WIPRO NGA Program – Datacenter Batch

Capstone Project Presentation – 06 April 2024

Project Title Here - Capstone Project

Presented by - Biswajit Mishra

Project -2

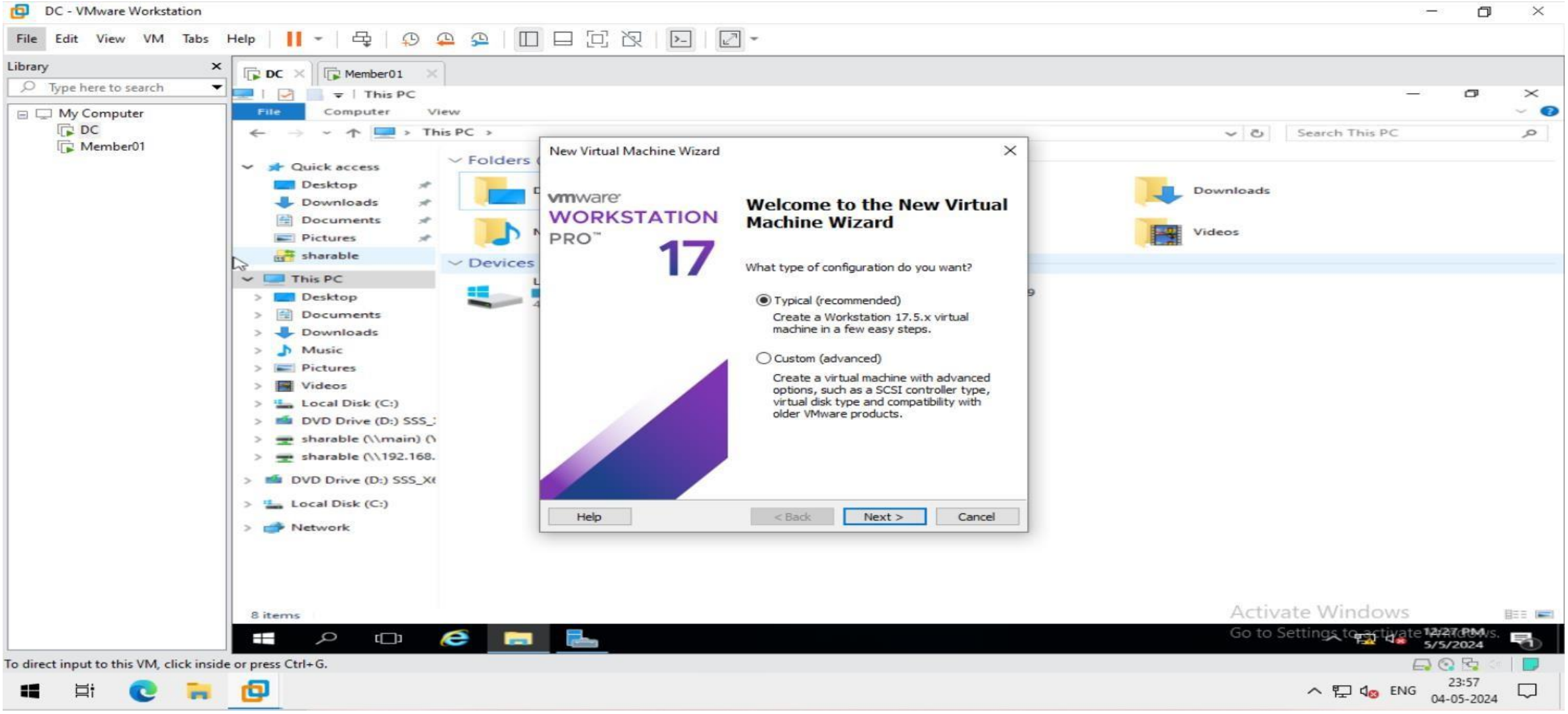
Objective: Install the CentOS 7 server (*after installation GUI must be present*). Attach 3 disks of 5GB each & create 2 LVMs from these disks of 7GB (/lvm1) and 8GB (/lvm2) with XFS and EXT4 file systems respectively and verify. Install the following RPM packages using the package manager of your choice using a single command.

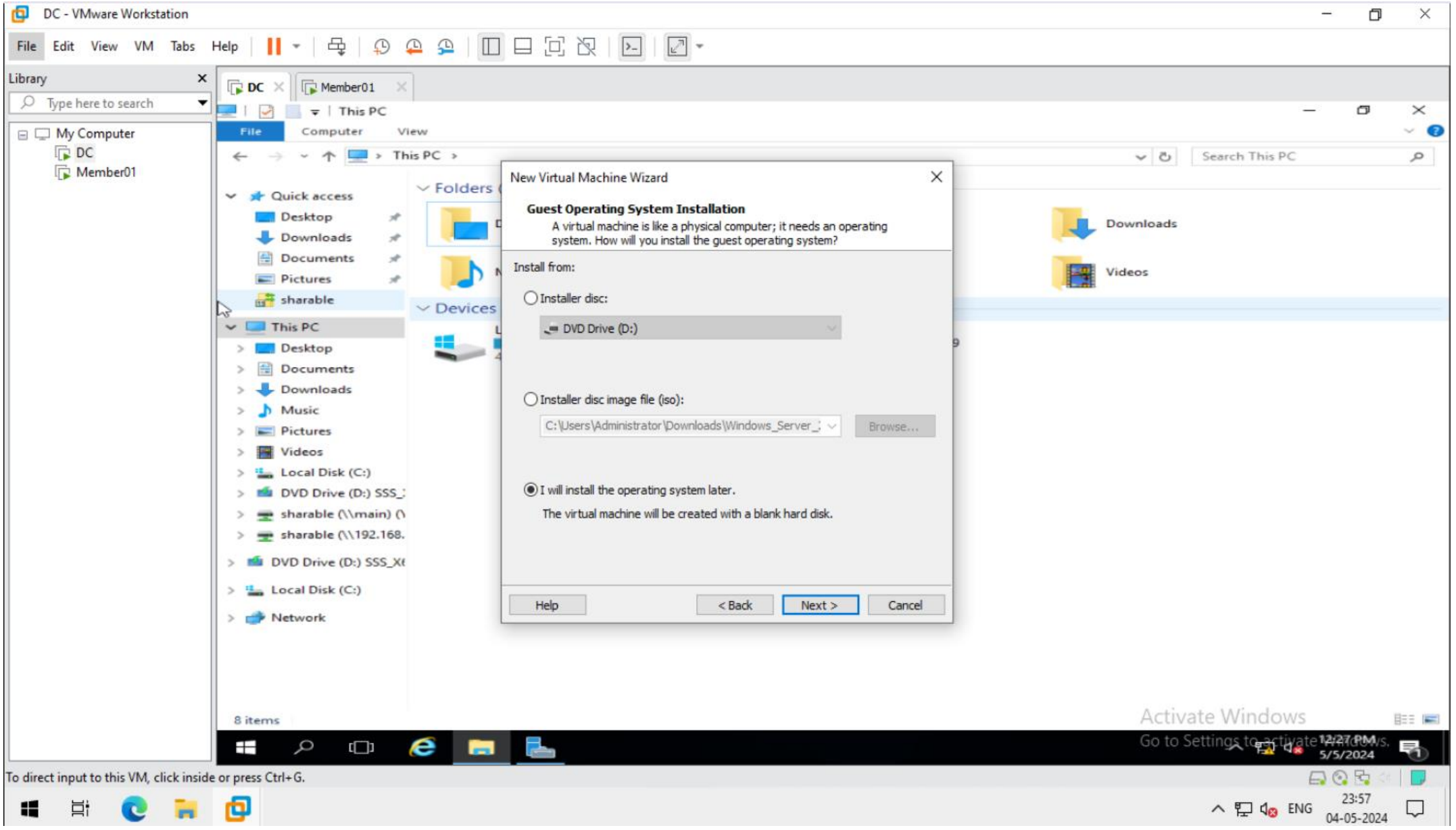
VSFTPD
PHP
System-Config-Kickstart
finger.

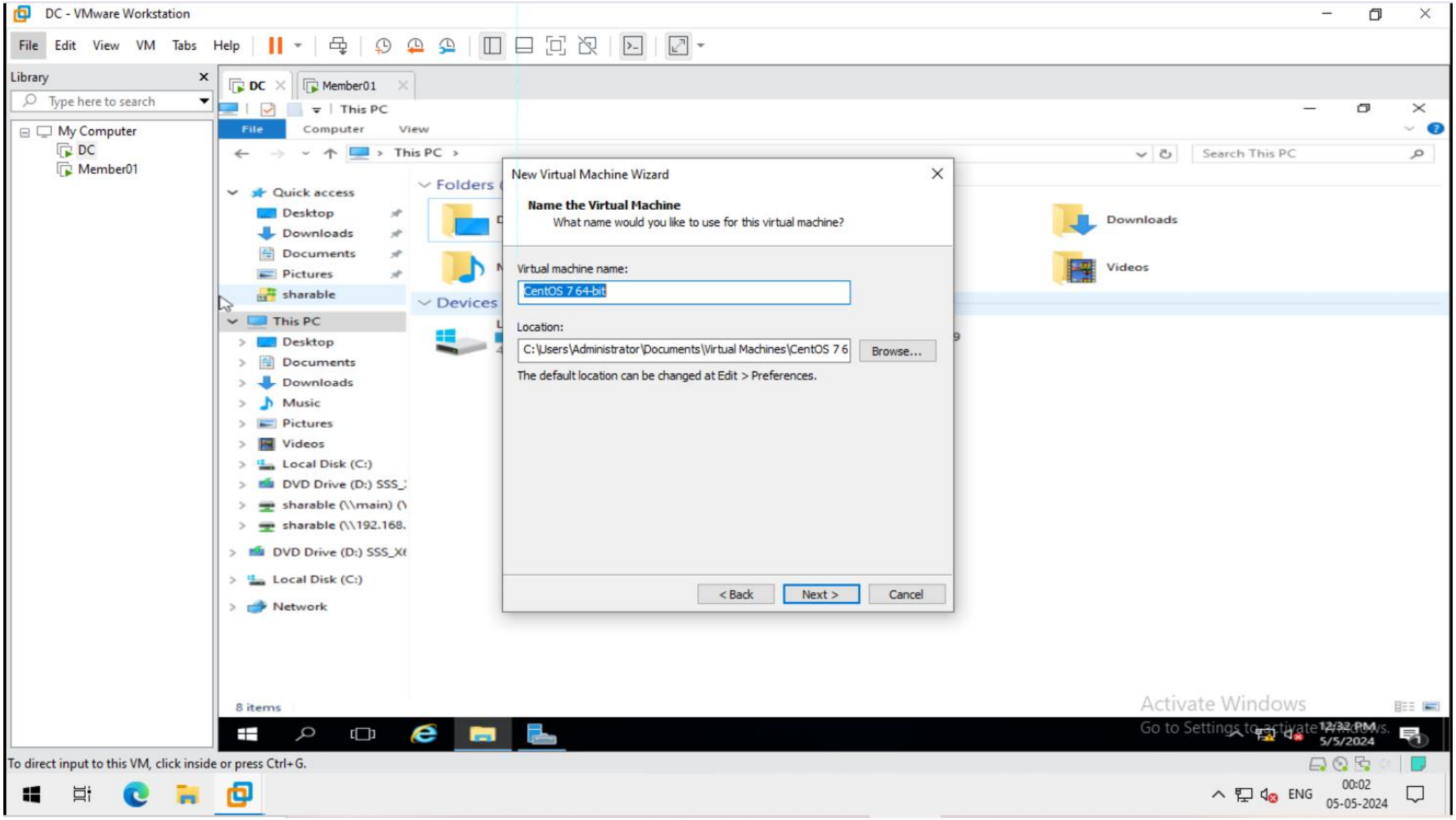
Start "YES" process and use the TOP command to kill this process.

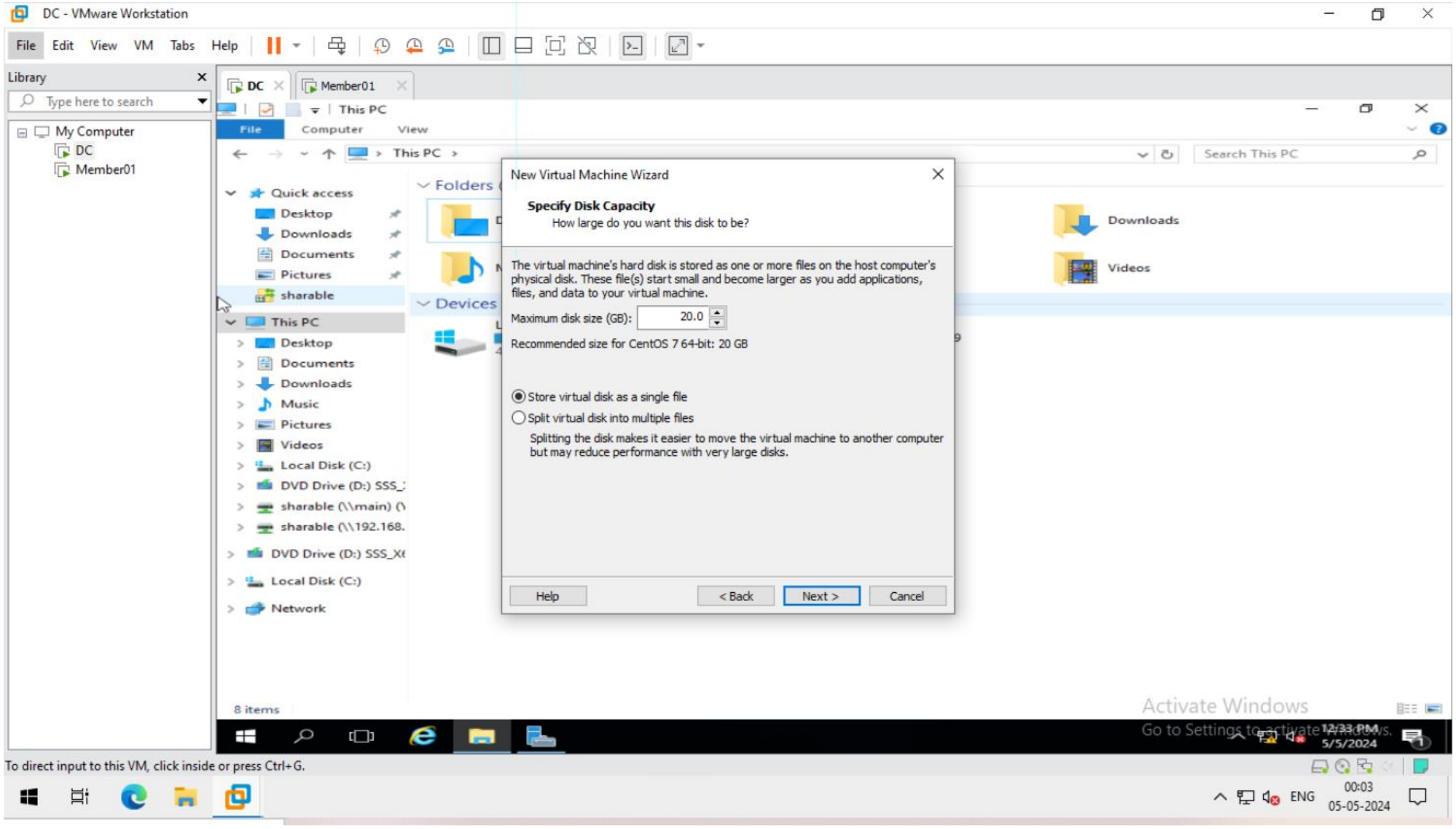
CONTENT

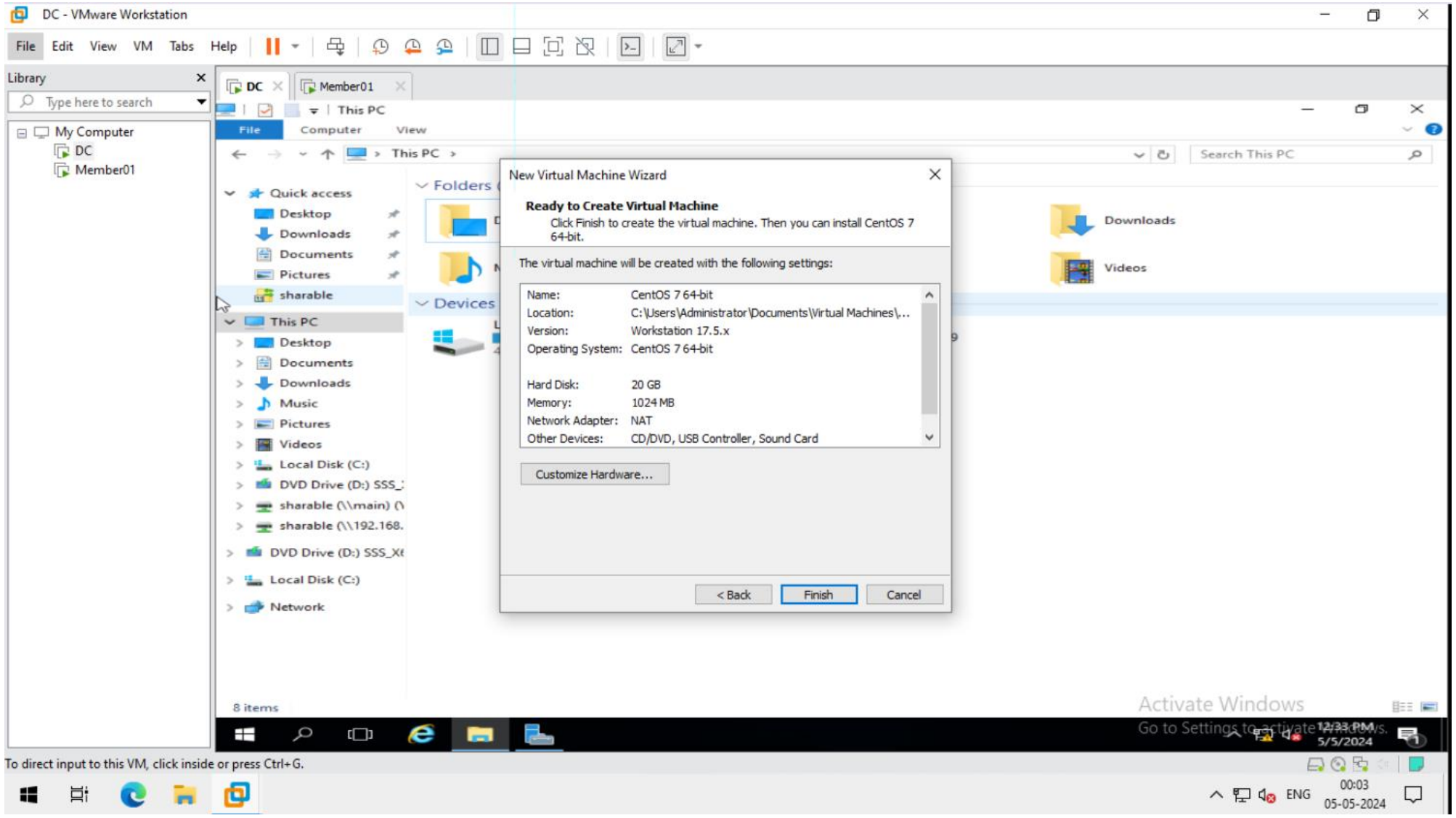
1. creating a new CentOS 7 using **text-mode installation.**

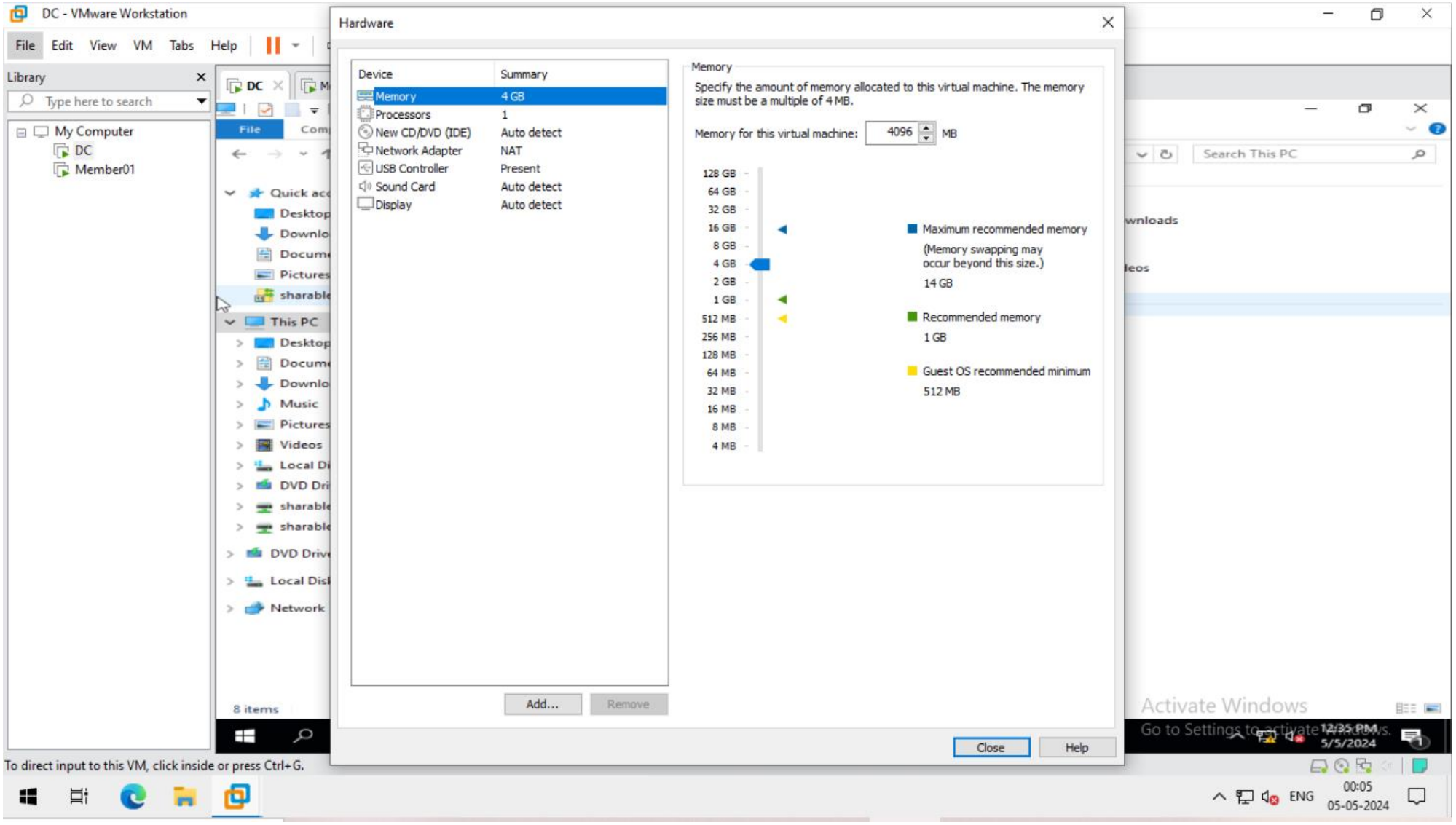


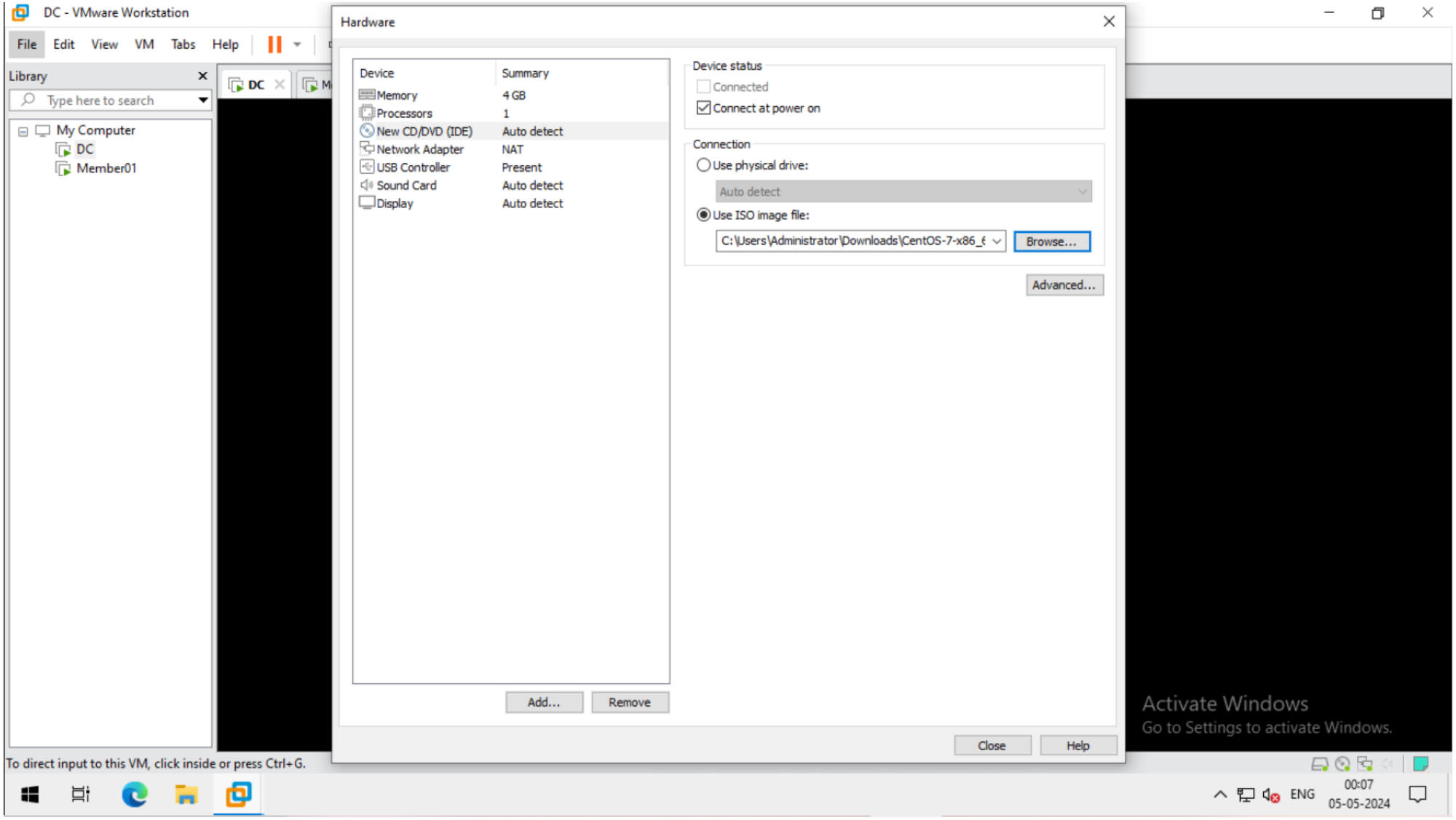


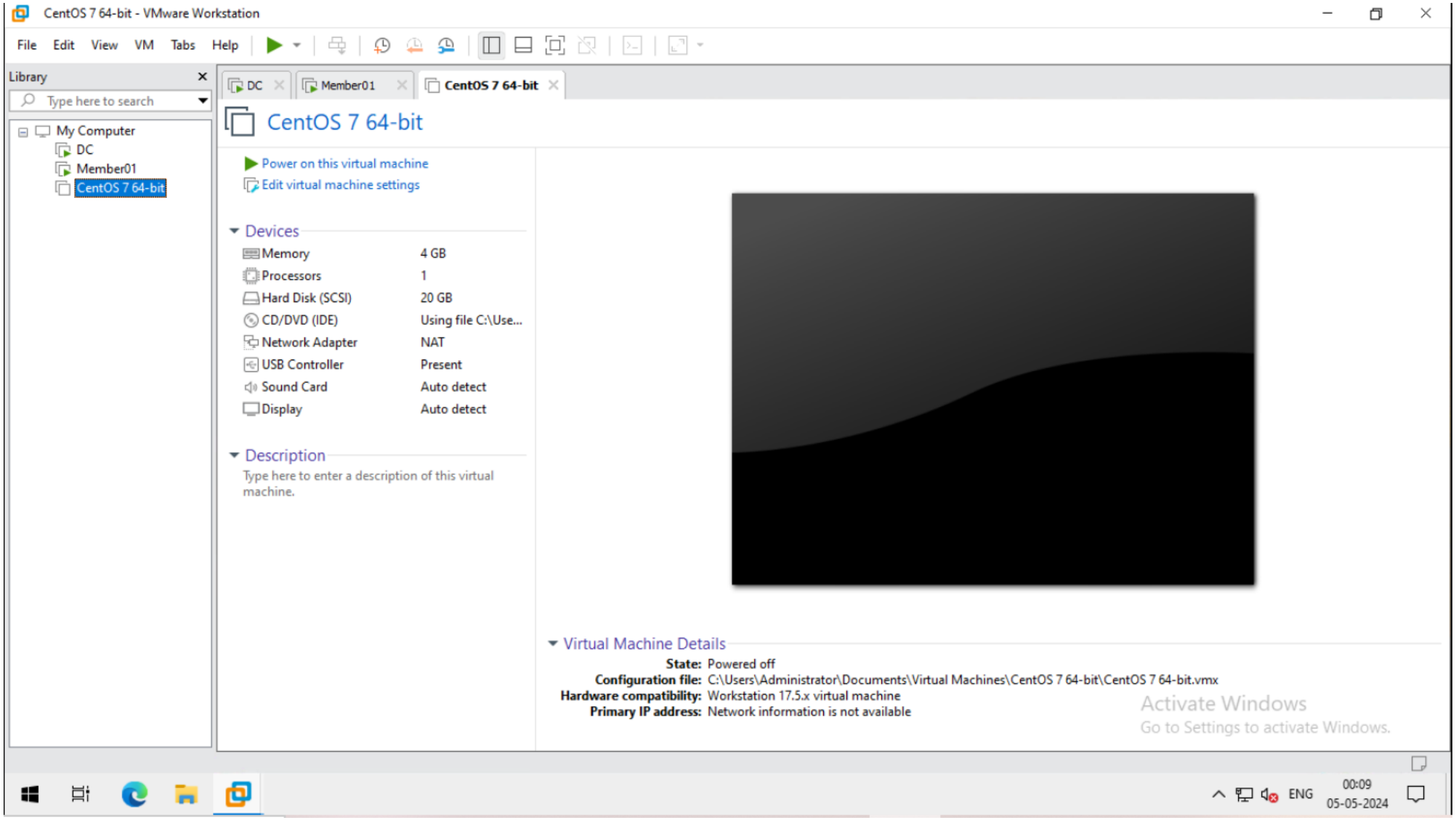


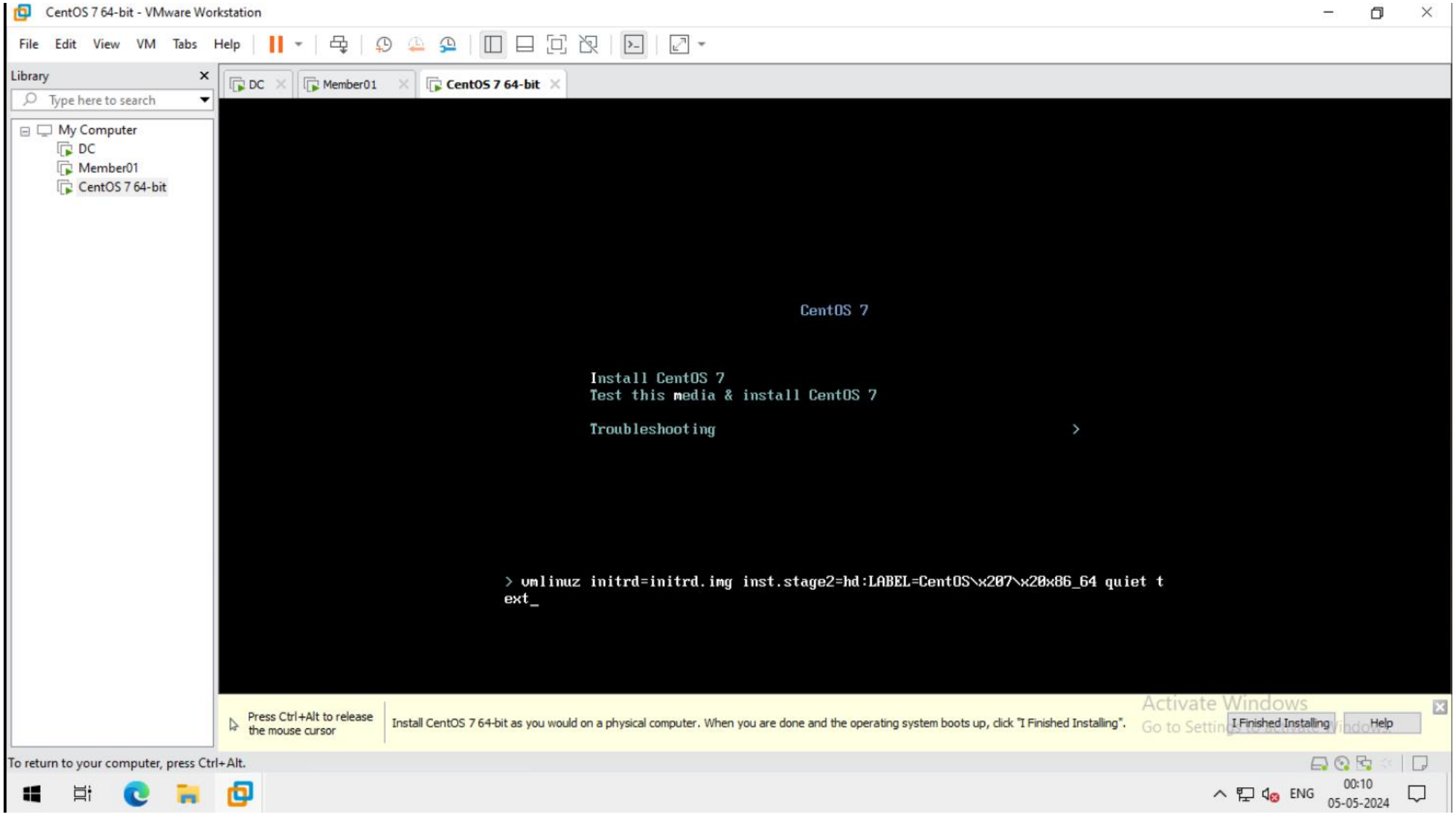




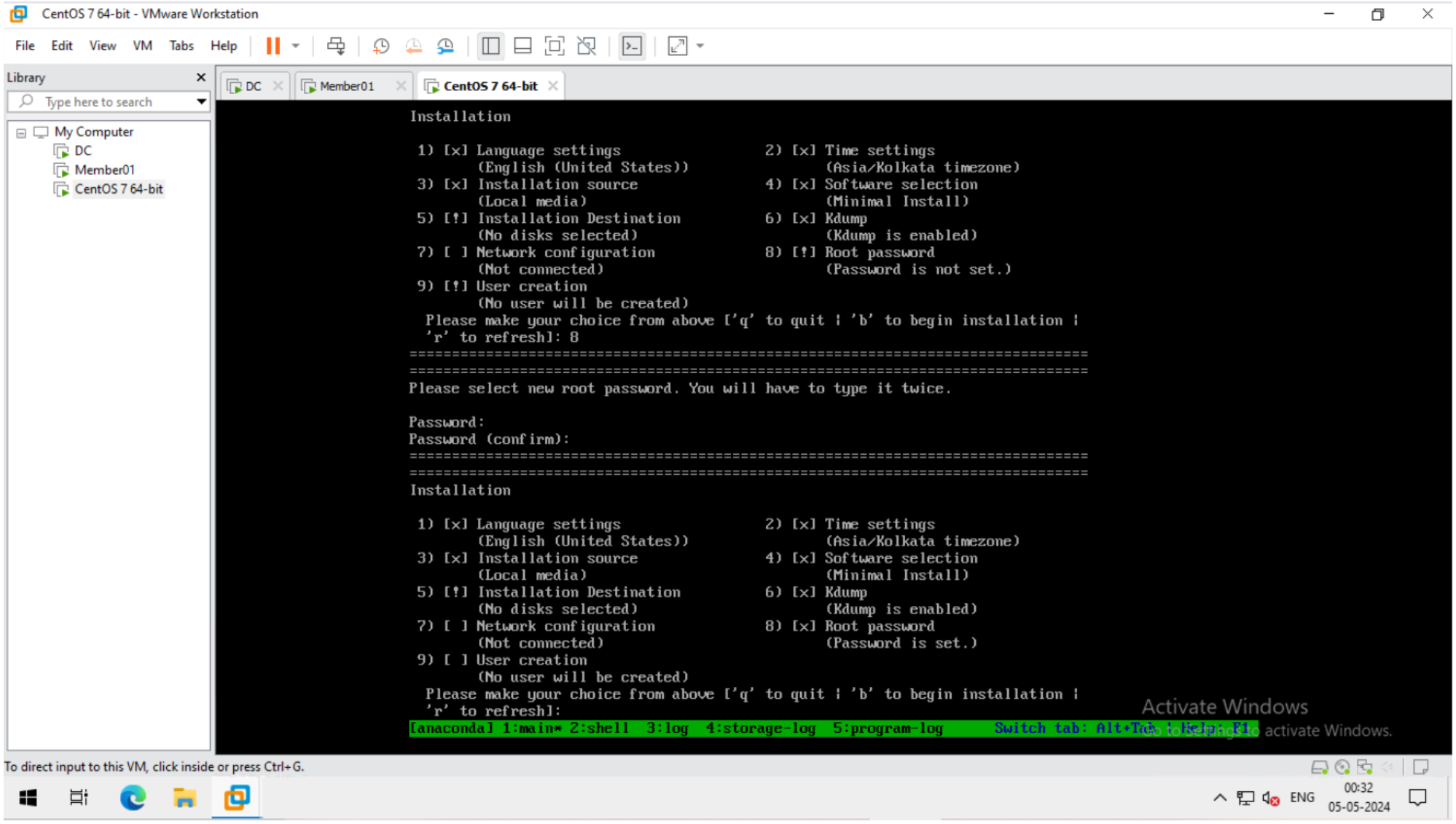


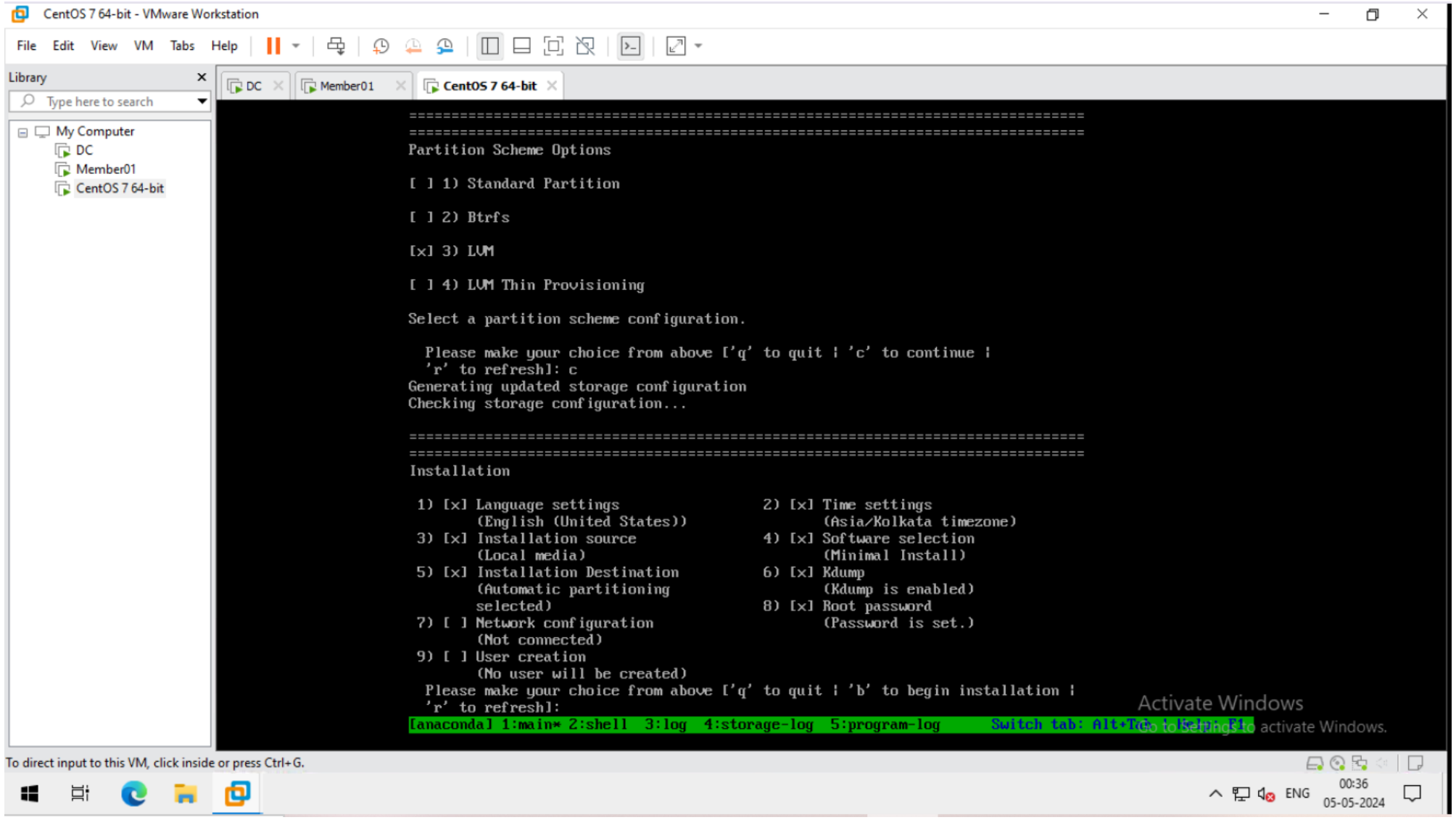


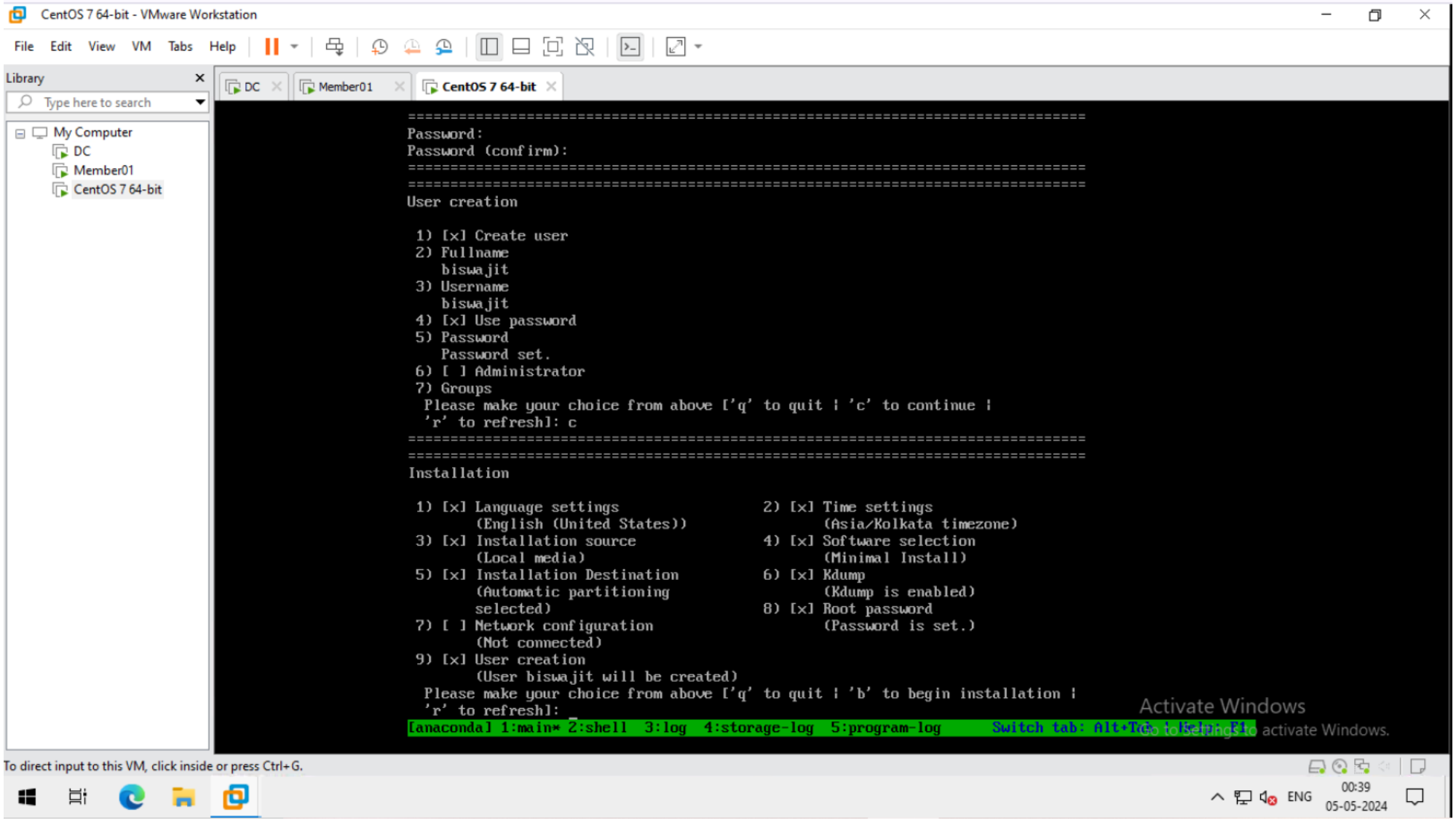


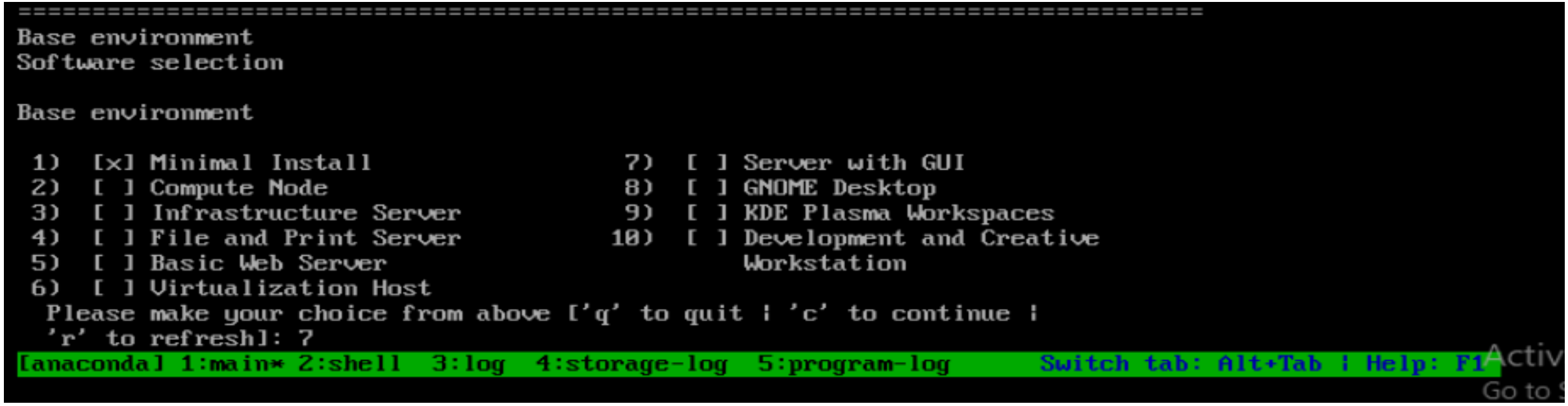


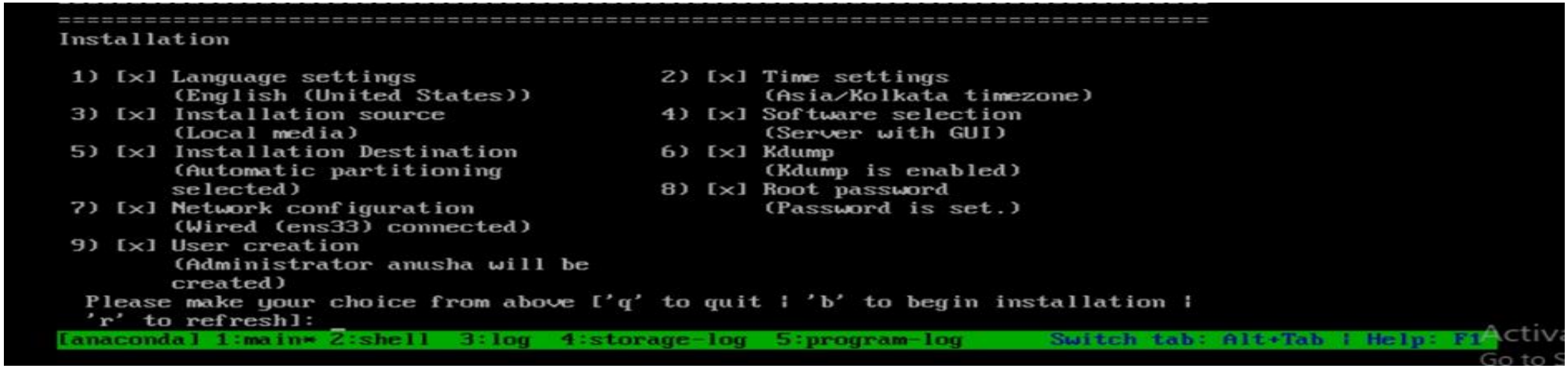
2. Change settings and start the installation



