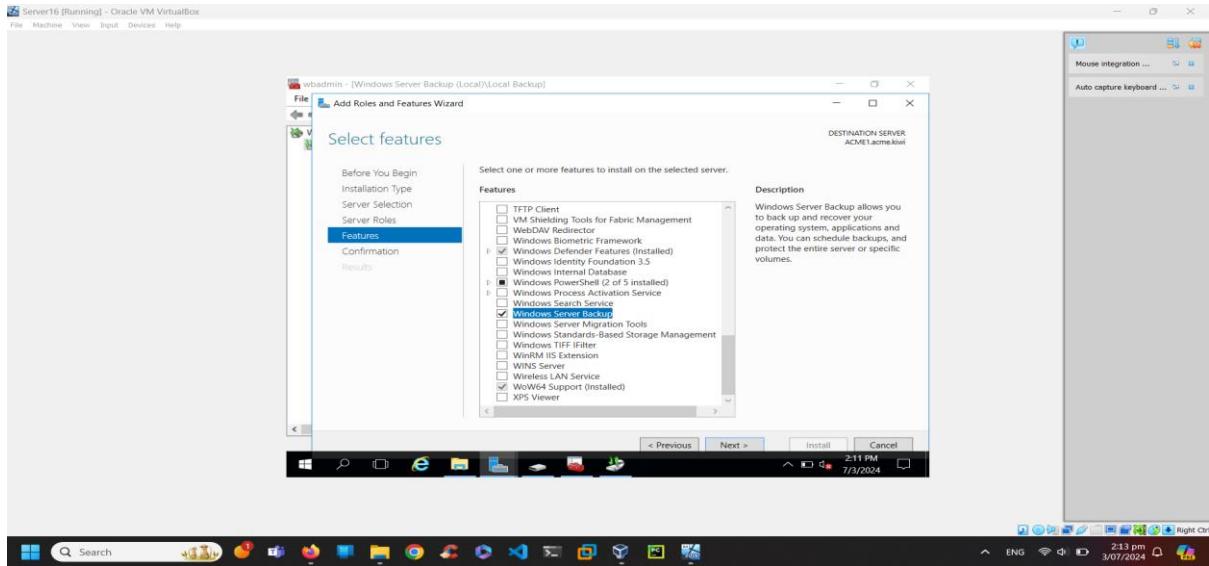


Fig 8.1a Server Backup feature

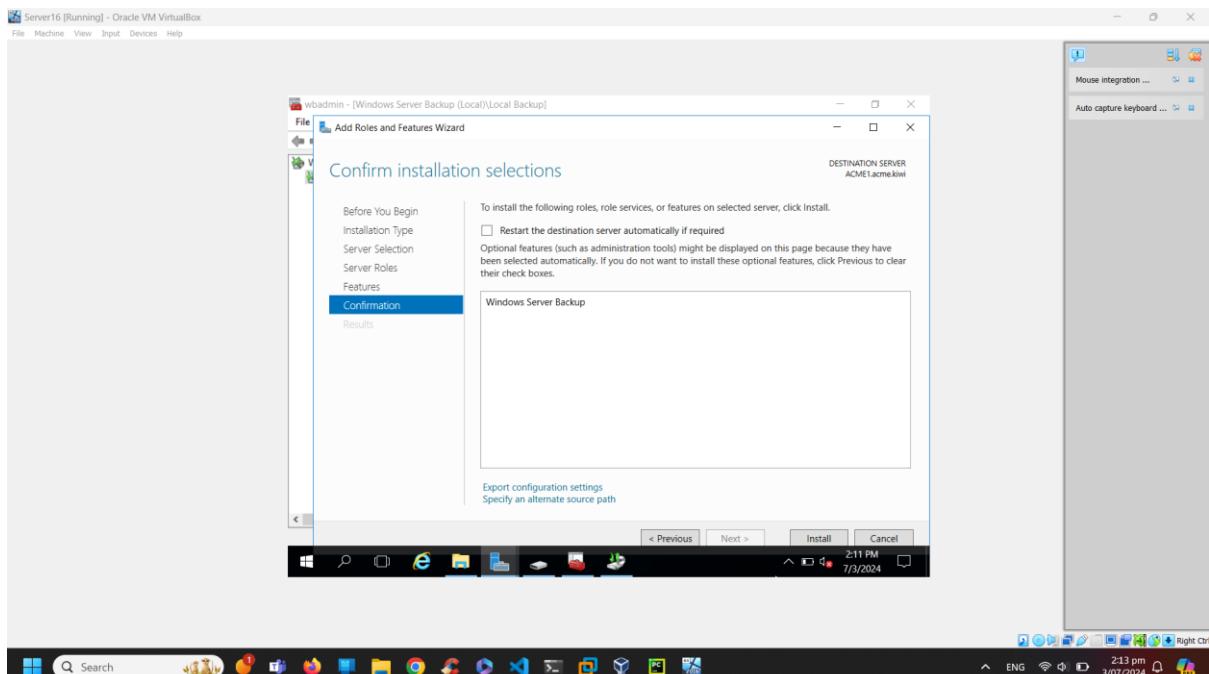


Fig 8.1b Backup installation

- Select the Backup options in the properties of drive C and select the ‘Backup once’ in the window and select destination volume for the backup, click ‘Backup’. Refer fig 8.1c

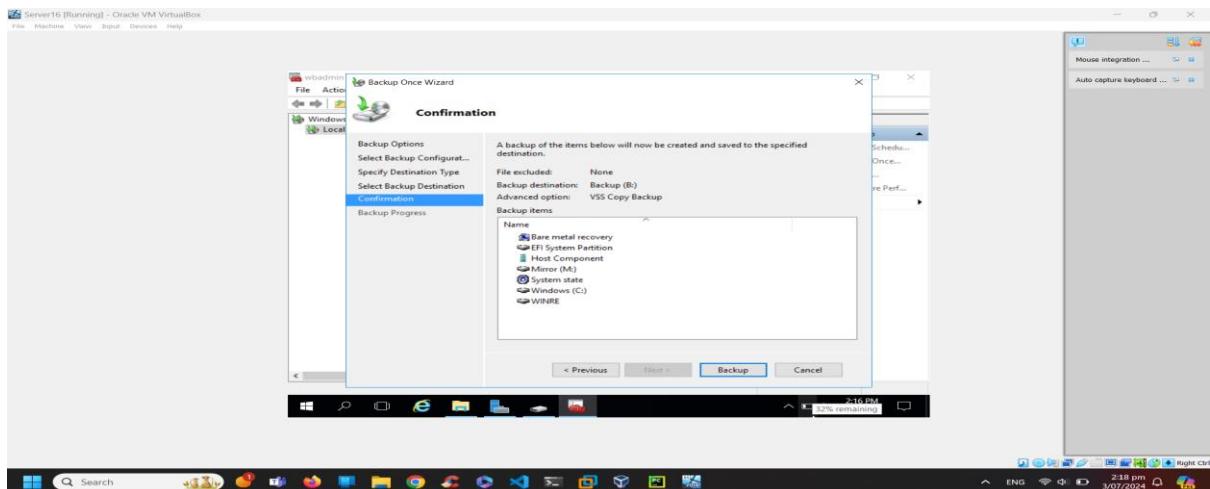


Fig 8.1c backup destination

- The backup progress is shown in fig 8.1d

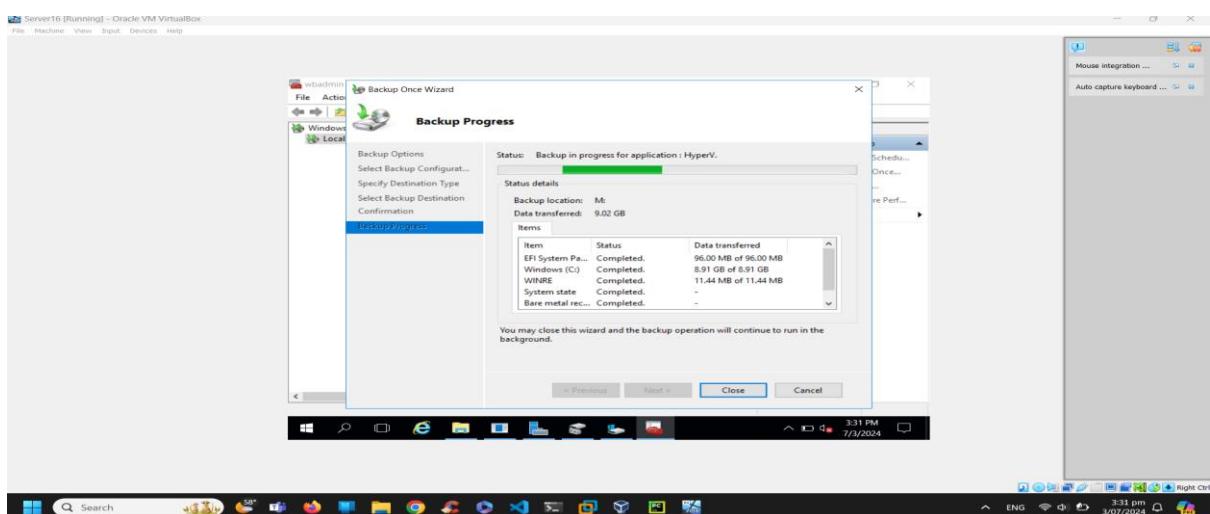


Fig 8.1d Backup progress

- Backup is successful in fig 8.2a and 8.2b