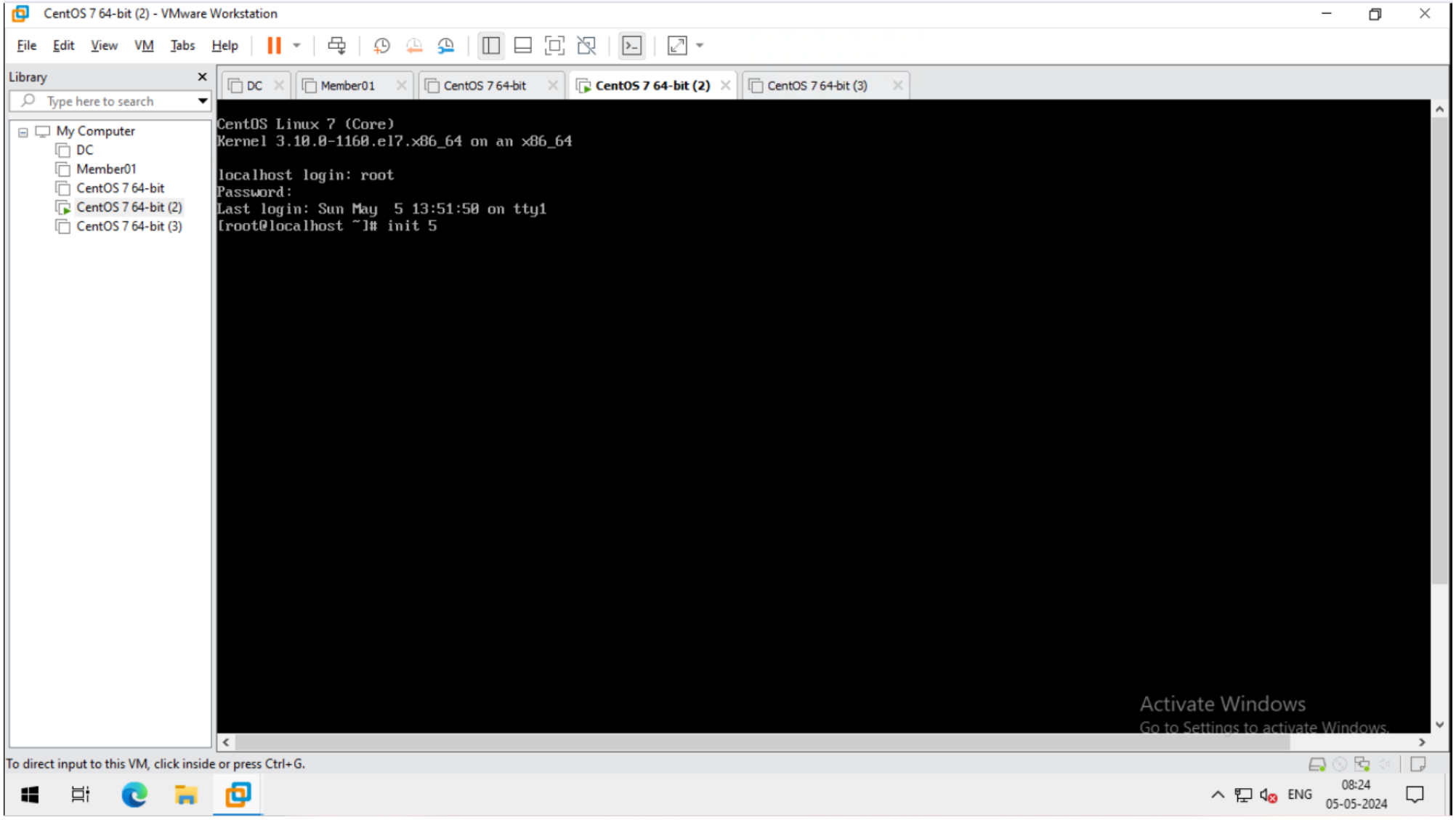


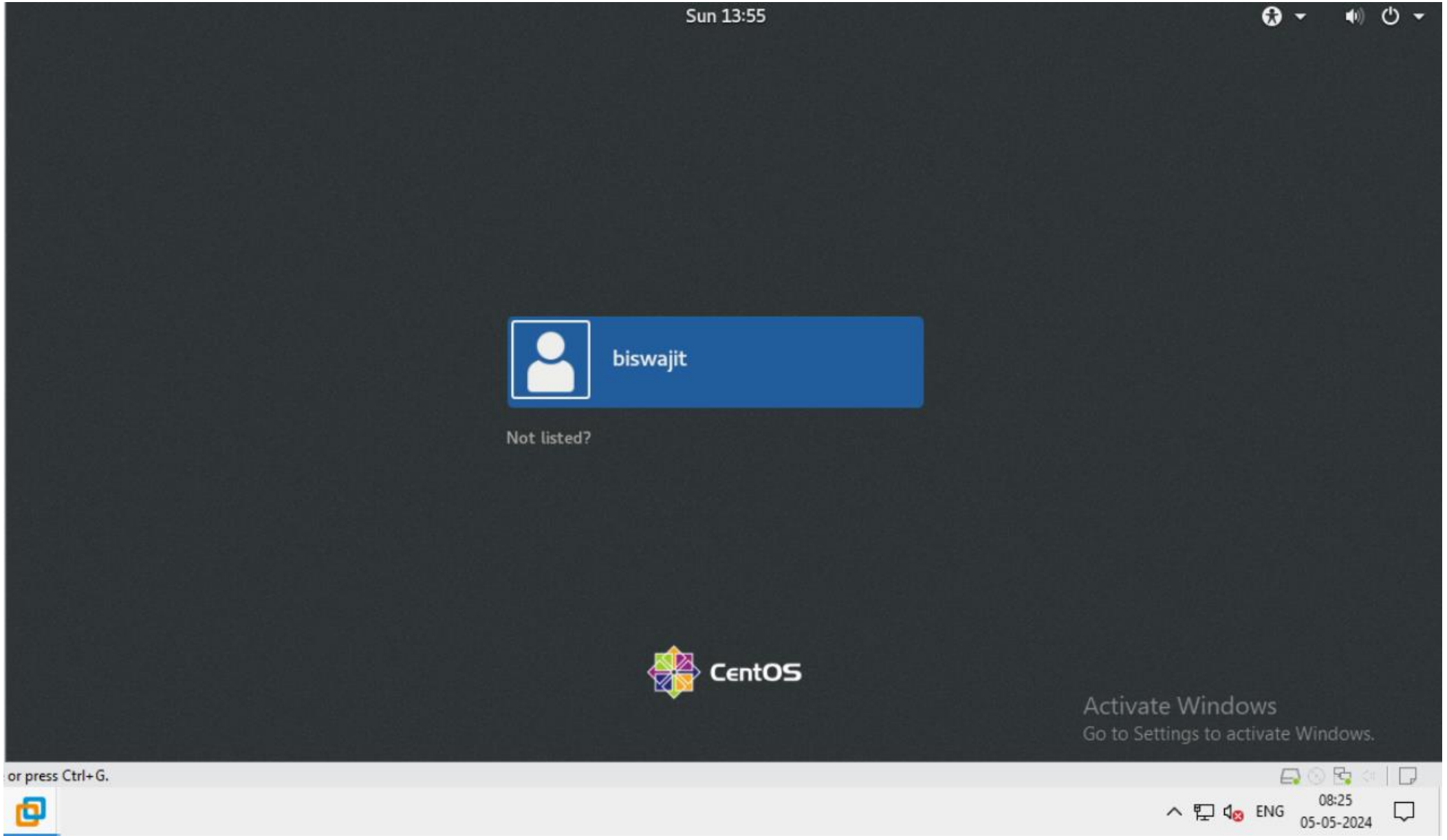


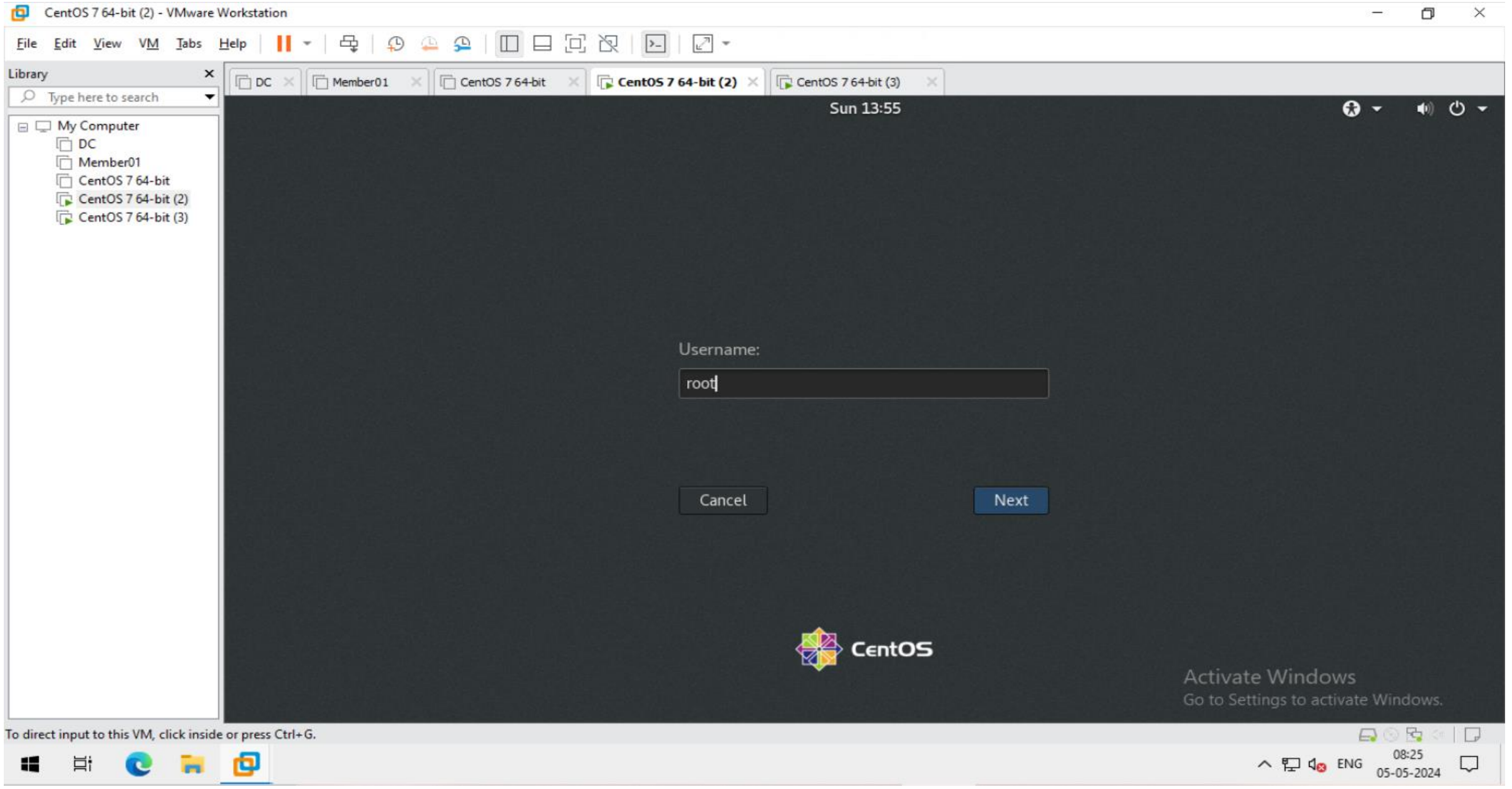


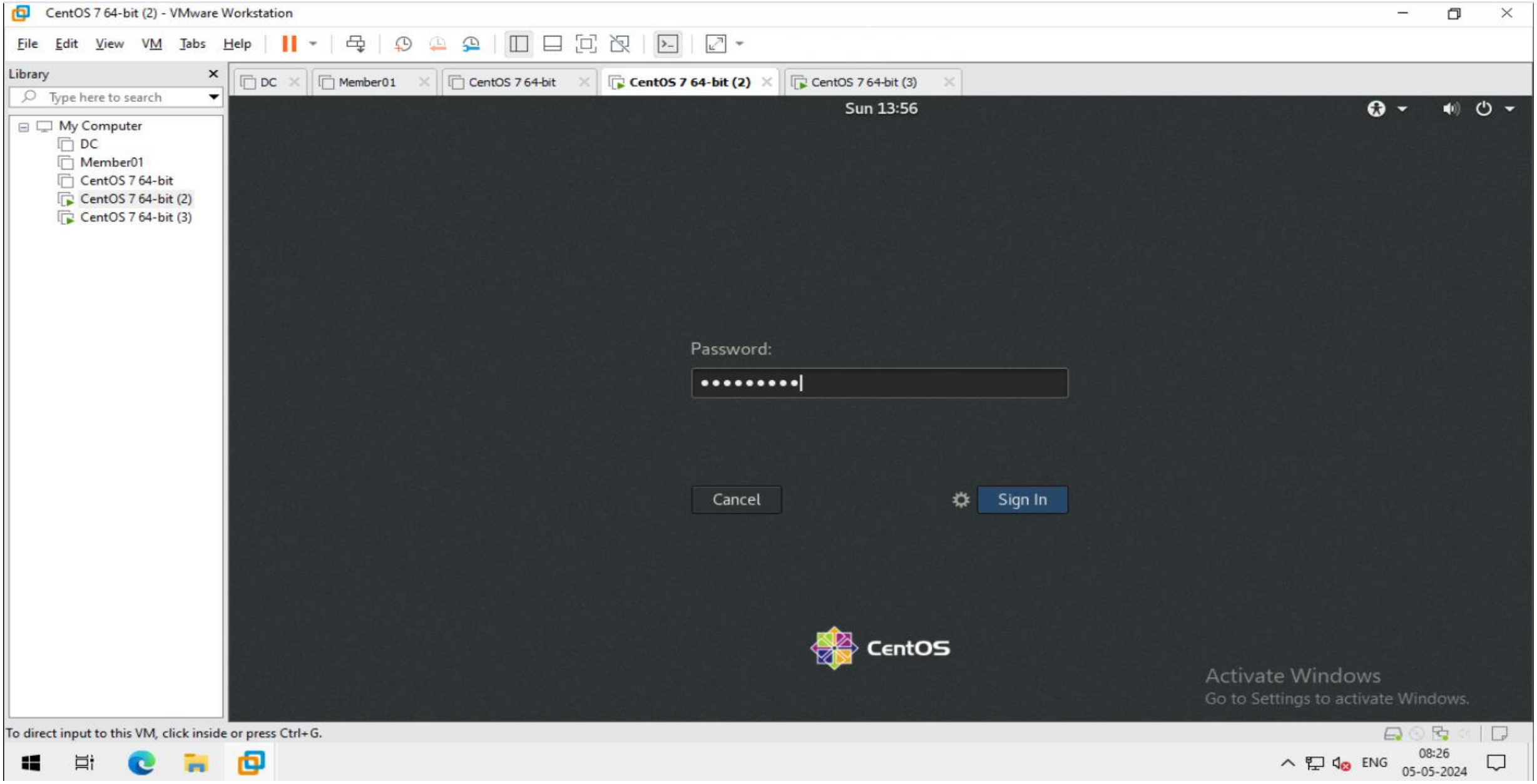


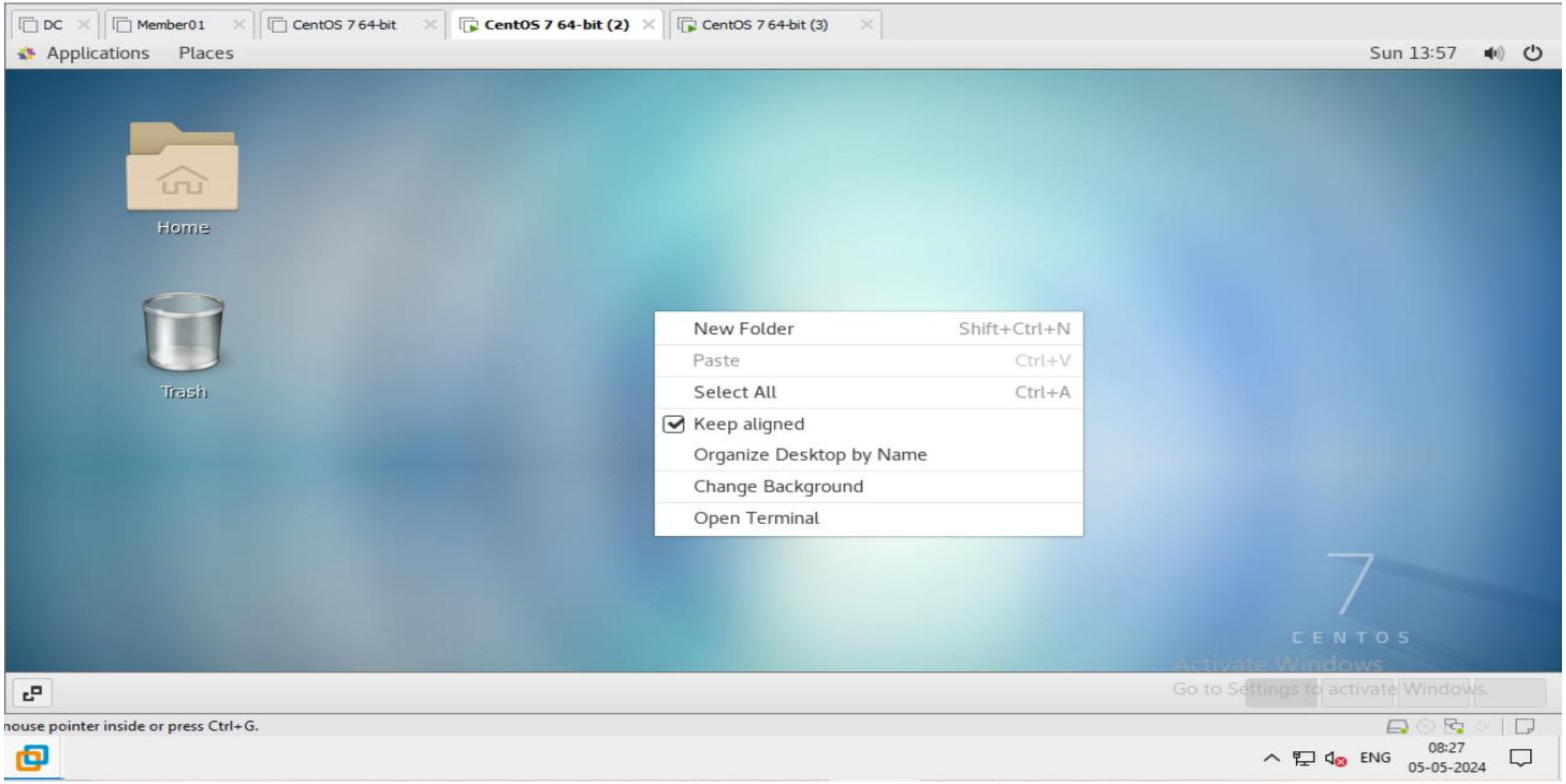
3. Log in into gui



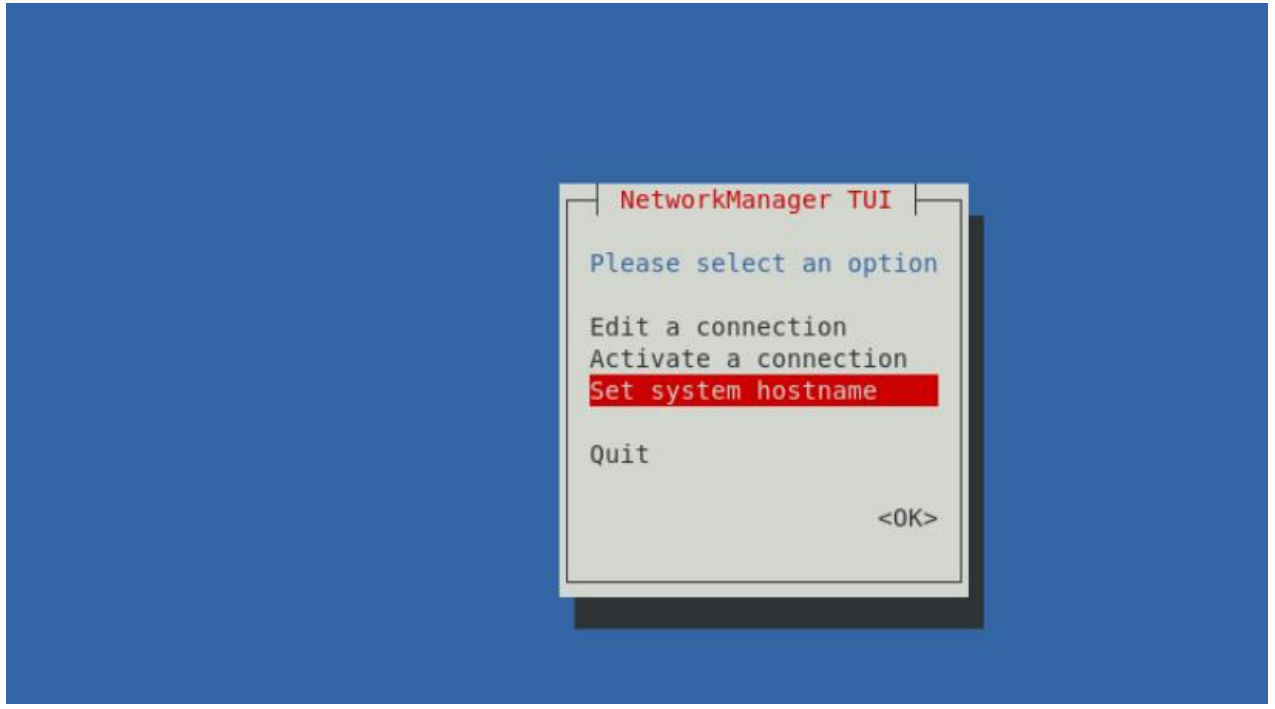


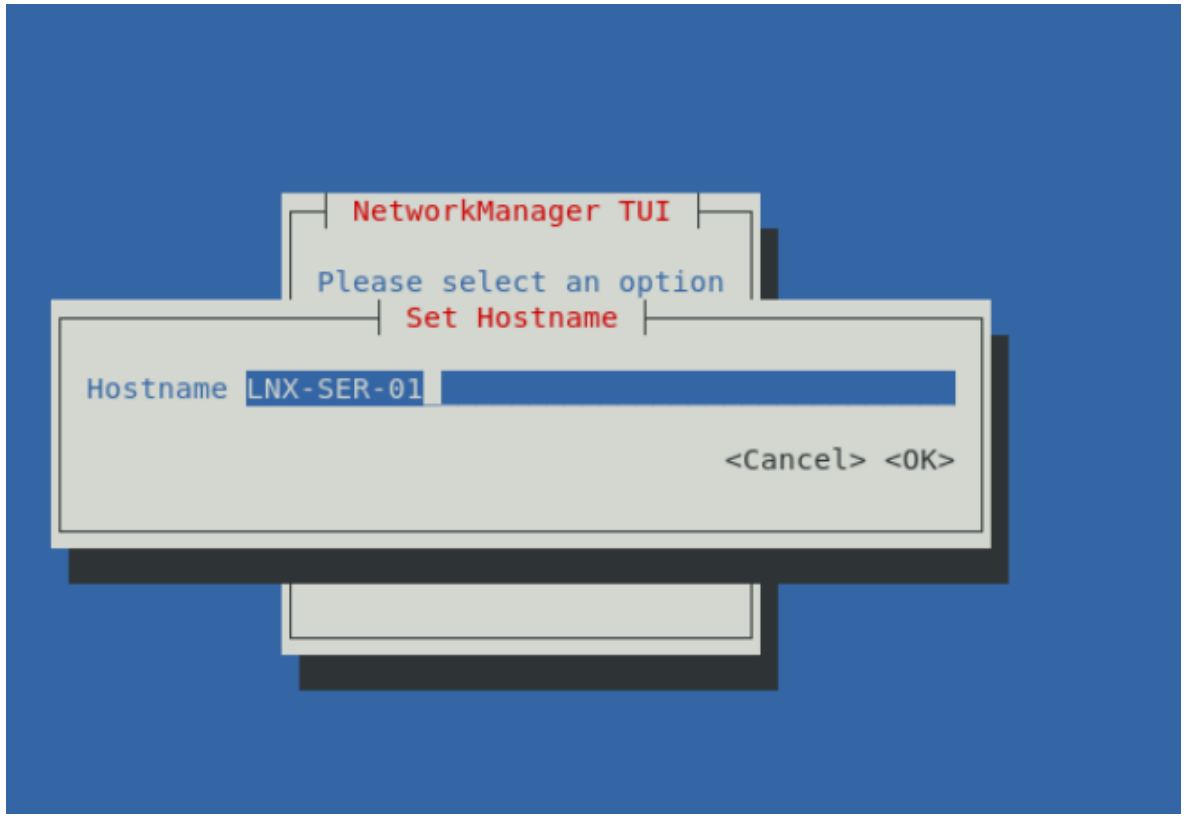


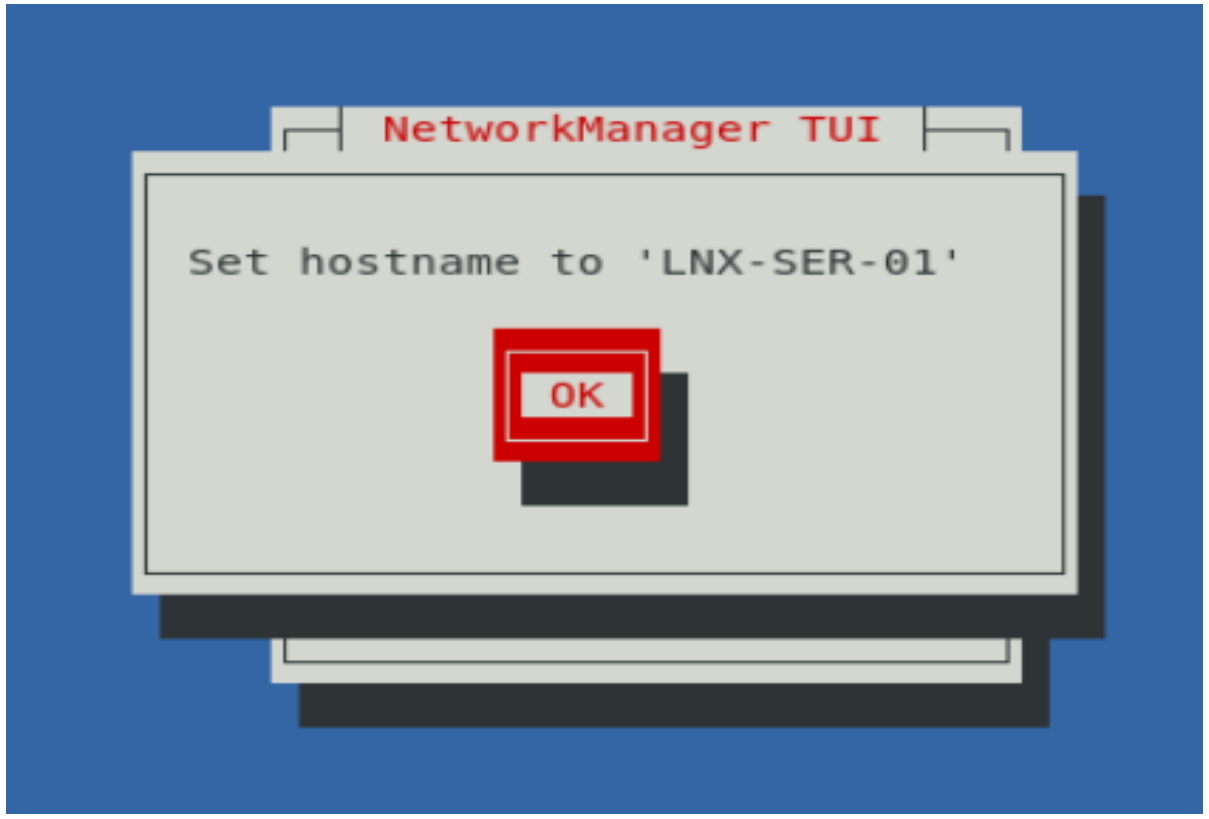


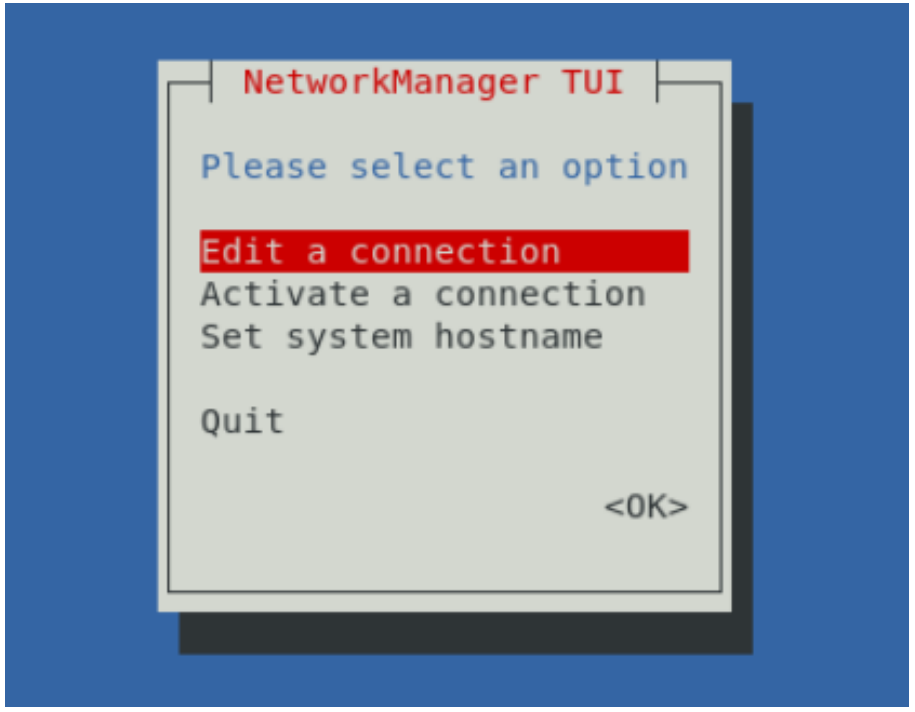


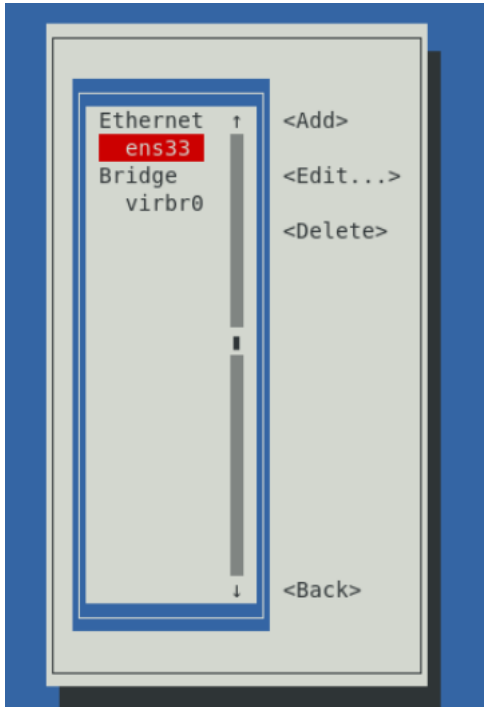
4. Change the ip and host name using nmtui command

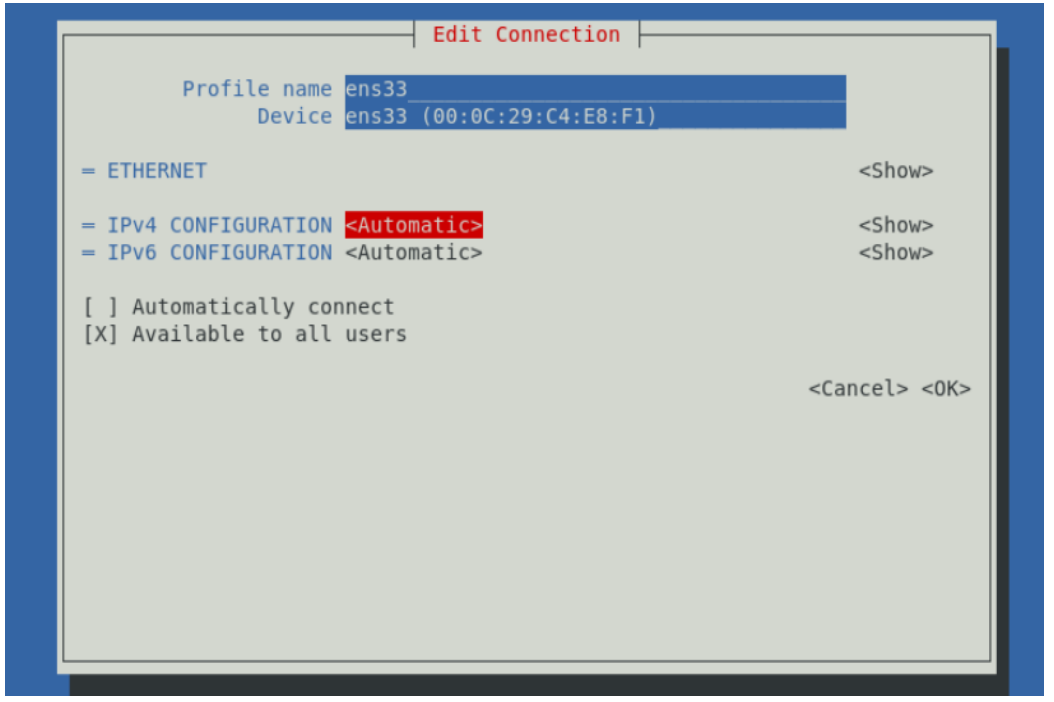


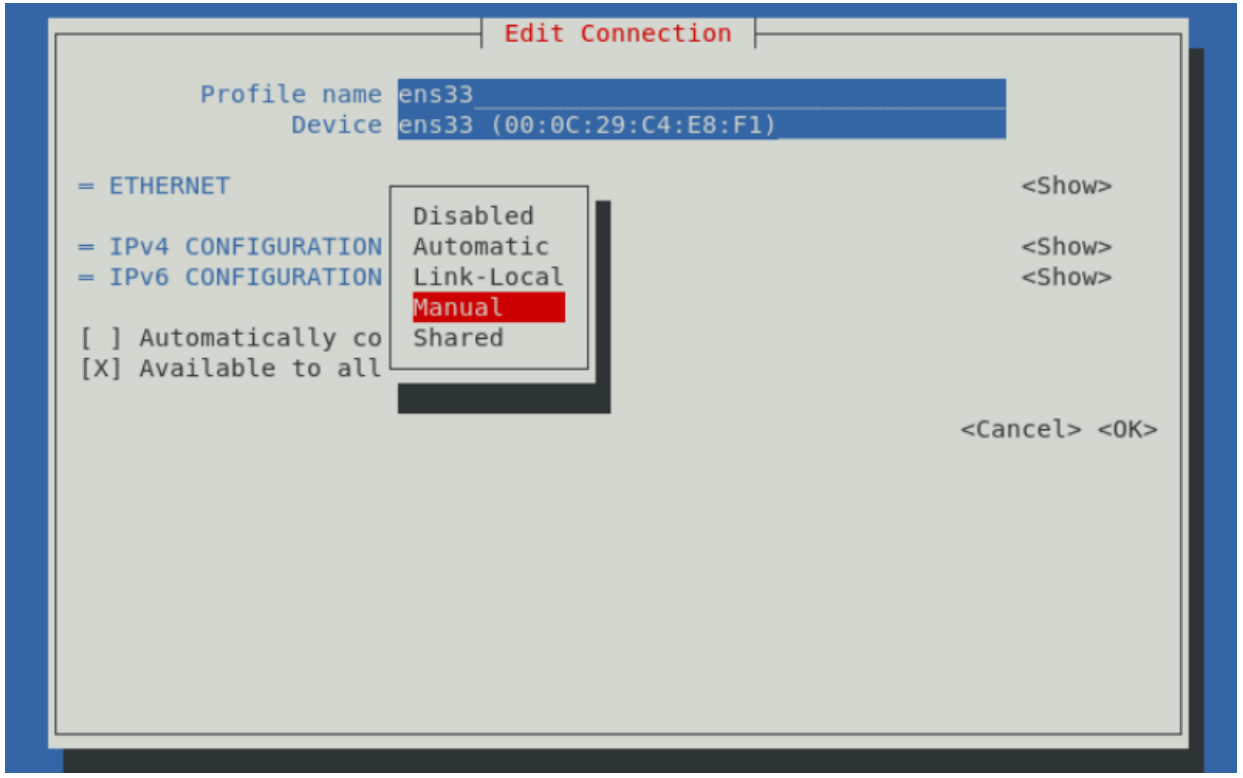


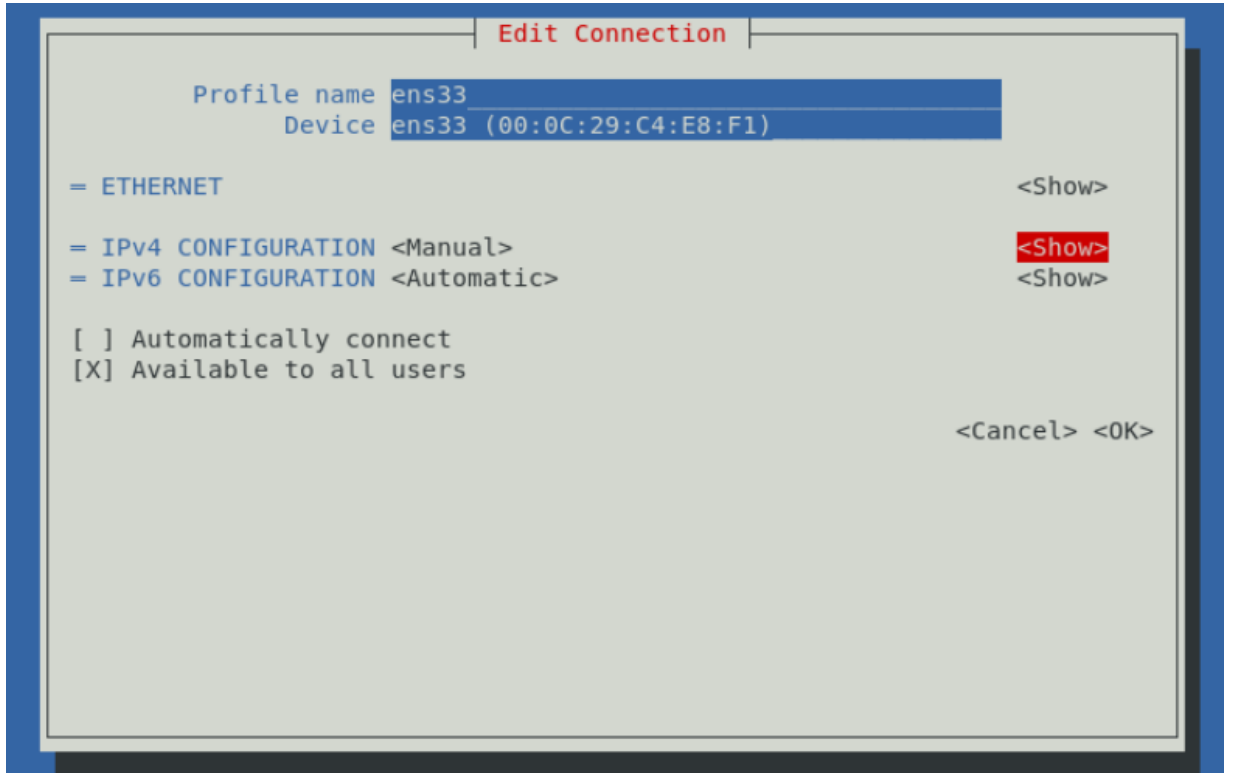


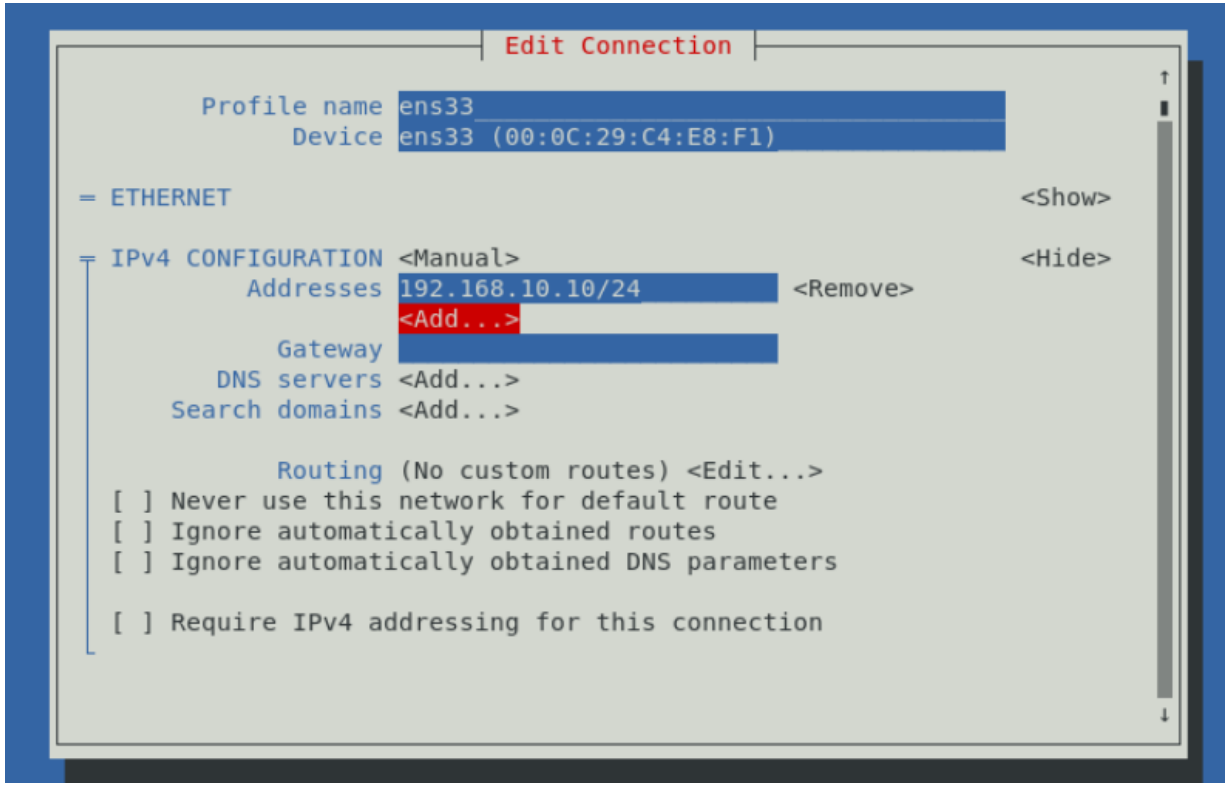


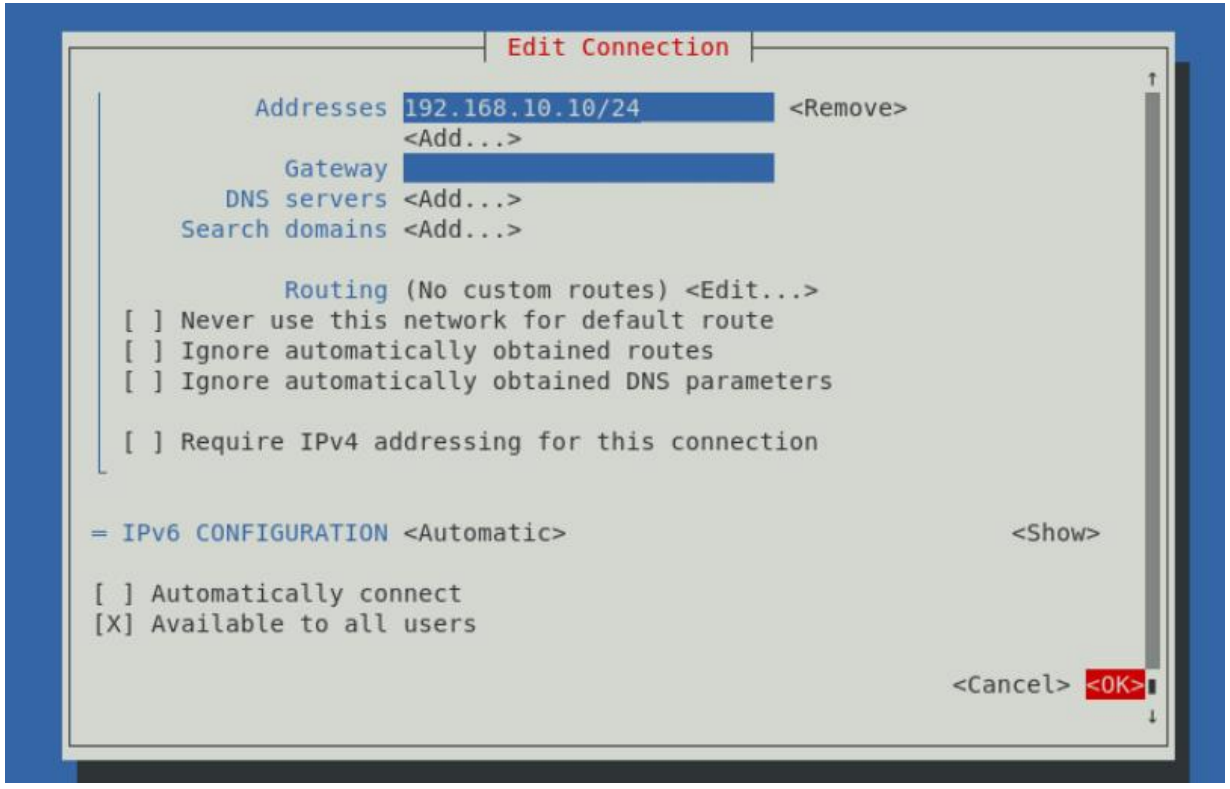








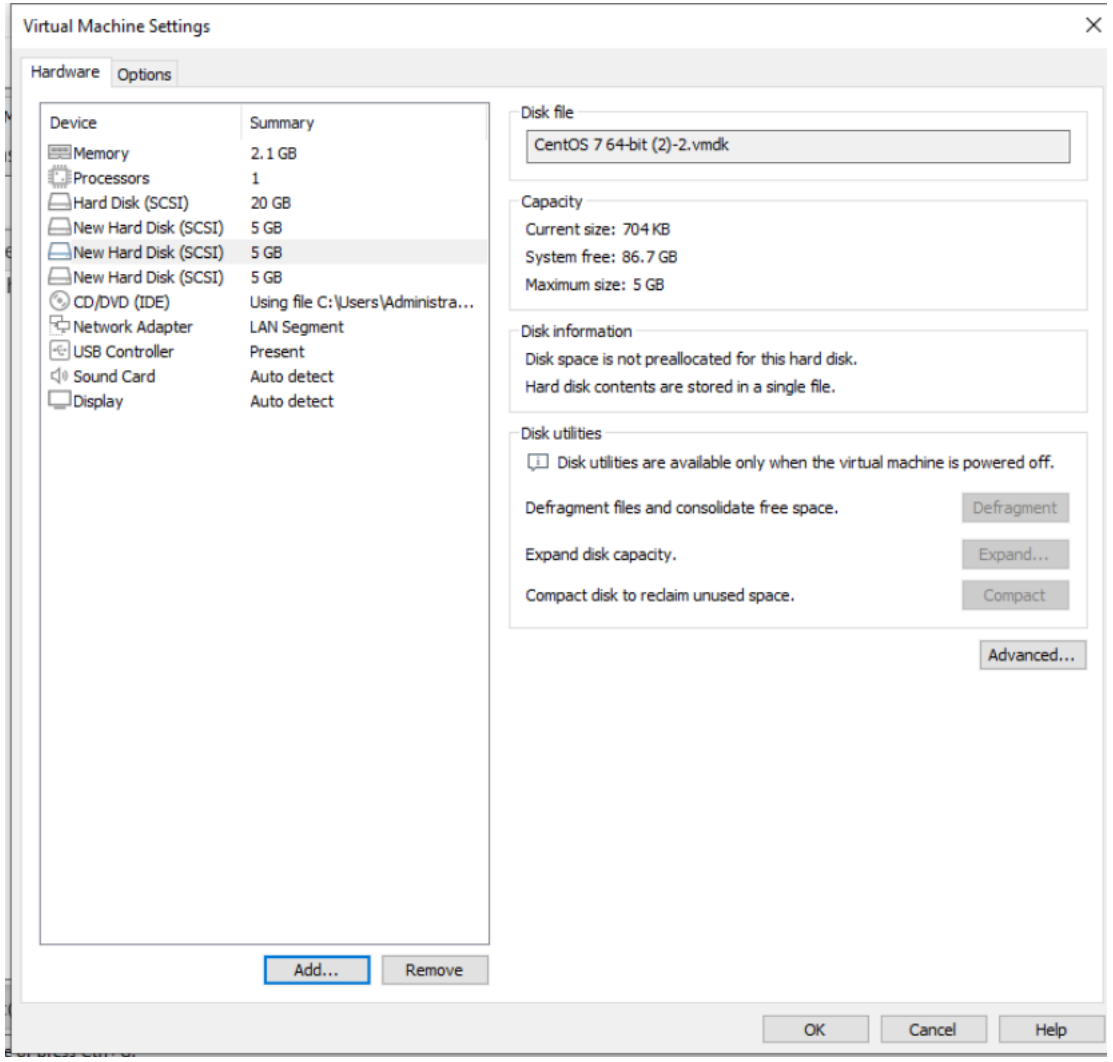


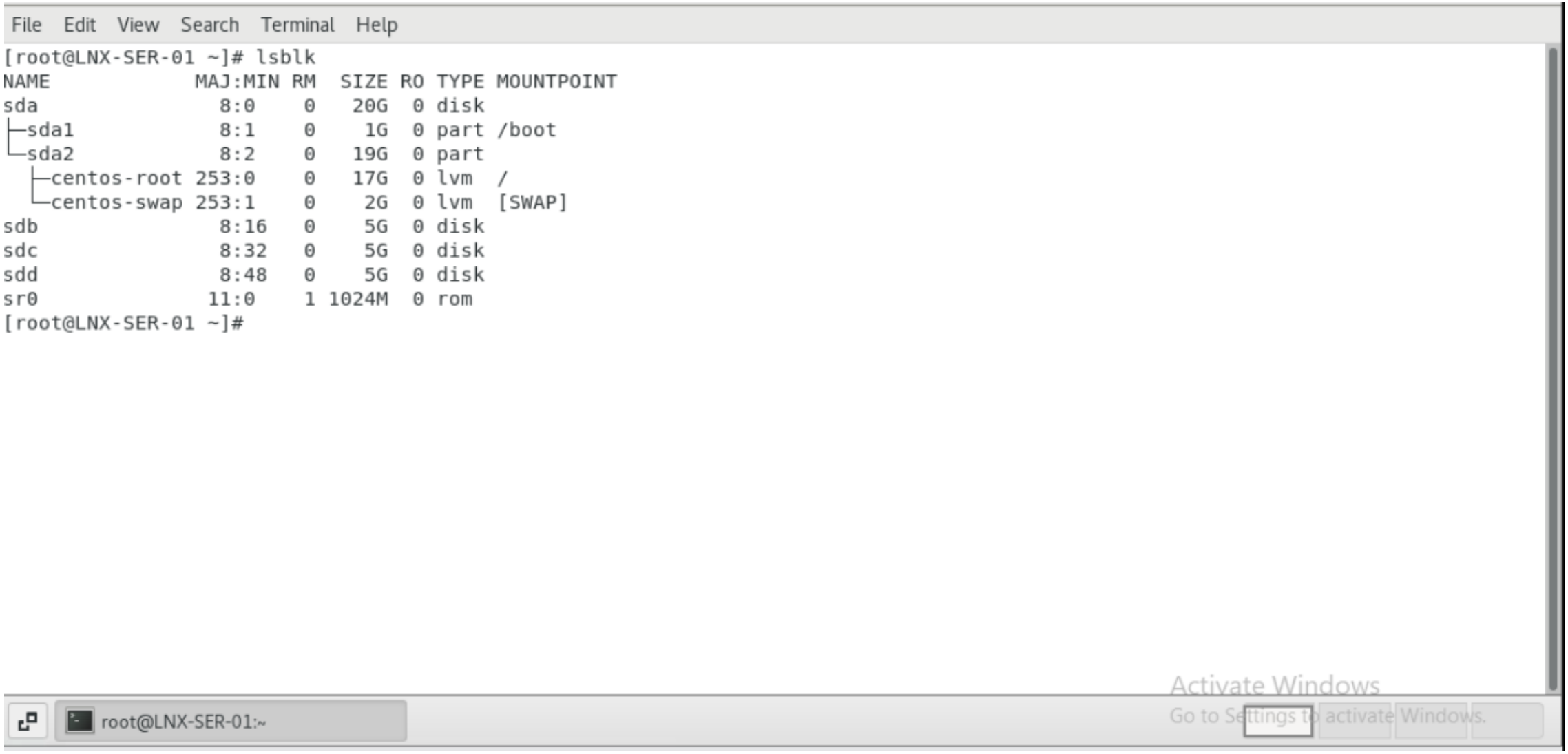


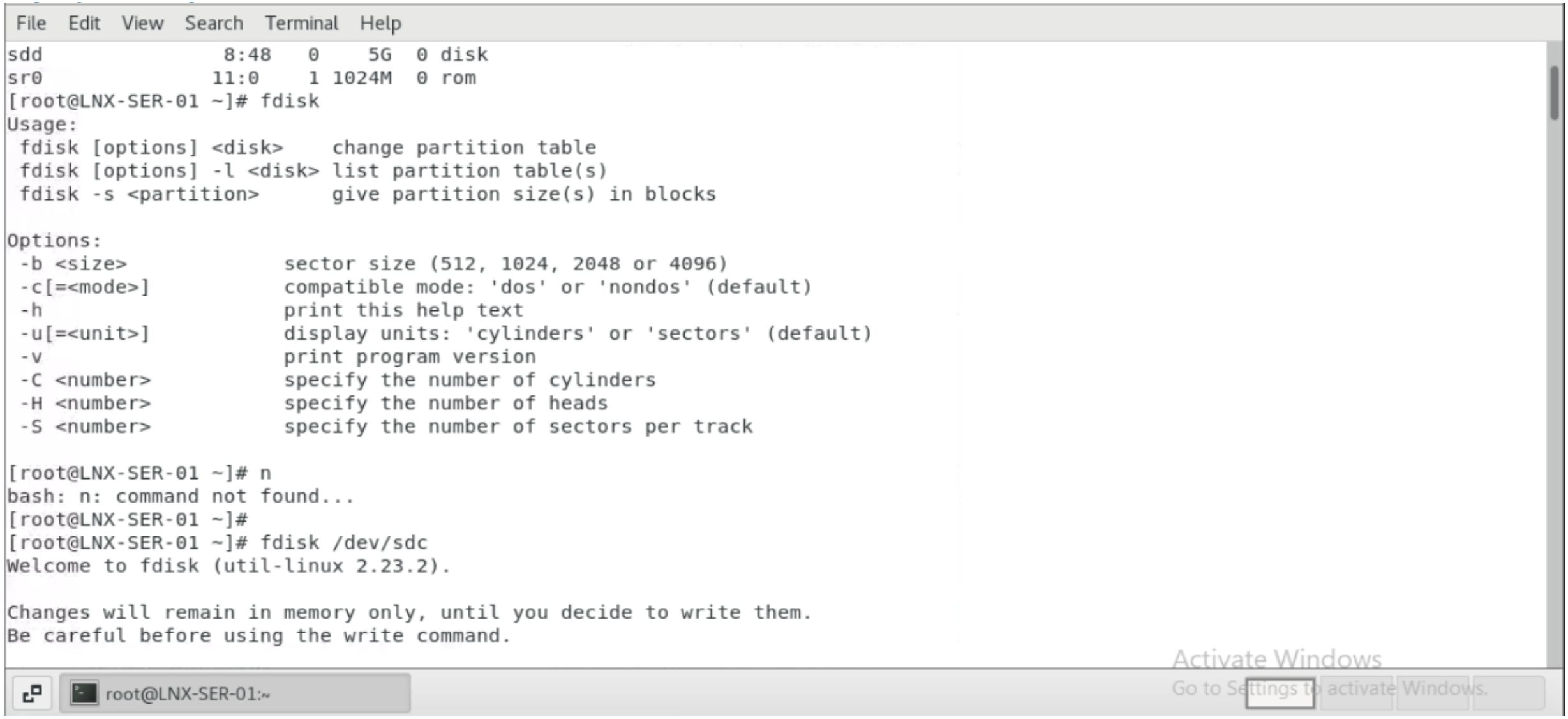
```
[root@localhost ~]# ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.10.10  netmask 255.255.255.0  broadcast 192.168.10.255
        inet6 fe80::49dd:384b:1f80:dd4c  prefixlen 64  scopeid 0x20<link>
        ether 00:0c:29:c4:e8:f1  txqueuelen 1000  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 60  bytes 8399 (8.2 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 944  bytes 82000 (80.0 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 944  bytes 82000 (80.0 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

virbr0: flags=4099<UP,BROADCAST,MULTICAST>  mtu 1500
        inet 192.168.122.1  netmask 255.255.255.0  broadcast 192.168.122.255
        ether 52:54:00:5d:4b:70  txqueuelen 1000  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```


root@localhost:~

5. Creation of LVM

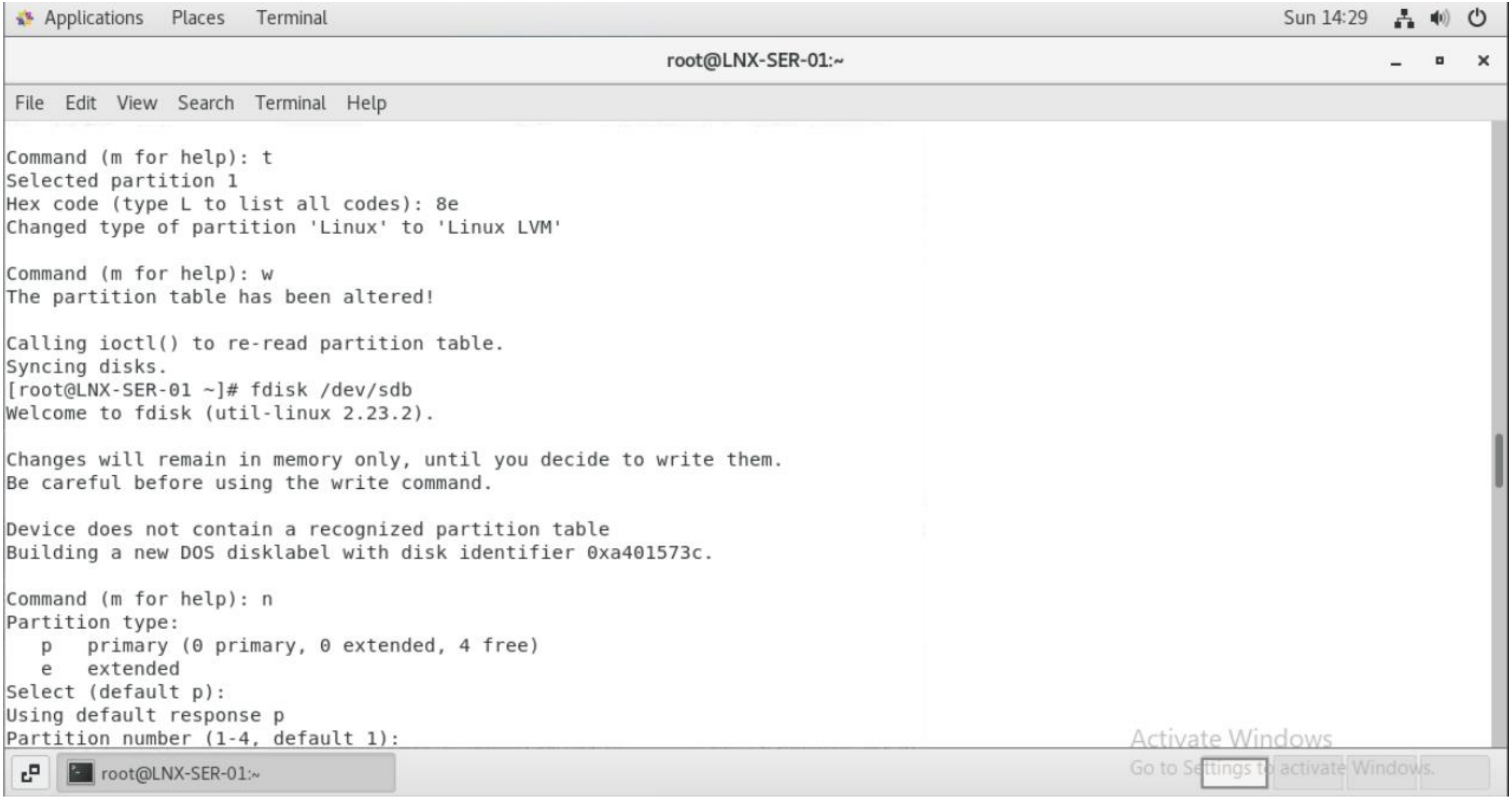


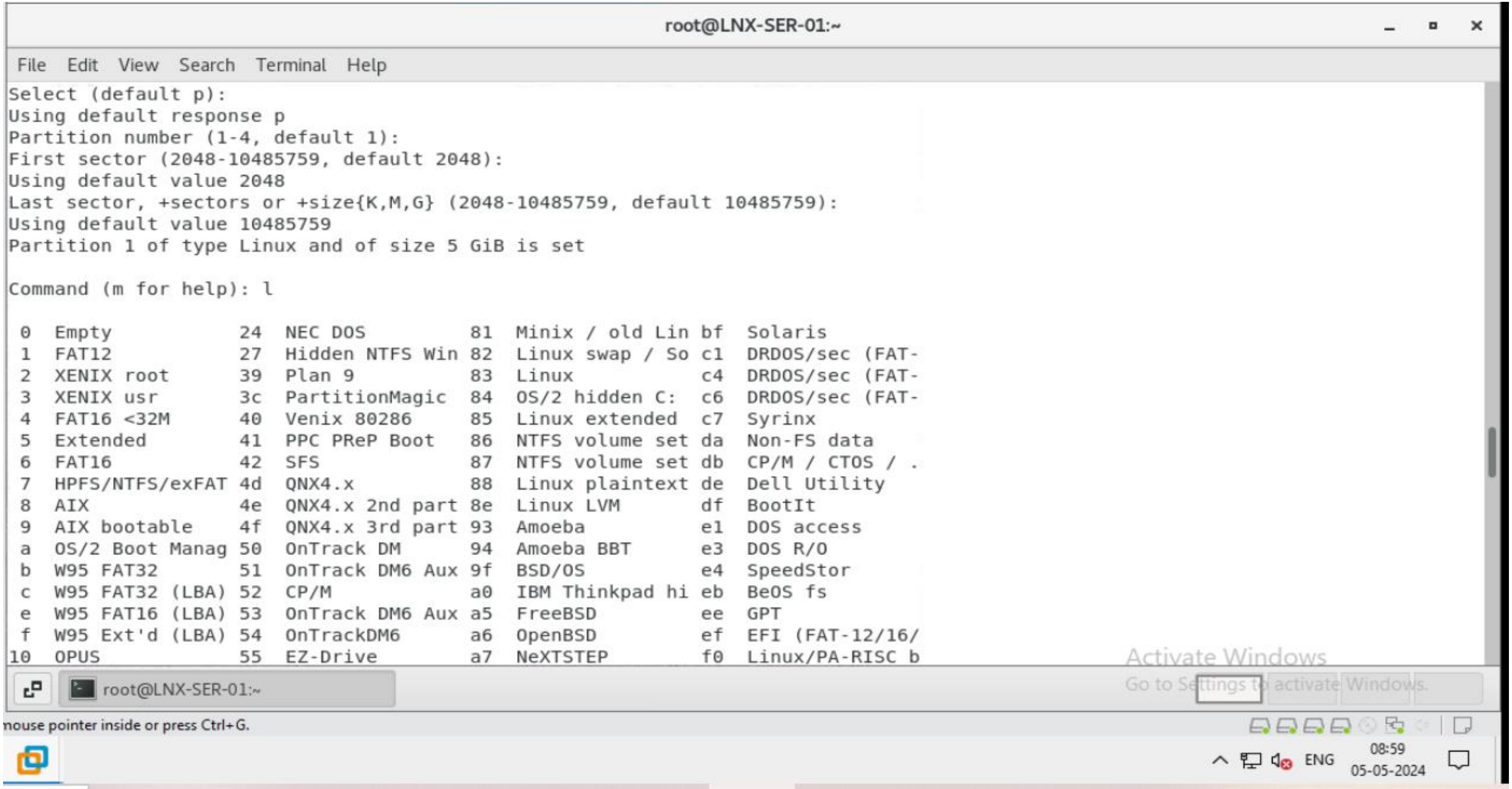


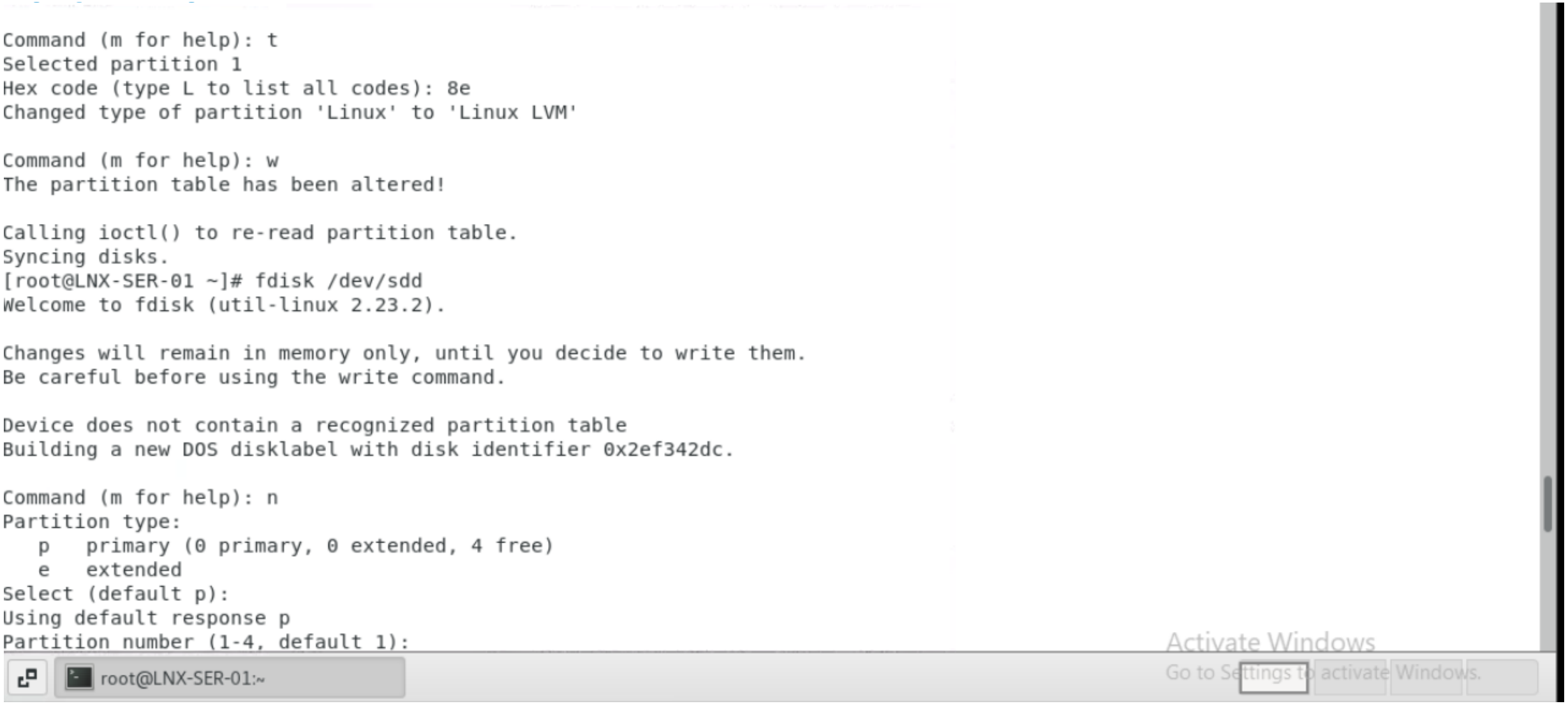


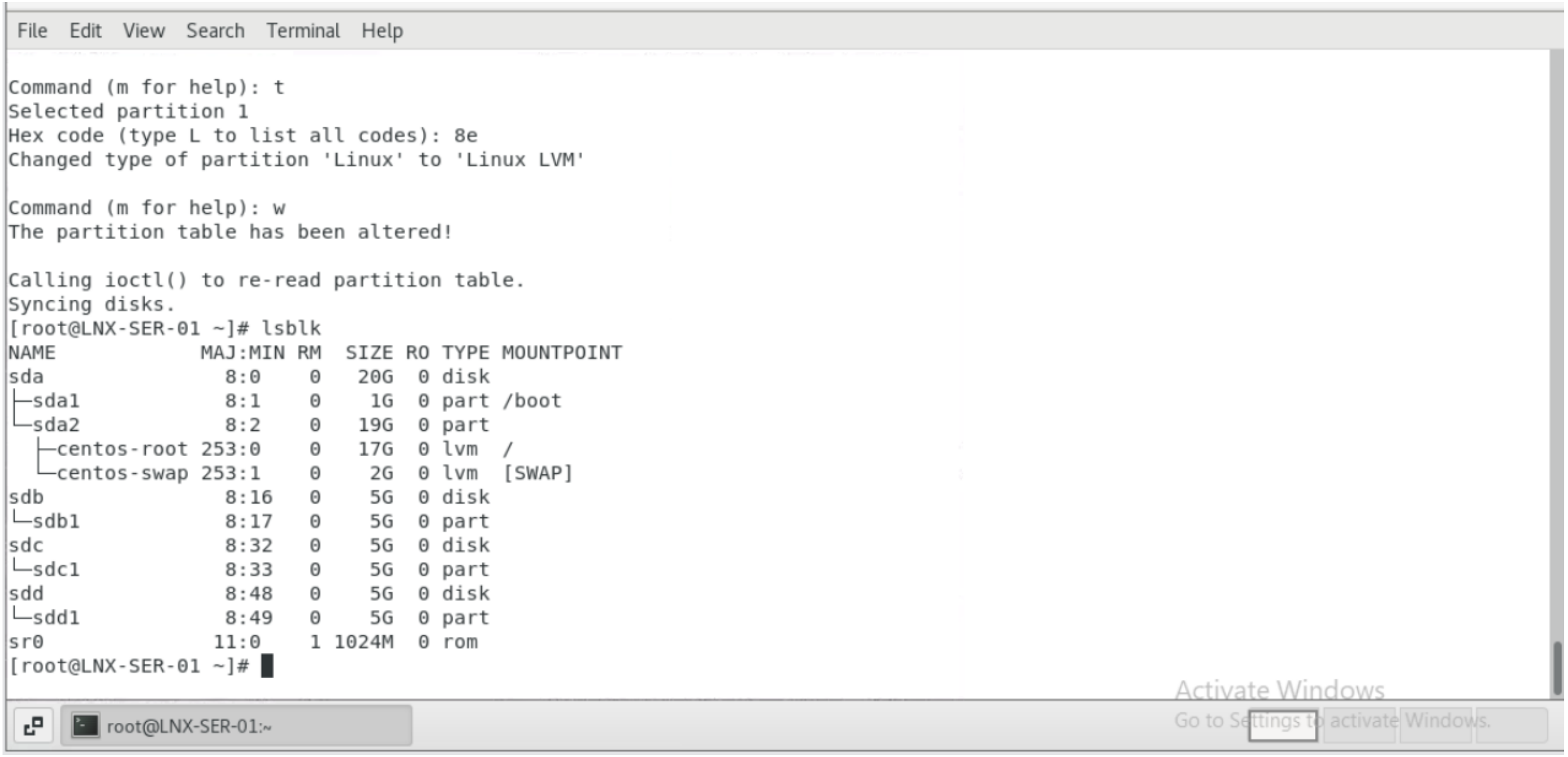
```
[root@LNX-SER-01 ~]# fdisk /dev/sdc
Welcome to fdisk (util-linux 2.23.2).

Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table
Building a new DOS disklabel with disk identifier 0xf350161b.

Command (m for help): n
Partition type:
   p   primary (0 primary, 0 extended, 4 free)
   e   extended
Select (default p):
Using default response p
Partition number (1-4, default 1):
First sector (2048-10485759, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-10485759, default 10485759):
Using default value 10485759
Partition 1 of type Linux and of size 5 GiB is set

Command (m for help): l

 0  Empty           24  NEC DOS         81  Minix / old Lin bf  Solaris
 1  FAT12           27  Hidden NTFS Win 82  Linux swap / So c1  DRDOS/sec (FAT-
 2  XENIX root      39  Plan 9          83  Linux           c4  DRDOS/sec (FAT-
```

root@LNX-SER-01:~





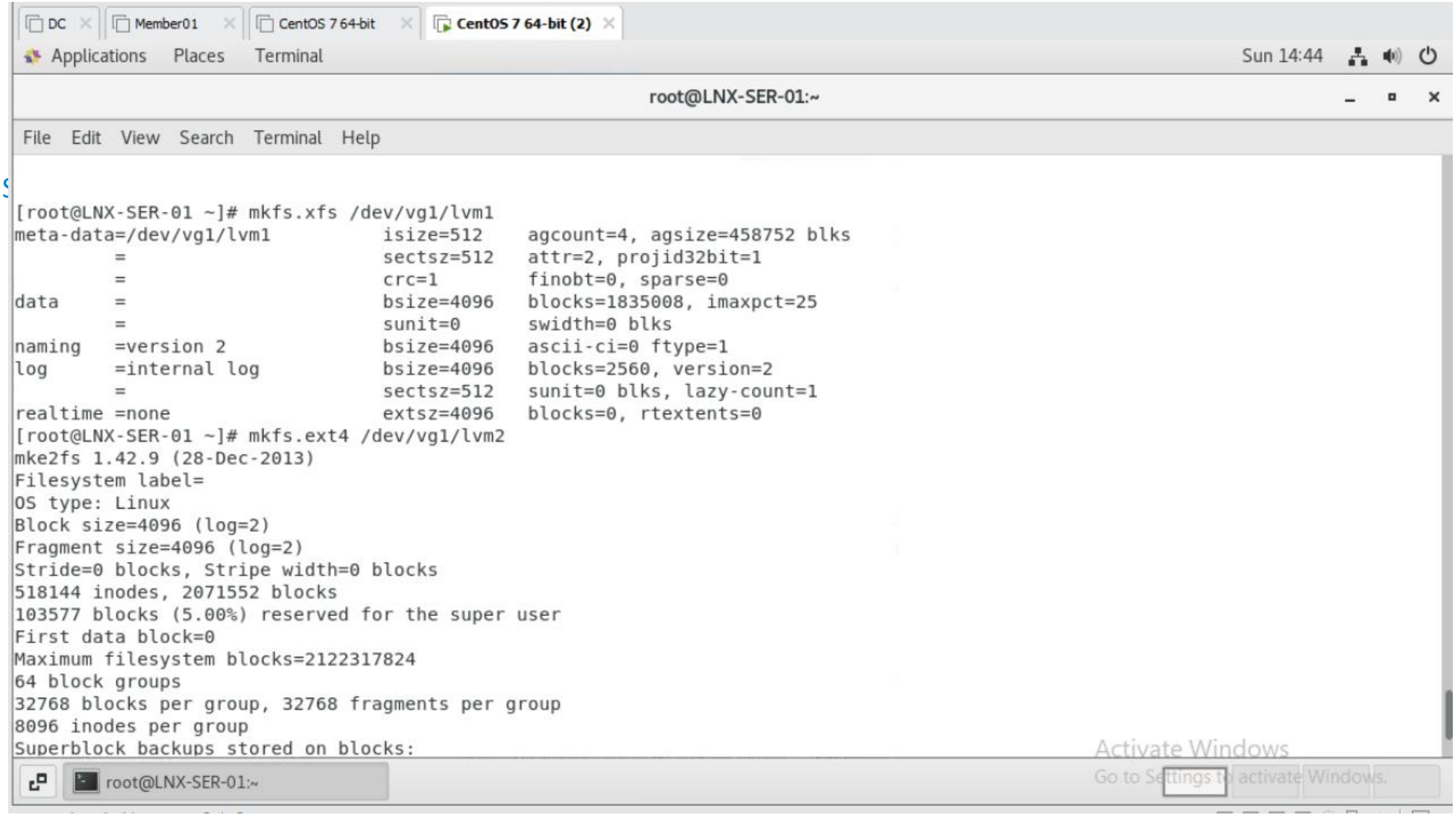


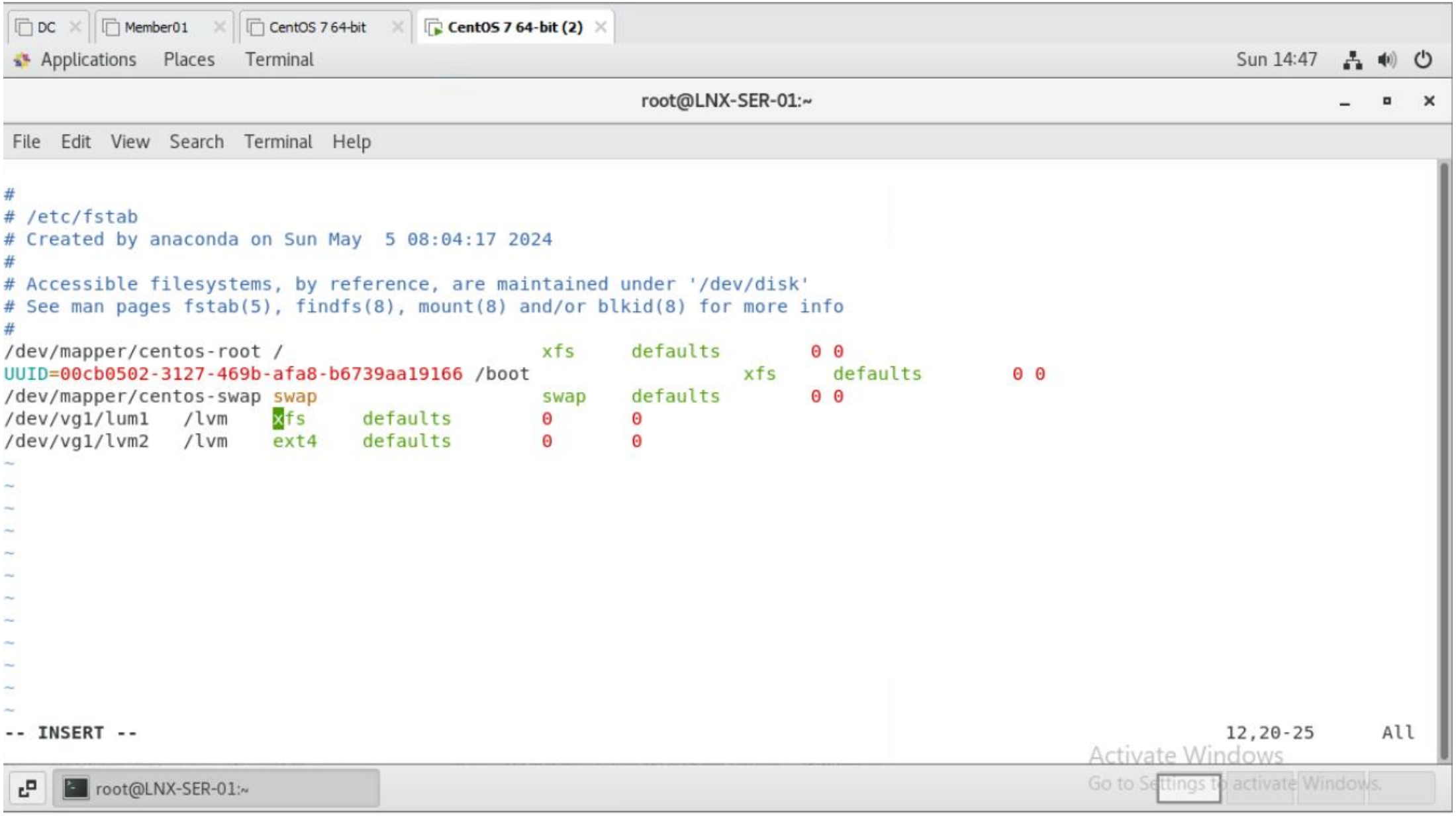


```
File  Edit  View  Search  Terminal  Help
[root@LNX-SER-01 ~]# pvcreate /dev/sdb1 /dev/sdc1 /dev/sdd1
  Physical volume "/dev/sdb1" successfully created.
  Physical volume "/dev/sdc1" successfully created.
  Physical volume "/dev/sdd1" successfully created.
[root@LNX-SER-01 ~]#
```

```
File  Edit  View  Search  Terminal  Help
[root@LNX-SER-01 ~]# vgcreate vg1 /dev/sdb1 /dev/sdc1 /dev/sdd1
  Volume group "vg1" successfully created
[root@LNX-SER-01 ~]#
```

```
[root@LNX-SER-01 ~]# lvcreate -L 7G -n lvm1 vg1
  Logical volume "lvm1" created.
[root@LNX-SER-01 ~]# lvcreate -L 8G -n lvm2 vg1
  Volume group "vg1" has insufficient free space (2045 extents): 2048 required.
[root@LNX-SER-01 ~]# lvcreate -L 7.9G -n lvm2 vg1
  Rounding up size to full physical extent 7.90 GiB
  Logical volume "lvm2" created.
[root@LNX-SER-01 ~]#
```





```
[root@LNX-SER-01 ~]# mkdir /lvm
[root@LNX-SER-01 ~]# vim /etc/fstab
[root@LNX-SER-01 ~]# mount -a
mount: unknown filesystem type '.xfs'
mount: unknown filesystem type '.ext4'
[root@LNX-SER-01 ~]# vim /etc/fstab
[root@LNX-SER-01 ~]# mount -a
mount: special device /dev/vg1/lum1 does not exist
[root@LNX-SER-01 ~]# vim /etc/fstab
[root@LNX-SER-01 ~]# mount -a