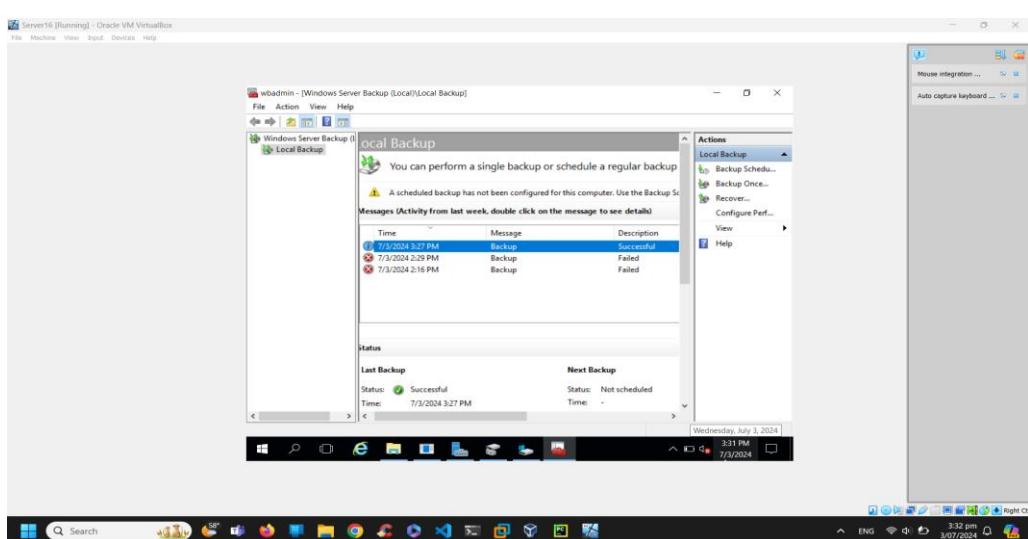


Fig 8.2a successful backup1

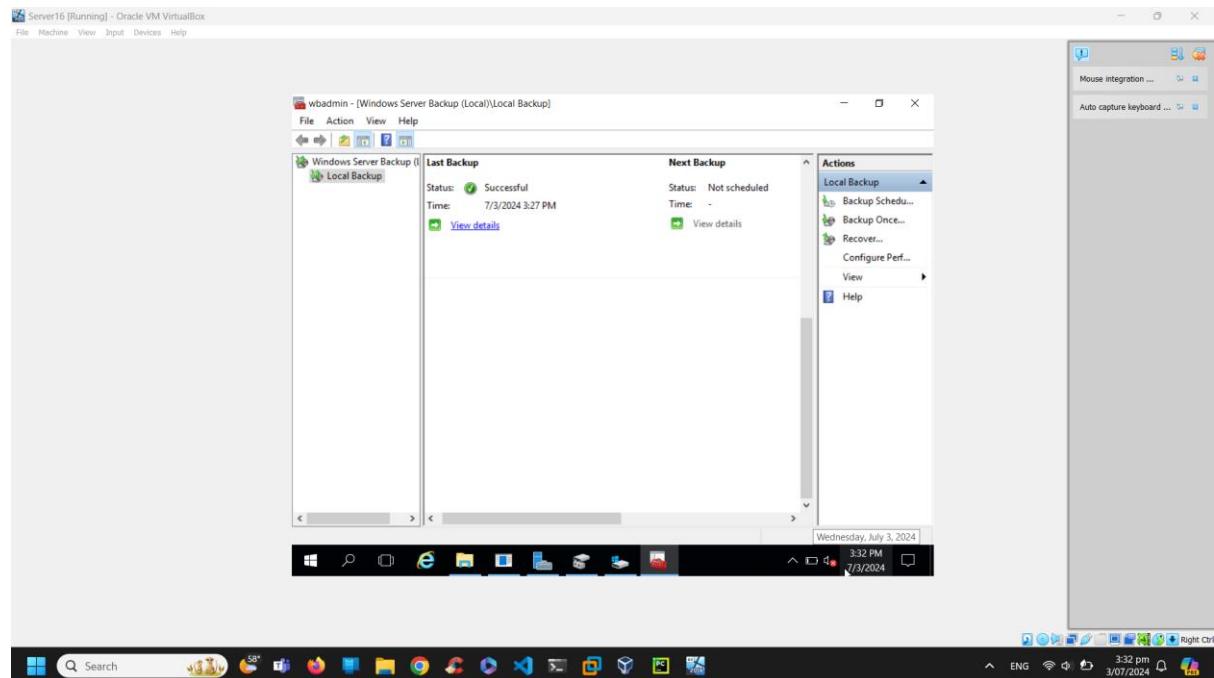


Fig 8.2b Successful page2

- The selected volume has the backup files in the fig 8.3

Fig 8.3 Backup files and folders with drive path