[root@LNX-SER-01 ~]#
[root@LNX-SER-01 ~]#
```

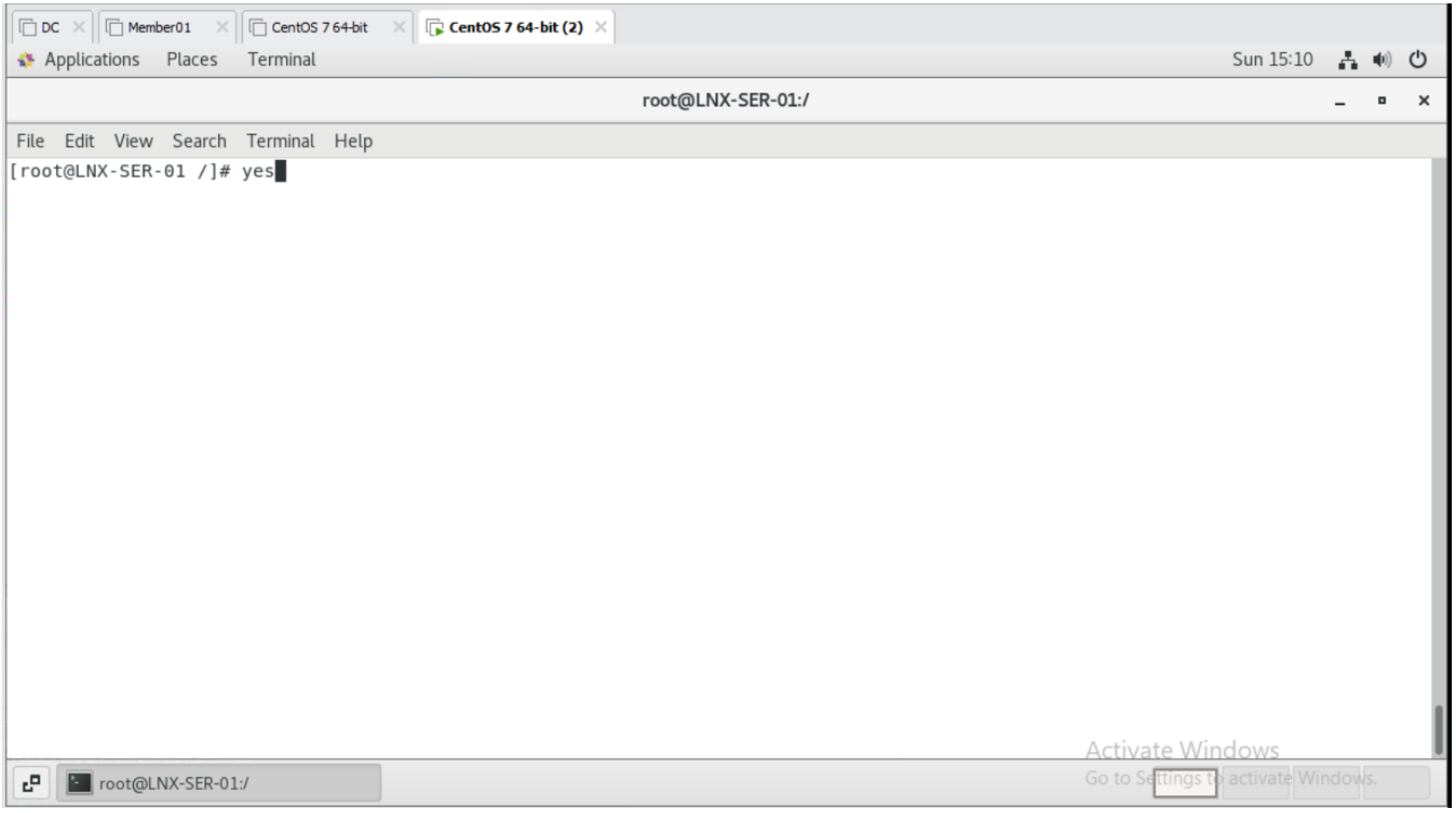
root@LNX-SER-01:~

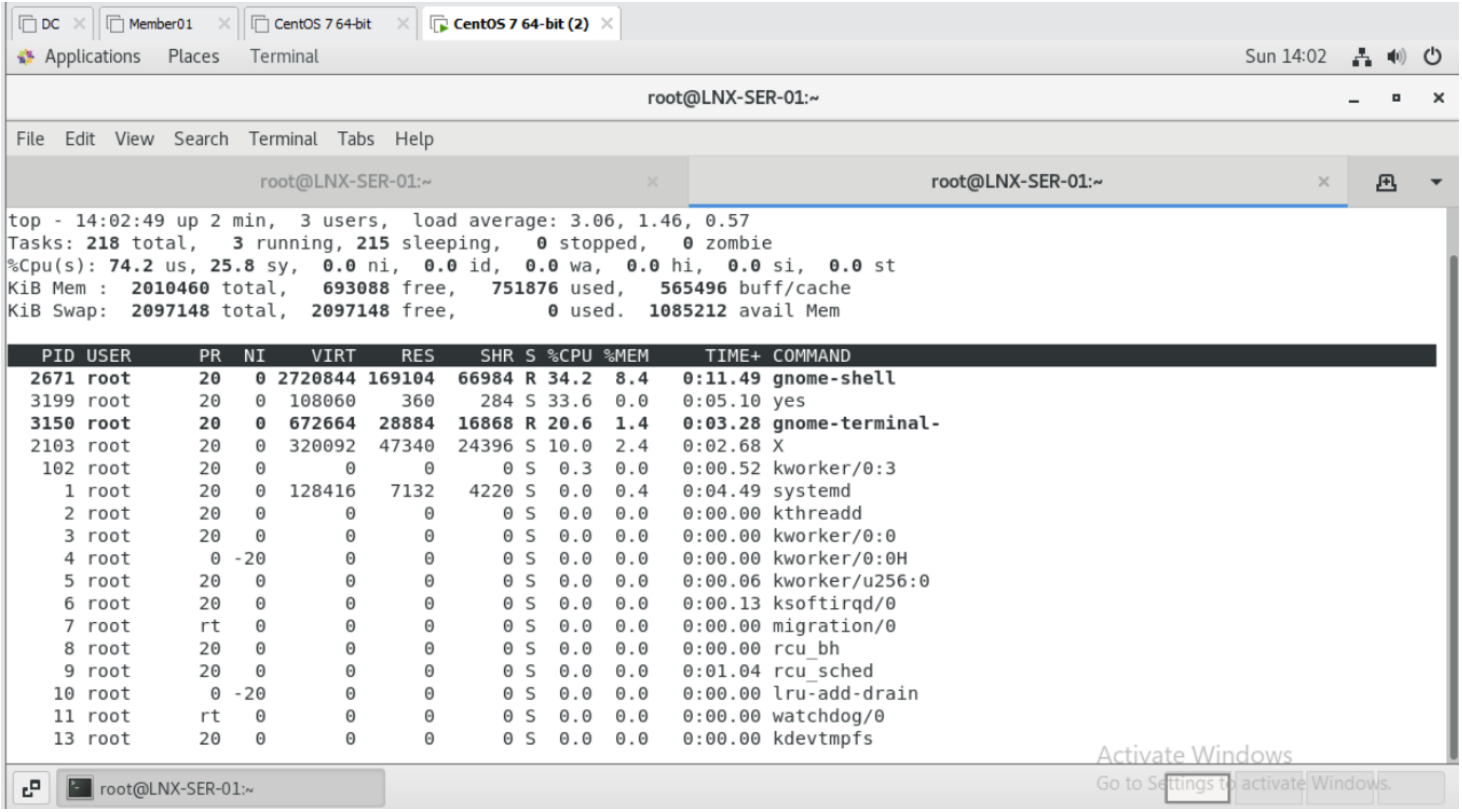
nouse pointer inside or press Ctrl+G.

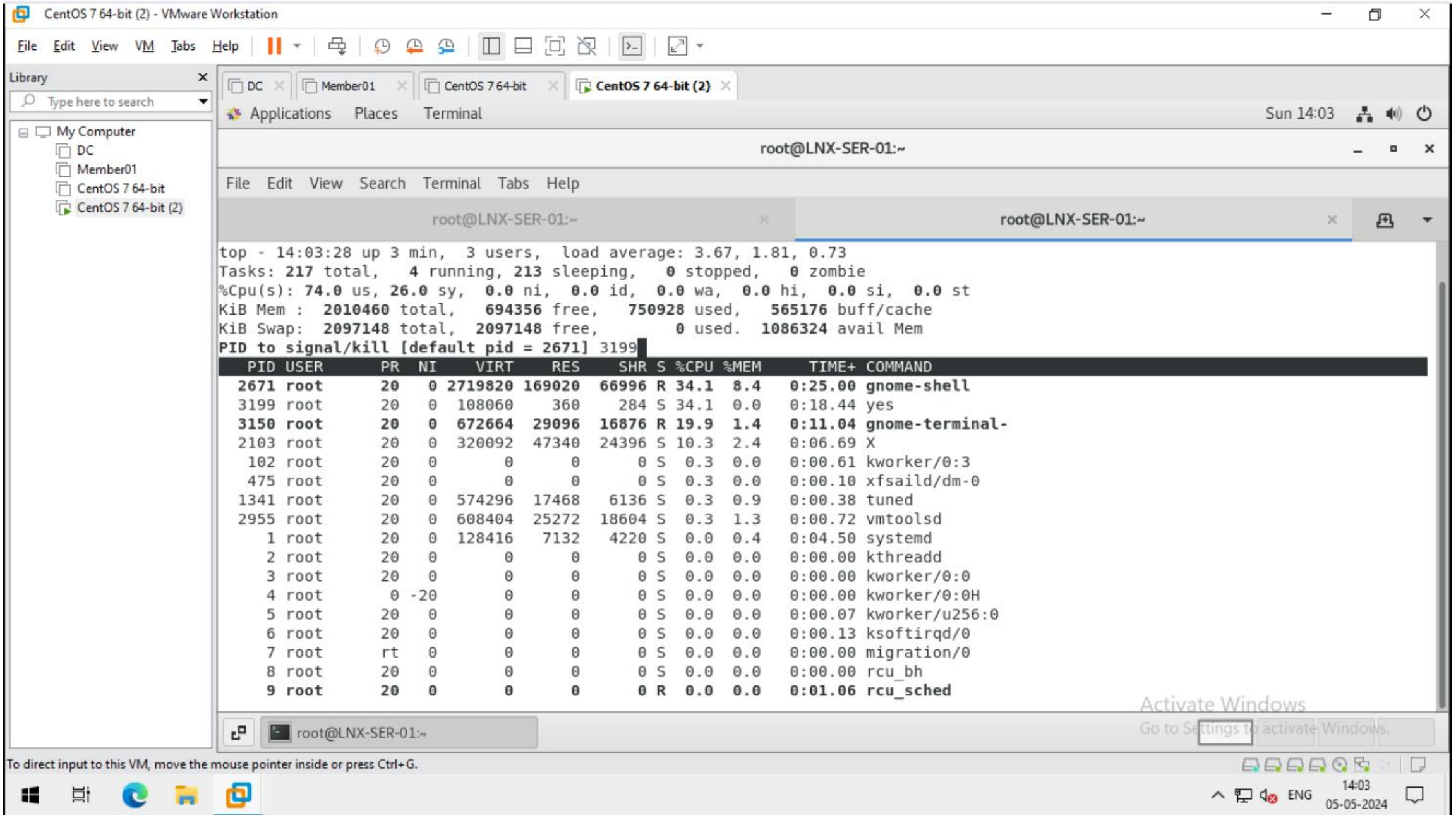
File Edit View Search Terminal Help

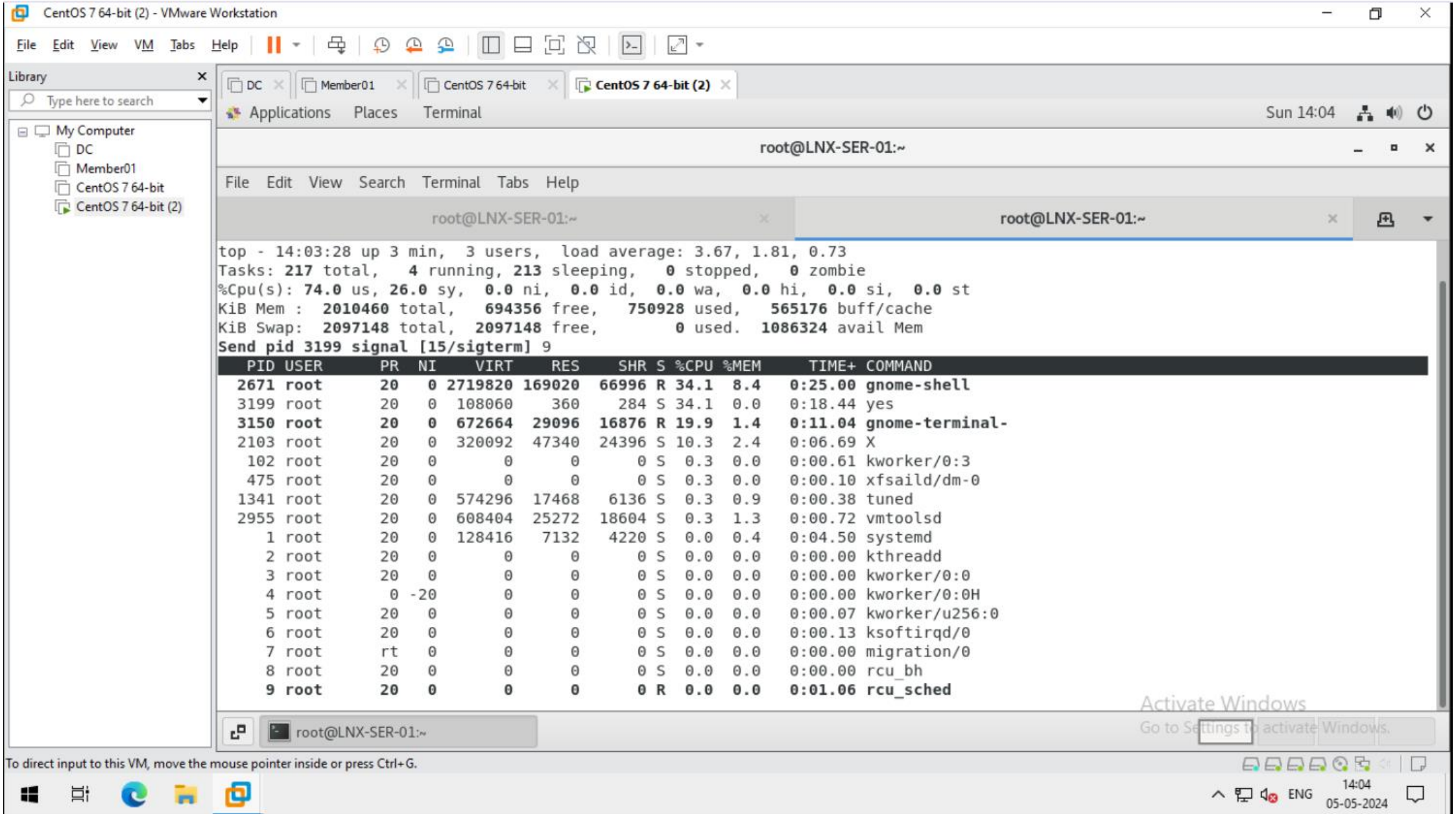
```
[root@LNX-SER-01 ~]# lsblk
NAME            MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda               8:0    0   20G  0 disk
├─sda1            8:1    0    1G  0 part /boot
└─sda2            8:2    0   19G  0 part
  ├─centos-root 253:0    0   17G  0 lvm  /
  └─centos-swap 253:1    0    2G  0 lvm  [SWAP]
sdb               8:16   0    5G  0 disk
└─sdb1            8:17   0    5G  0 part
  └─vg1-lvm1    253:2    0    7G  0 lvm  /lvm
sdc               8:32   0    5G  0 disk
└─sdc1            8:33   0    5G  0 part
  ├─vg1-lvm1    253:2    0    7G  0 lvm  /lvm
  └─vg1-lvm2    253:3    0  7.9G  0 lvm  /lvm
sdd               8:48   0    5G  0 disk
└─sdd1            8:49   0    5G  0 part
  └─vg1-lvm2    253:3    0  7.9G  0 lvm  /lvm
sr0              11:0    1 1024M  0 rom
[root@LNX-SER-01 ~]#
```

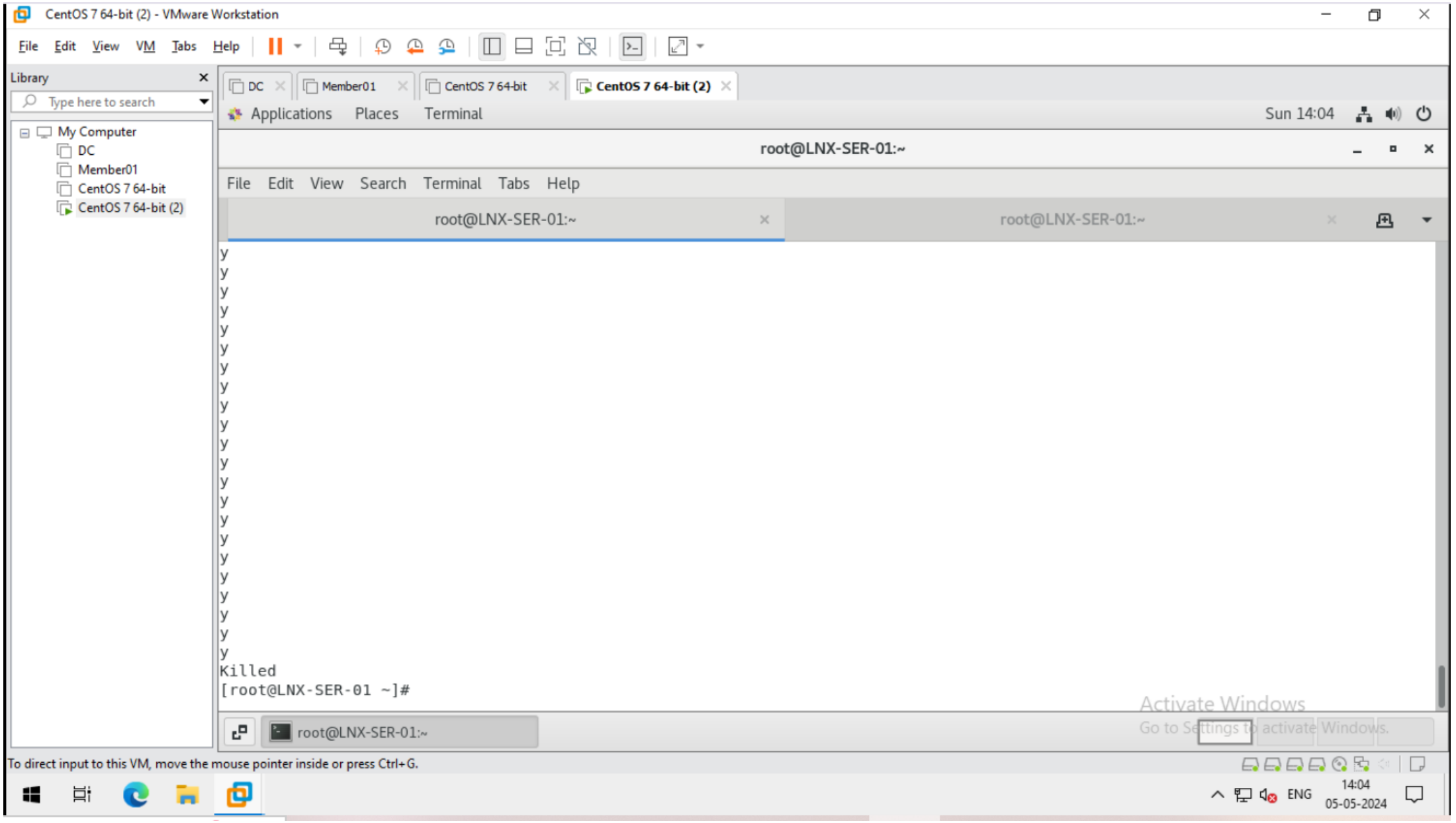
6. Start yes process and kill it using top command



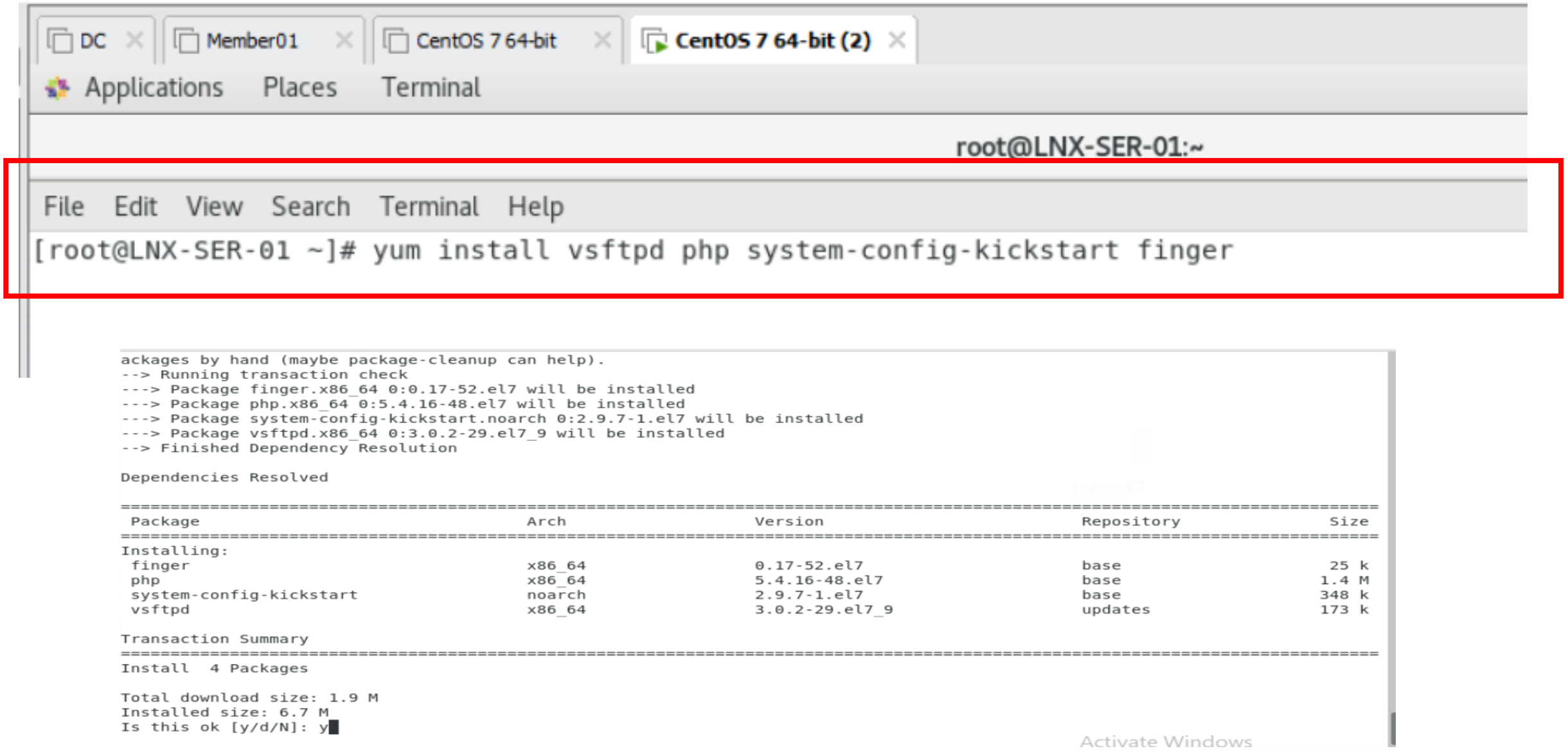


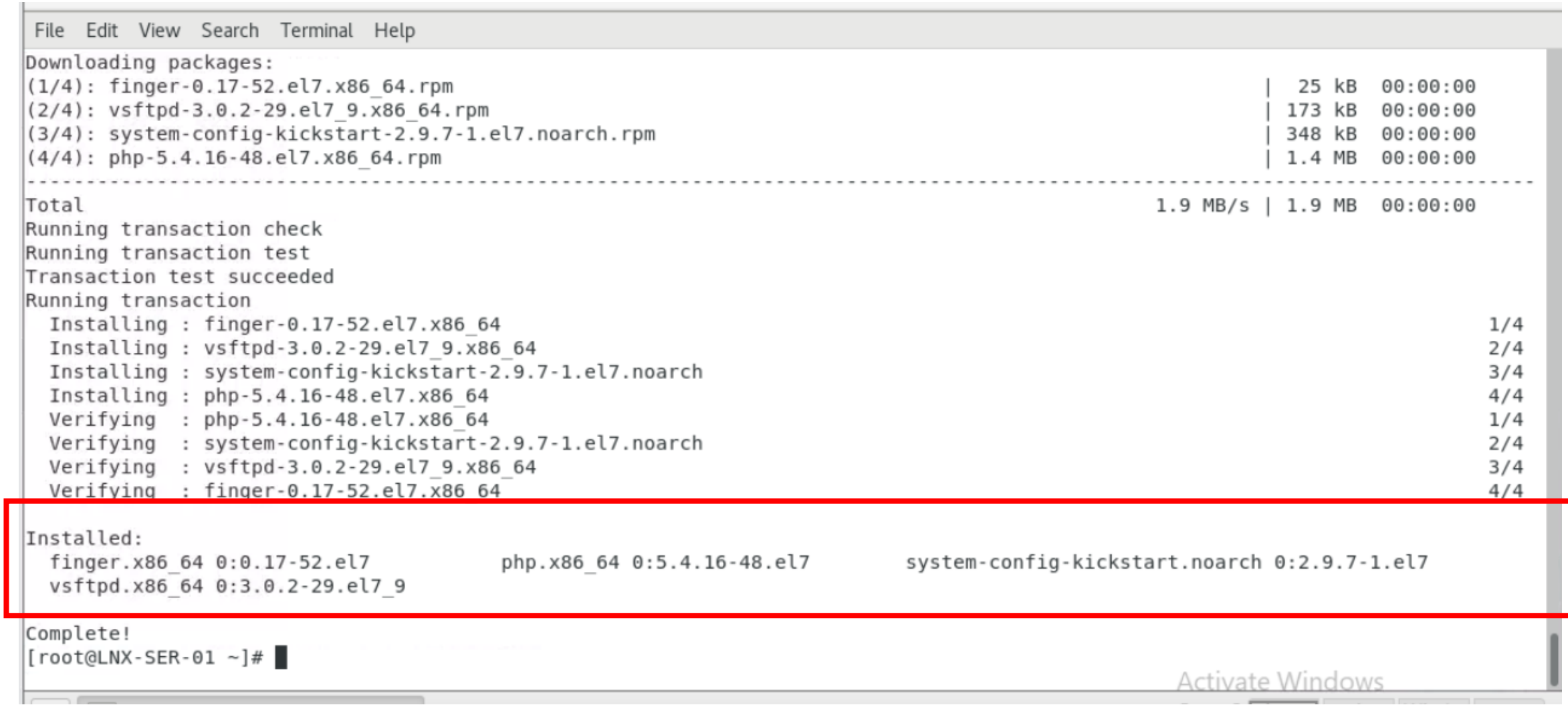






7.Installing the packets using yum in single command





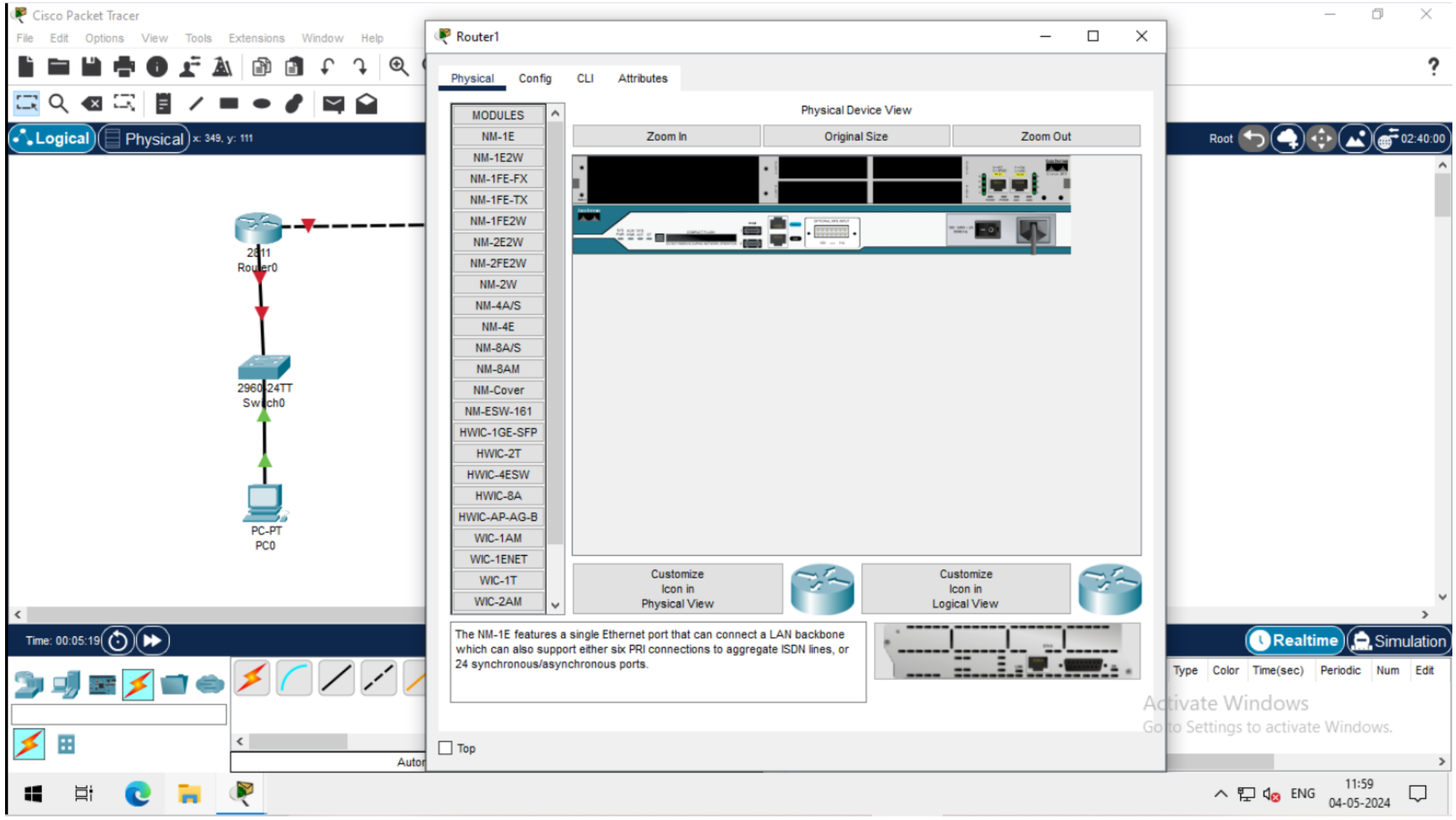
PROJECT – 4

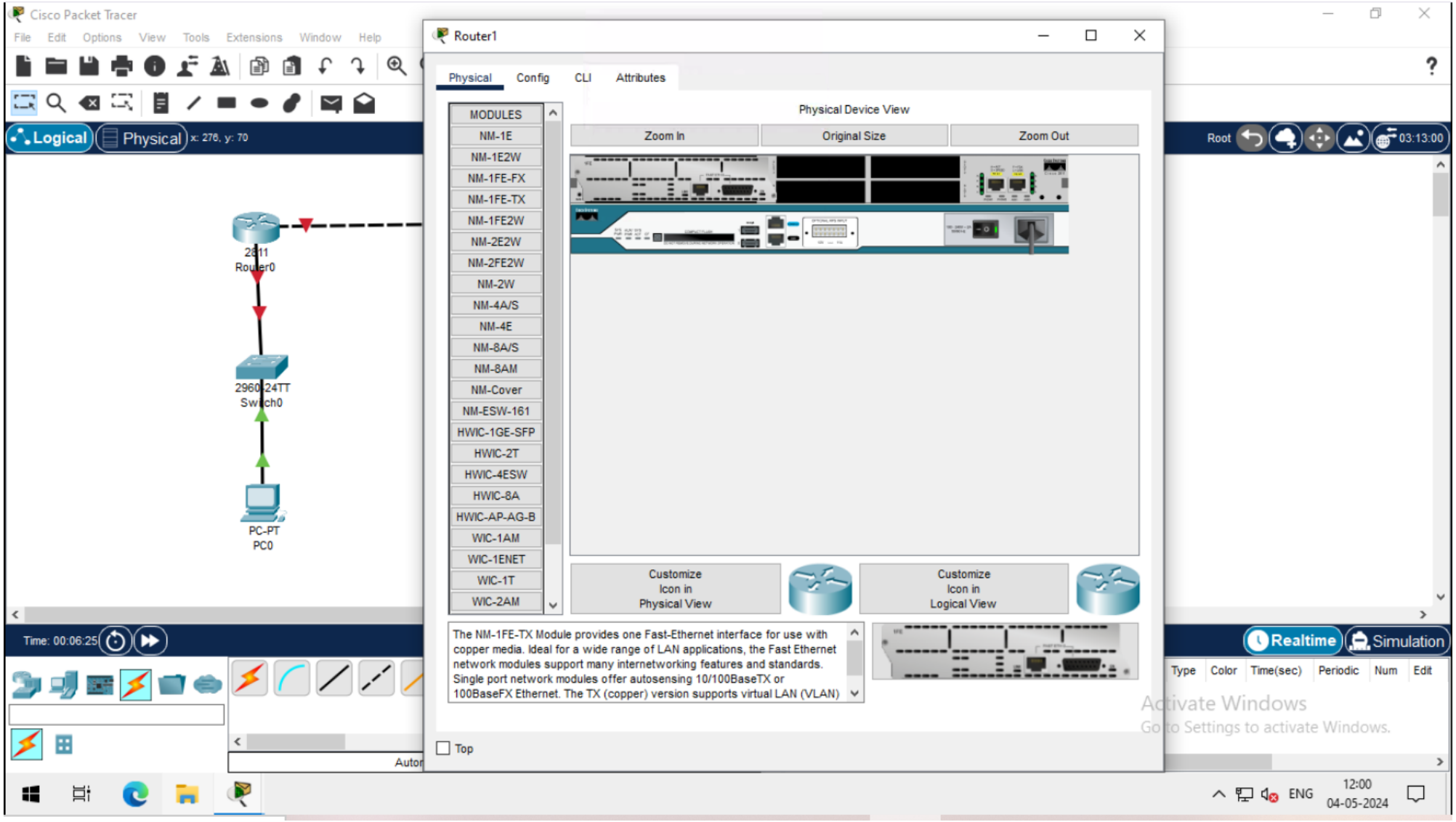
Use Cisco packet tracer and implement static routing and OSPF routing using 3 routers.

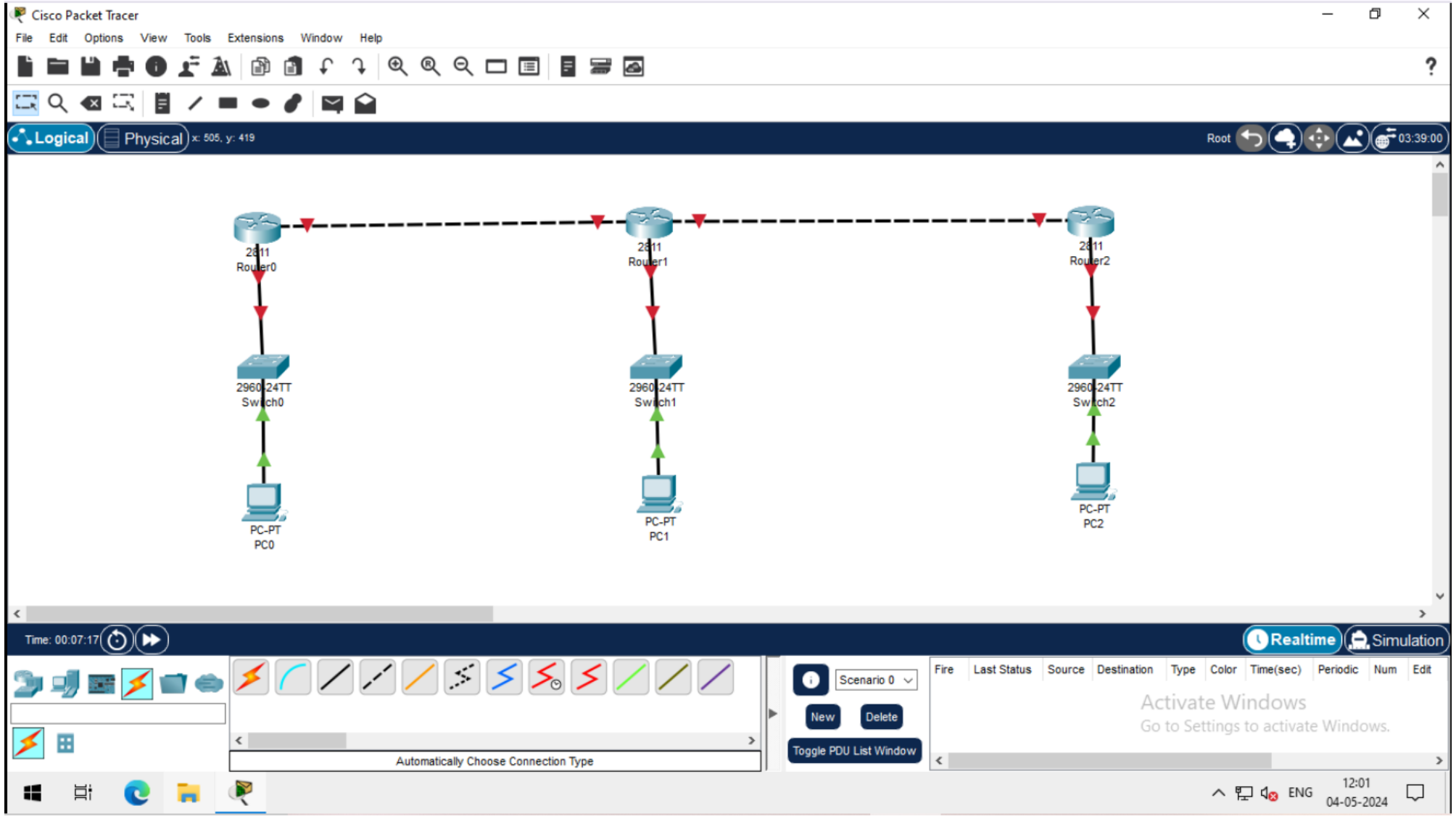
content

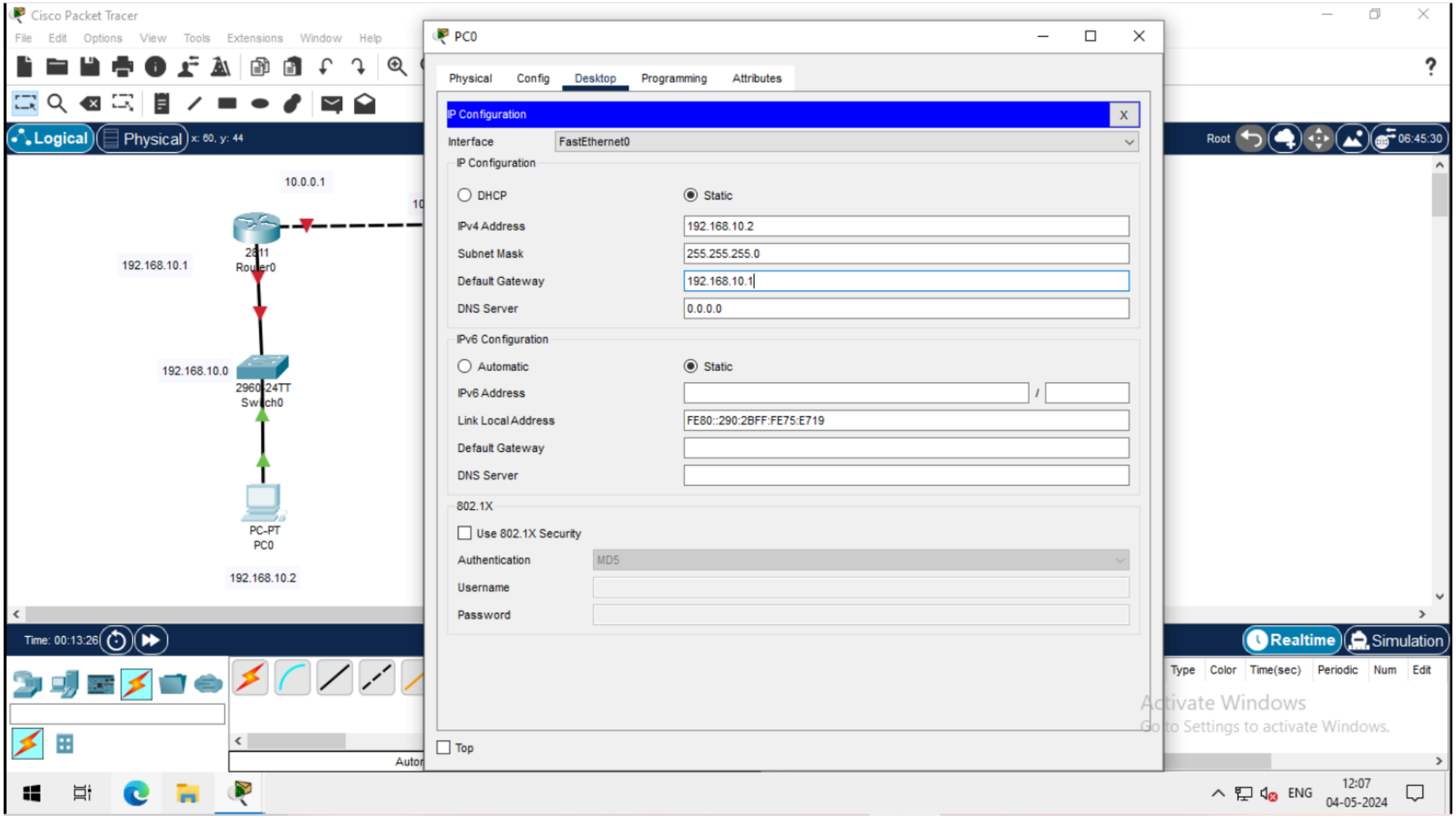
Sl no.	Function
1. Static routing using 3 routers	- Add 3 pcs, 3 routers, 3 switches - Assign IP to all pc - Configure all 3 routers and assign IP to all ports - Make Indirect connections between routers - Ping one pc with another for test
2. OSPF using 3 routers	- Add 2 pc, 3 router, 2 switches - Assign IP to all pc - Configure all 3 routers and assign IP to all ports - make OSPF Configuretion. - Ping one pc with another for test

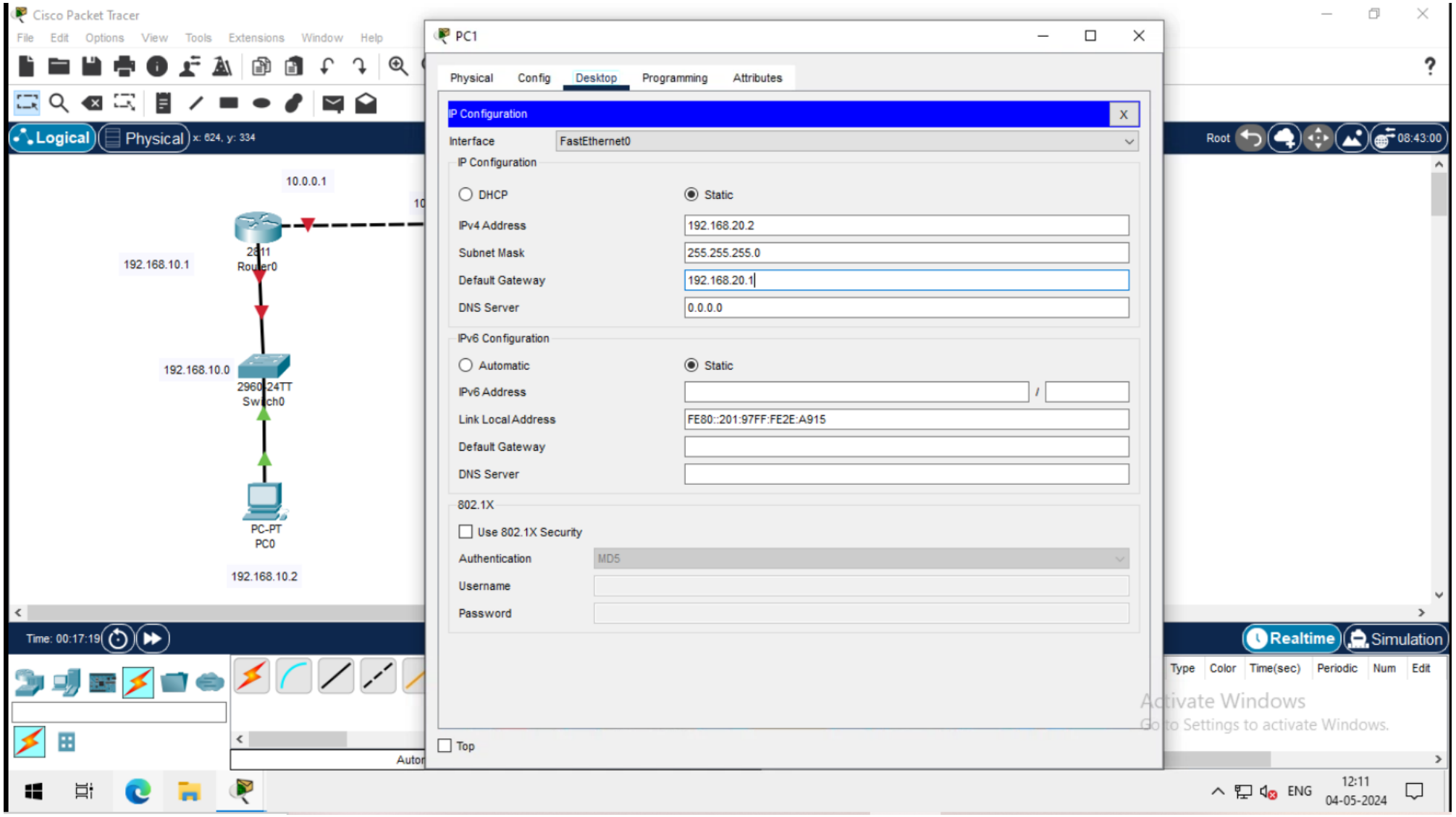
1. Static routing using 3 routers

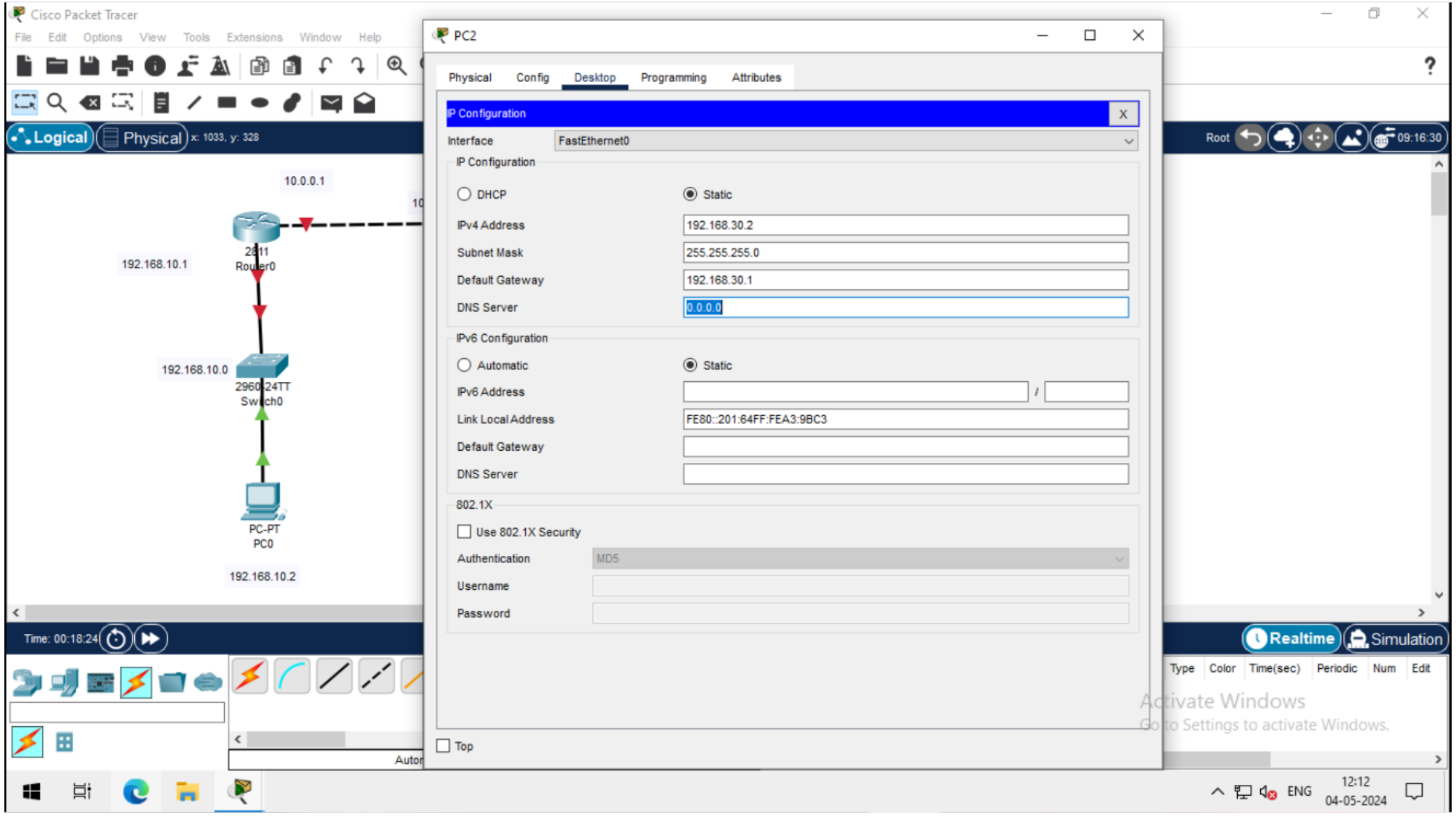


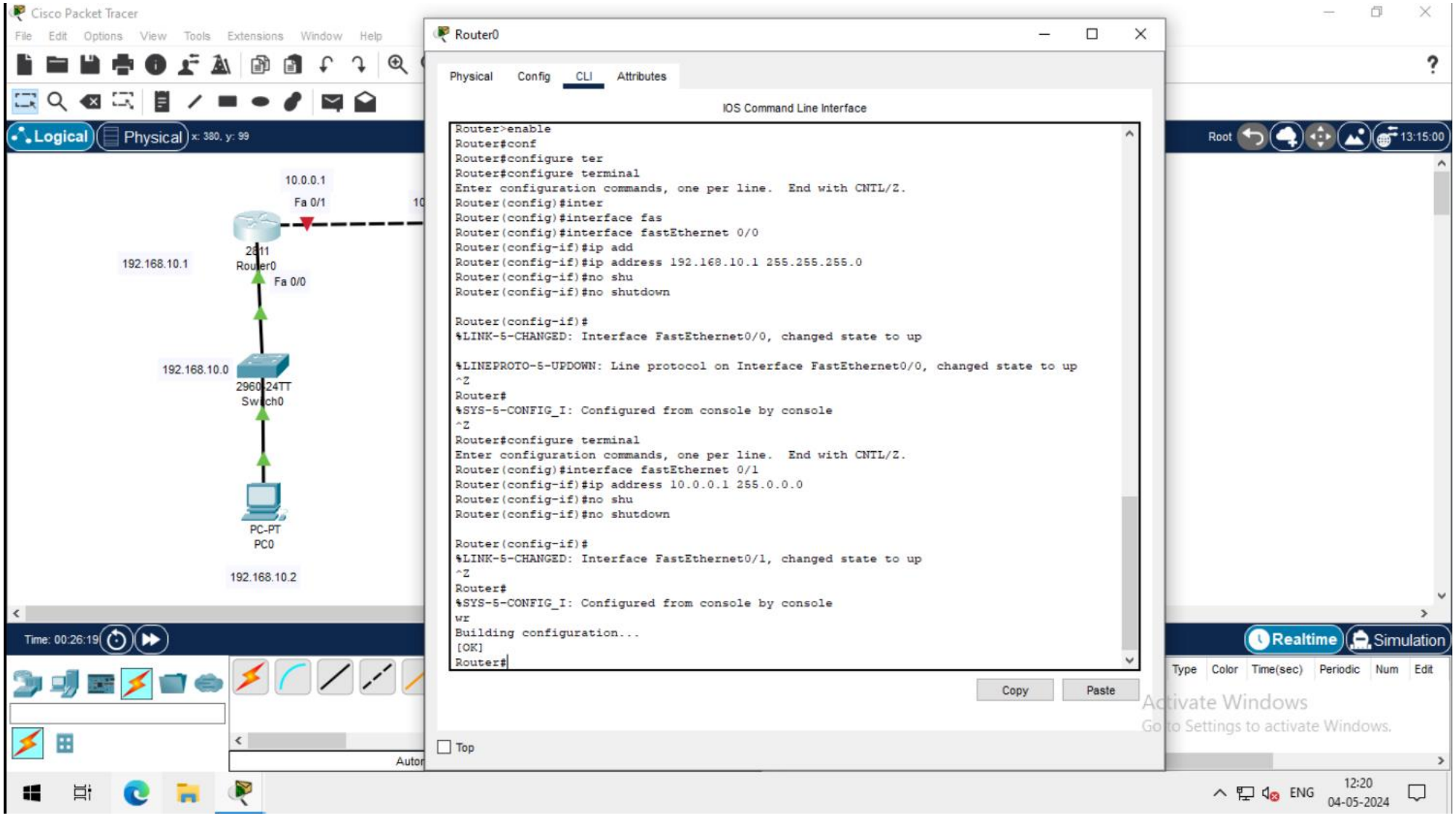


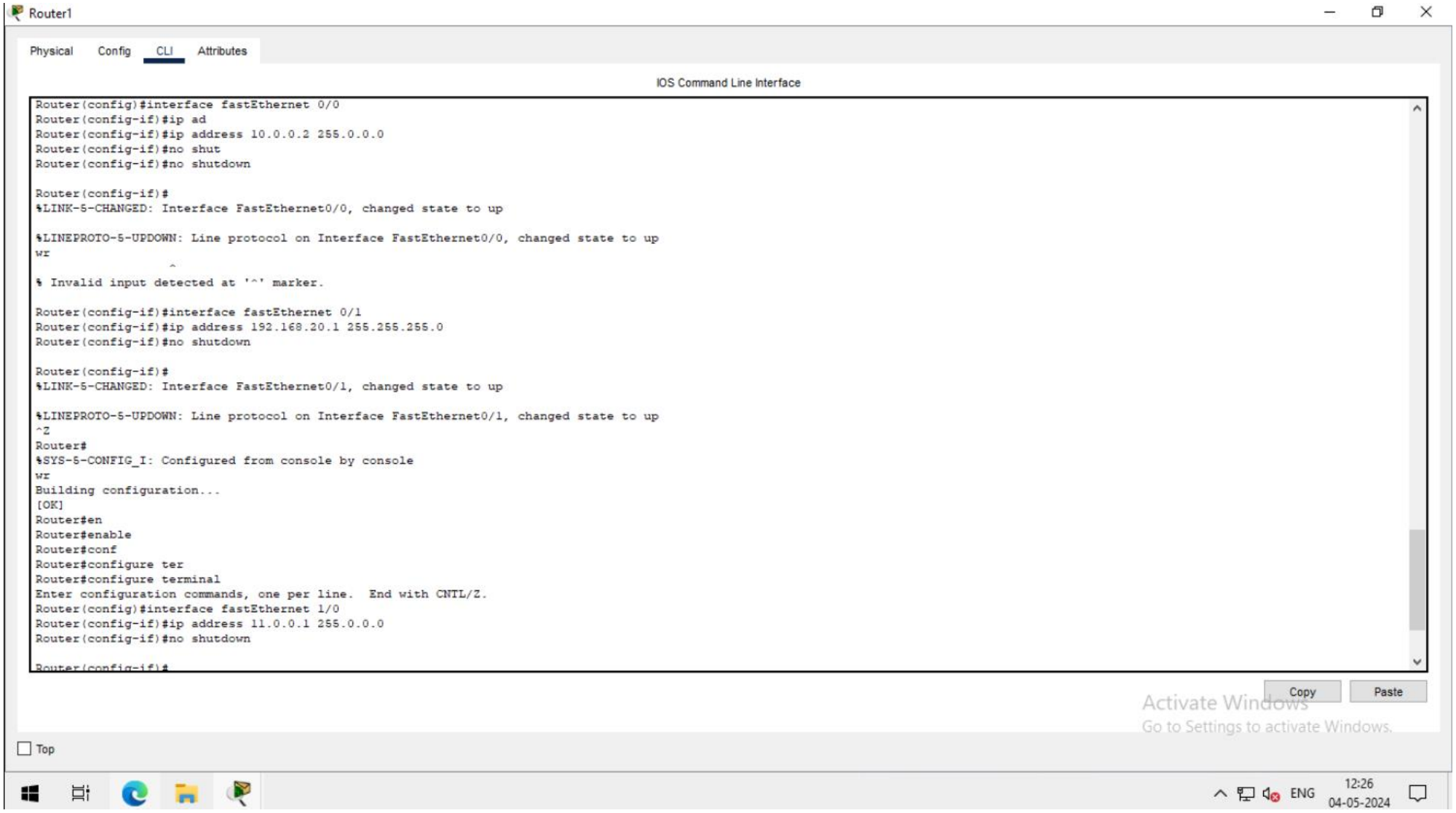


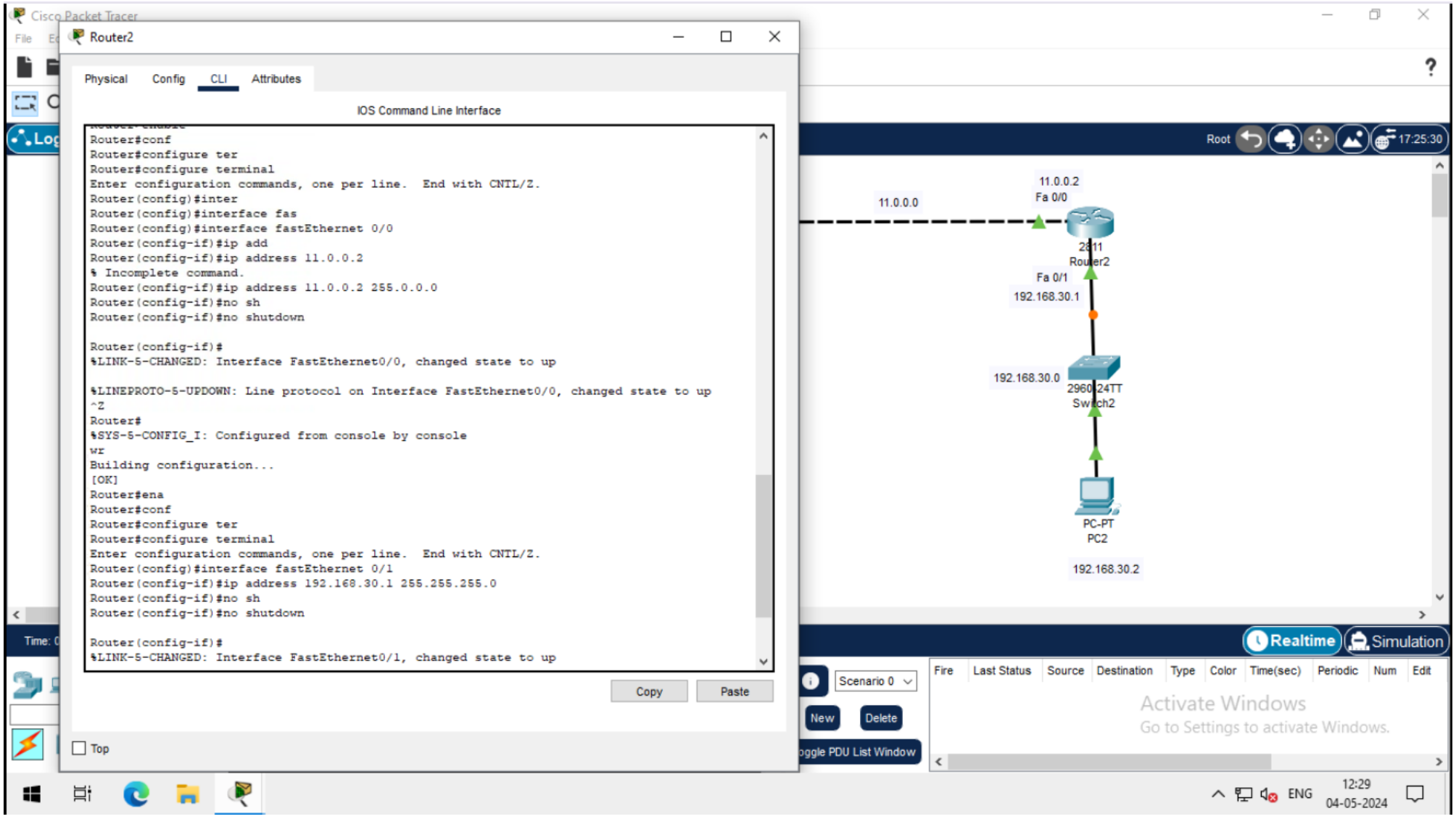


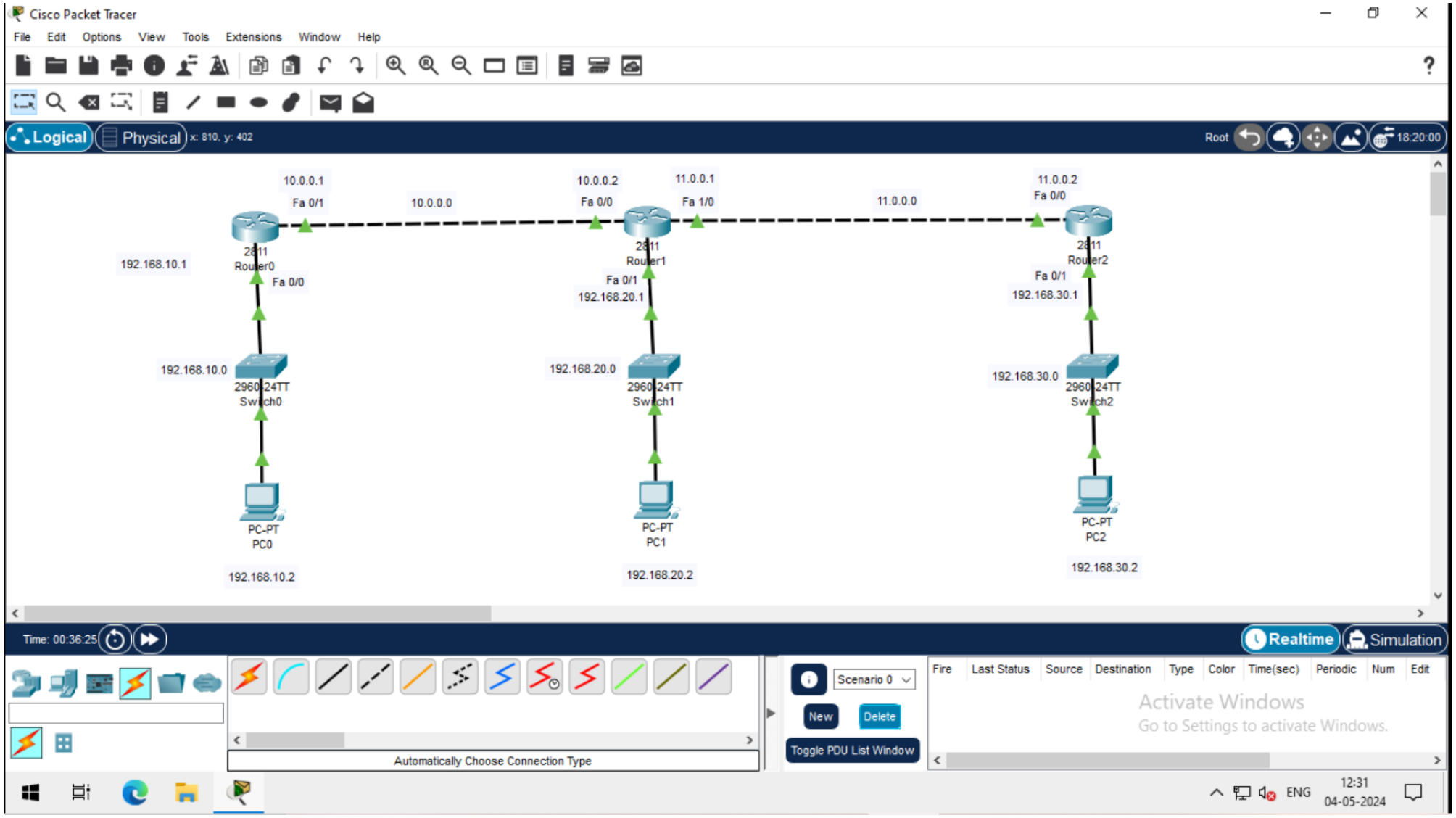


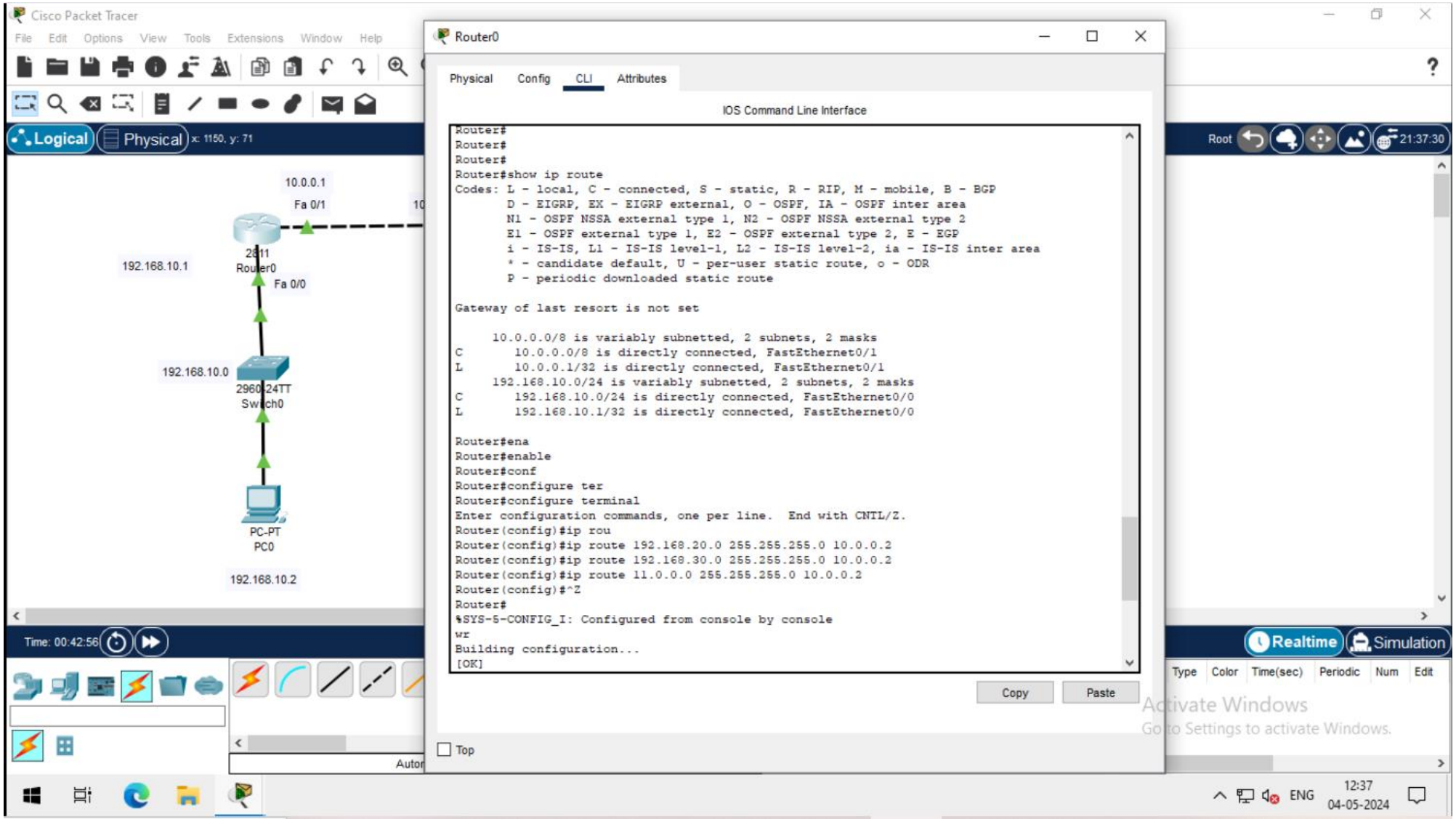


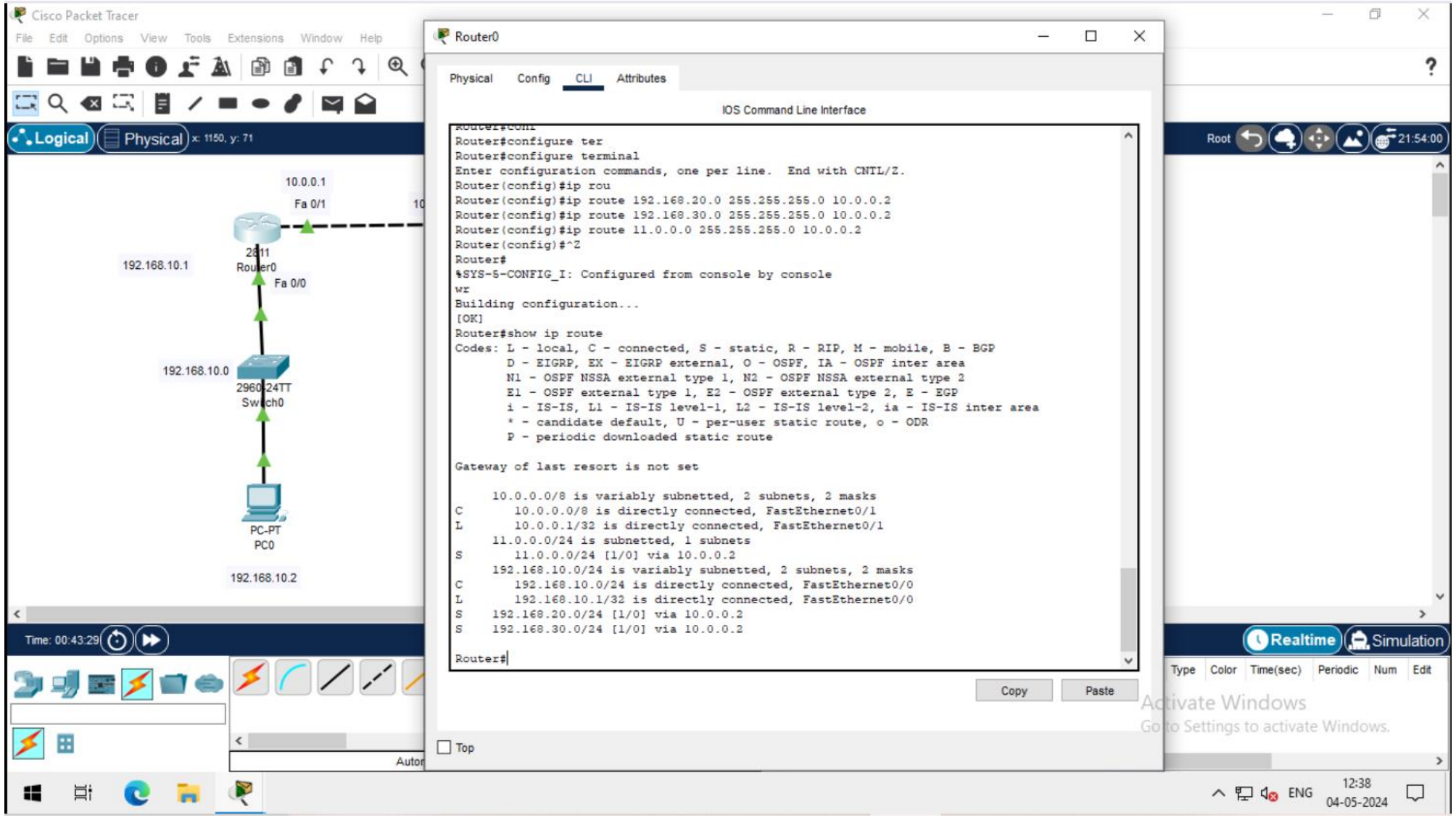


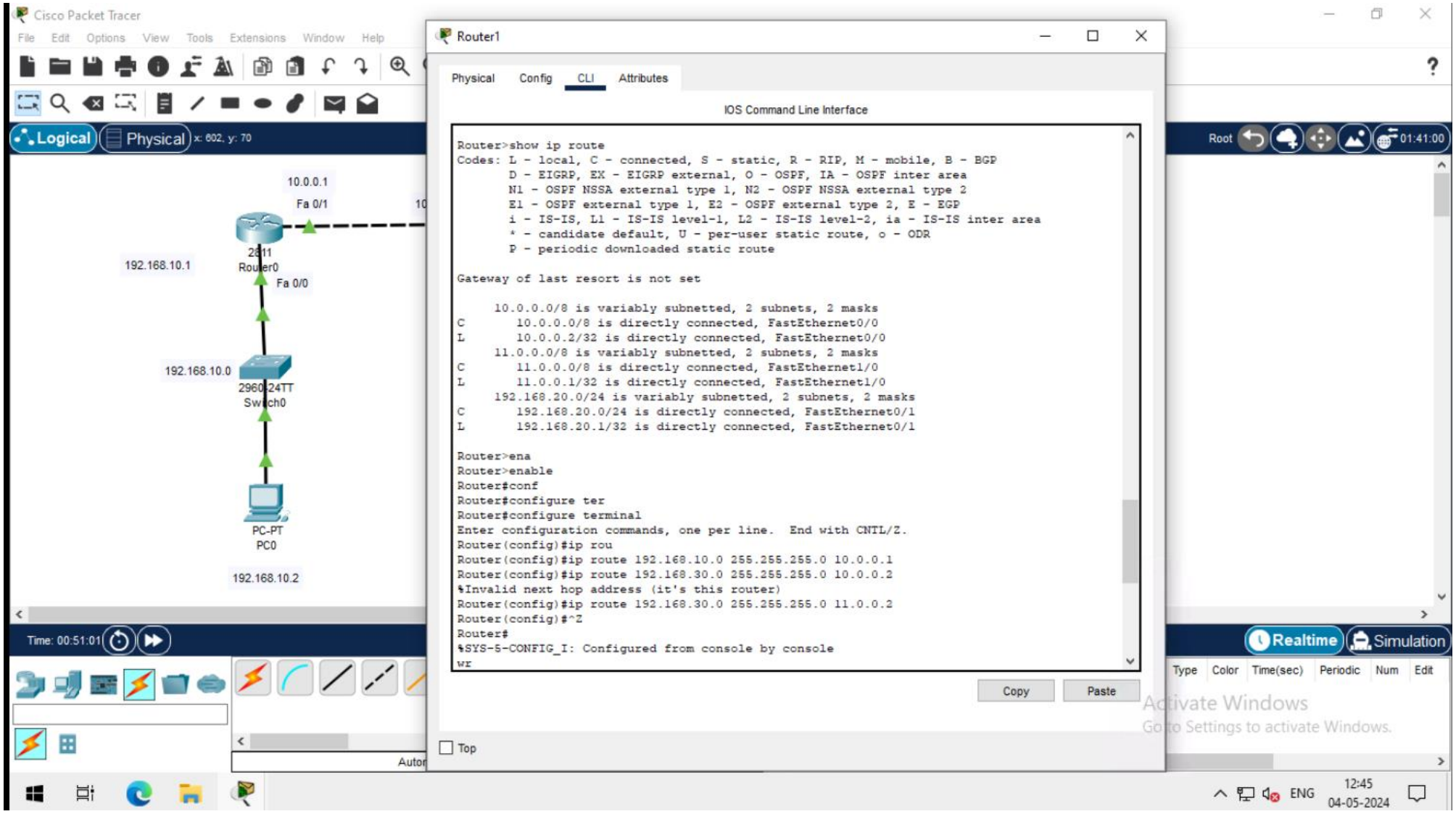


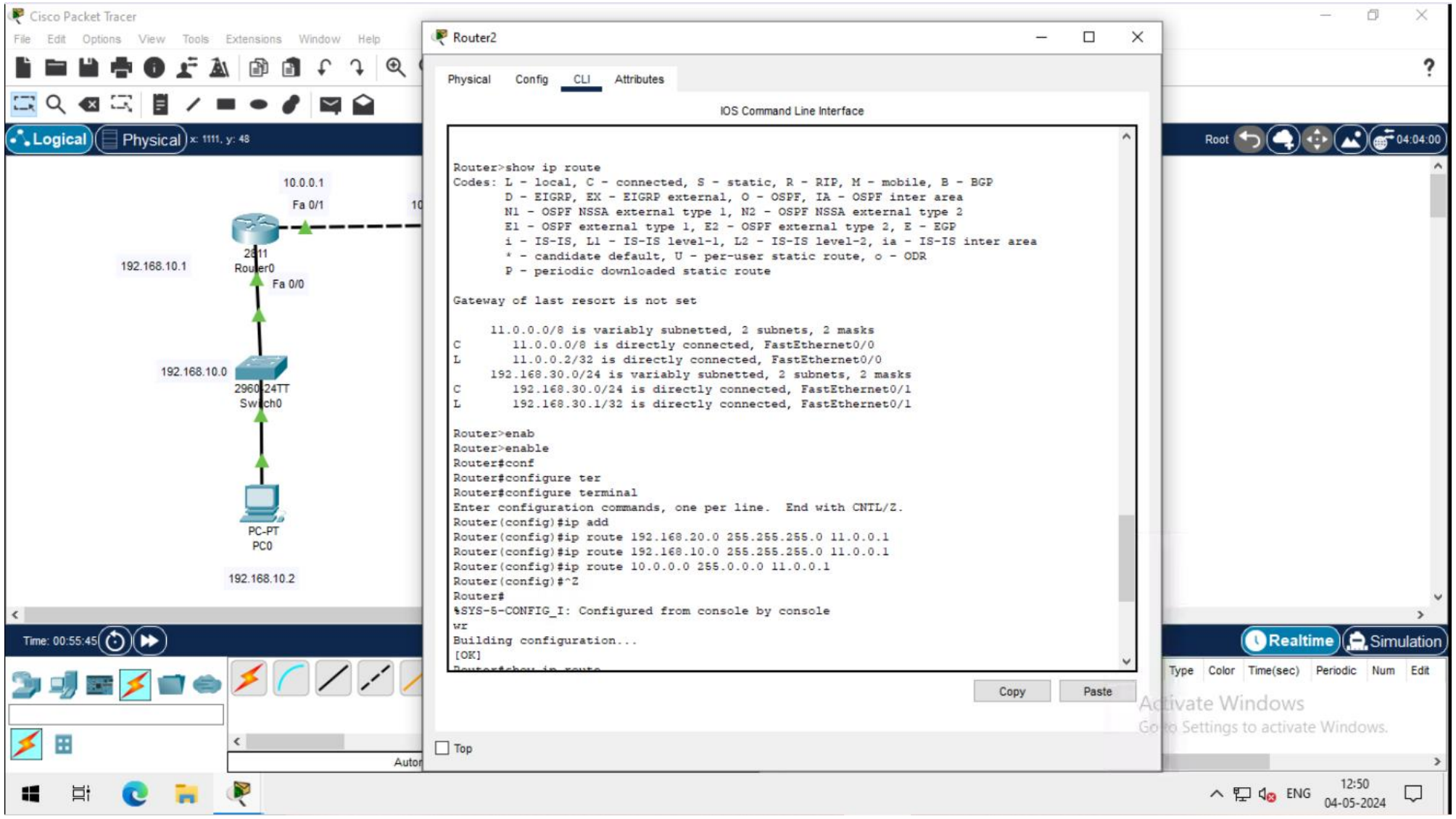


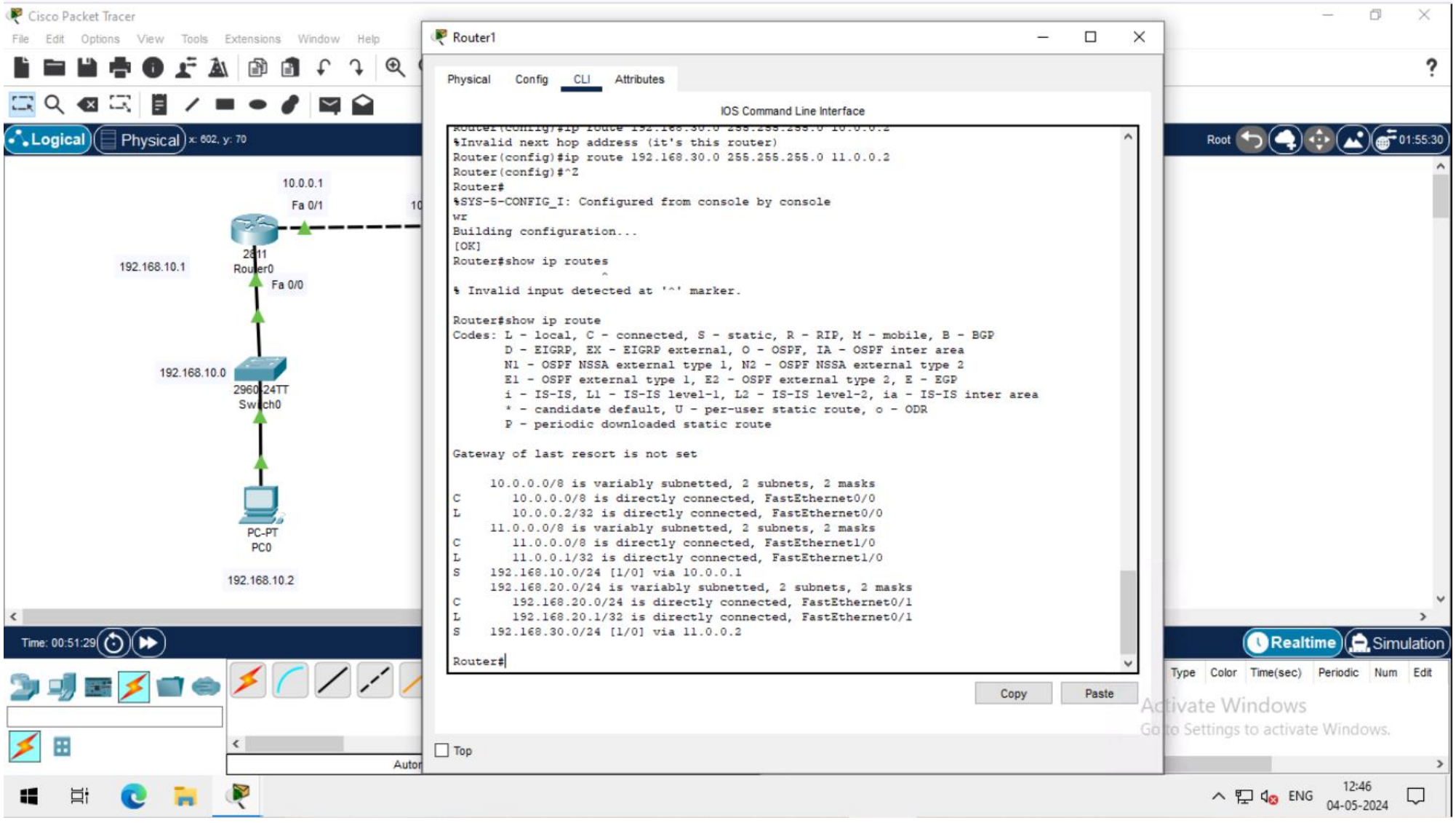


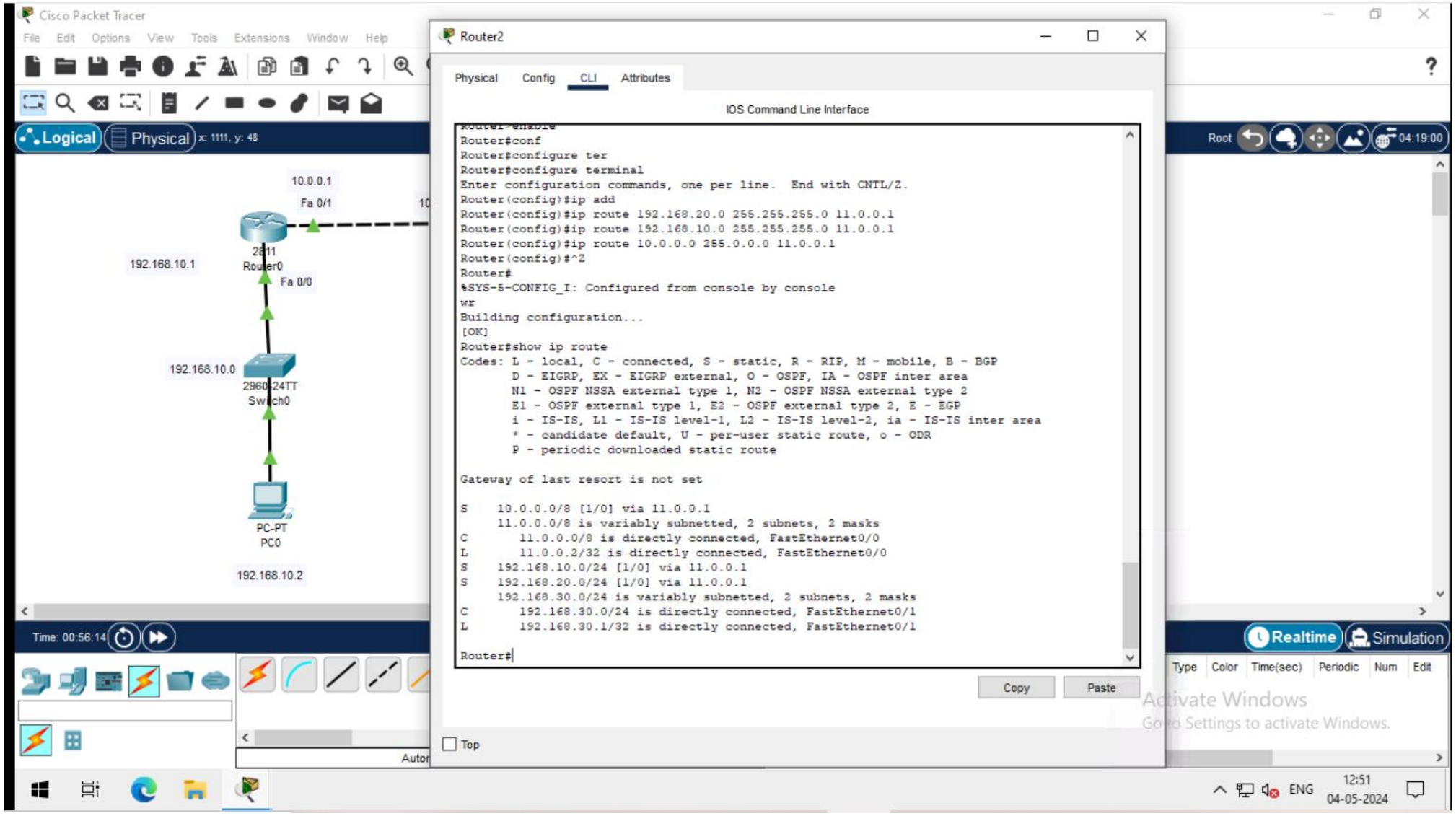


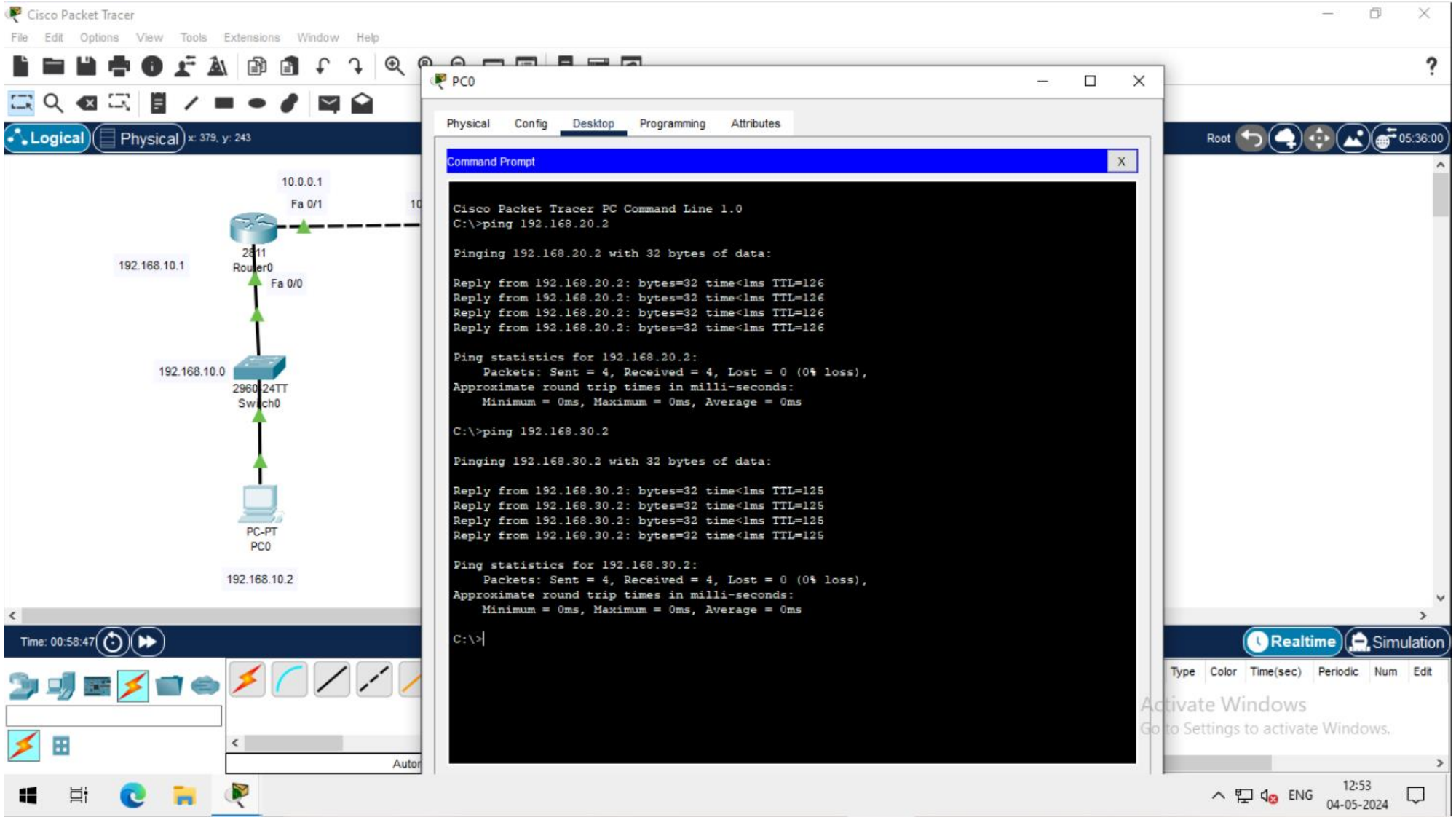


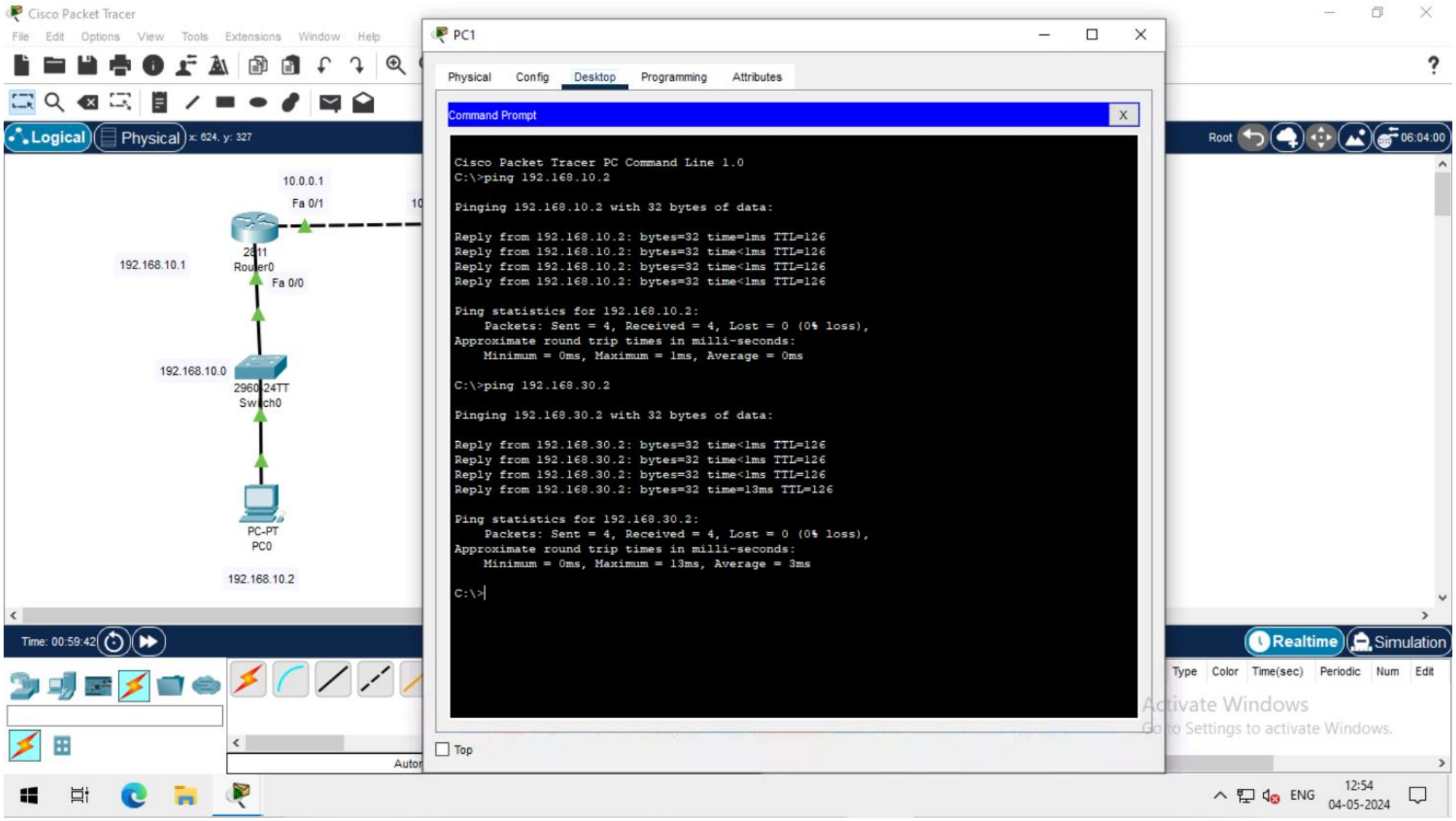


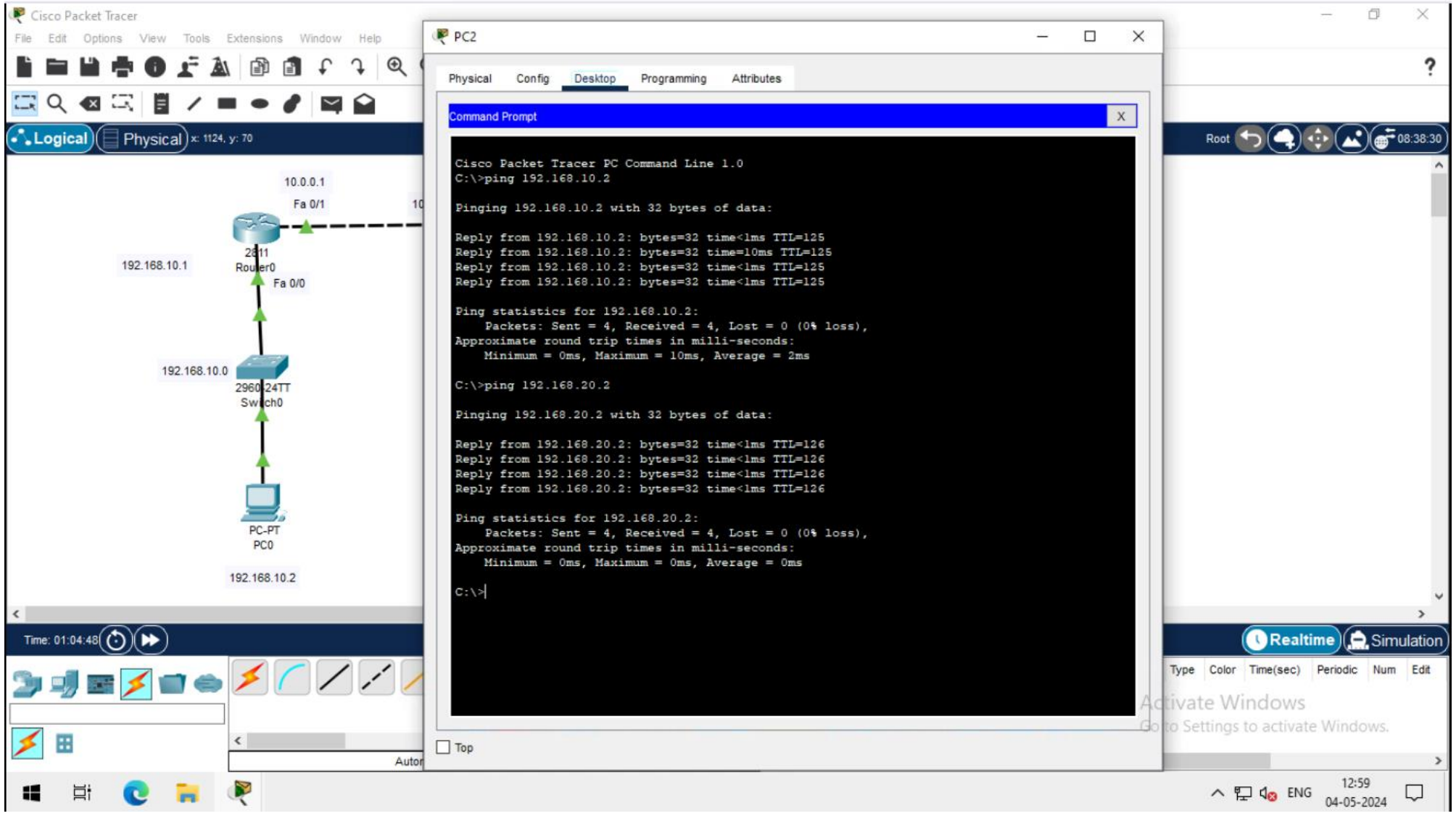




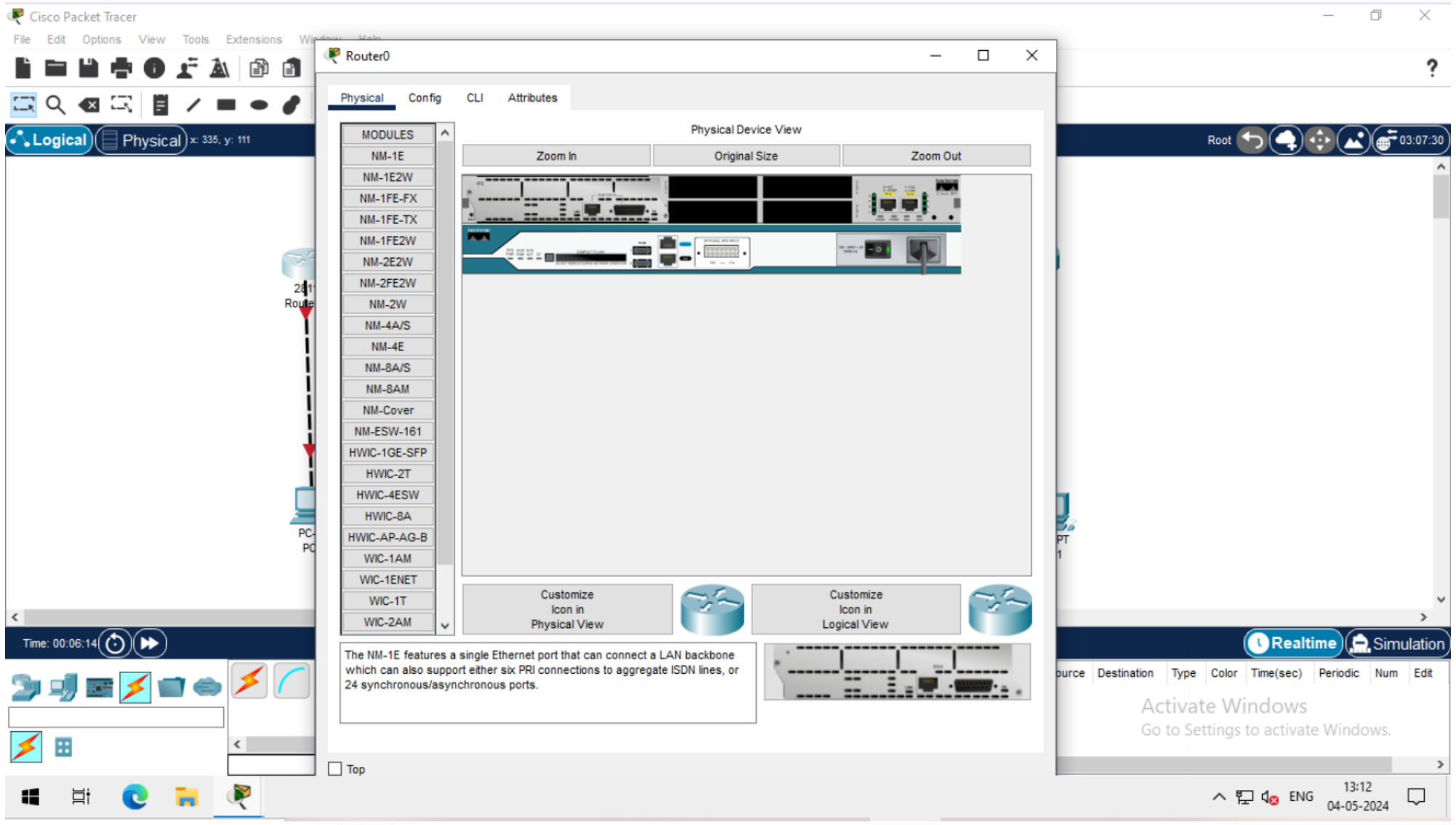


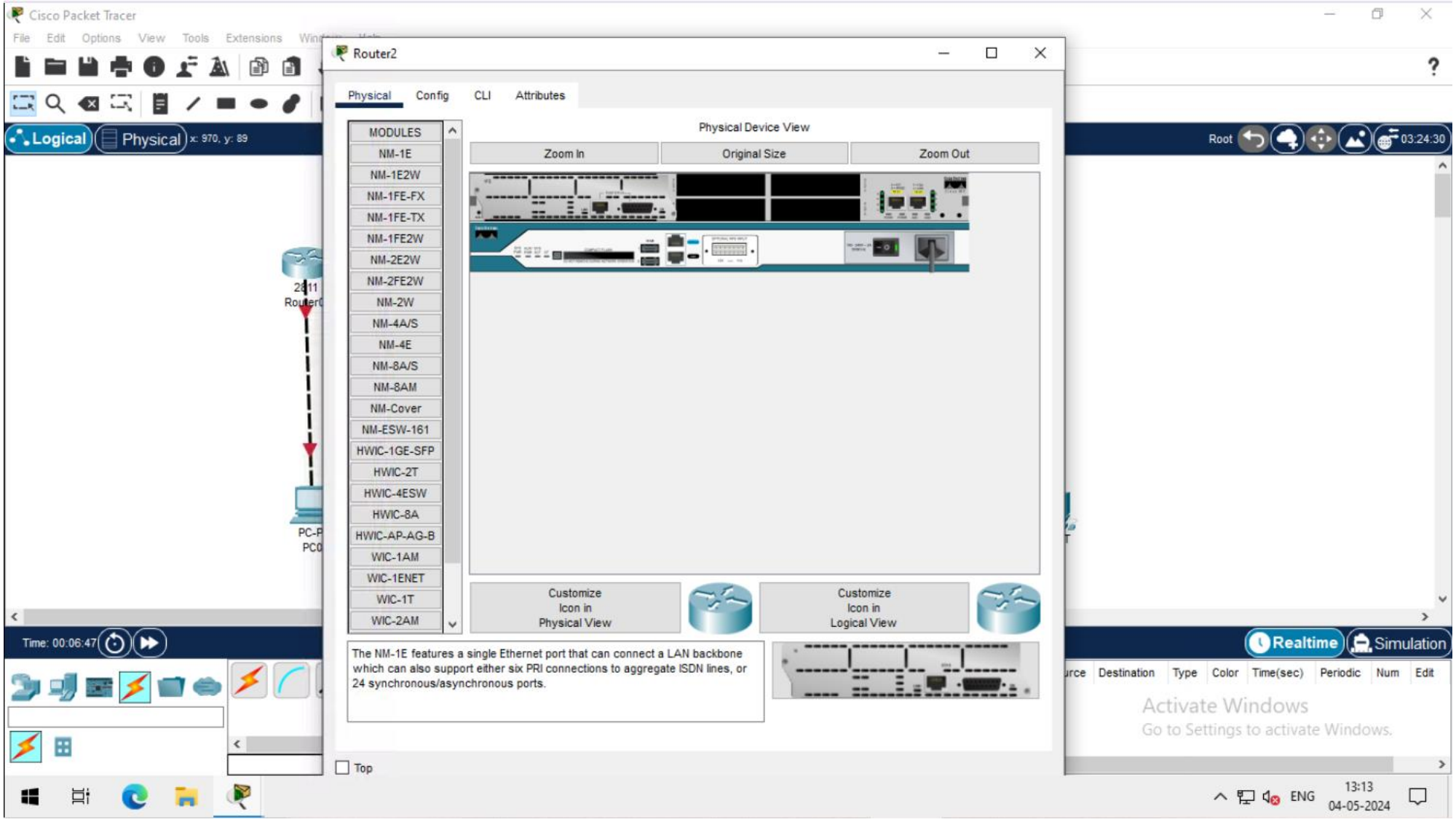


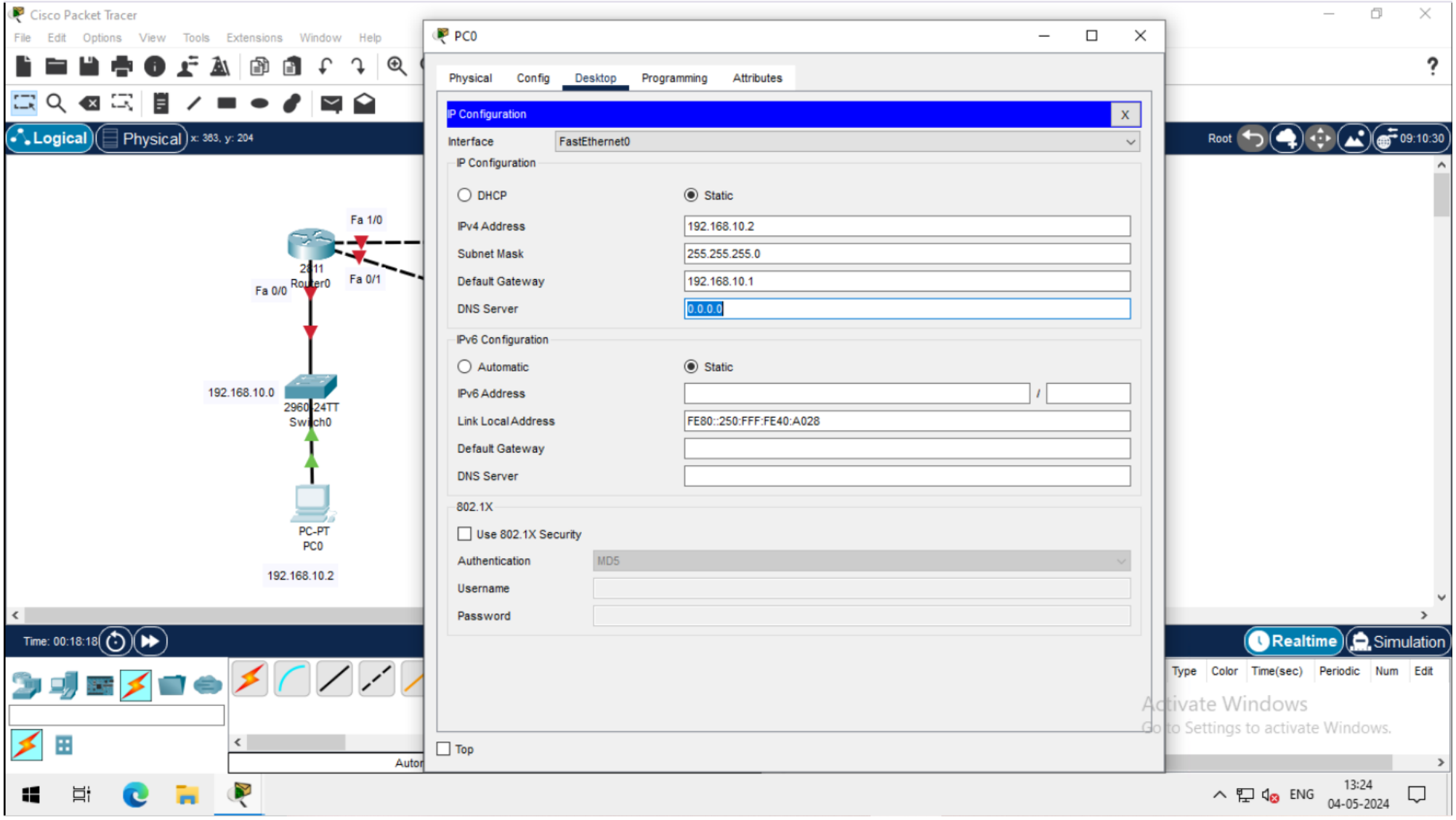


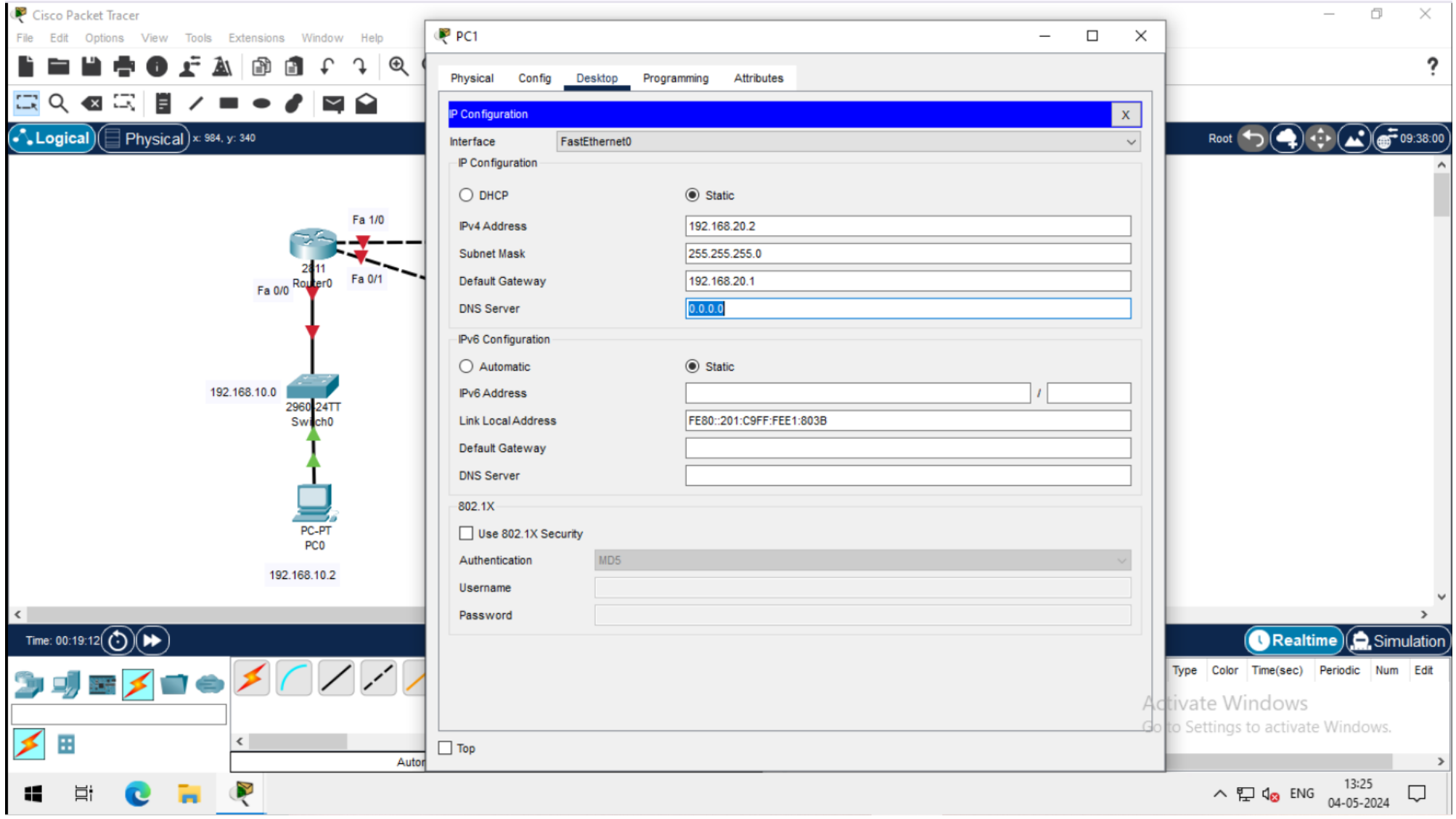


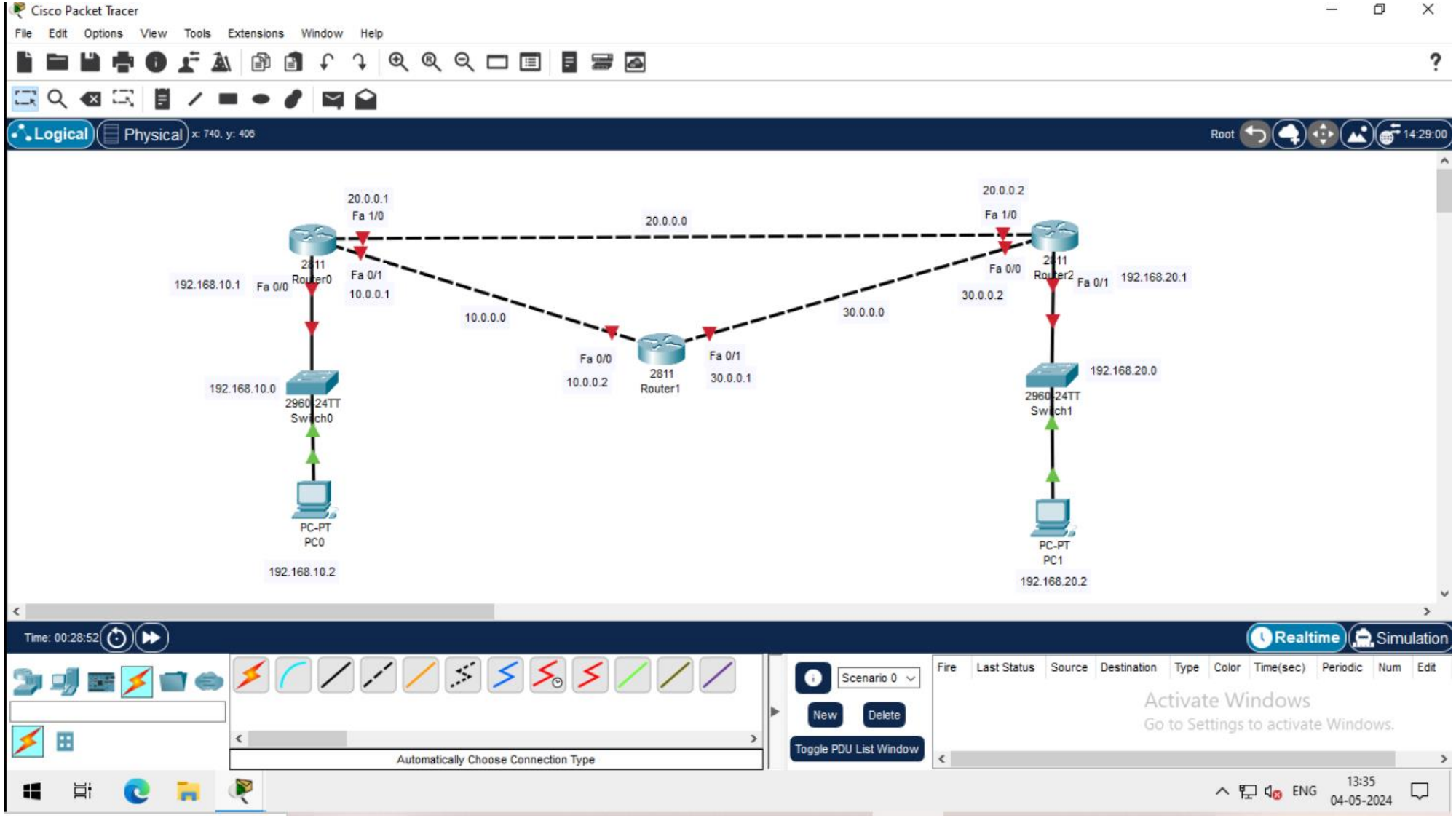
2. OSPF using 3 routers

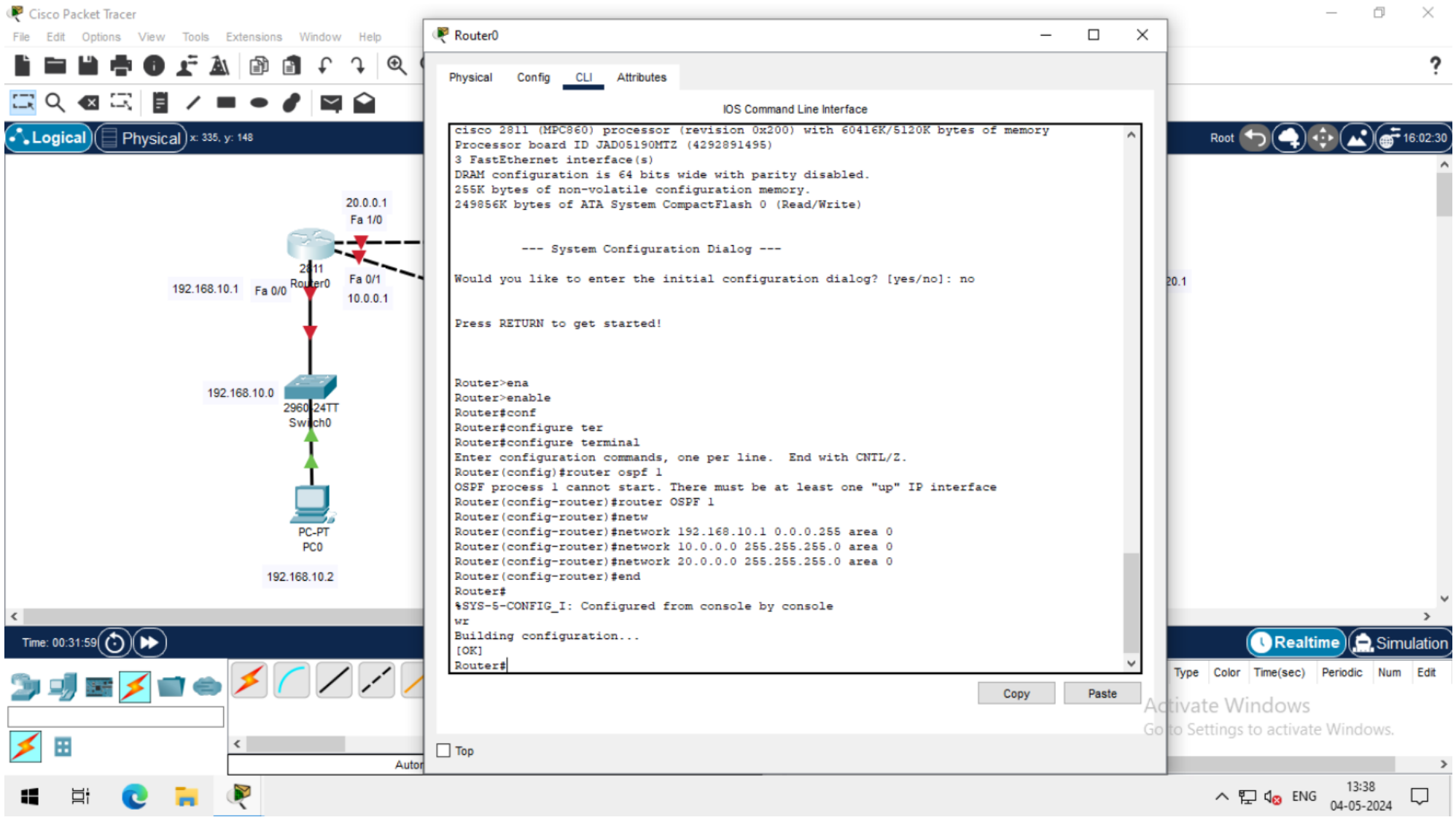


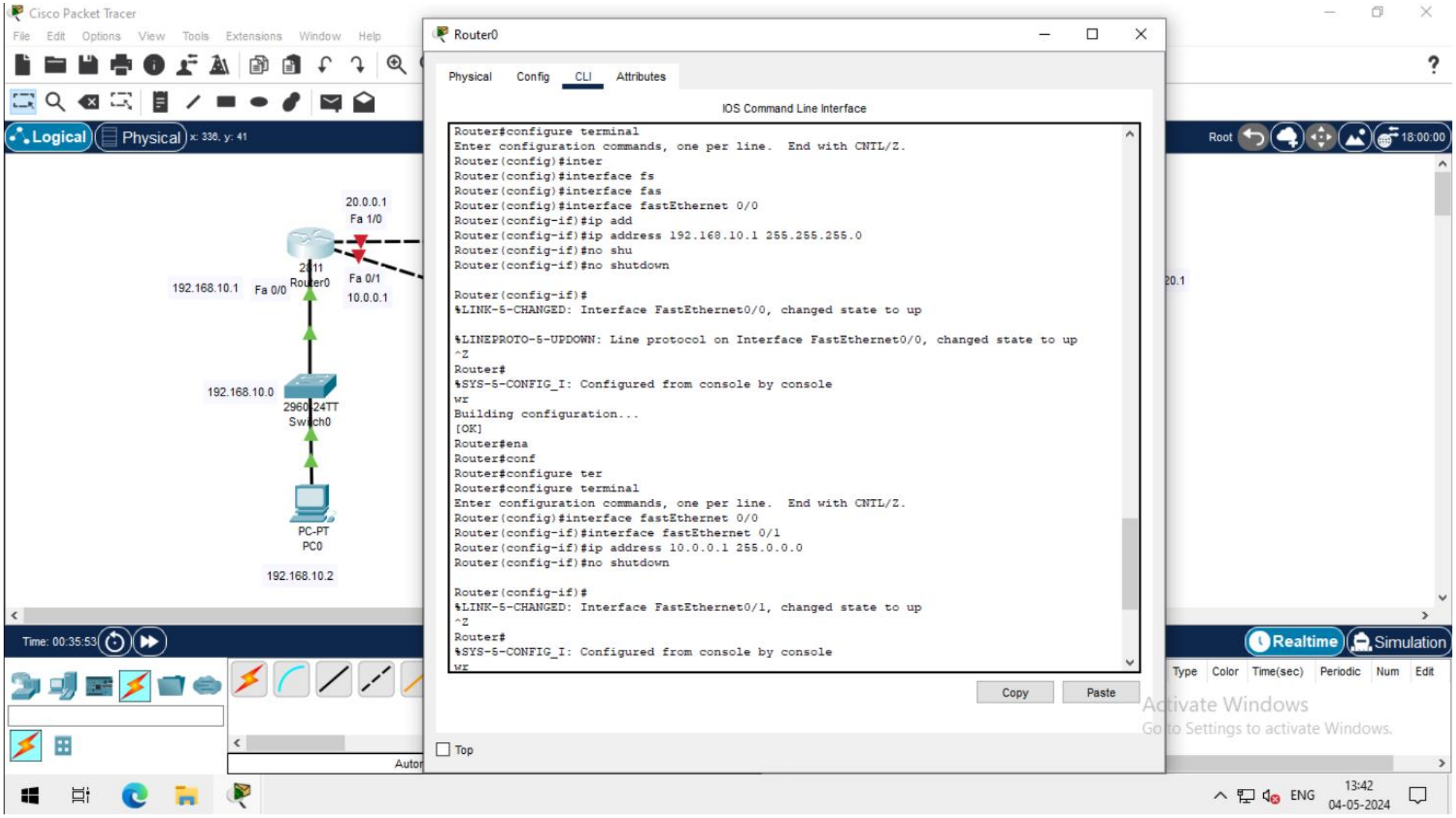


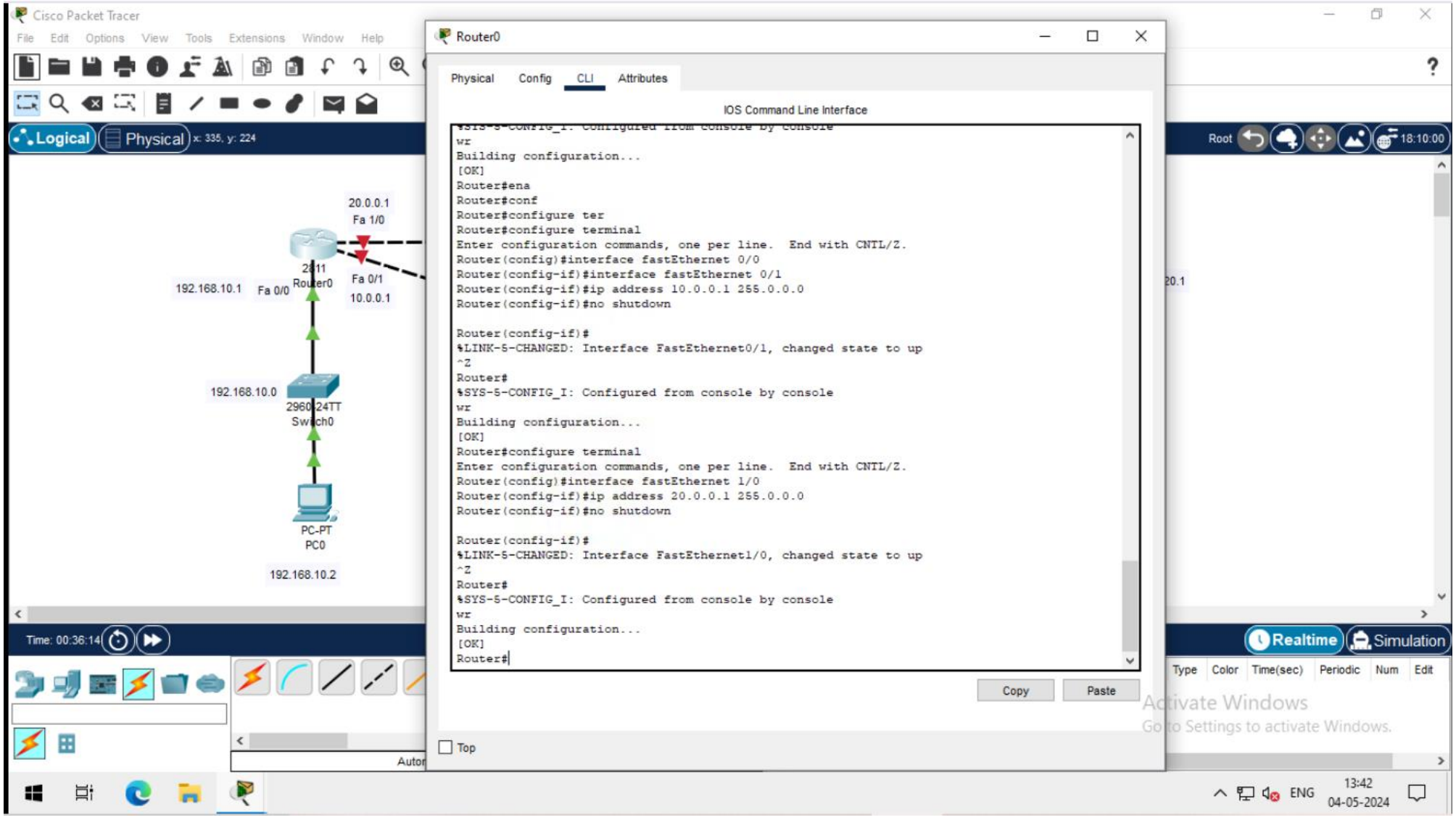


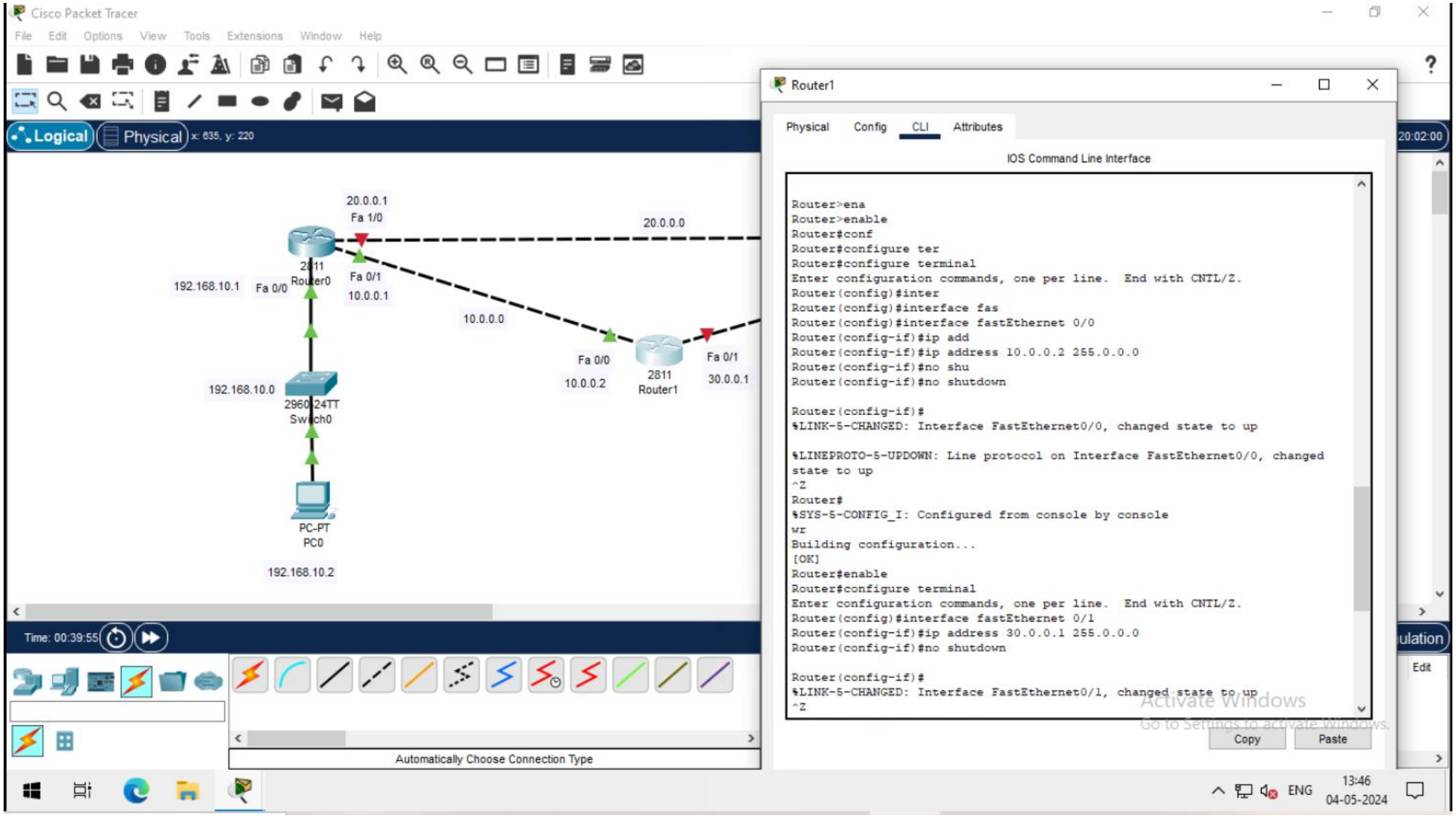


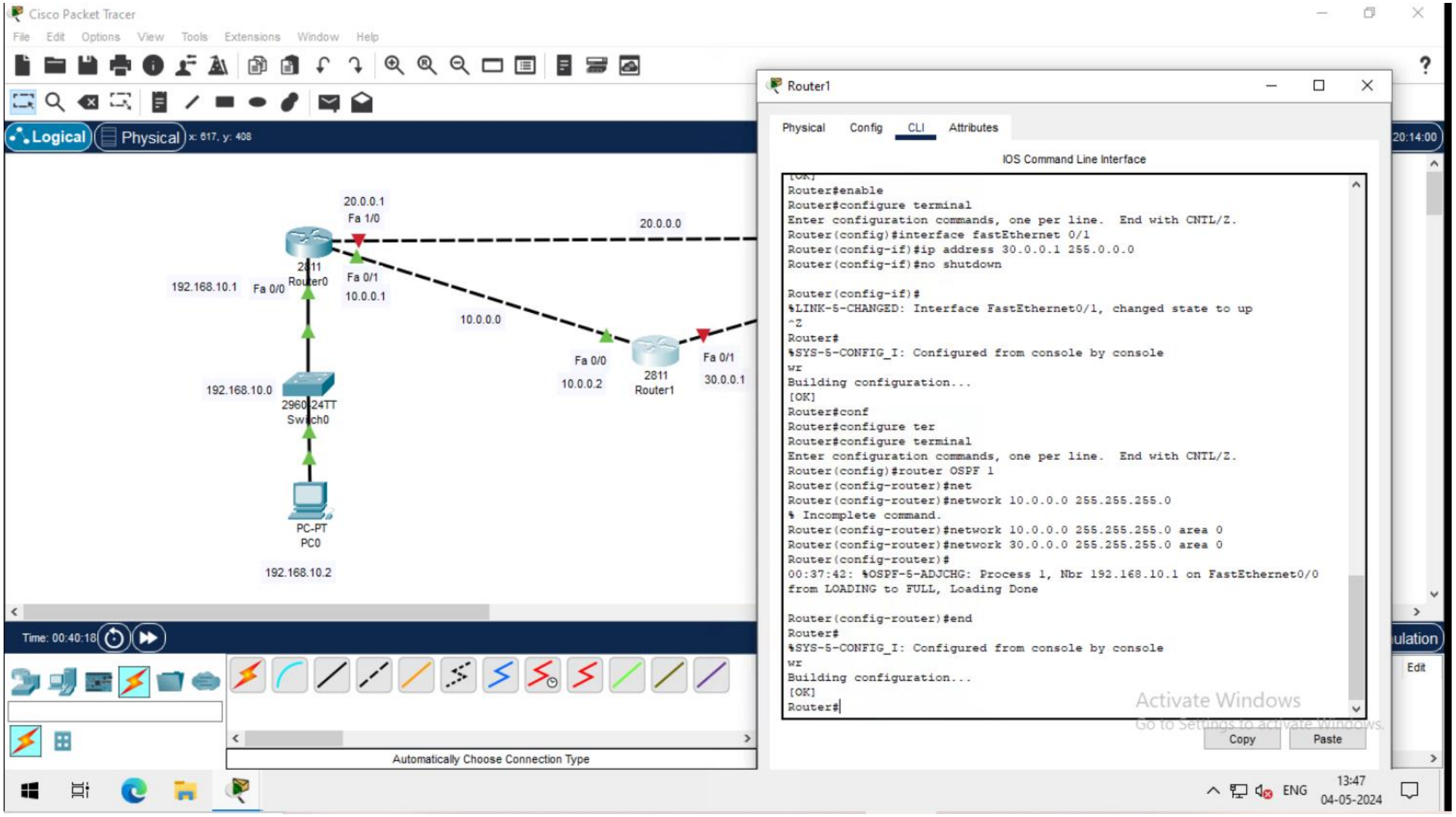


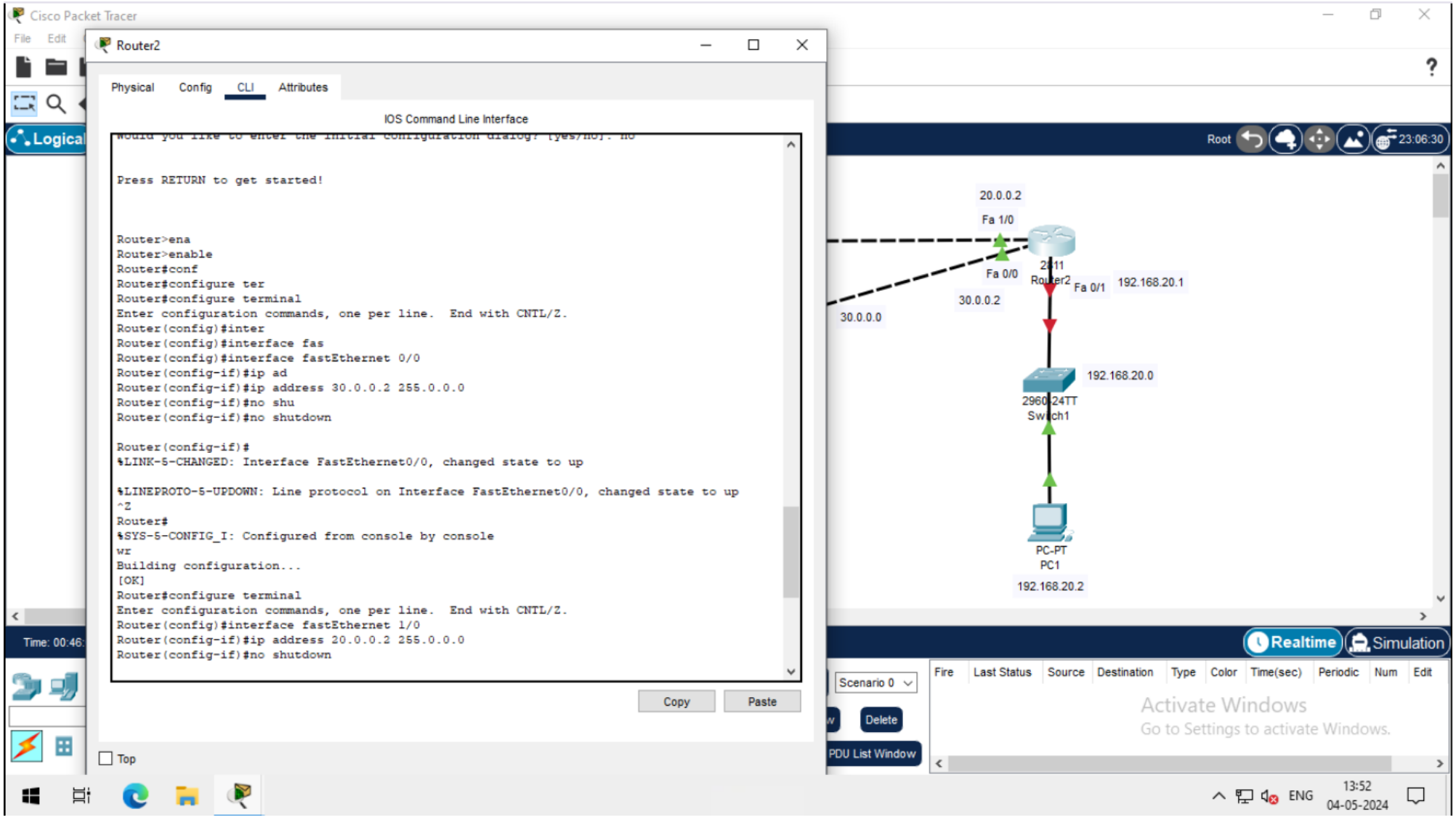


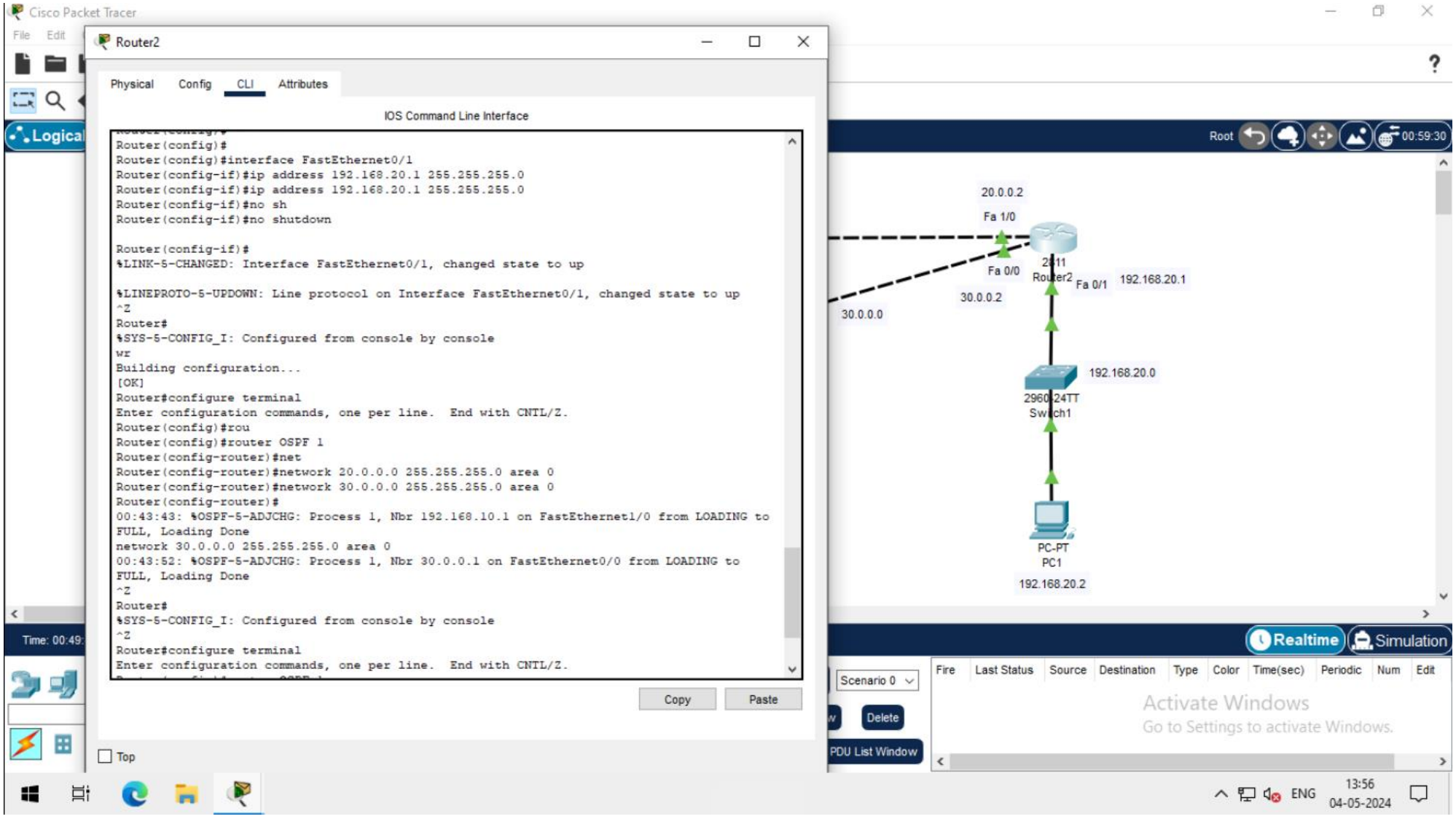


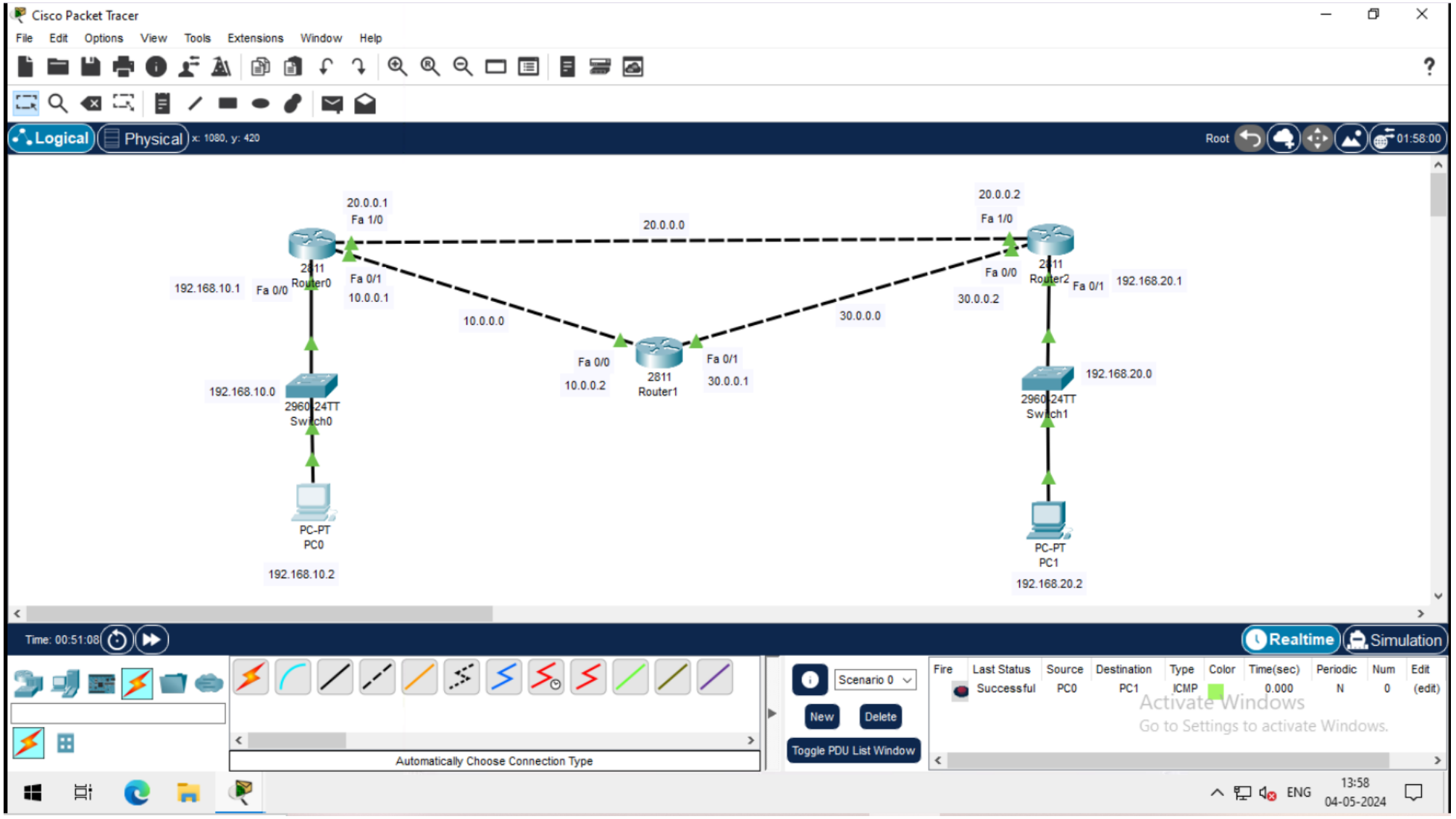


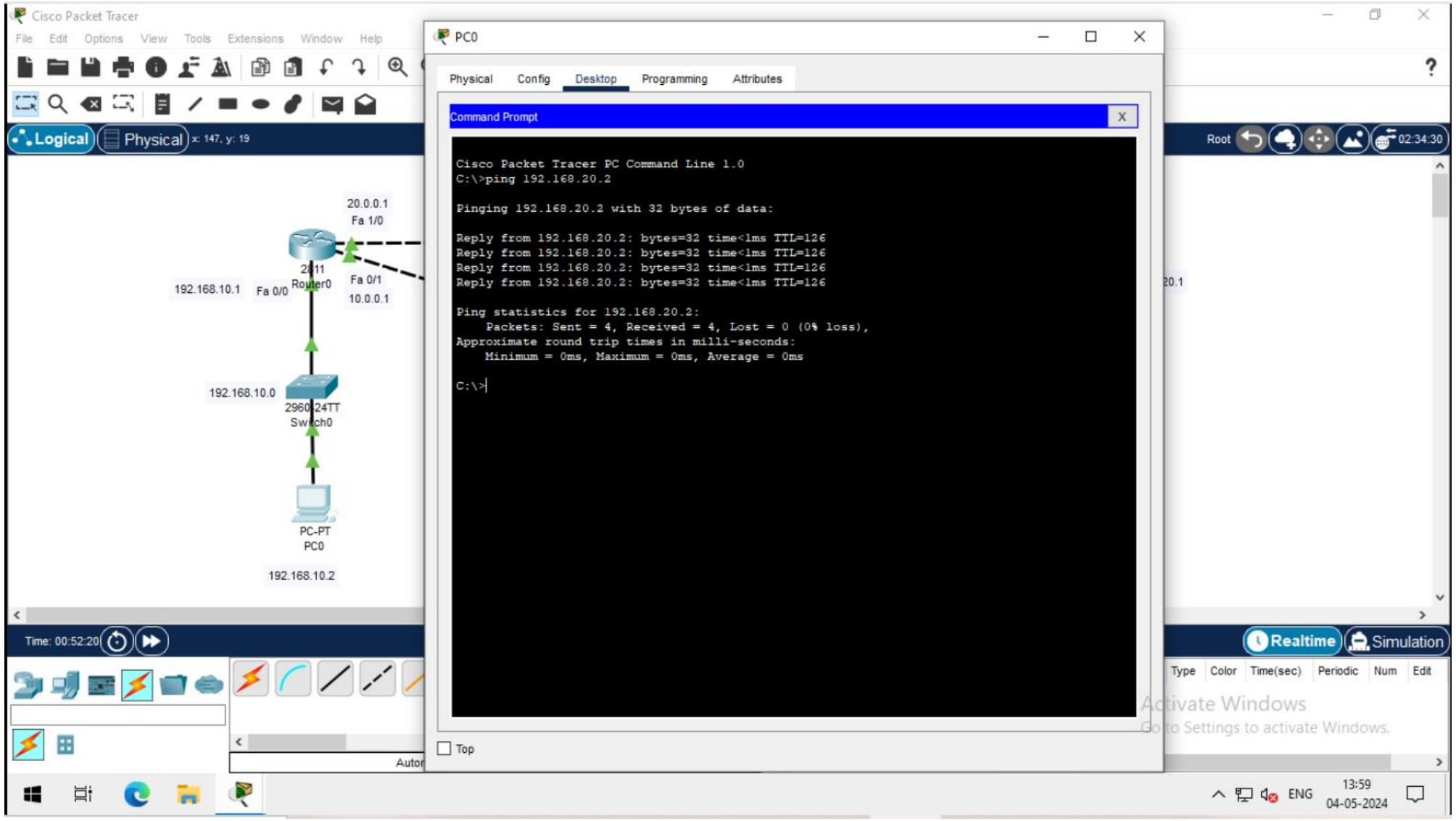


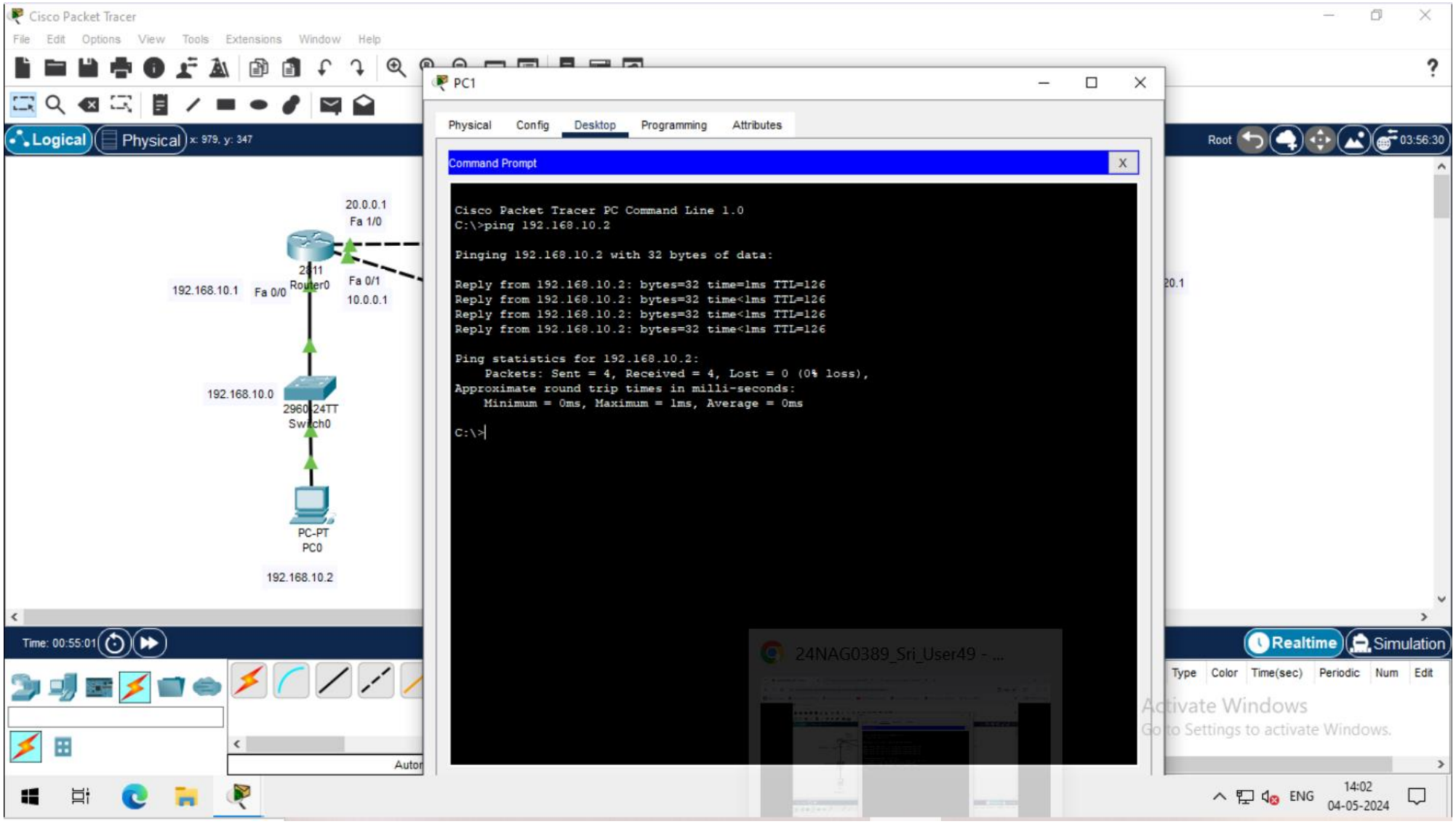


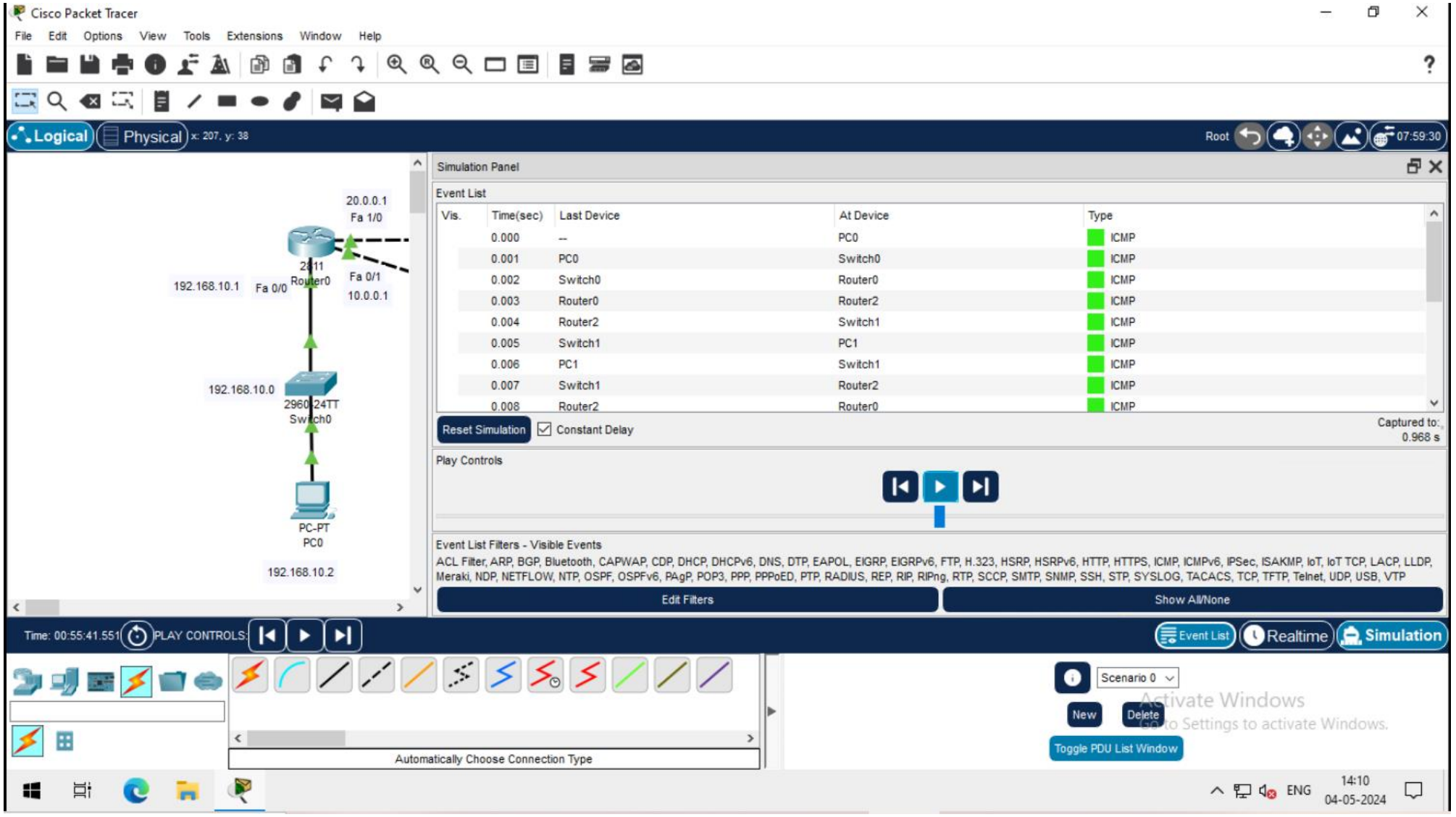












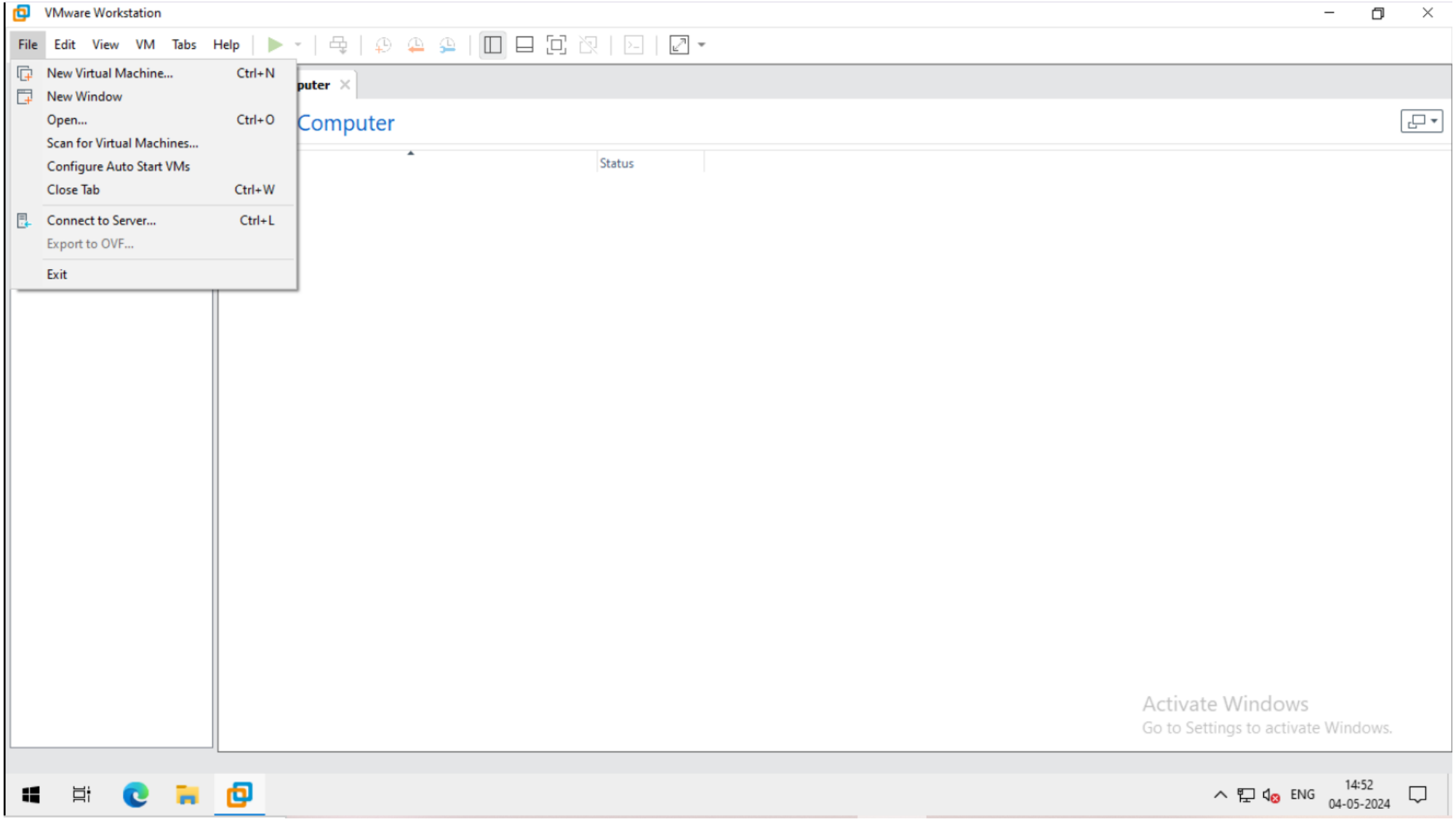
Project-1

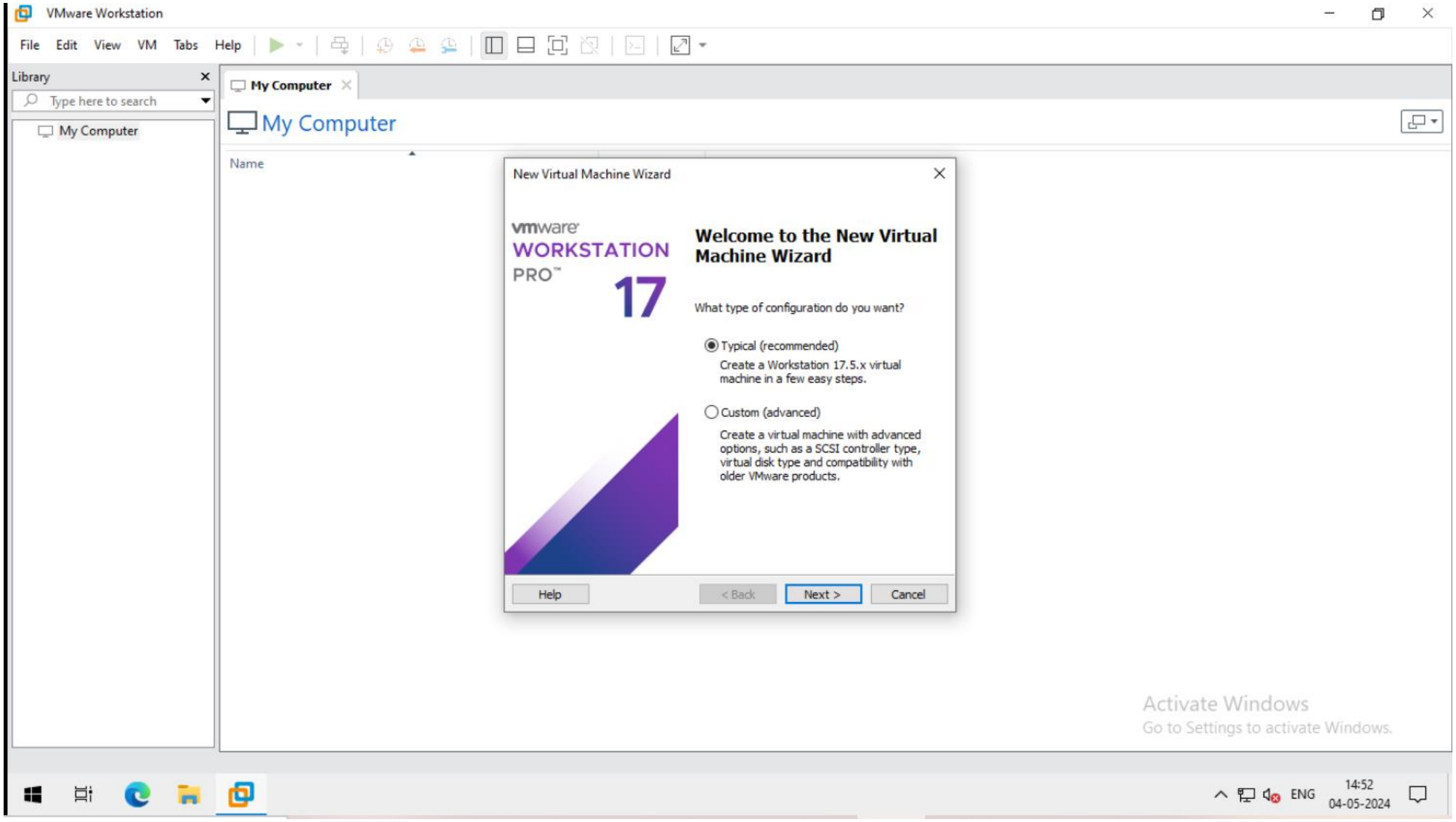
Create a domain controller using domain name as <your-name>.training and create a shared NFS folder (c:\sharables) on domain controller machine with read-only permissions and access this folder on the member machine.

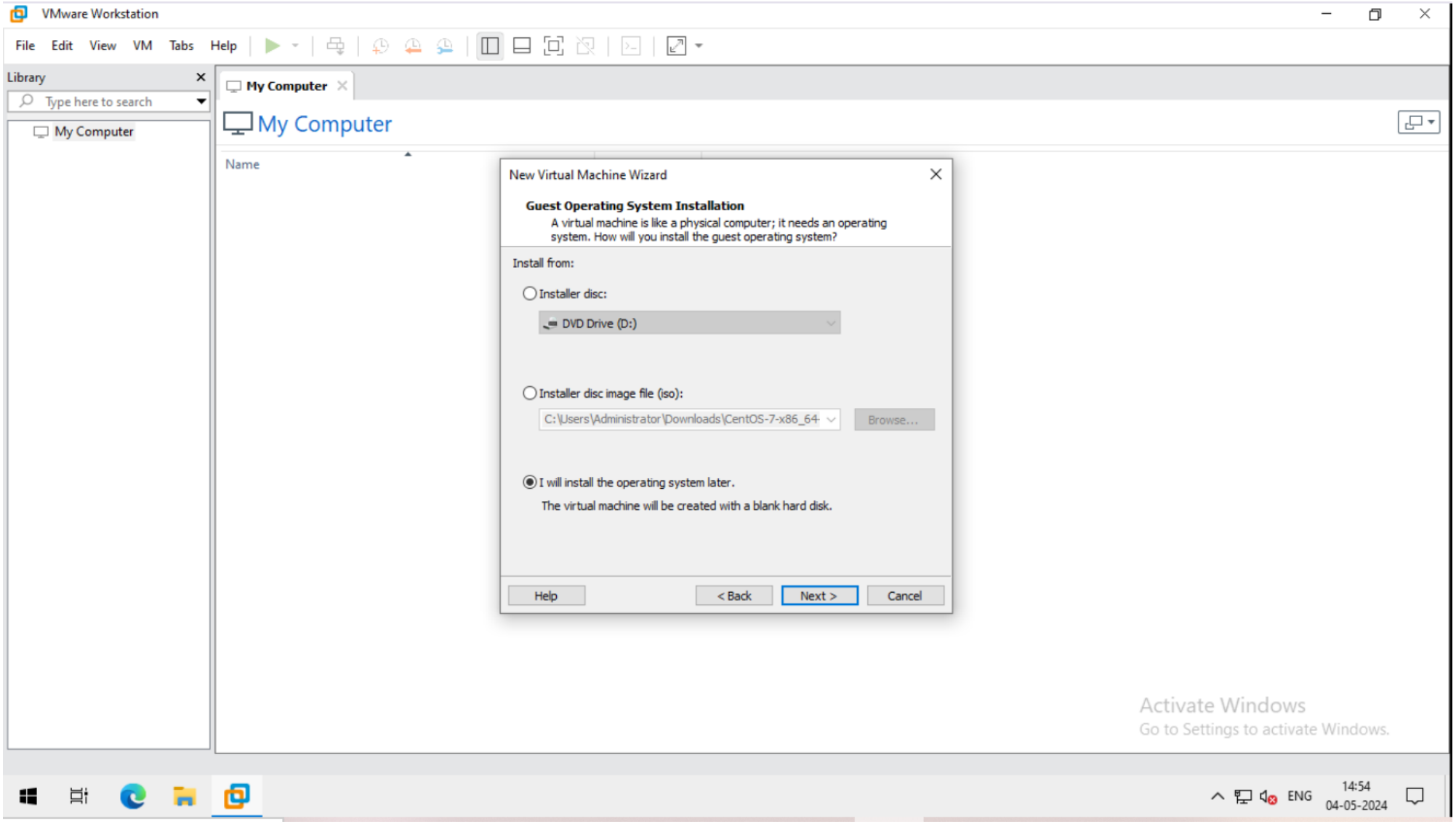
CONTENT

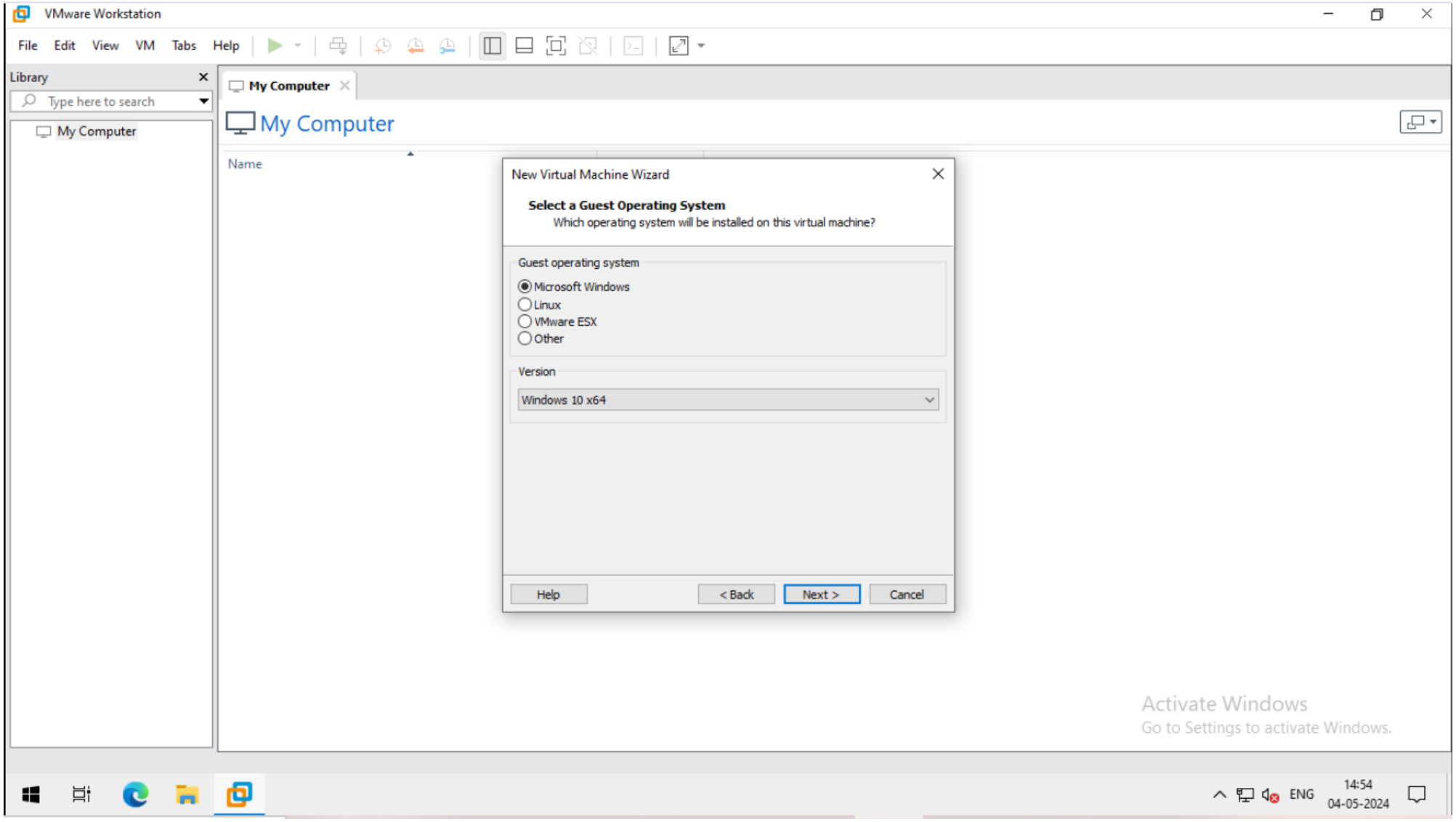
Sl no.	Function
1. windows server 2016 as domain controller	- Install windows server 2016 with a custom LAN Segment names as "Wipro-network" - Post-installation configuration - Install the required role and promote the server to domain controller (ADDS, Server NFS and client for NFS) - create a group using name "dcadmins" - add 2 users in it with the 'domain admins' permissions
2. **Install another windows server 2016 (as GUI) with the name "Member01"**	- Install another windows server 2016 (as GUI) with the name "Member01" - Post-installation configuration - Domain join - Login with "dcadmins" members
3. **NFS sharing**	- Create a new directory as "c:\sharable" on domain controller - give read-only permission - share it through map network device using \\IP\folder or domain name:\folder - now try to access in member machine

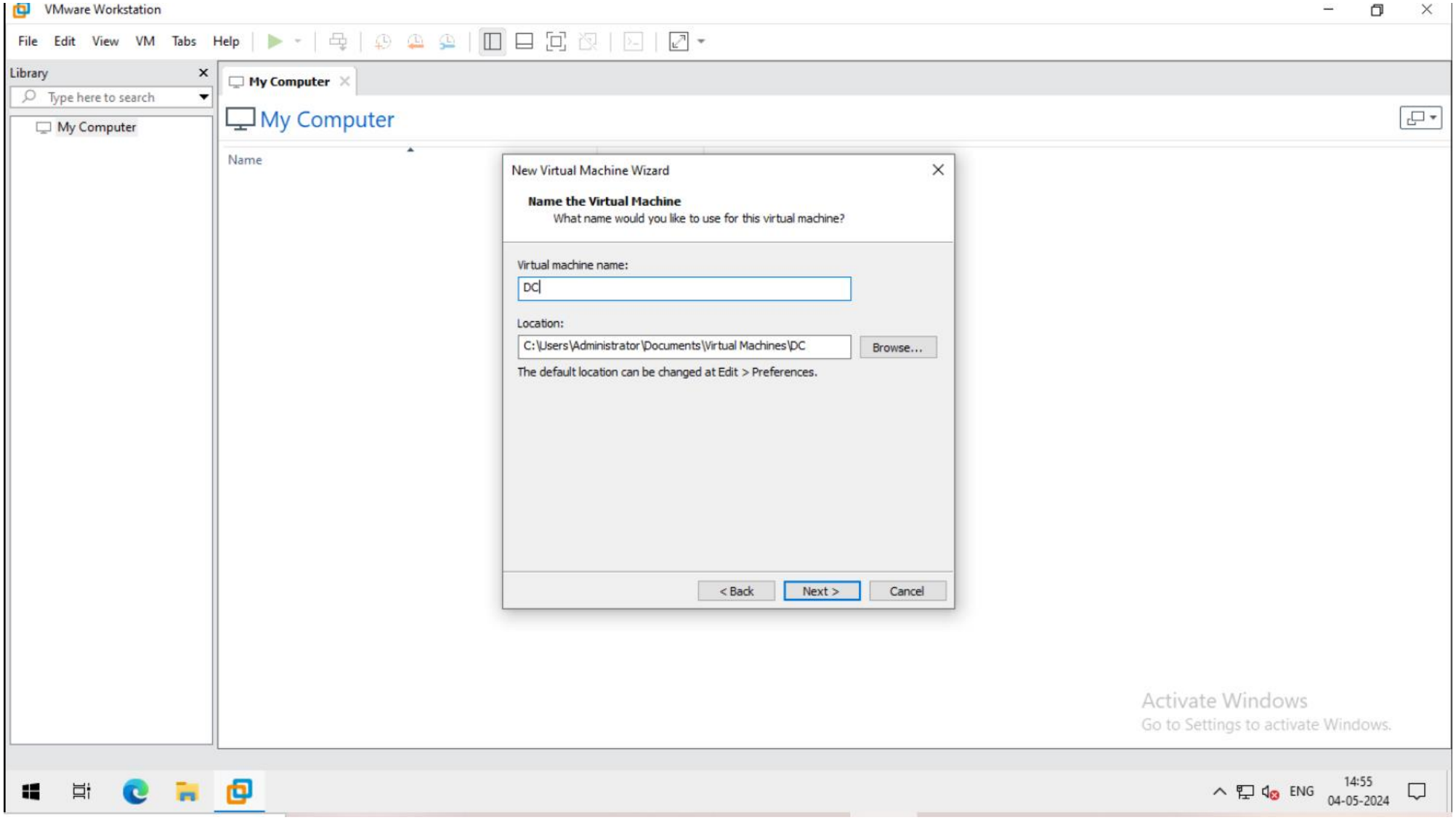
1. Install Windows Server 2016 with a custom LAN Segment names as “Wipro-network”

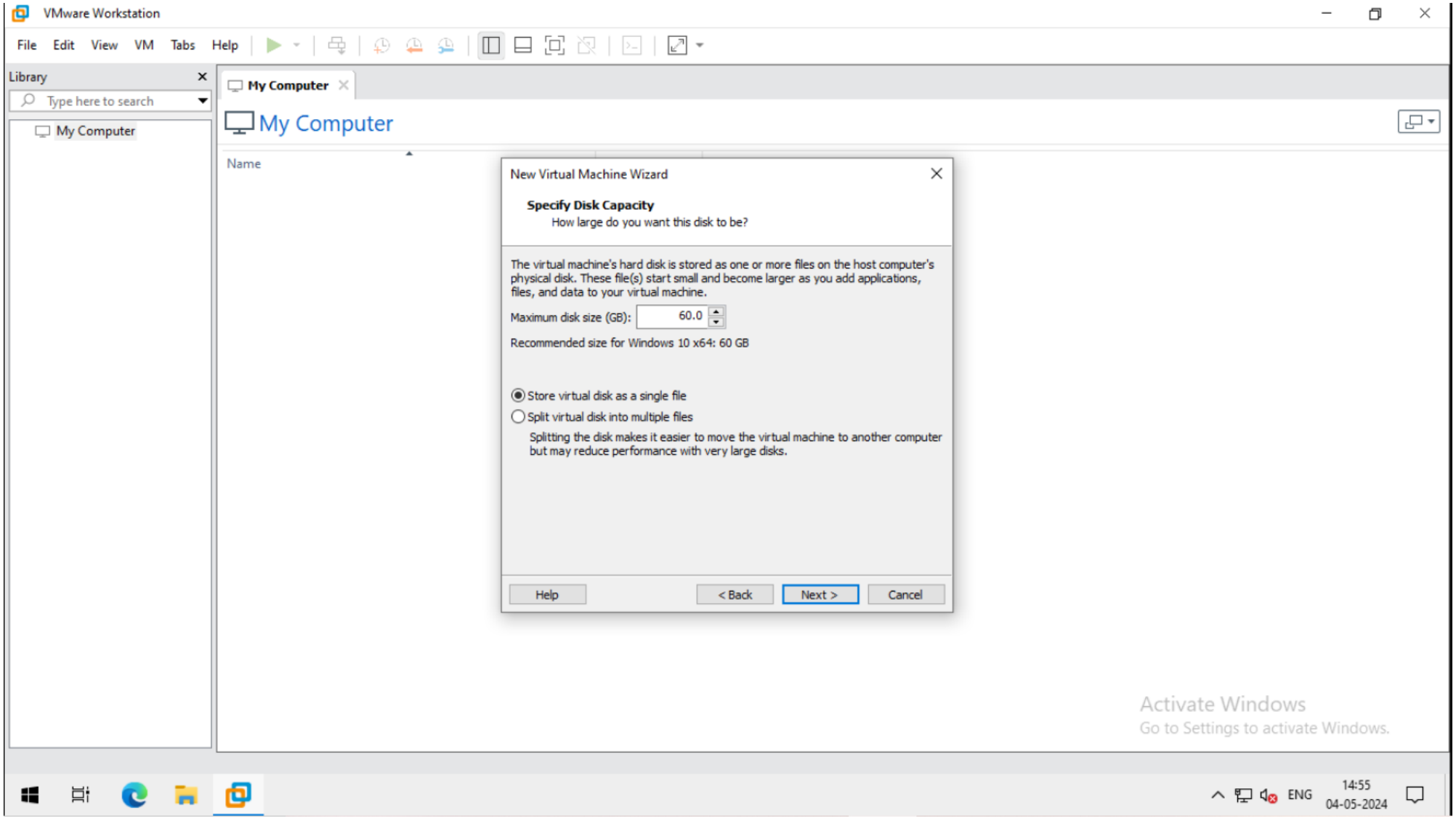


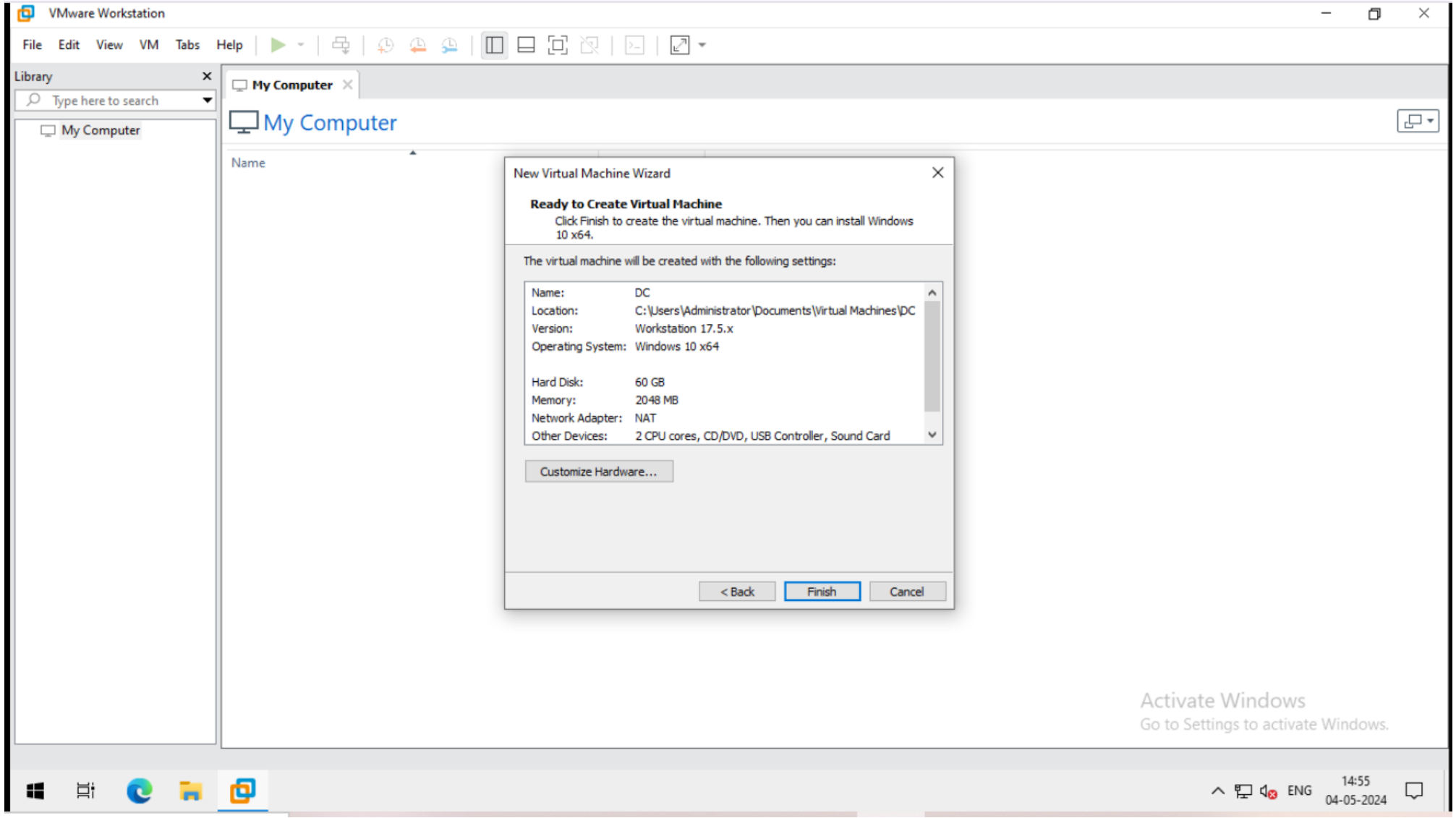


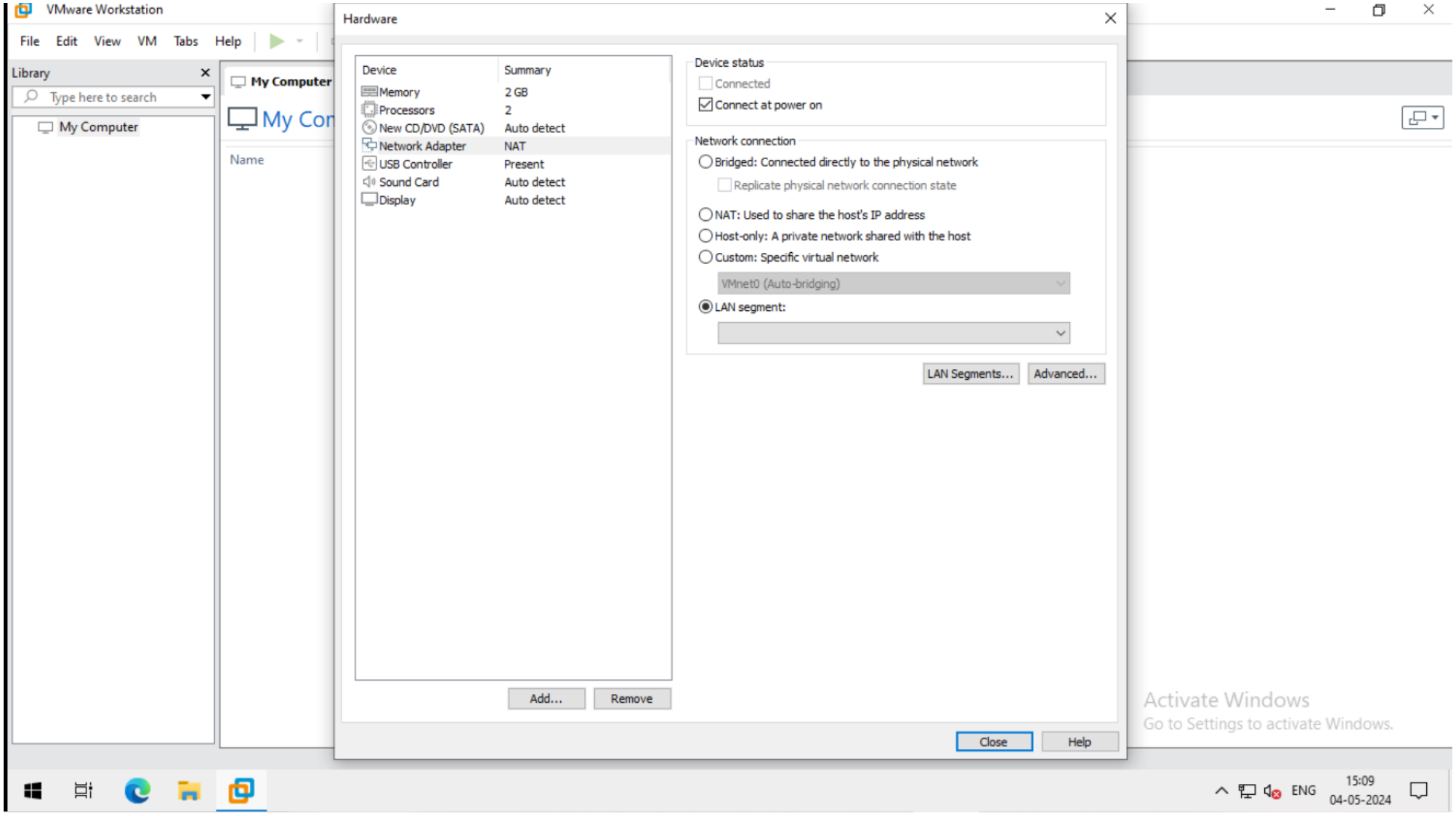


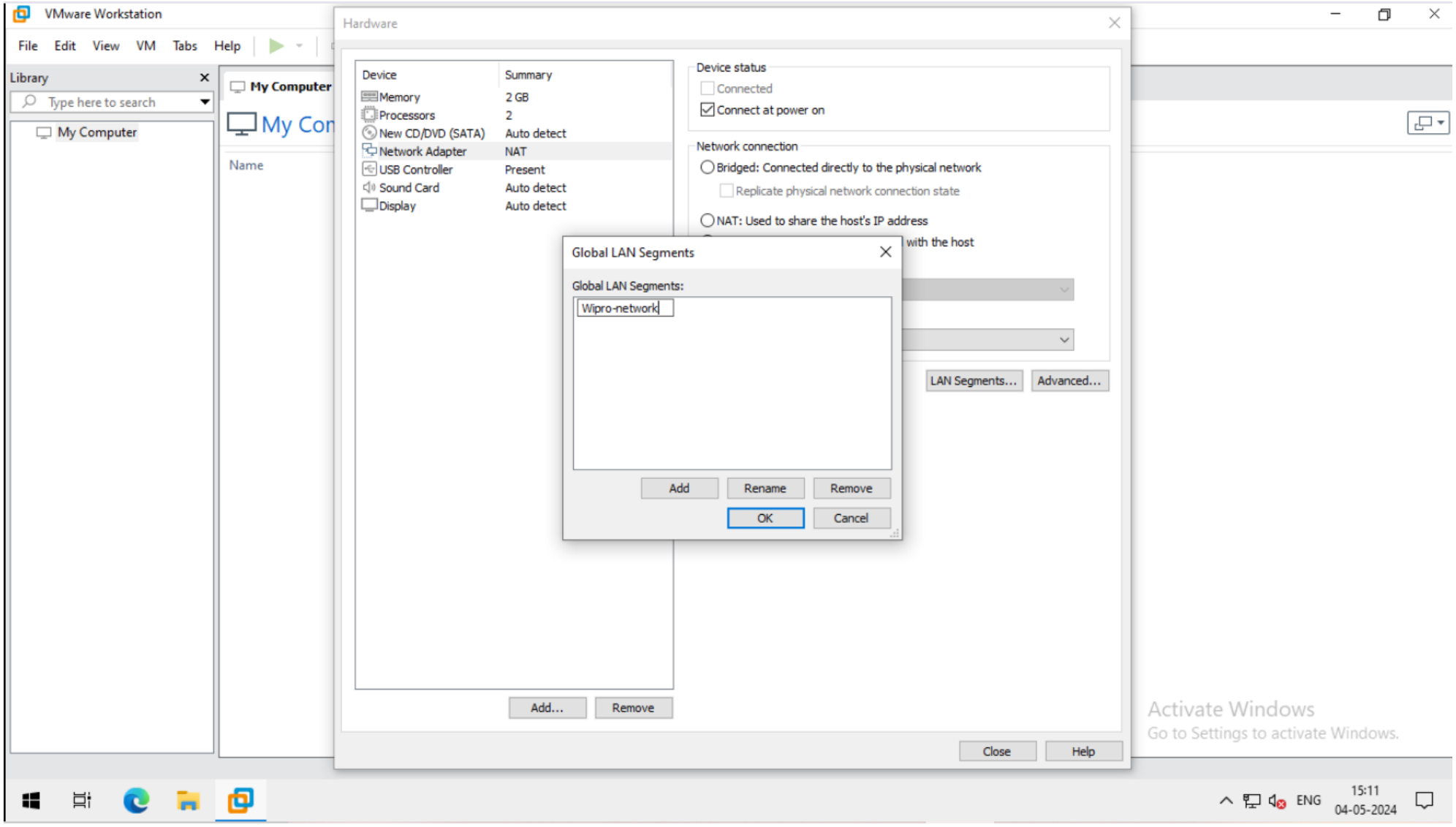


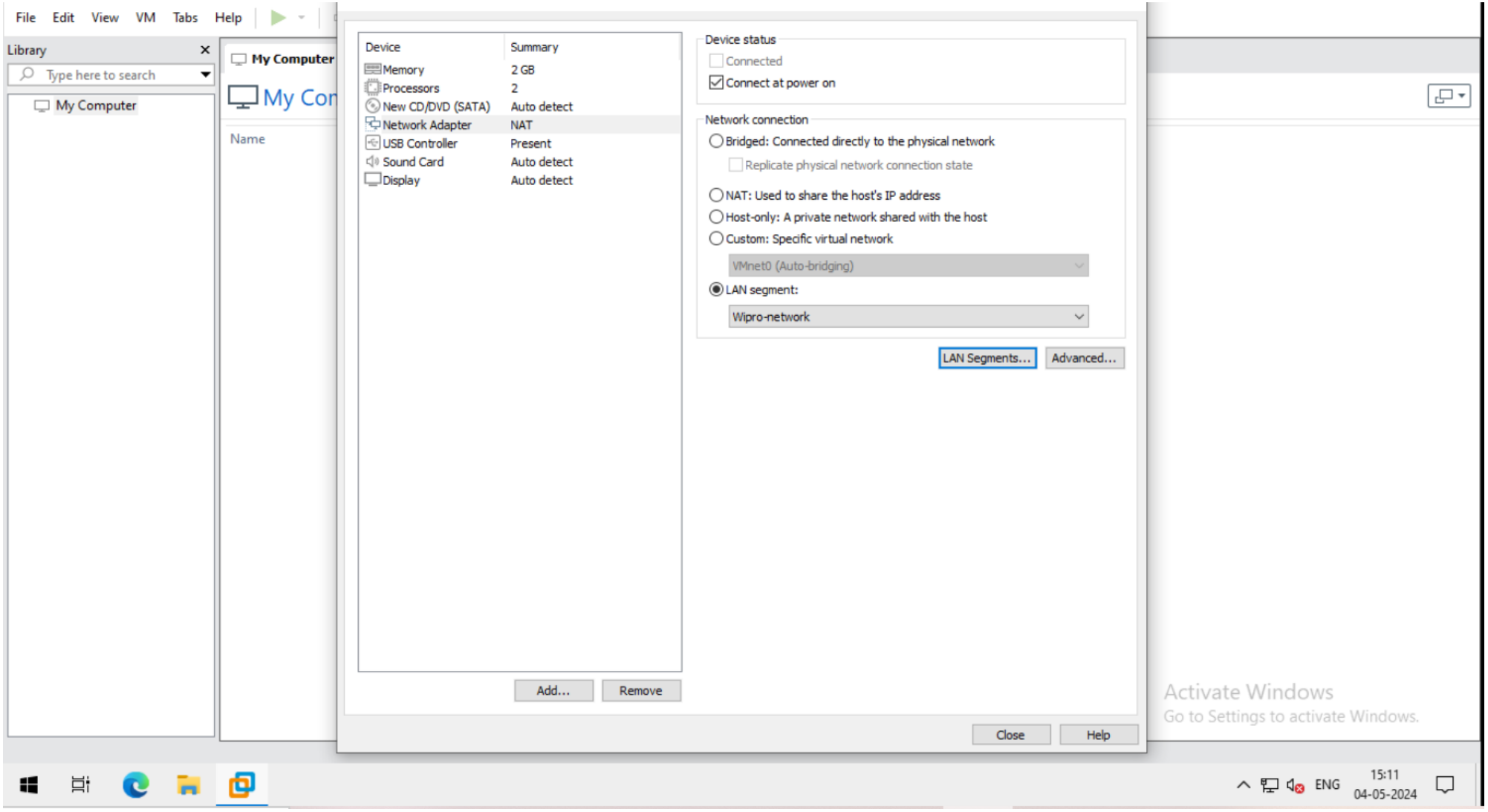


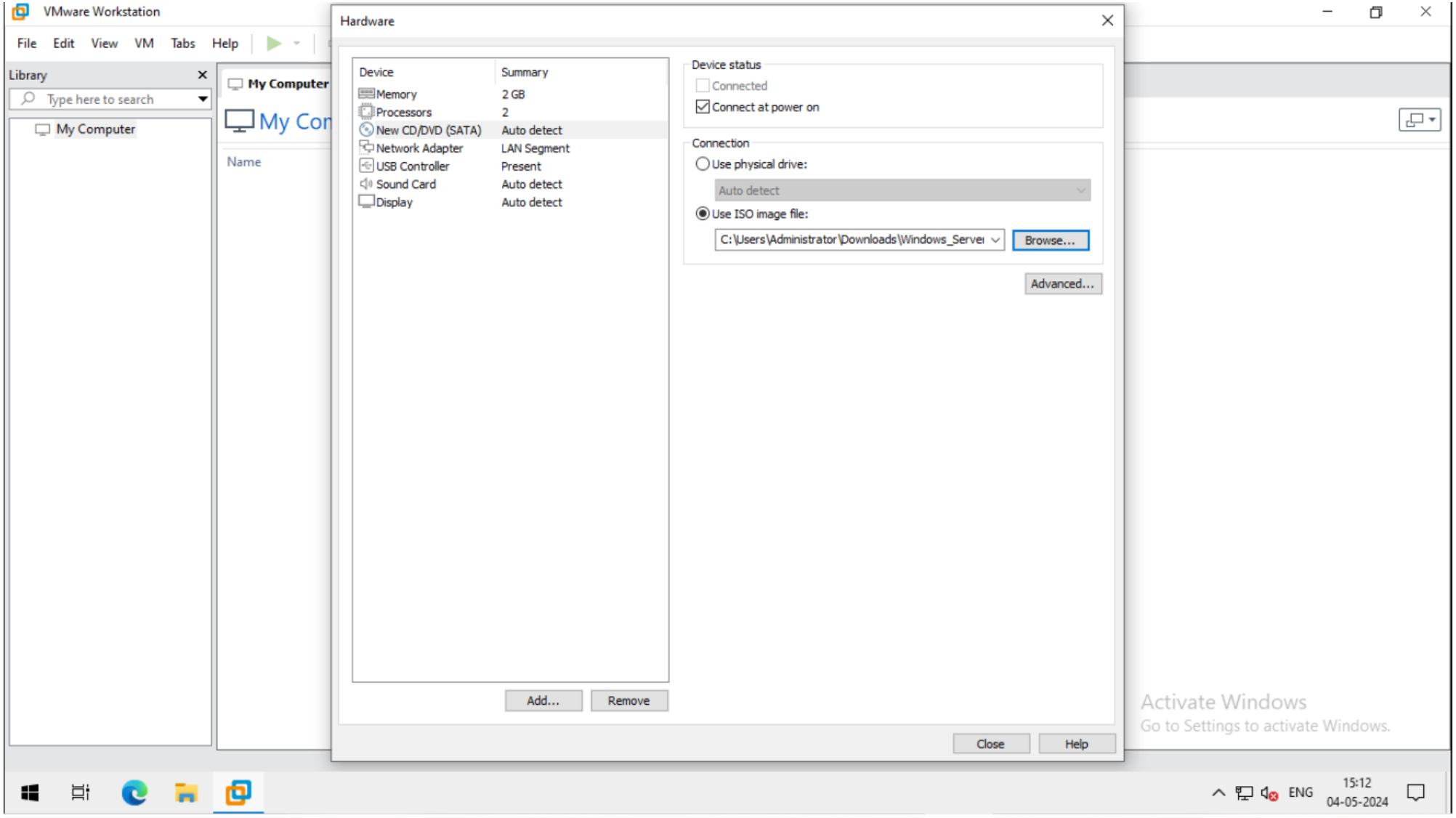


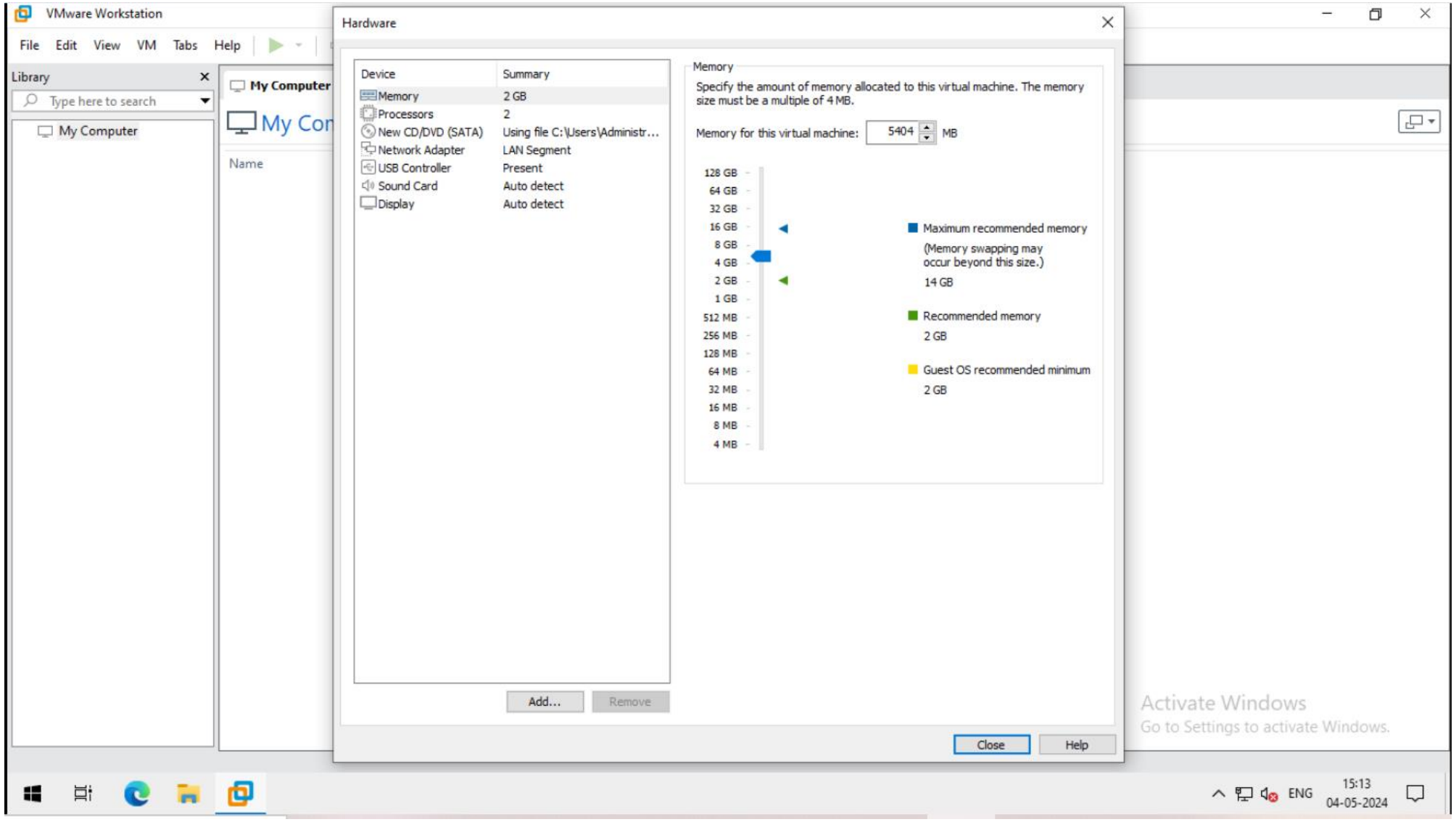


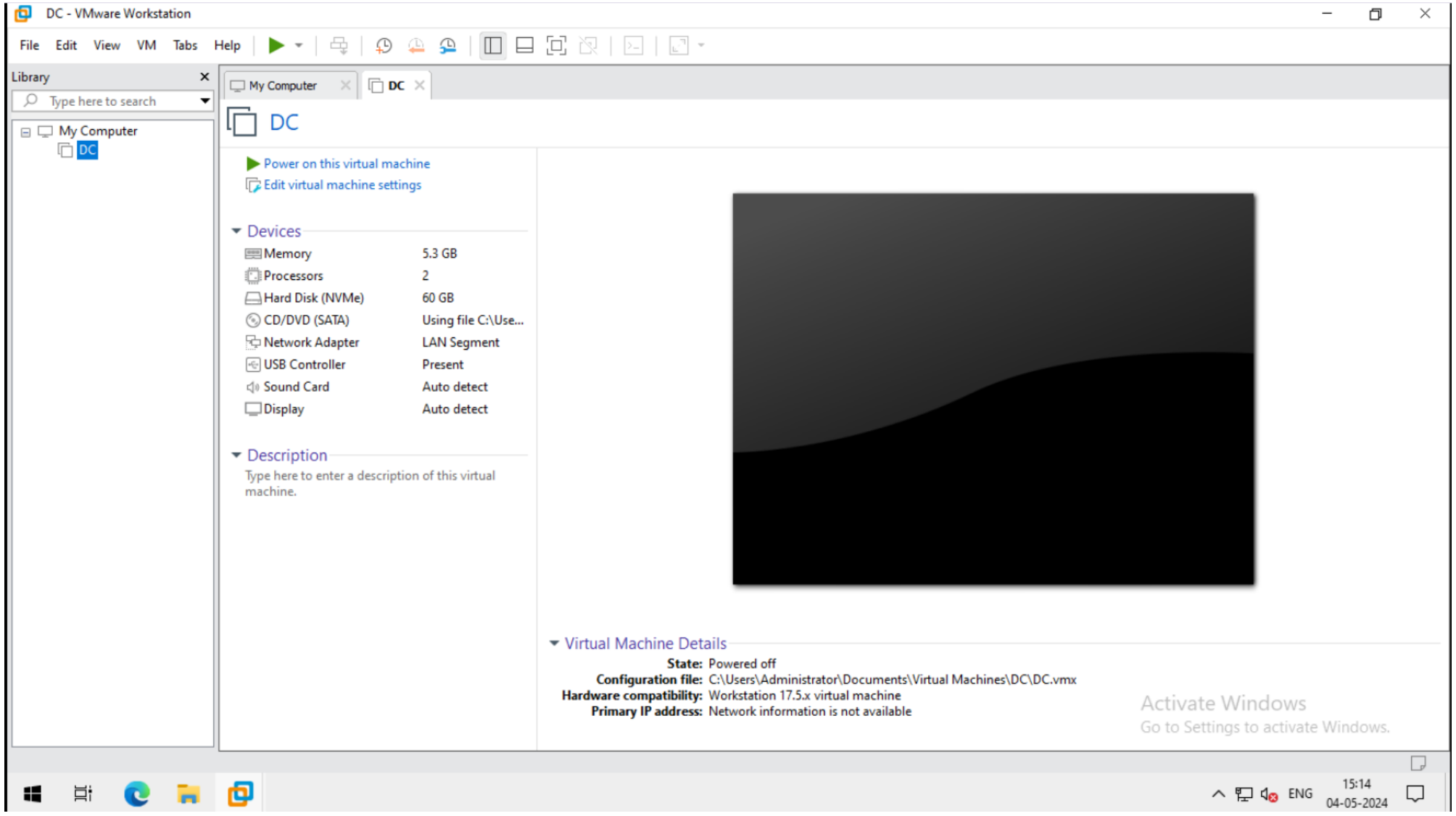


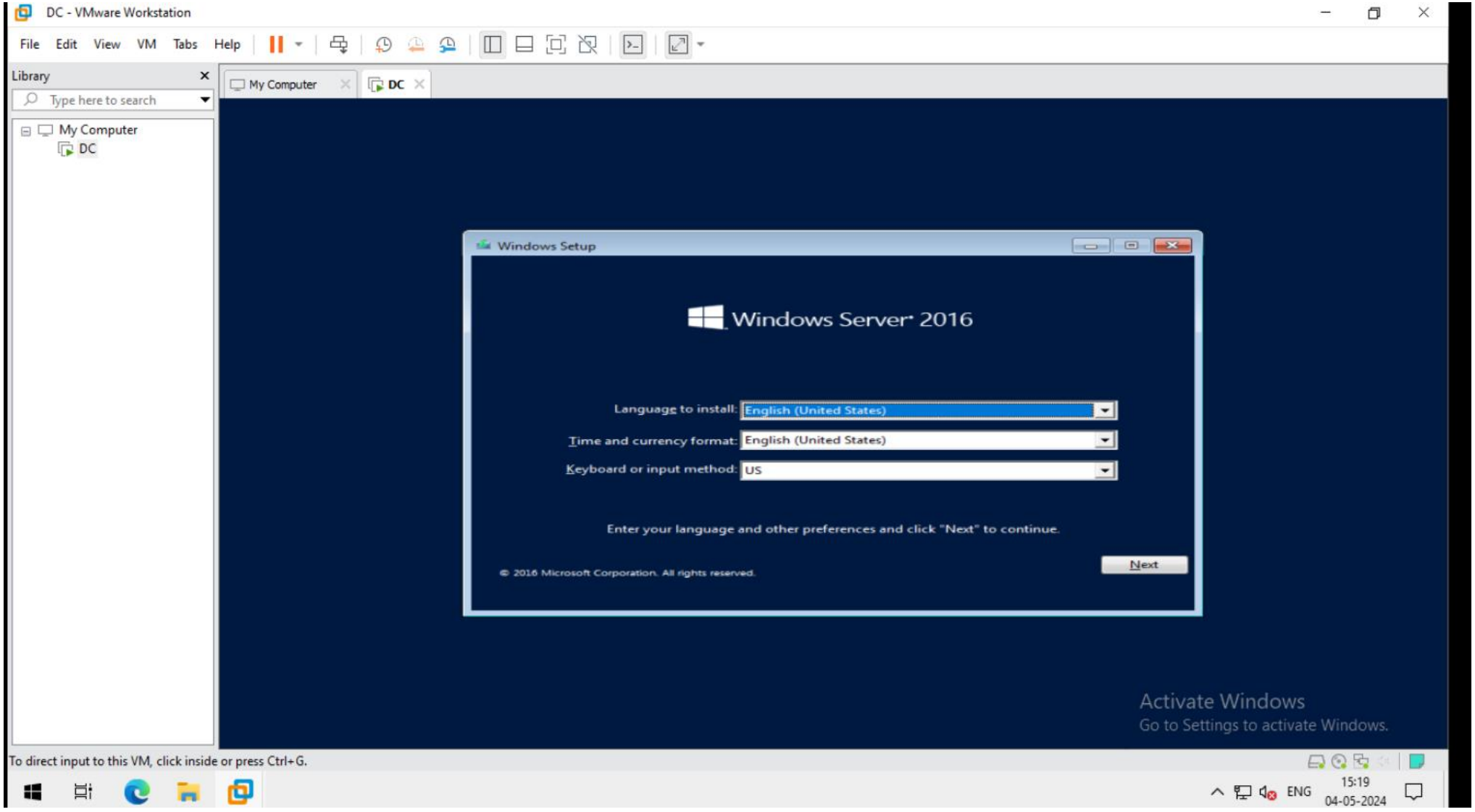


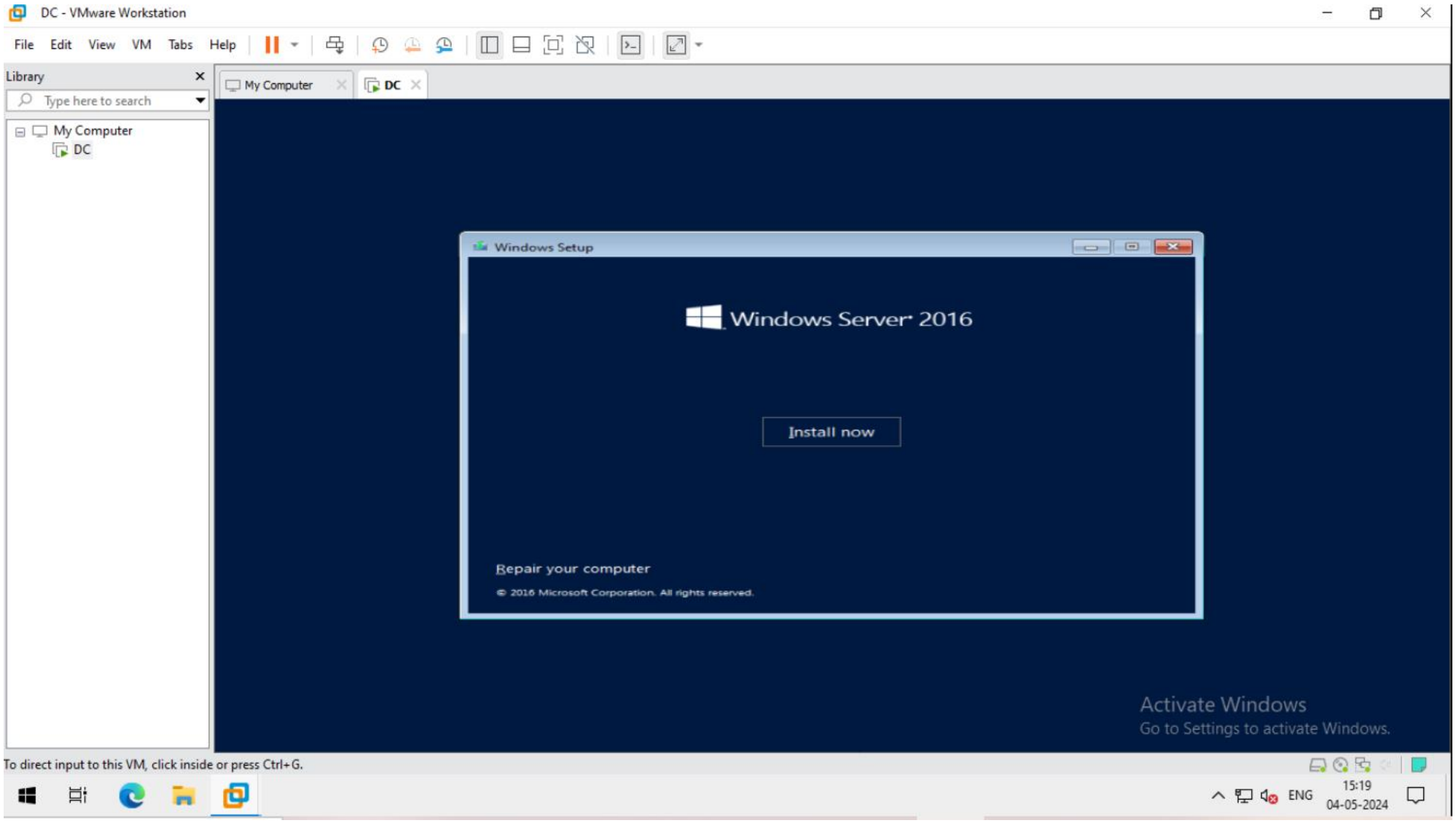


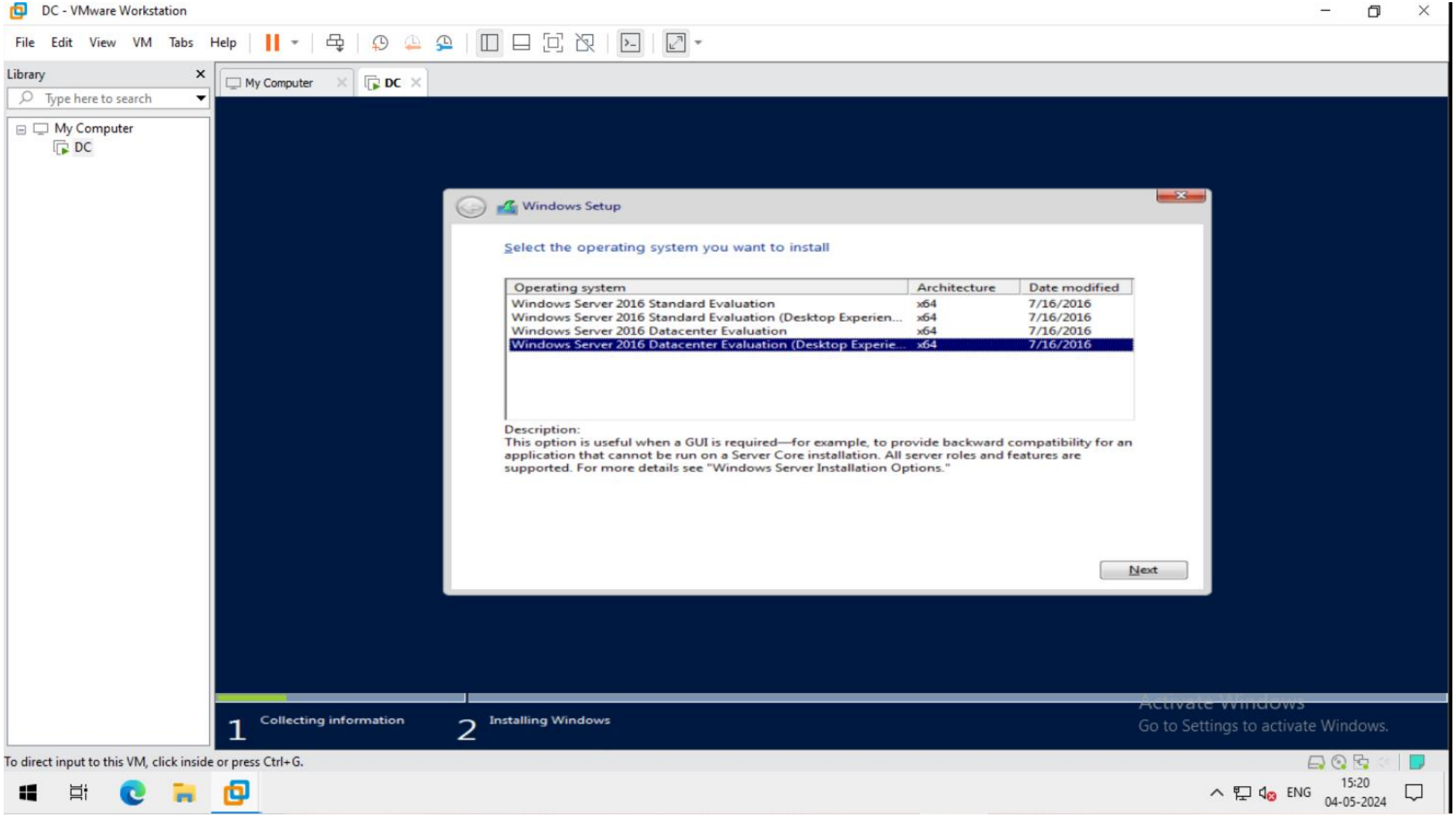


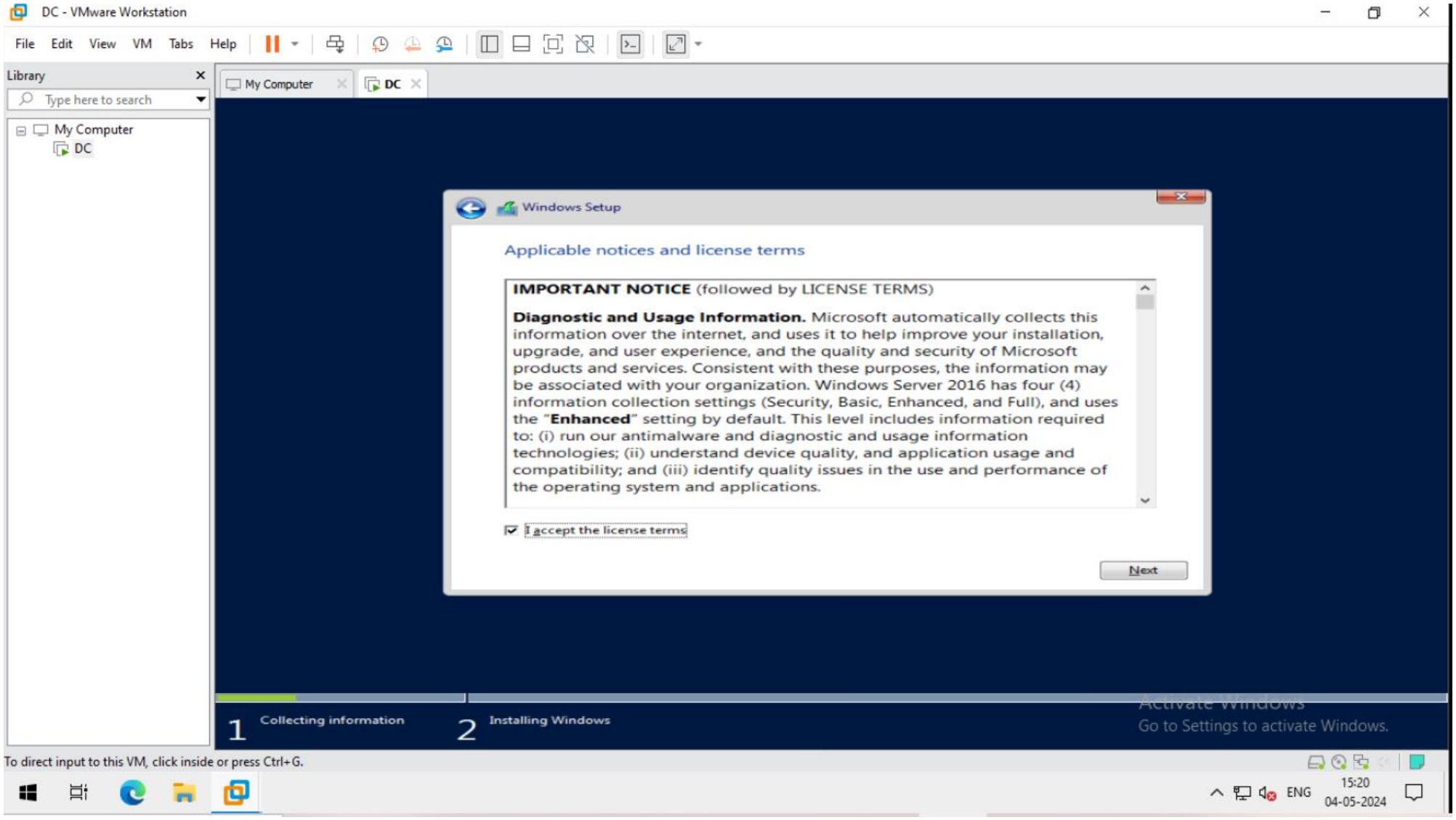


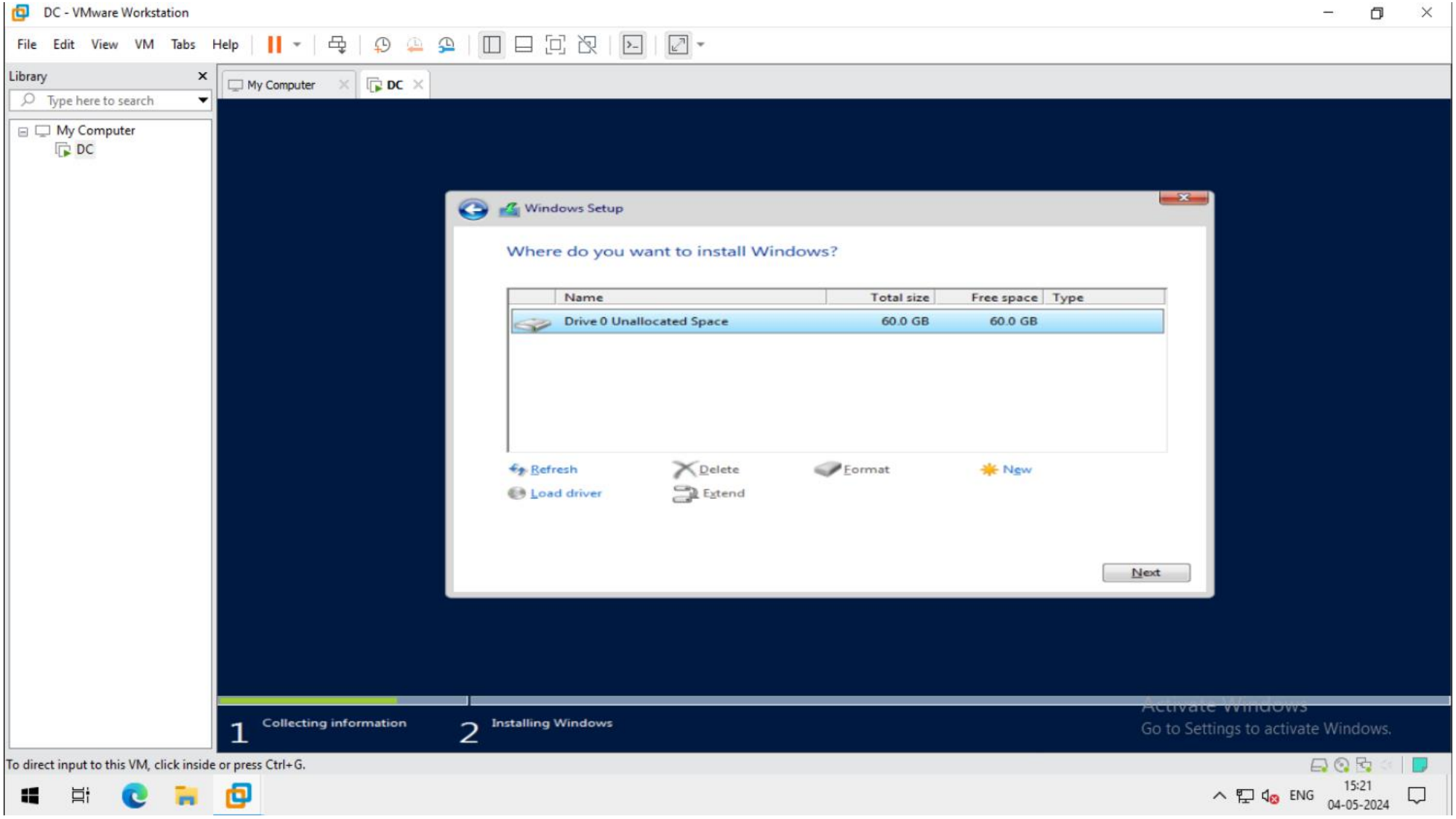


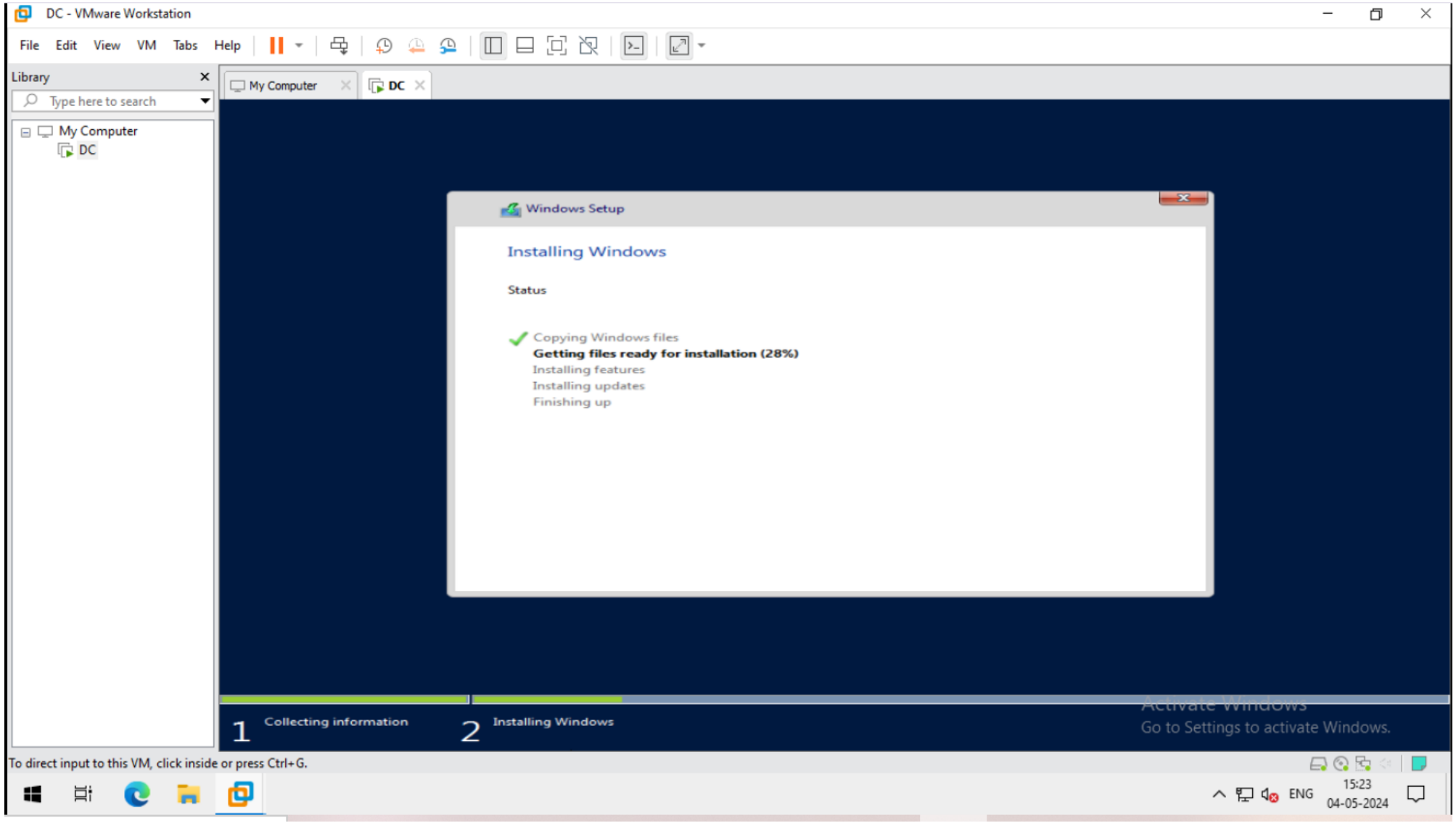


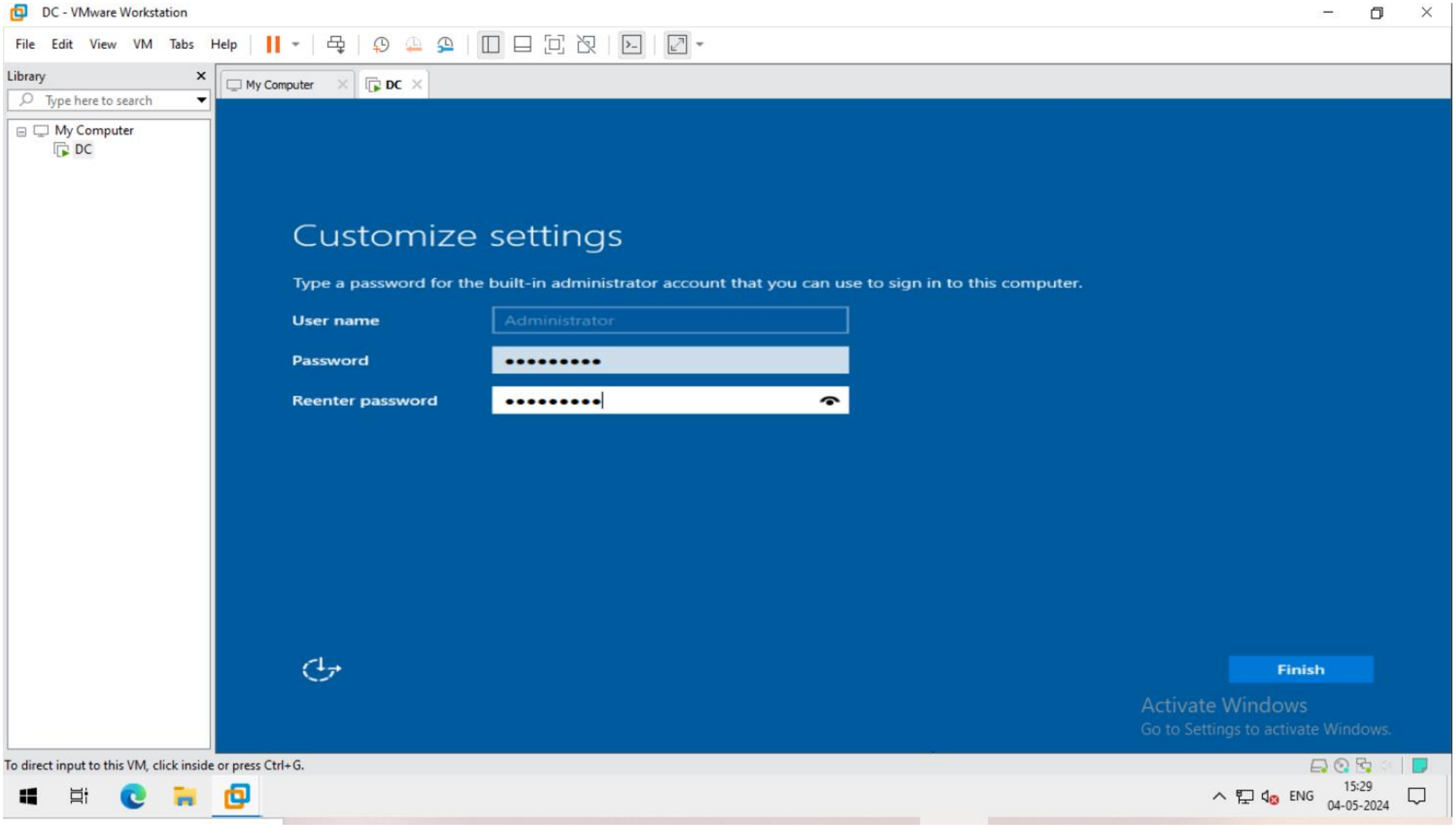


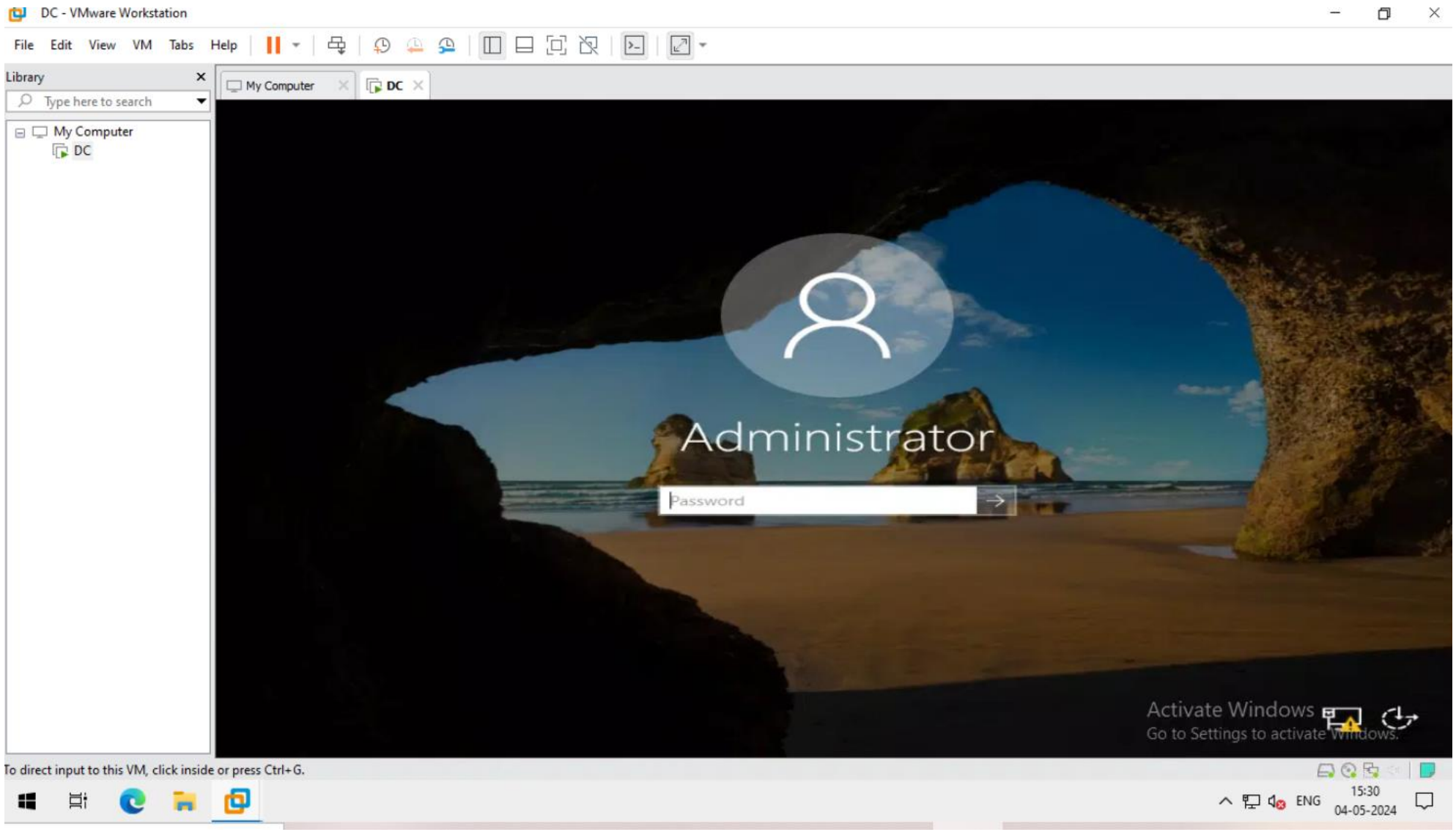


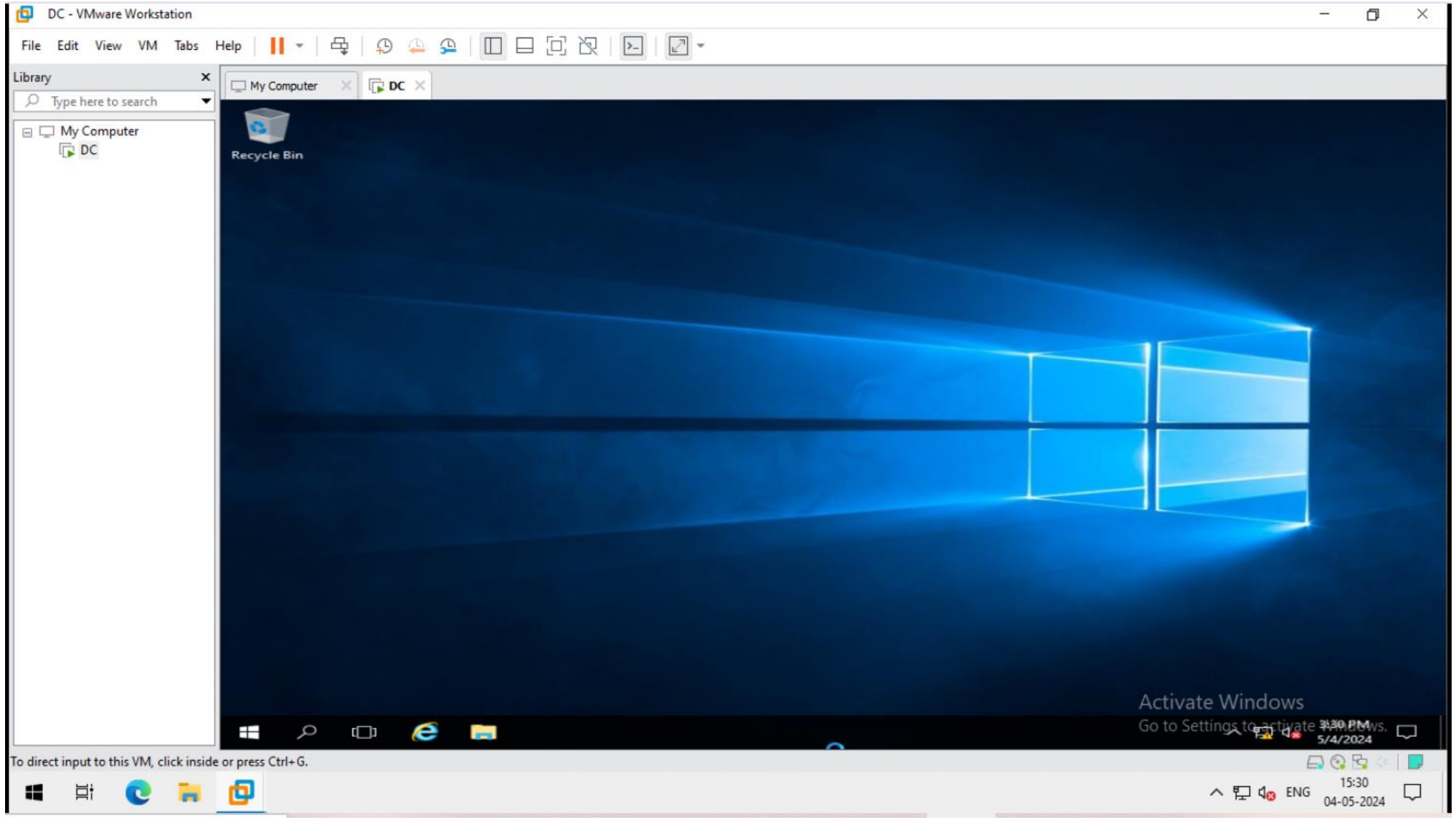




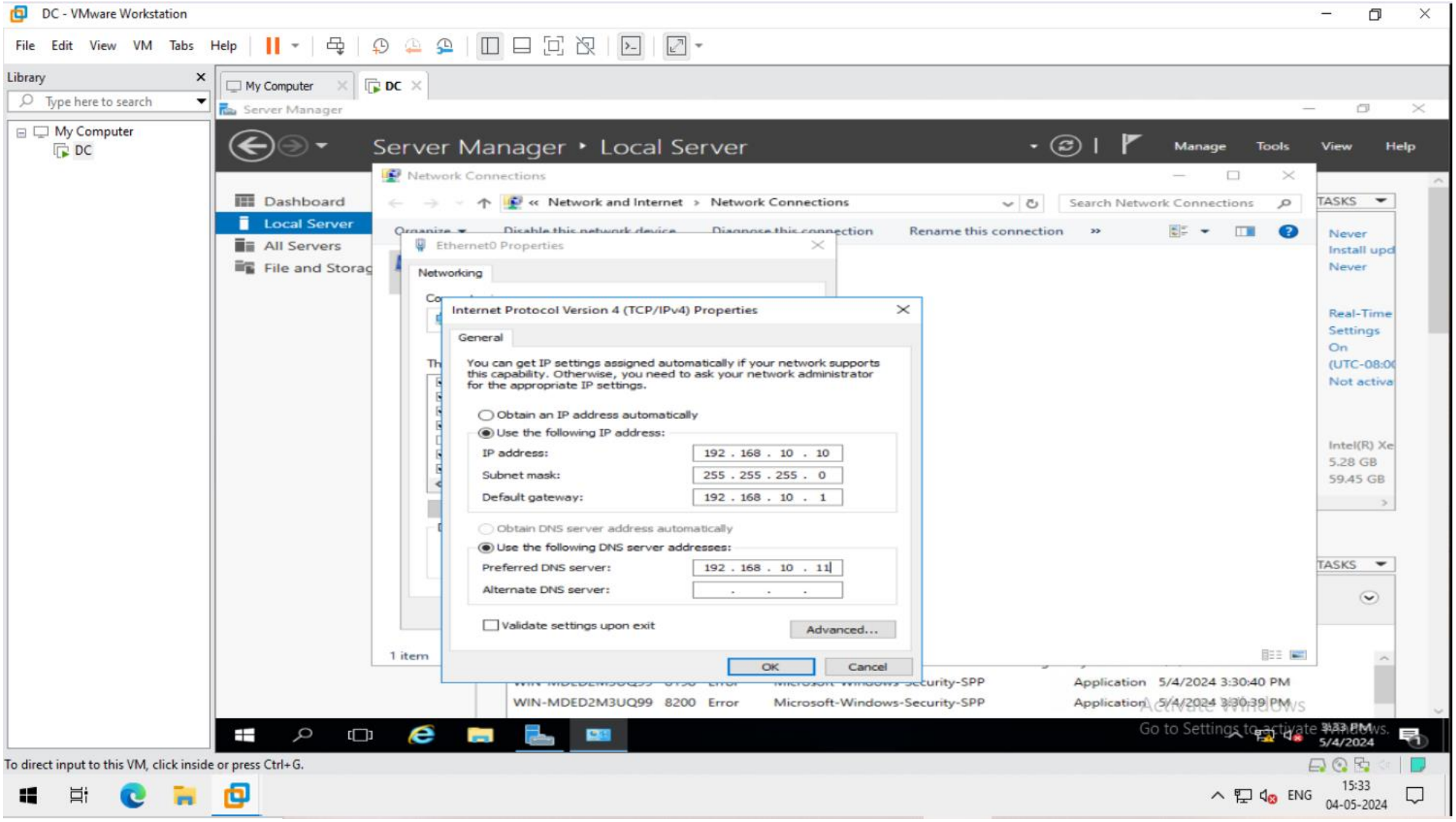


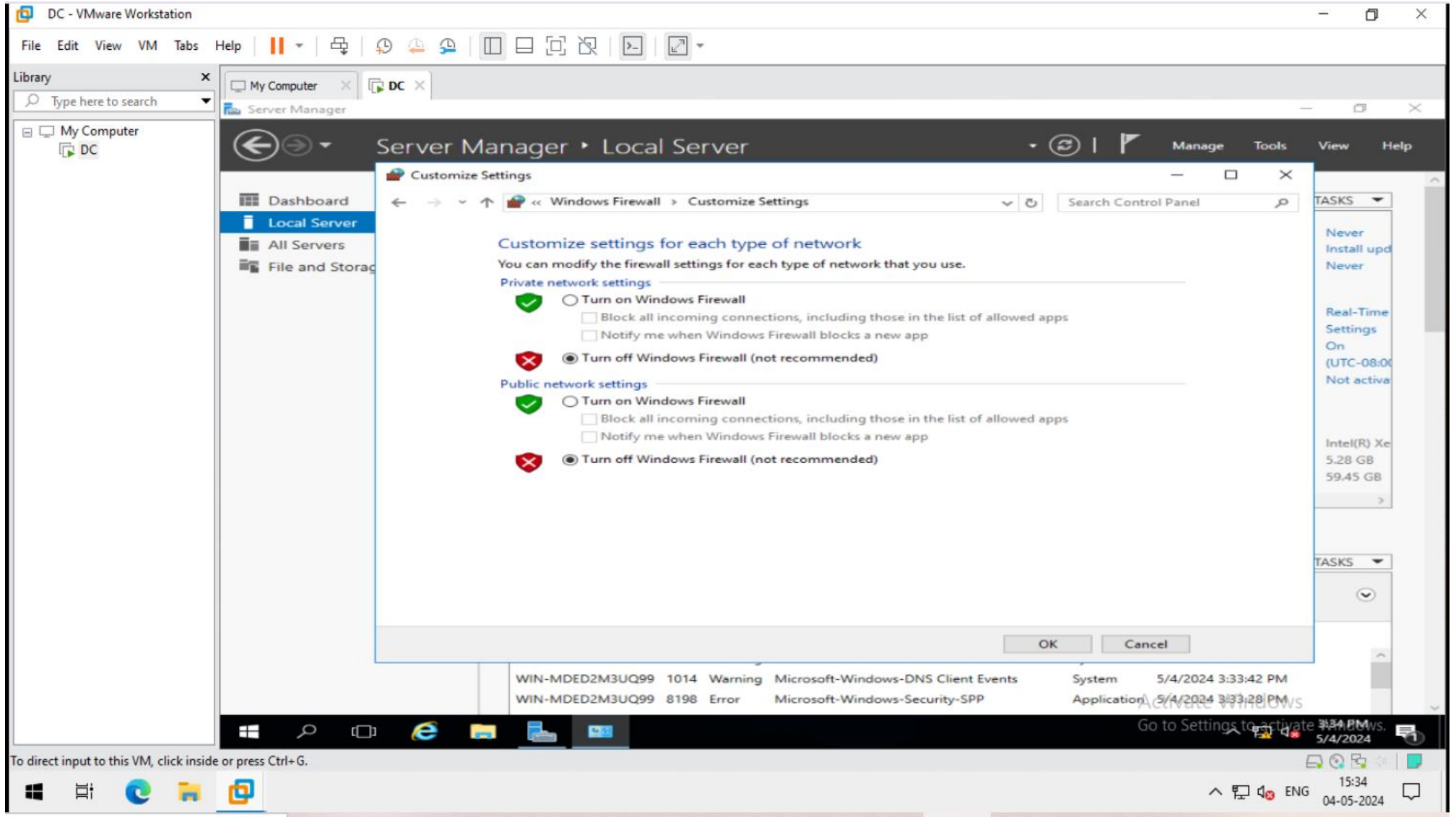


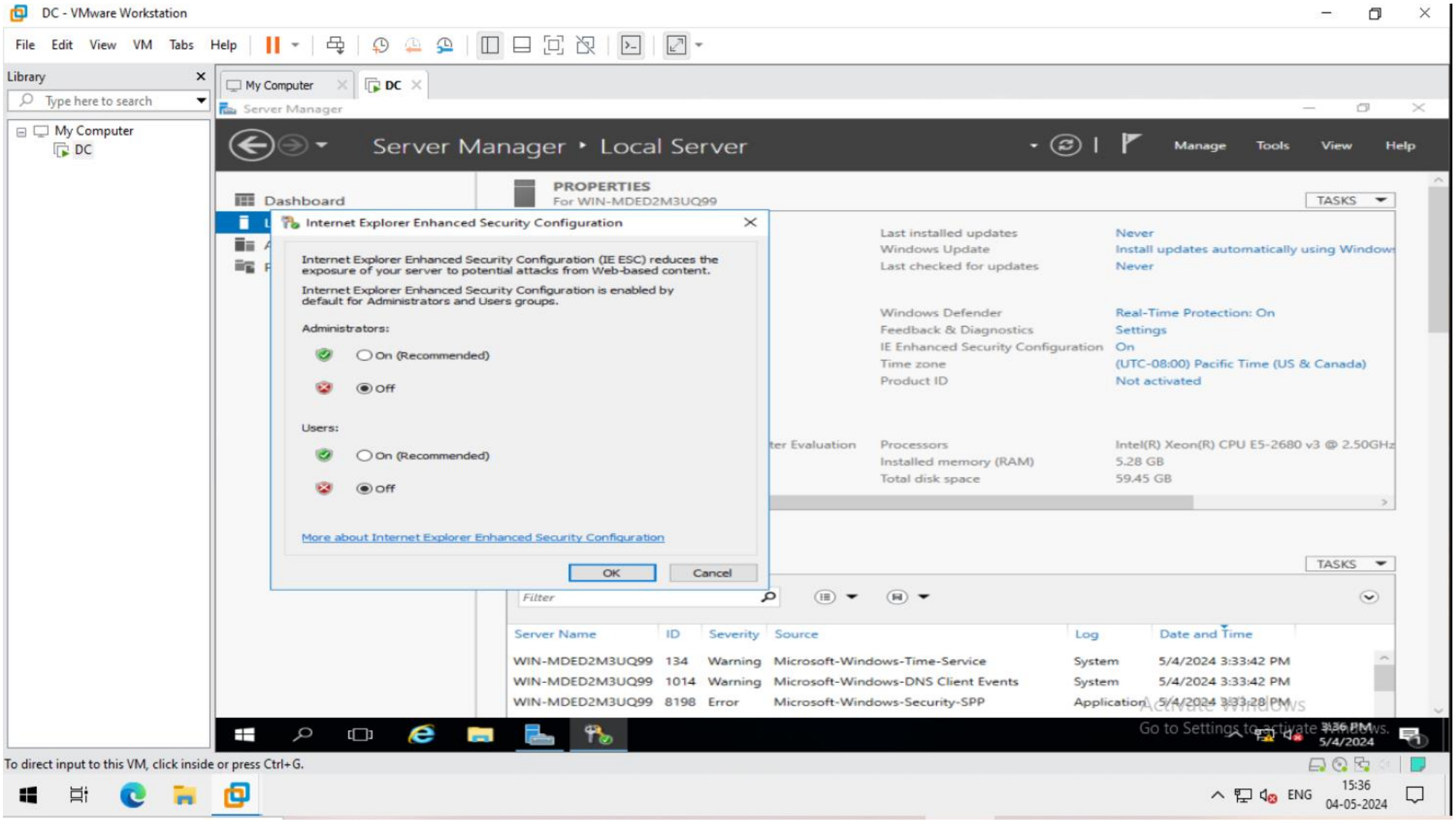


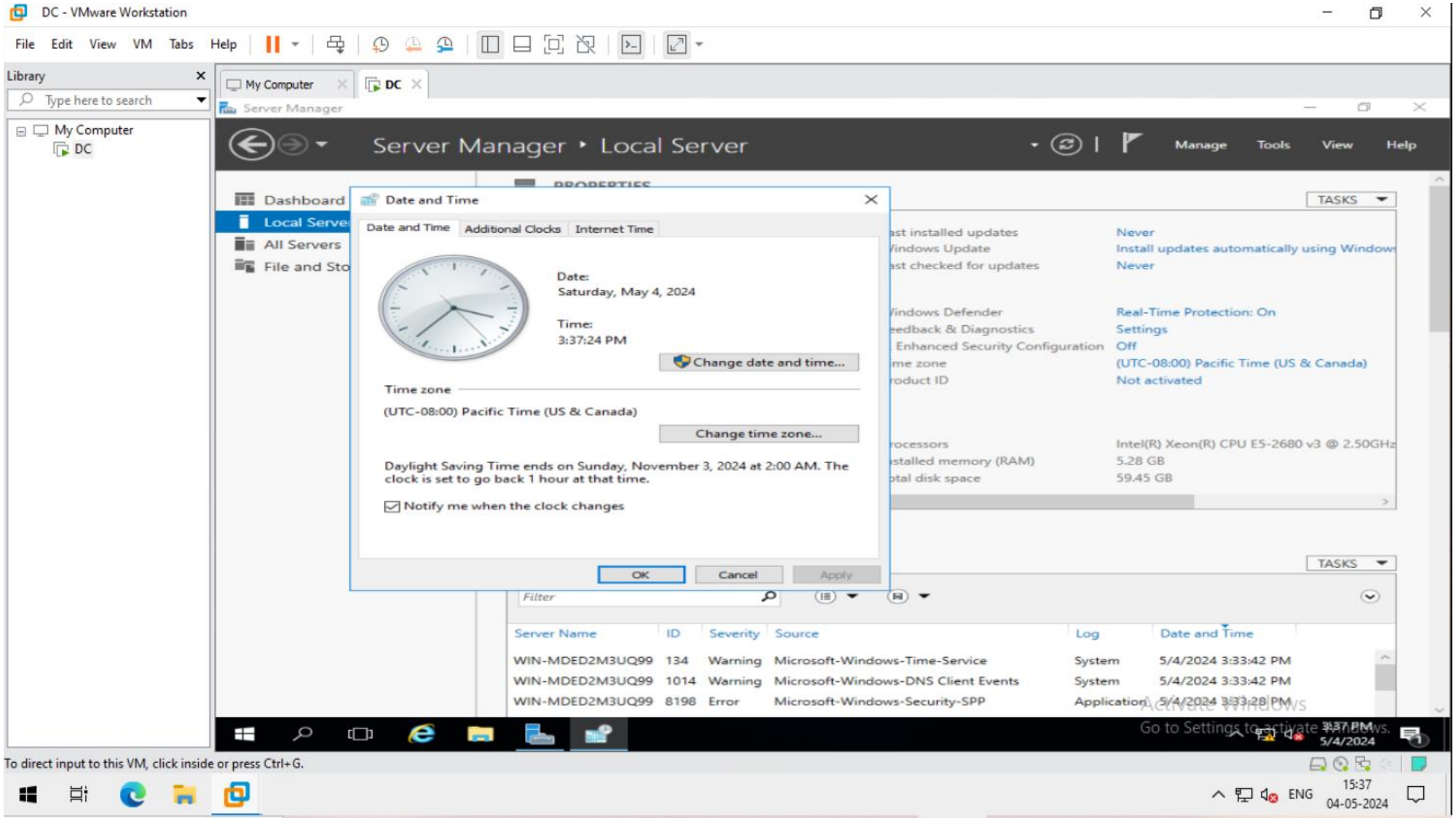


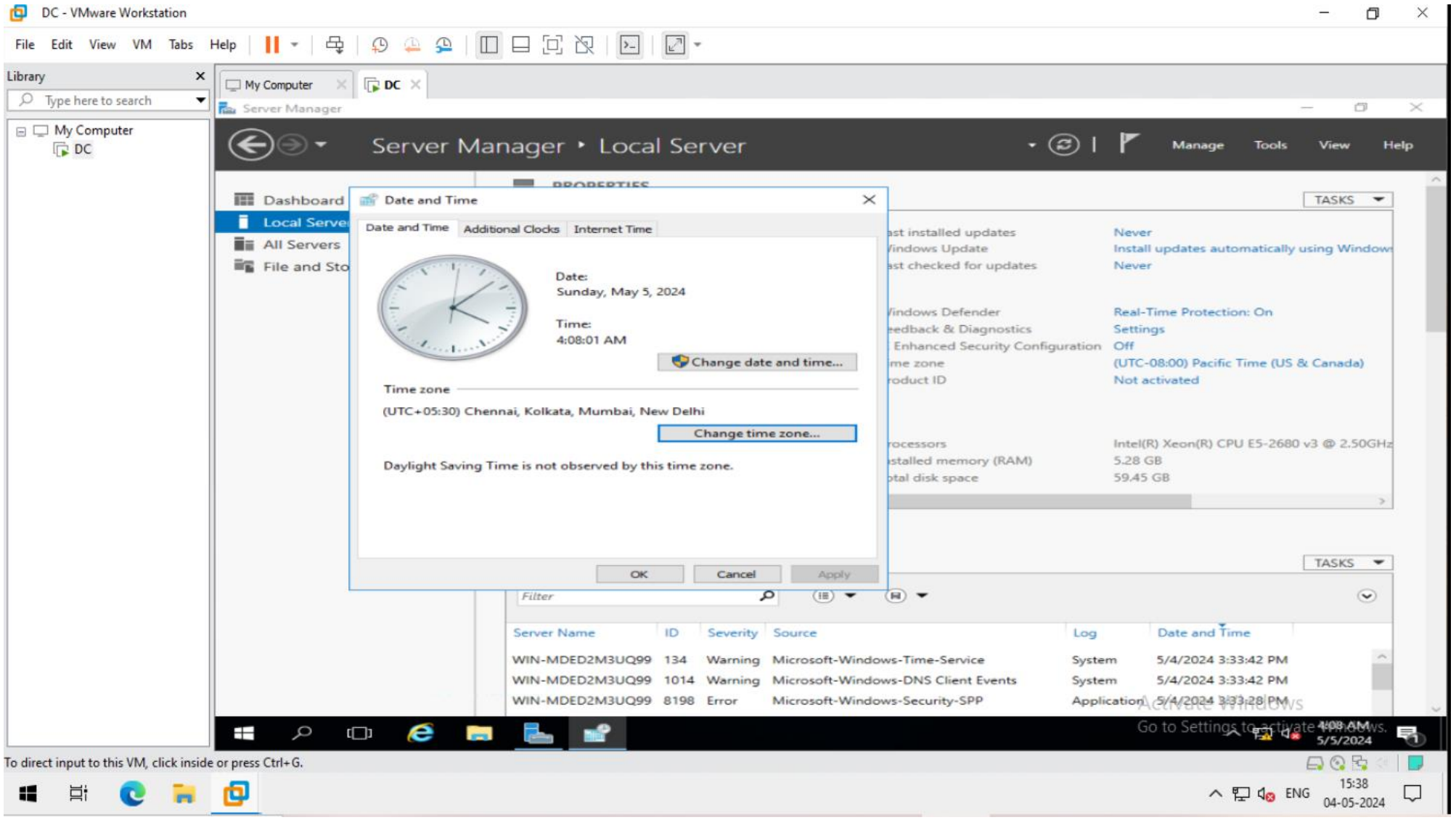
2. Post-installation configuration

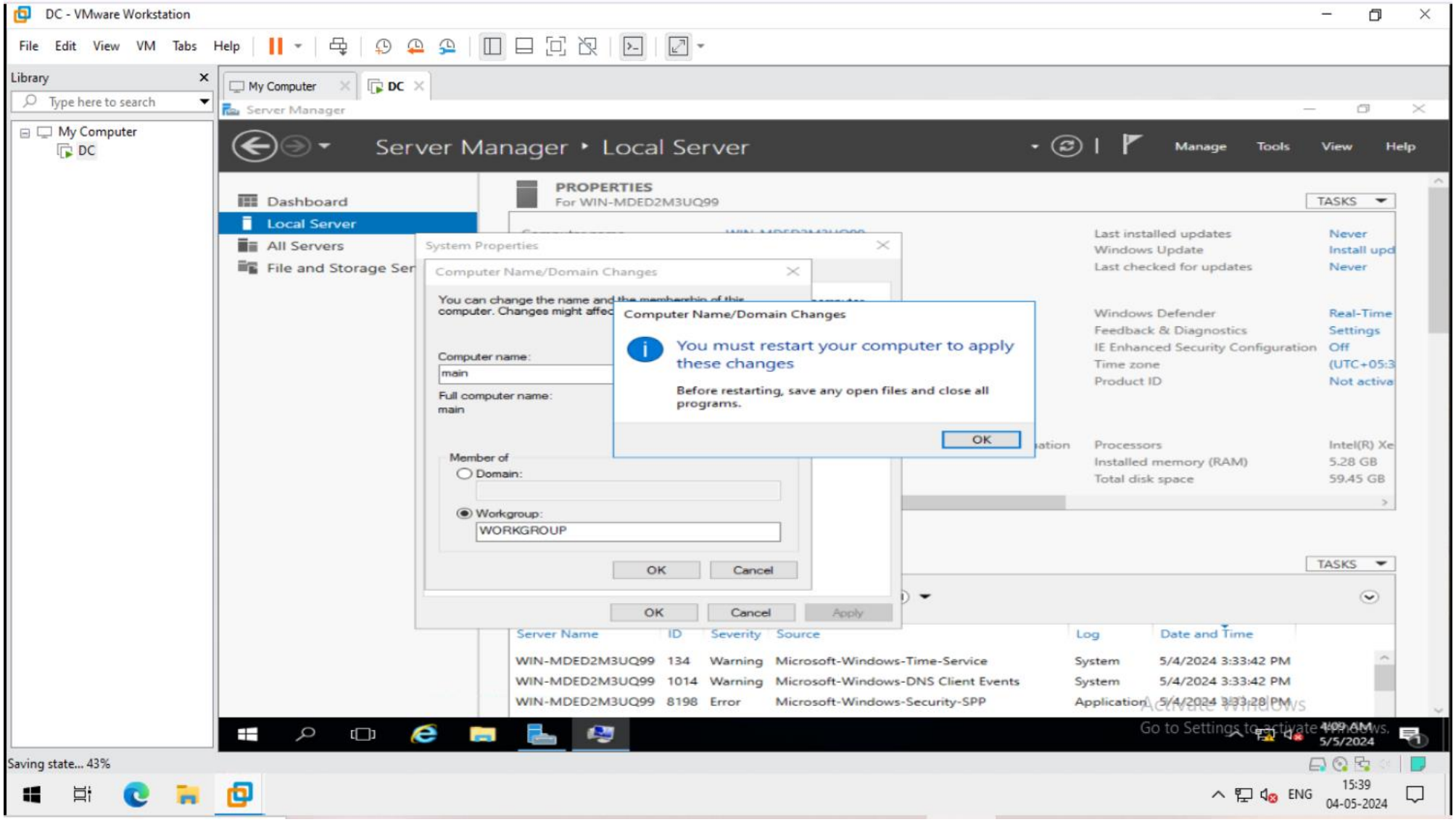




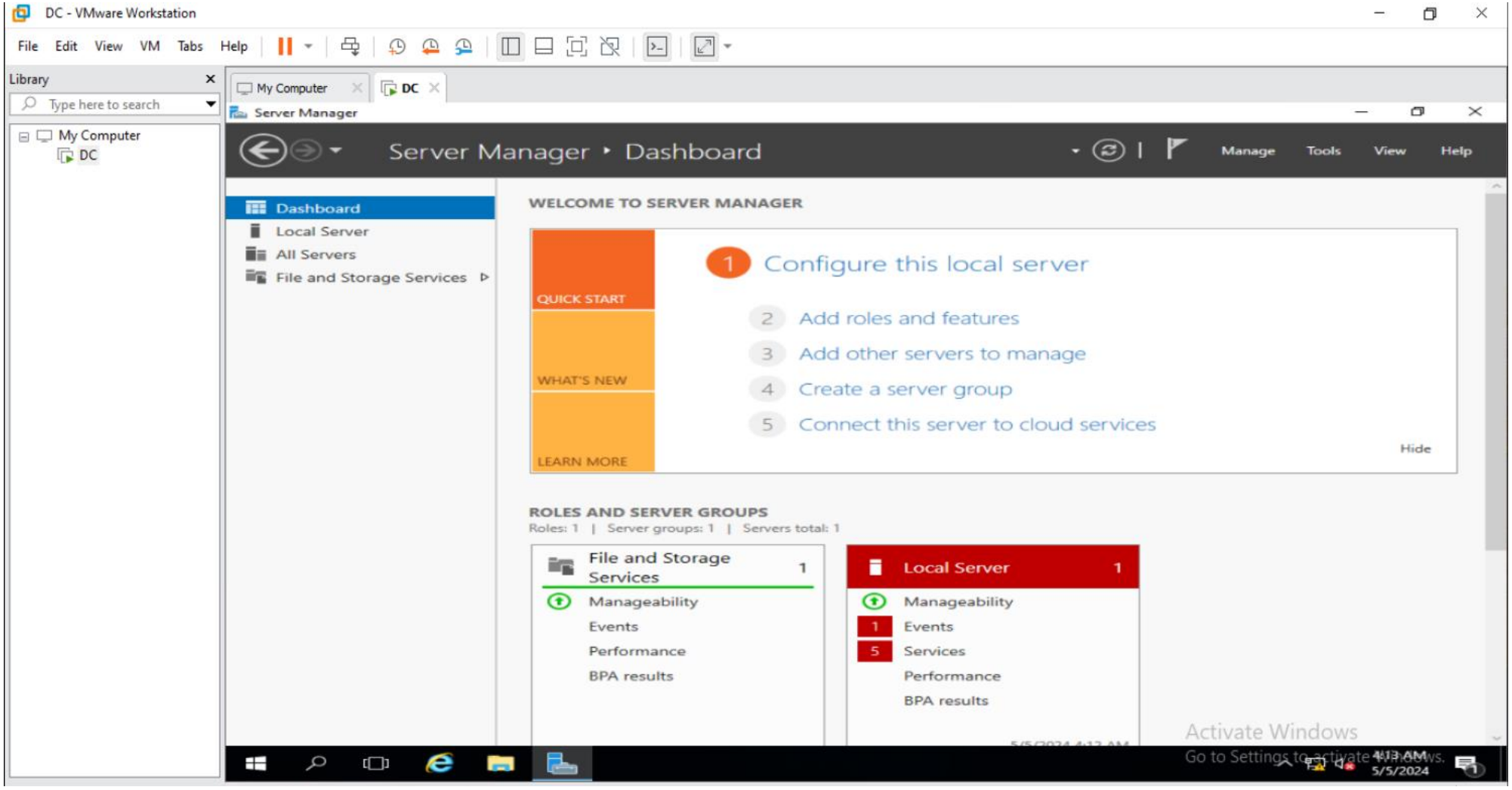


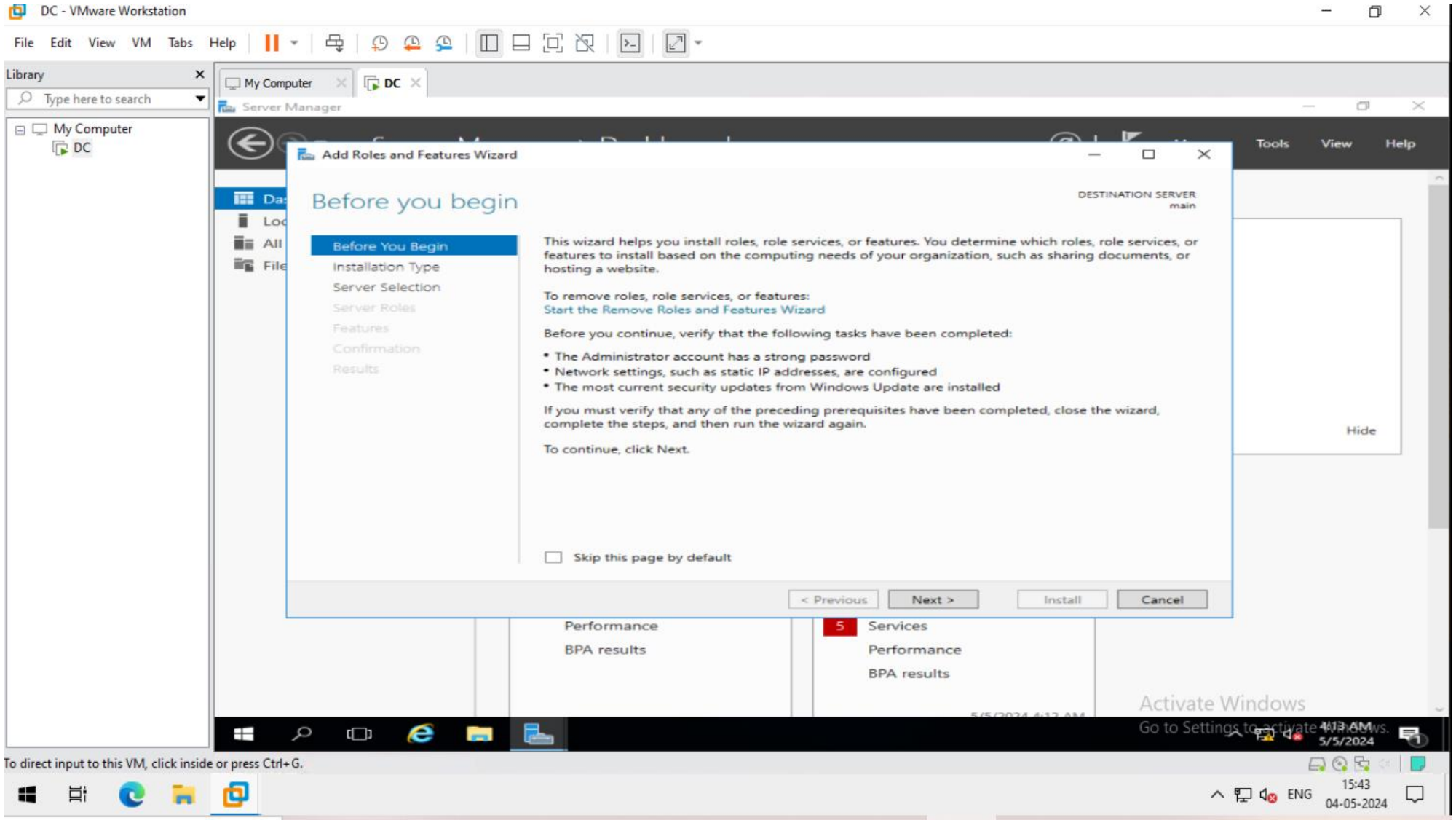


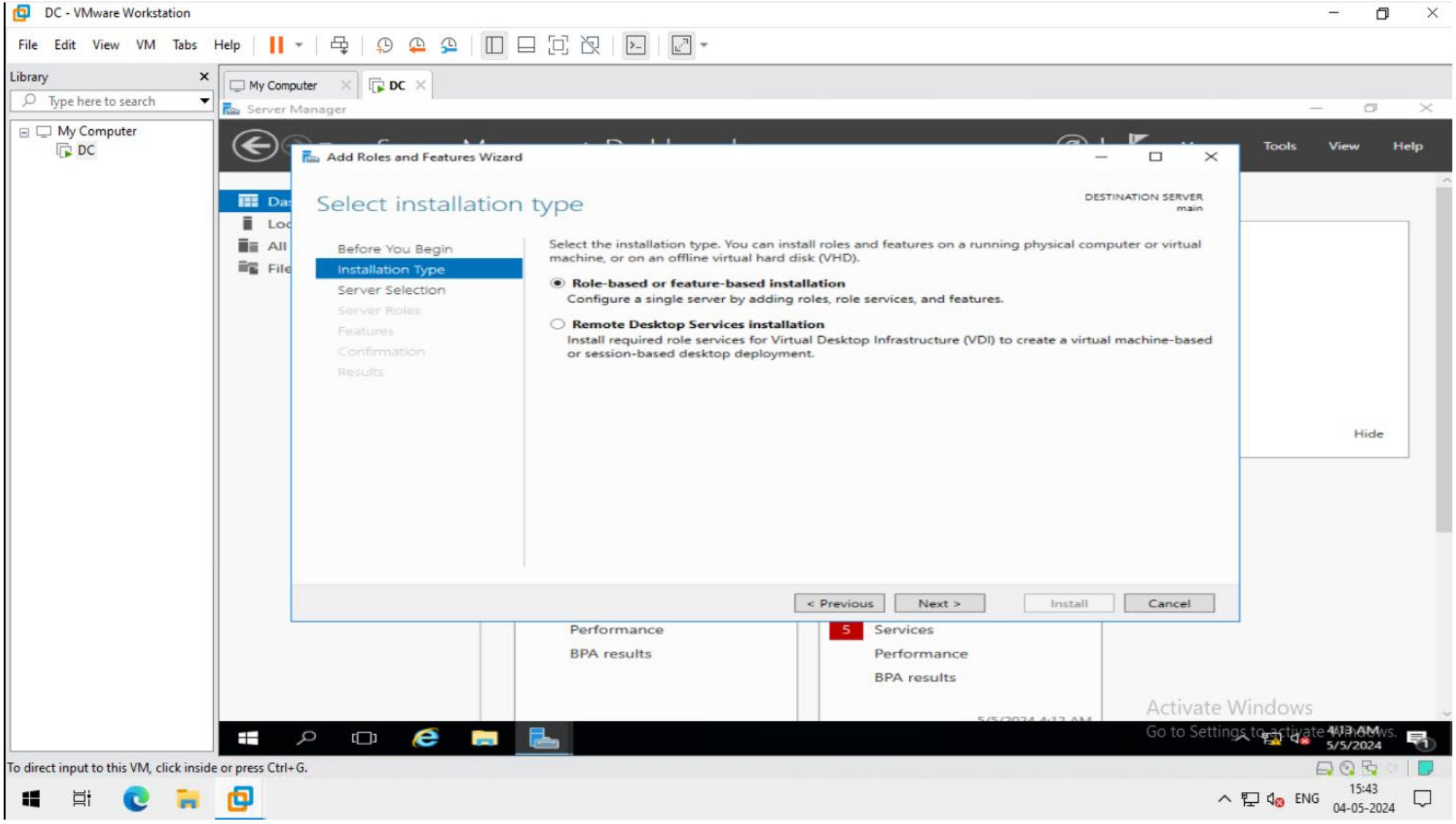


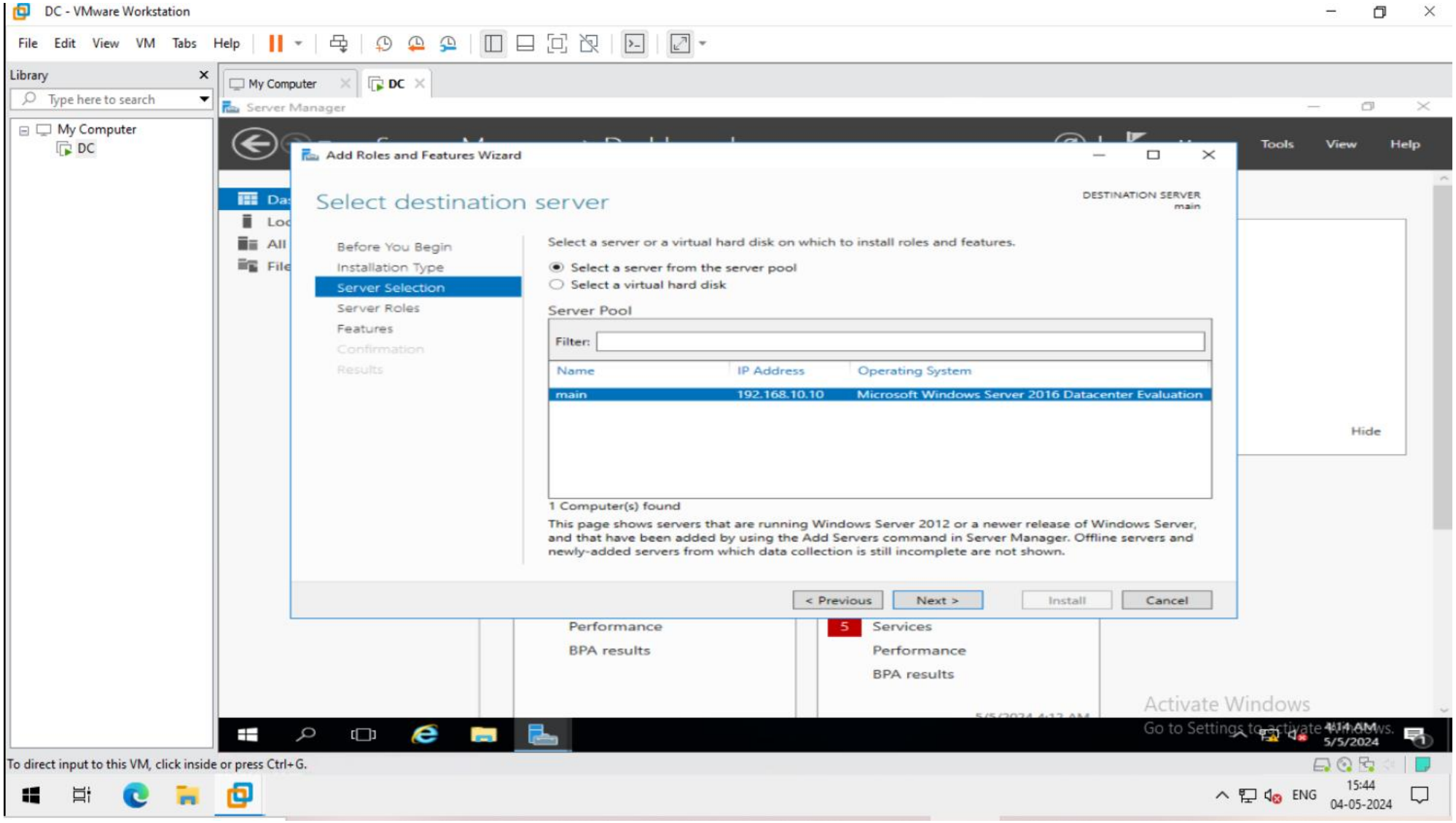


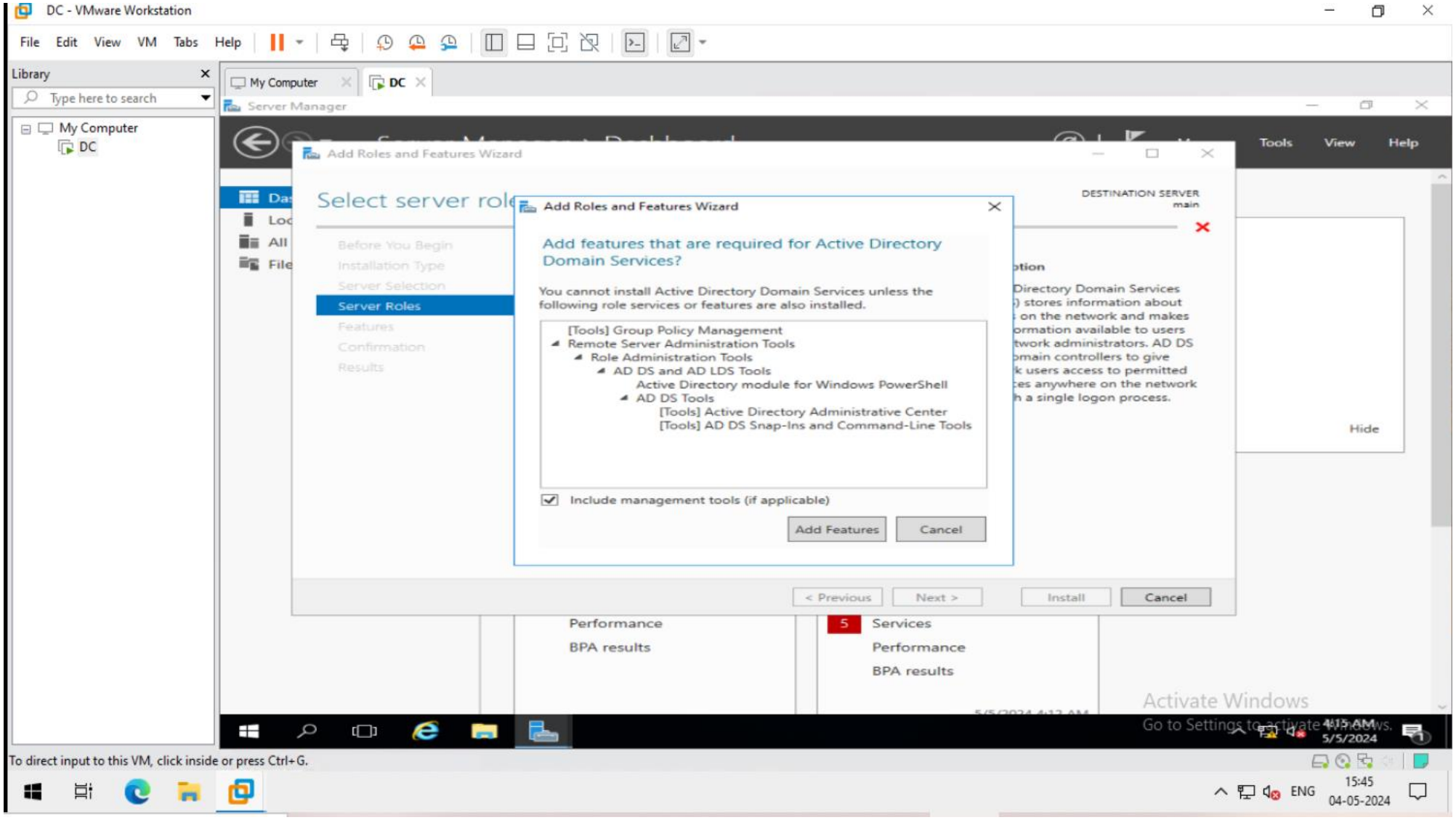
3- Install the required role

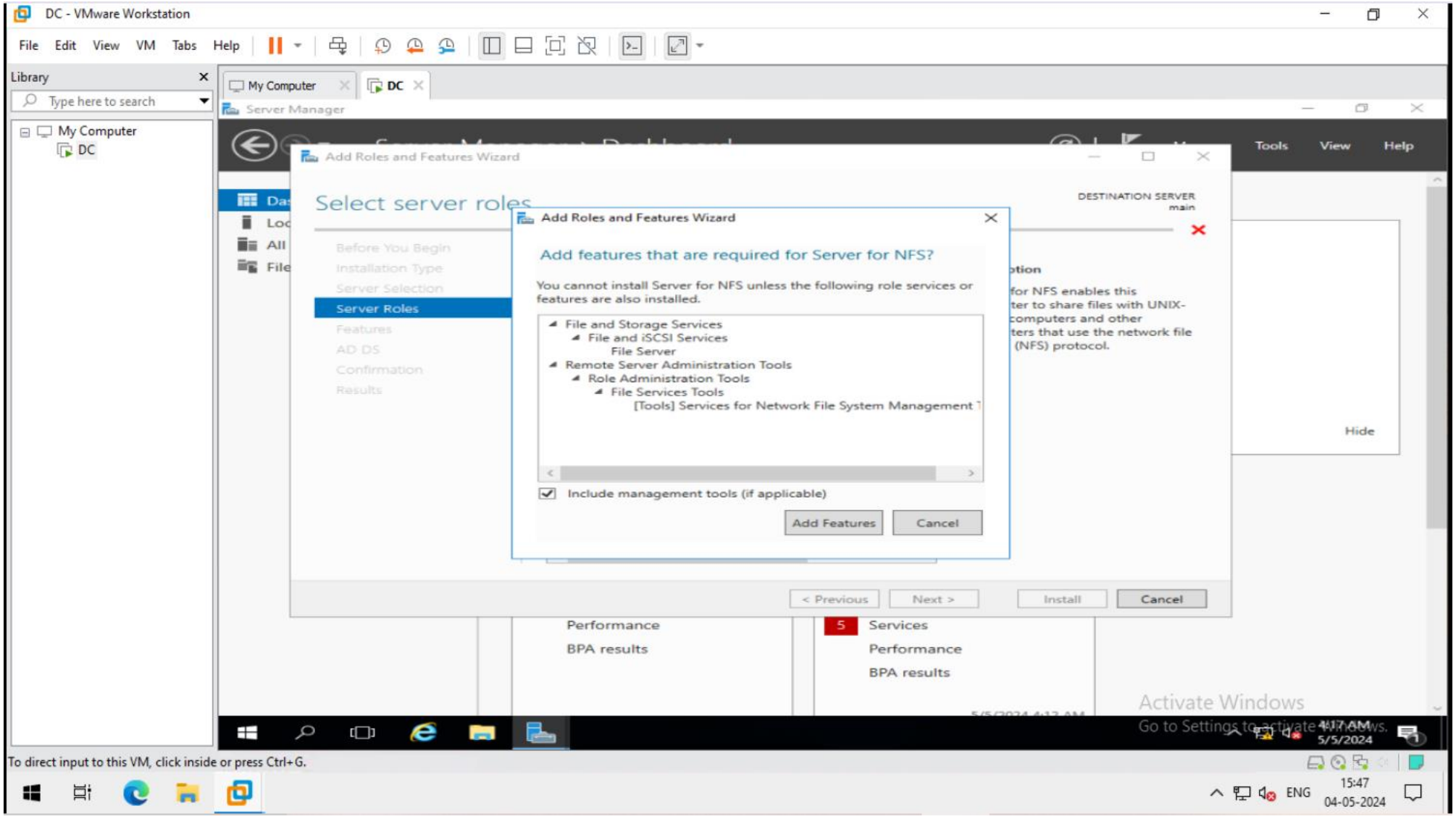


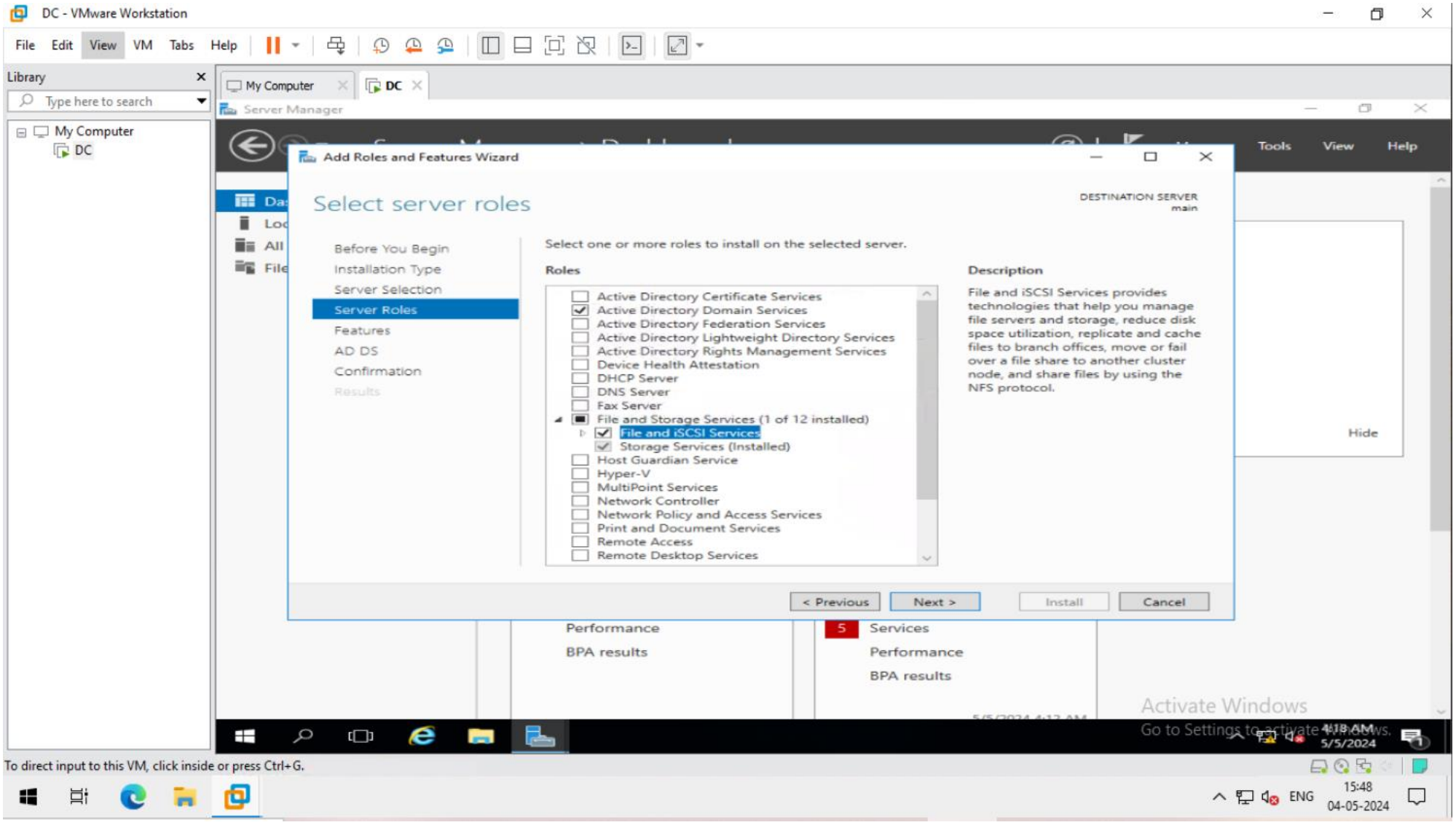


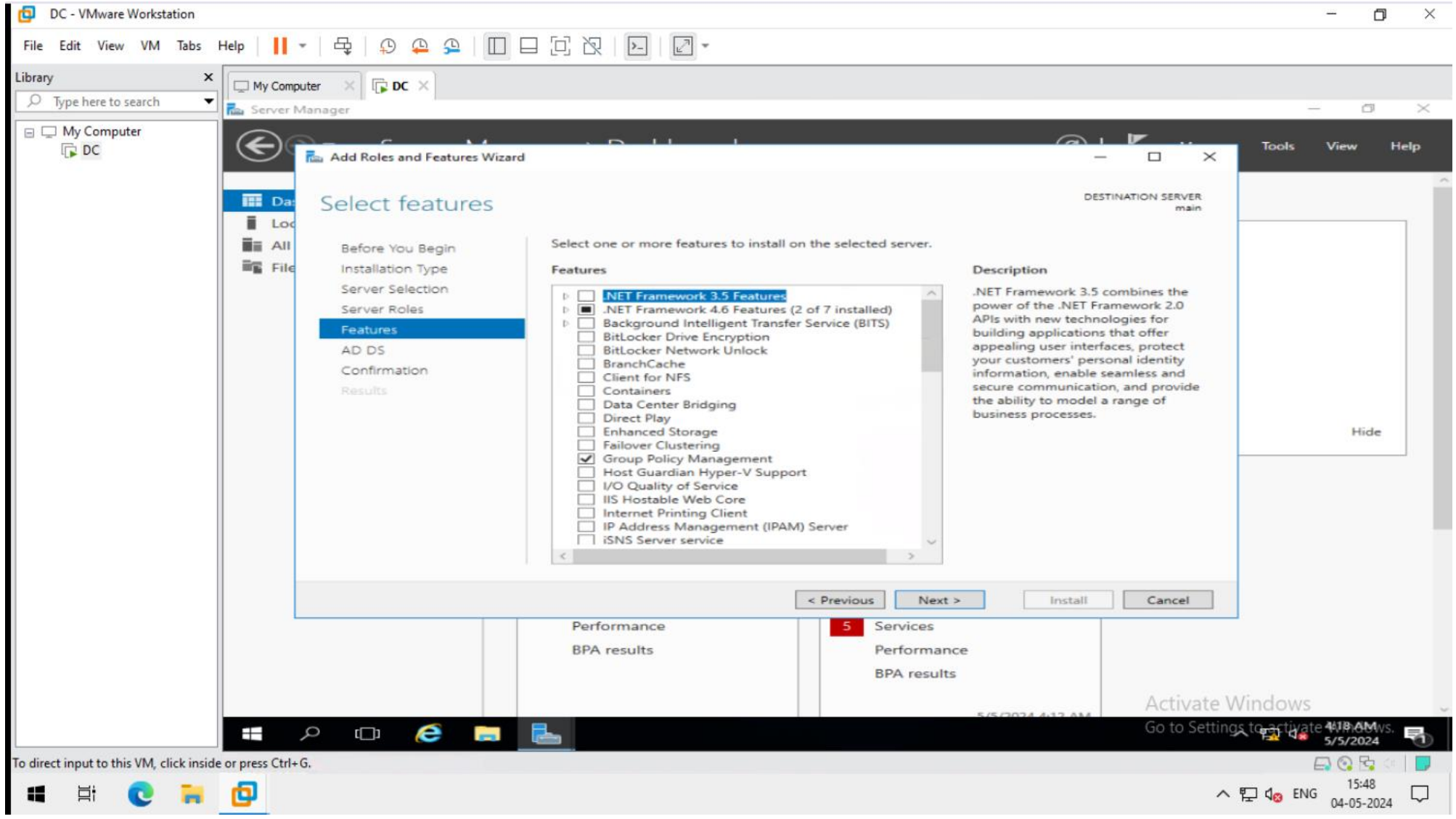


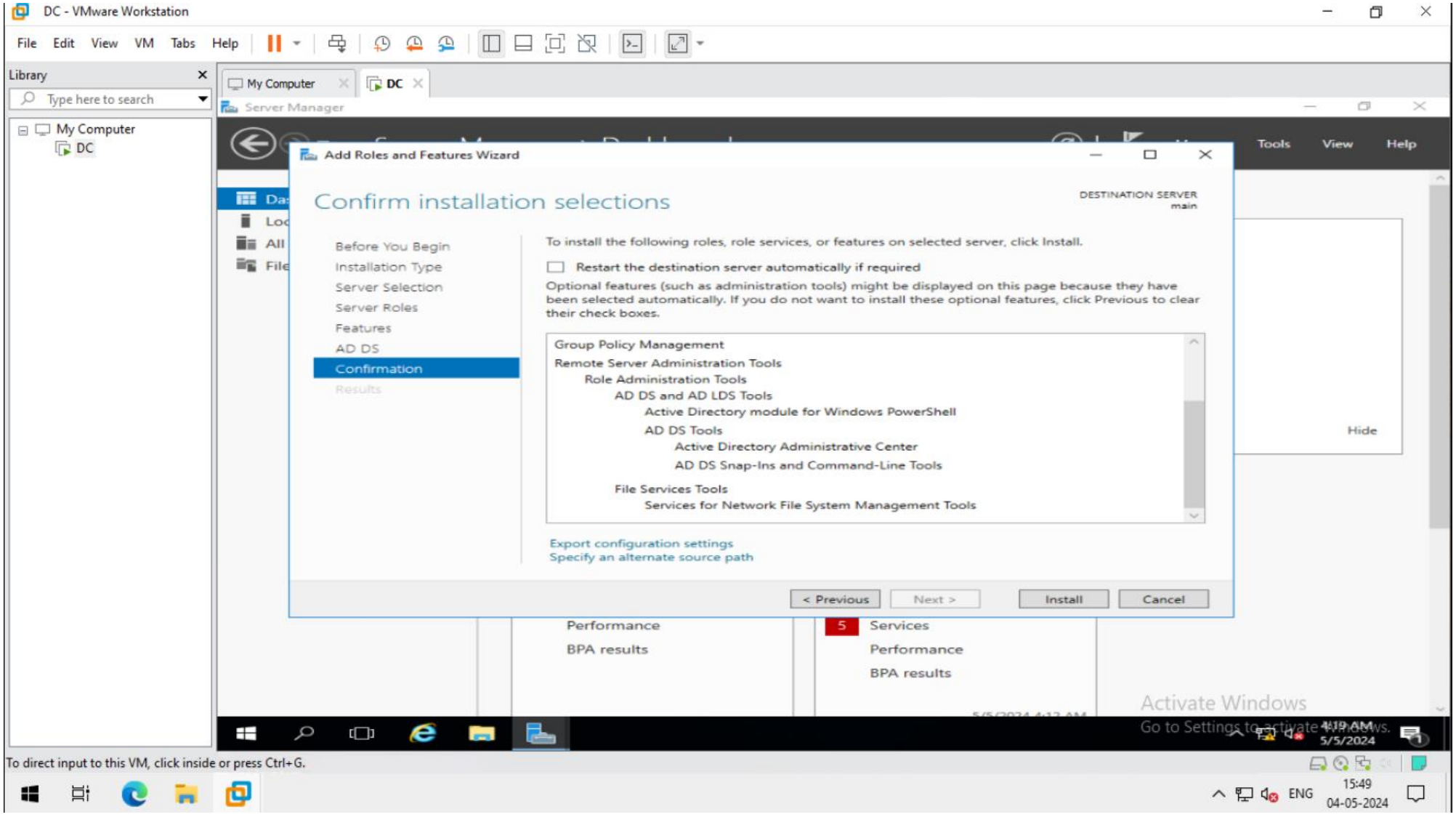


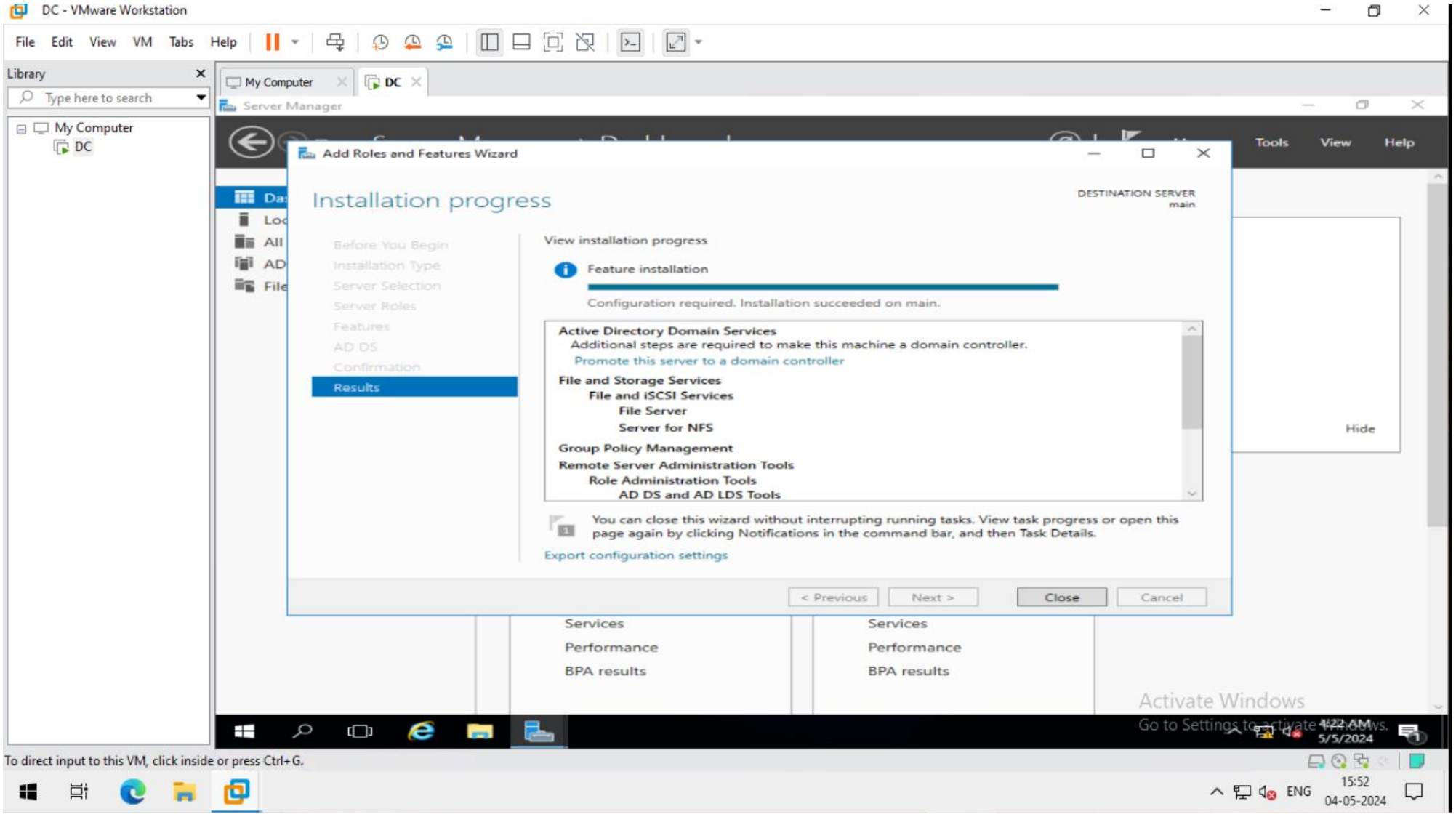


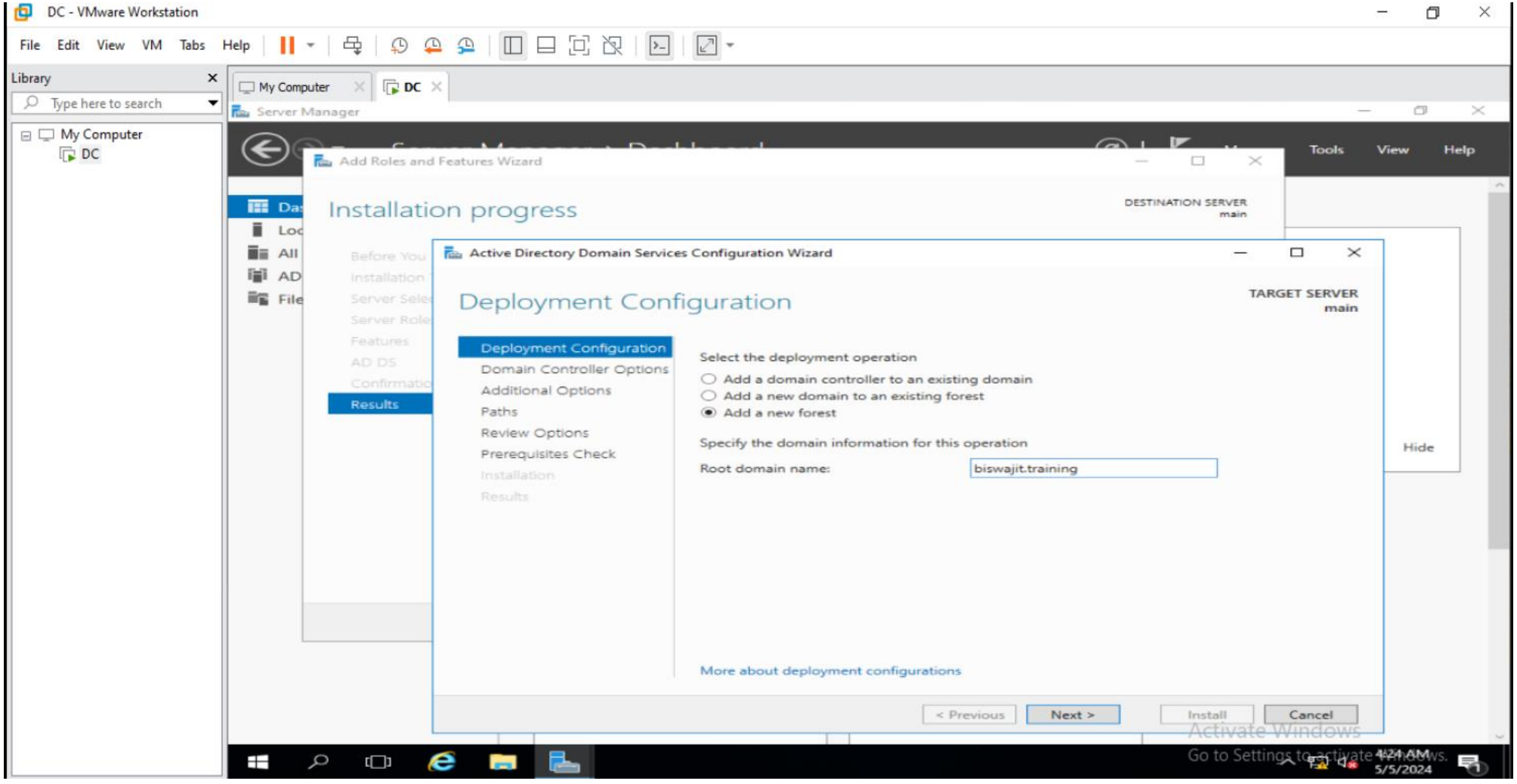


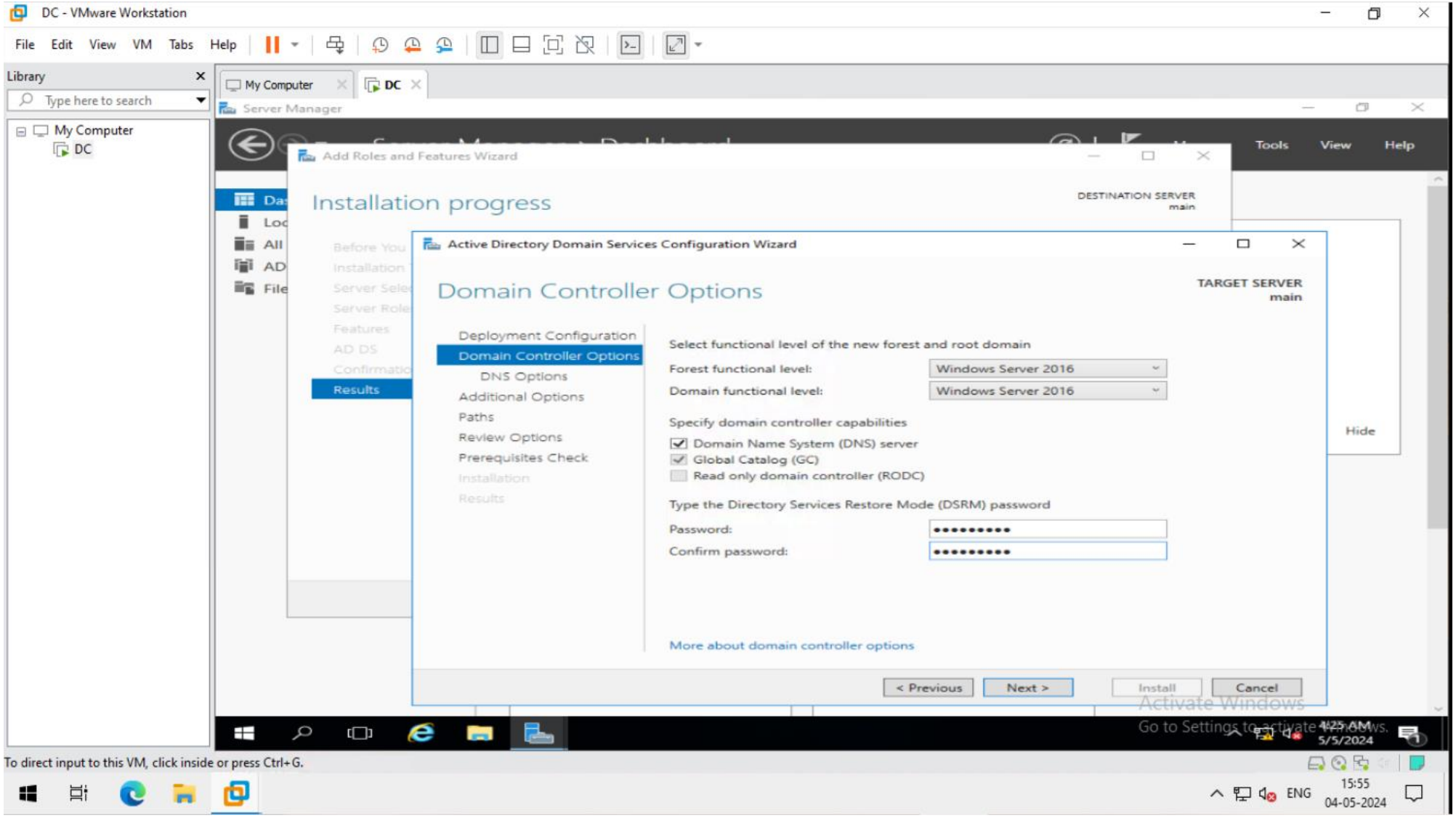


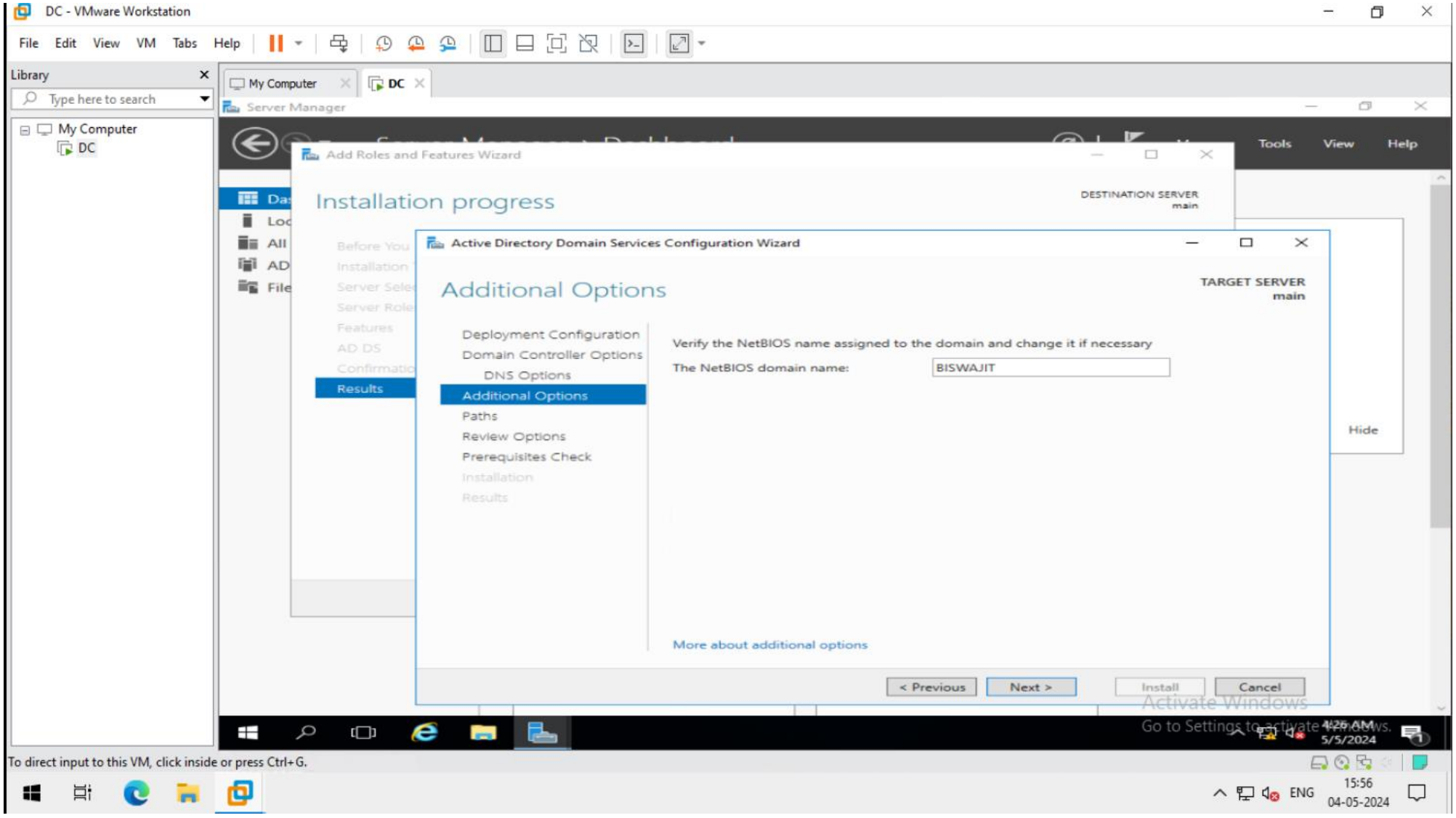


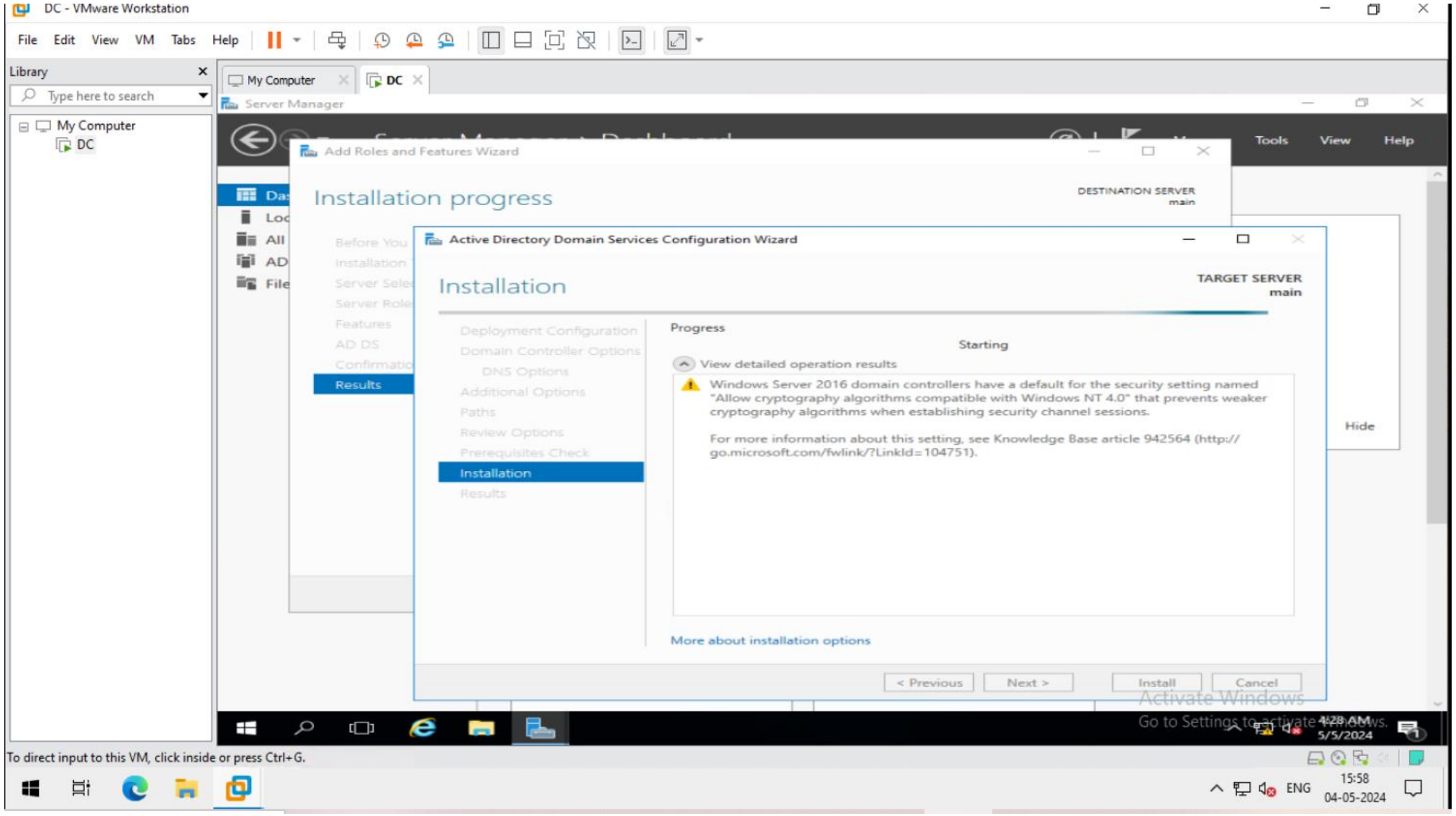


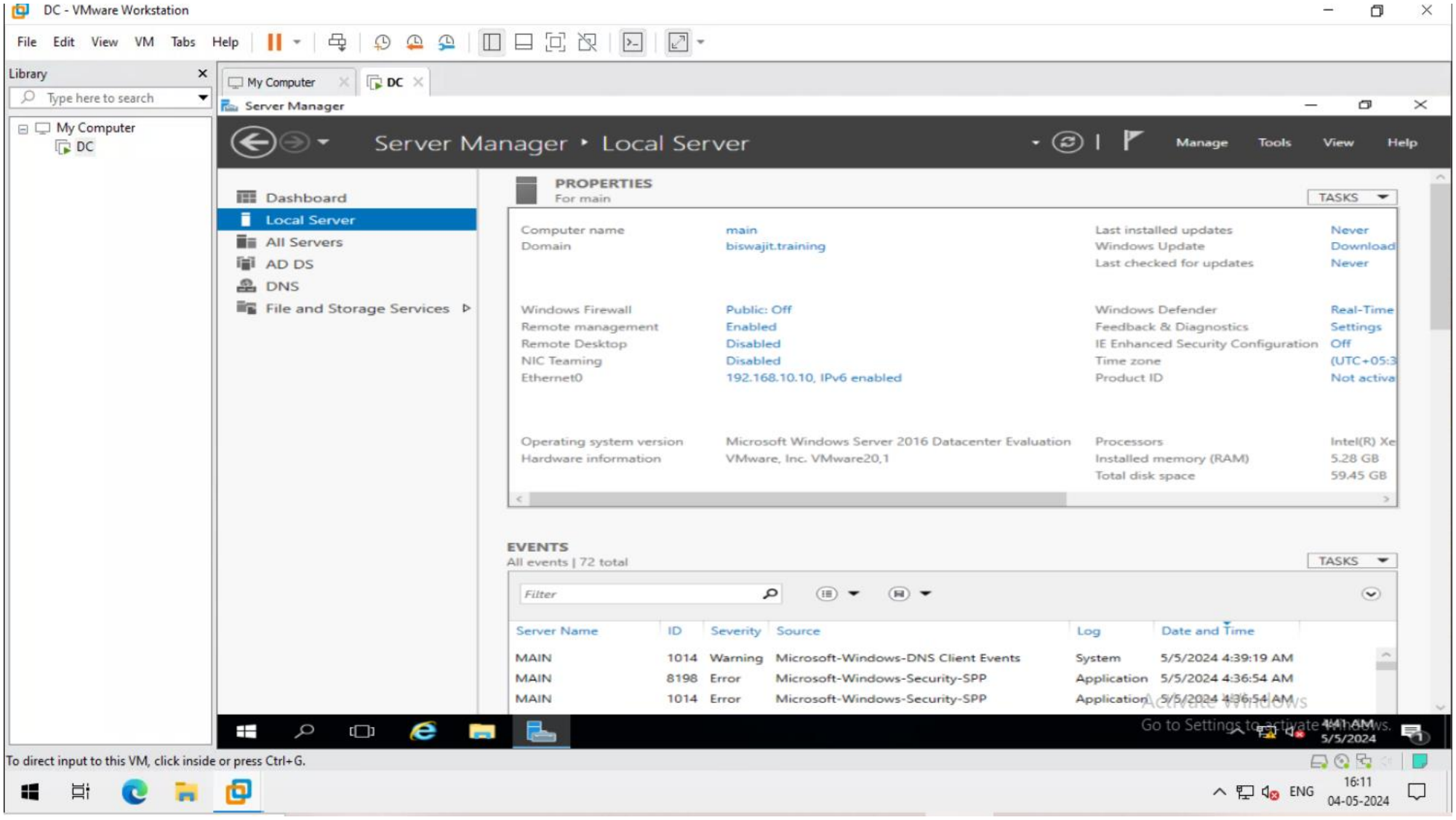




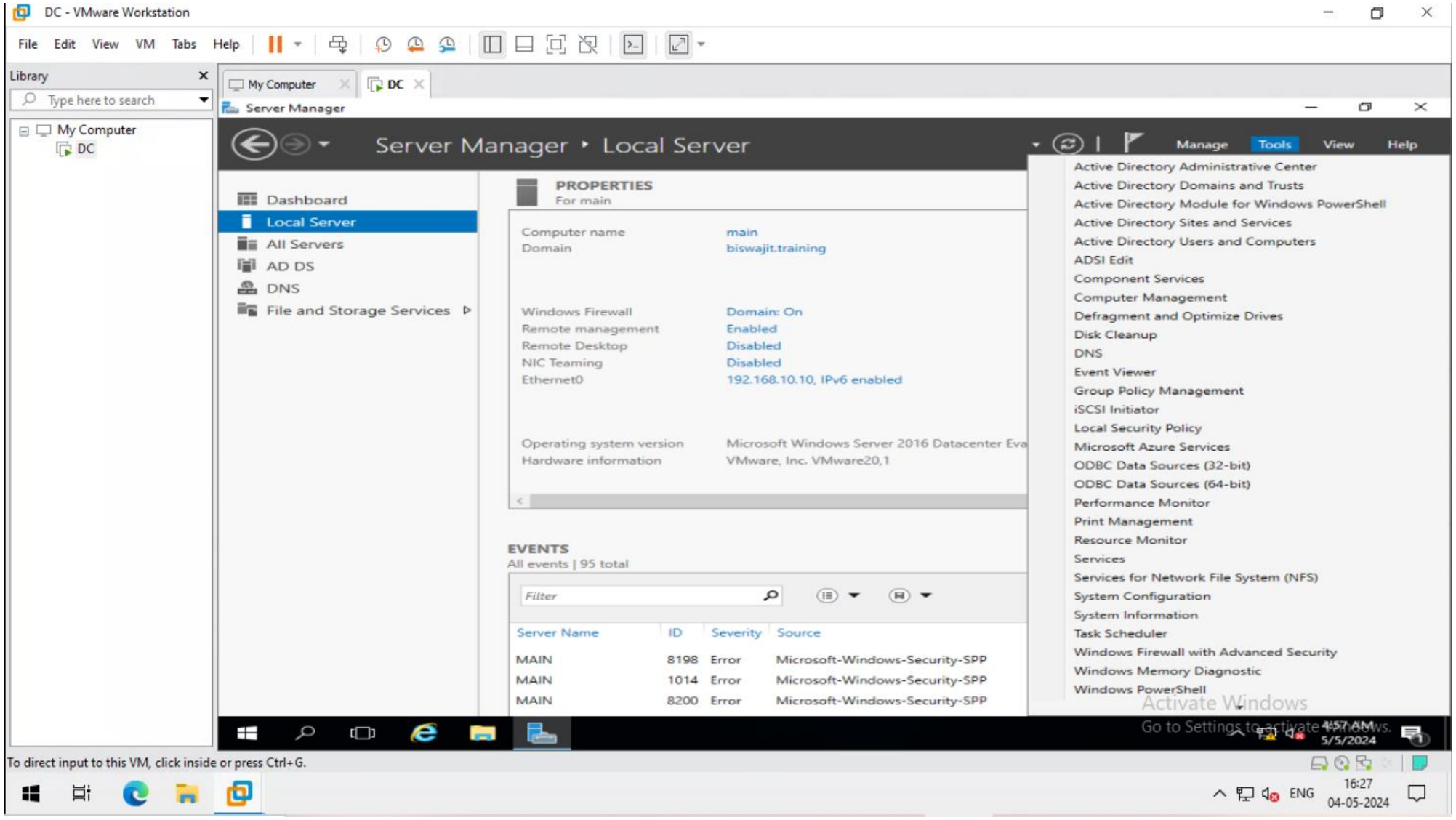


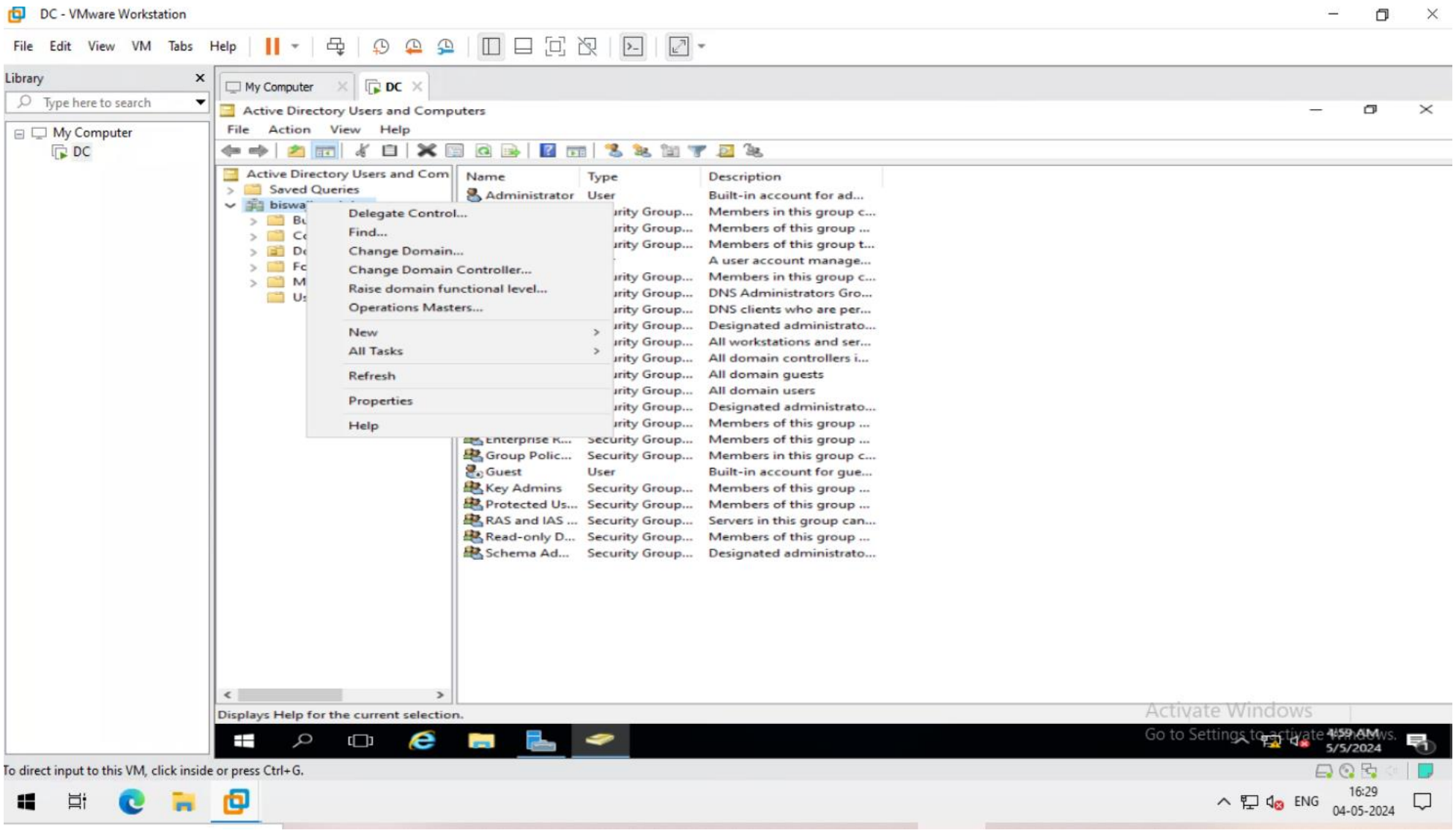


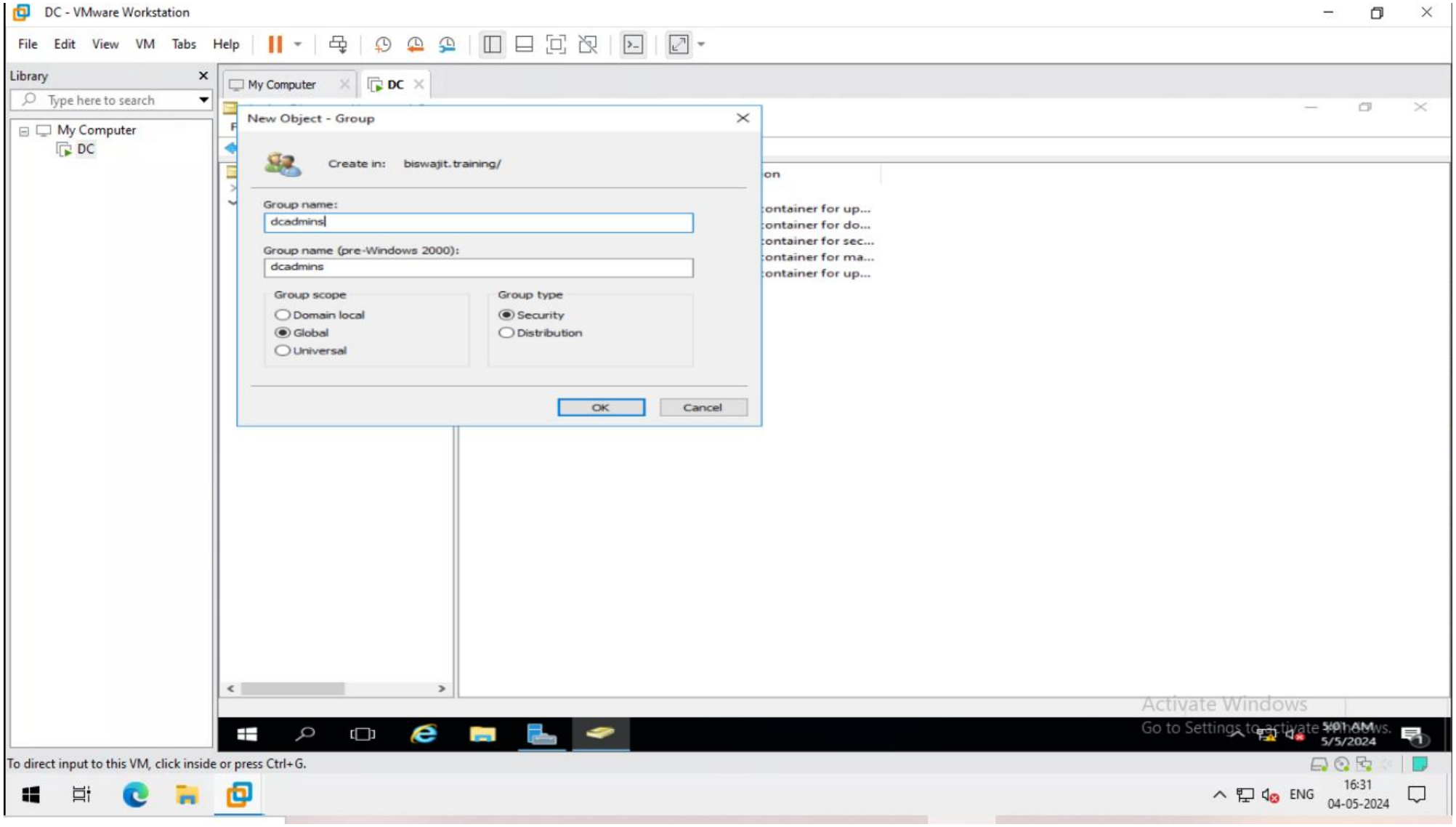


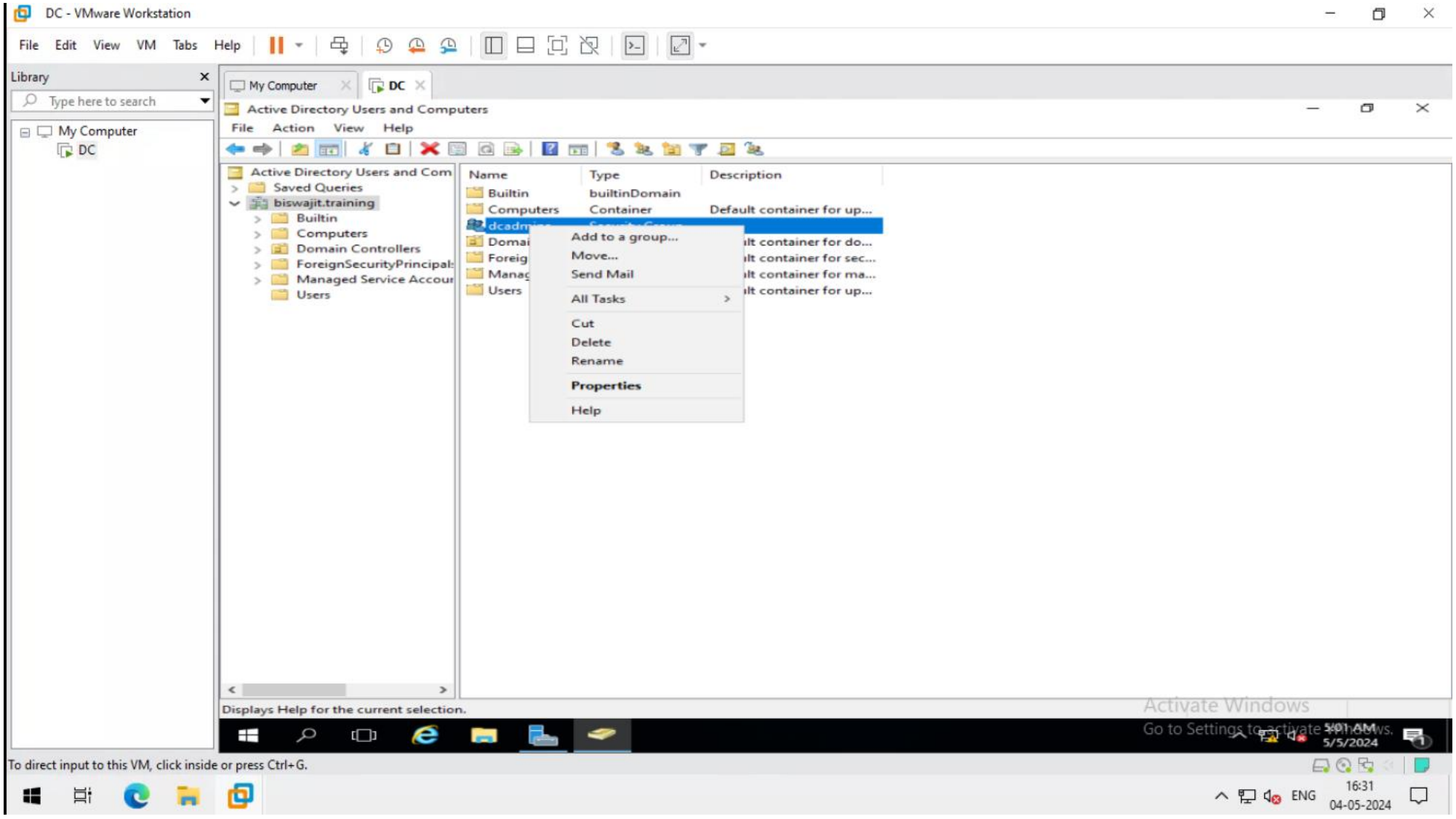


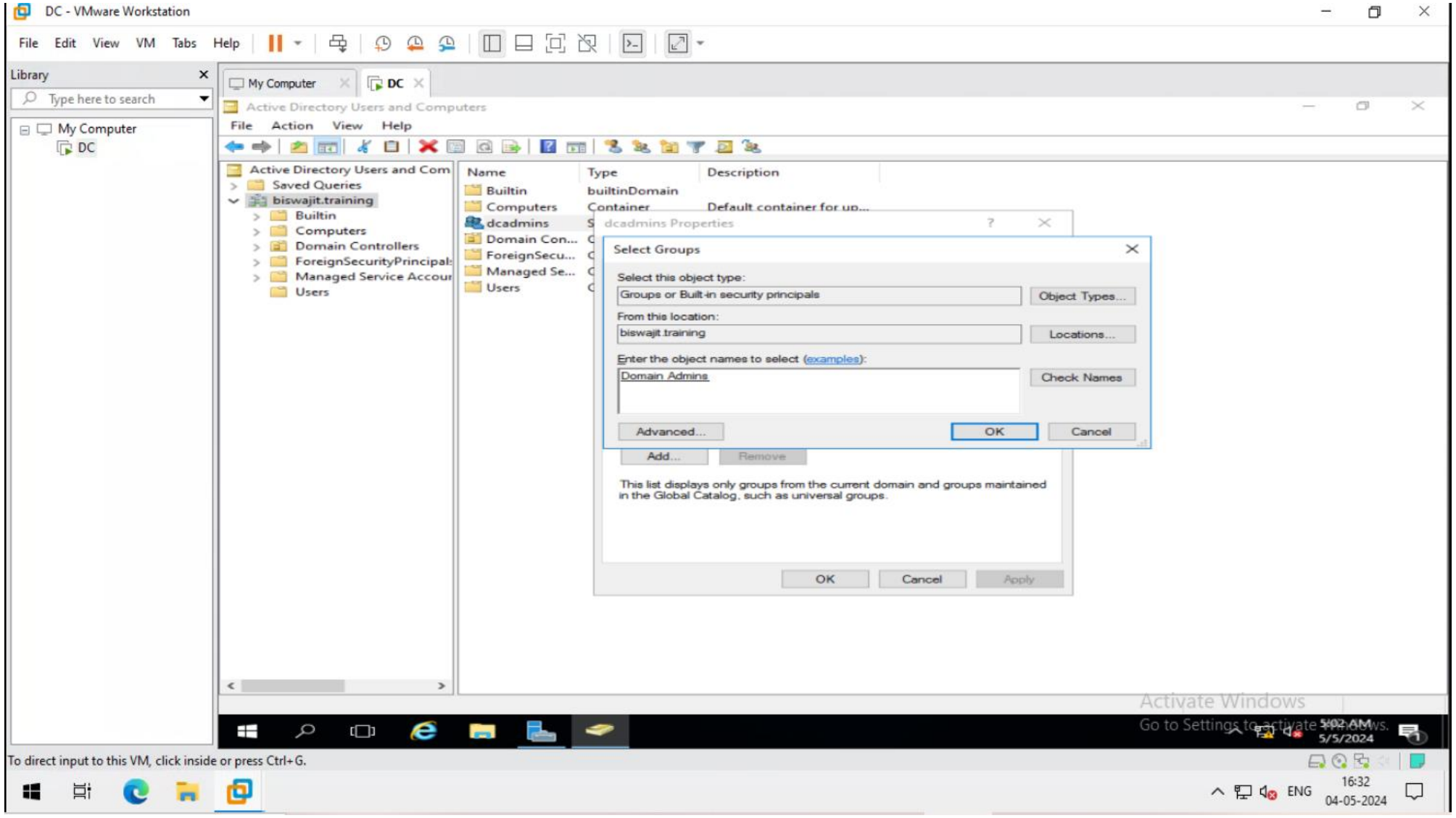
4- create a group and add user with permission

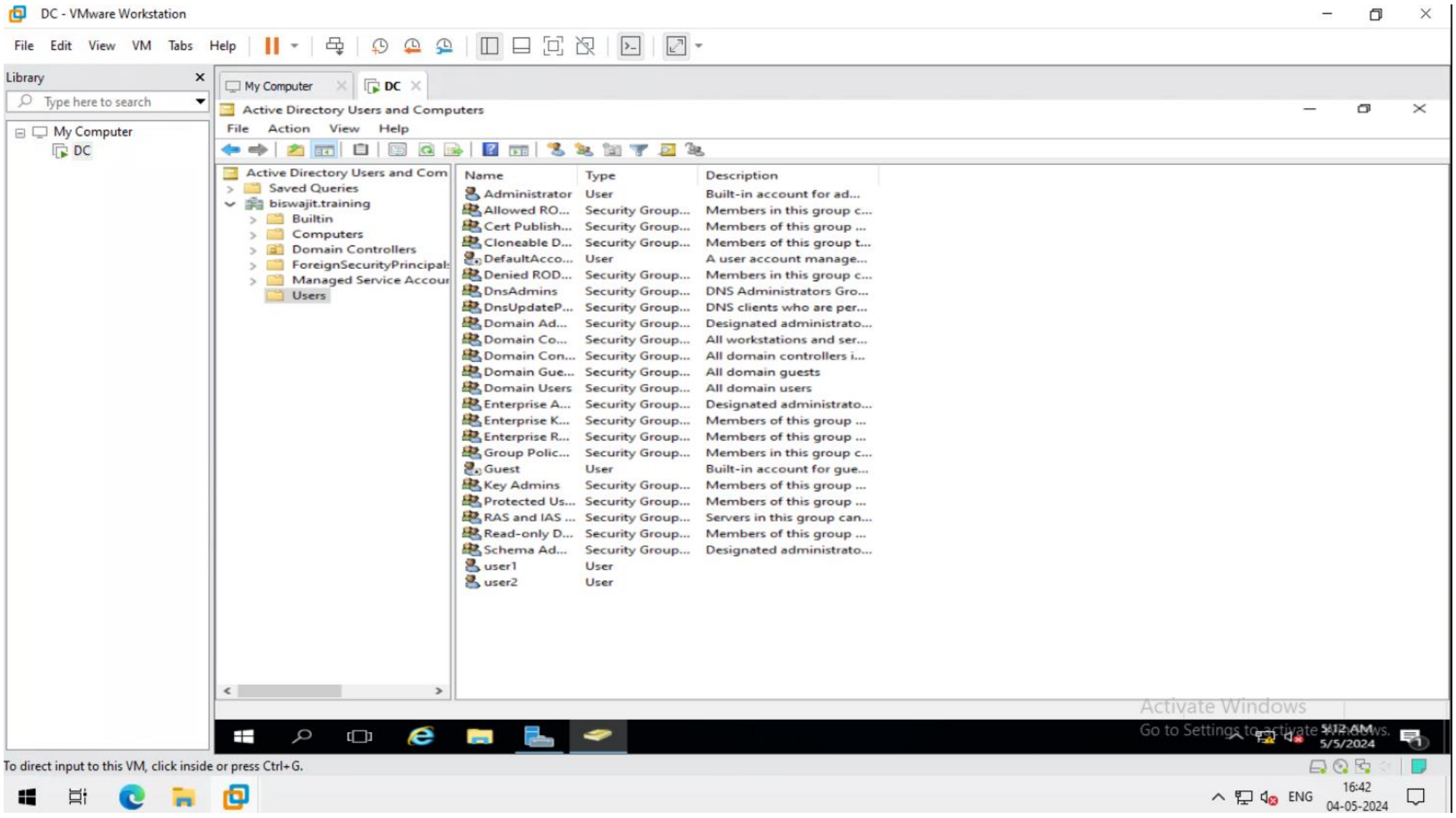


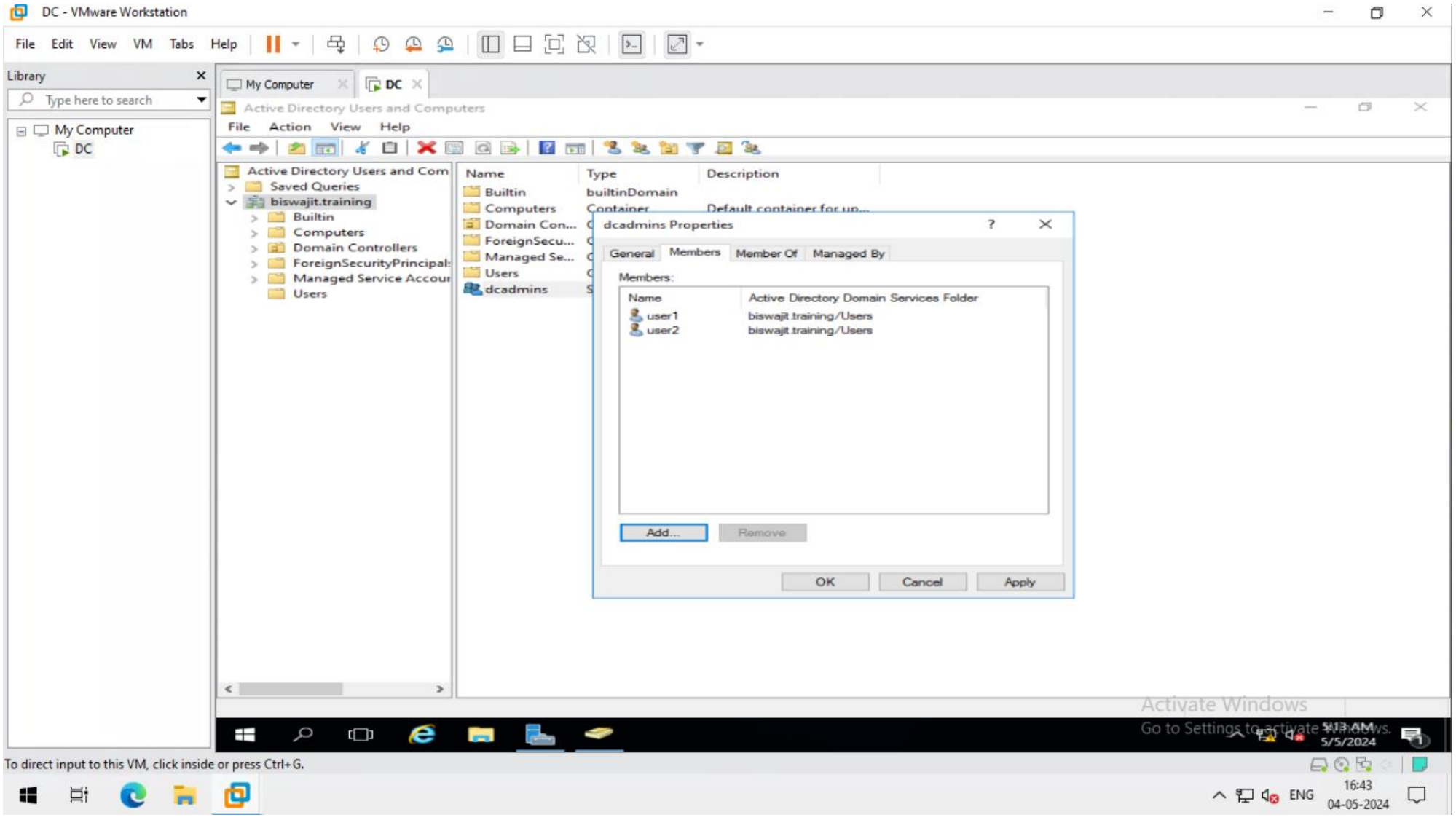




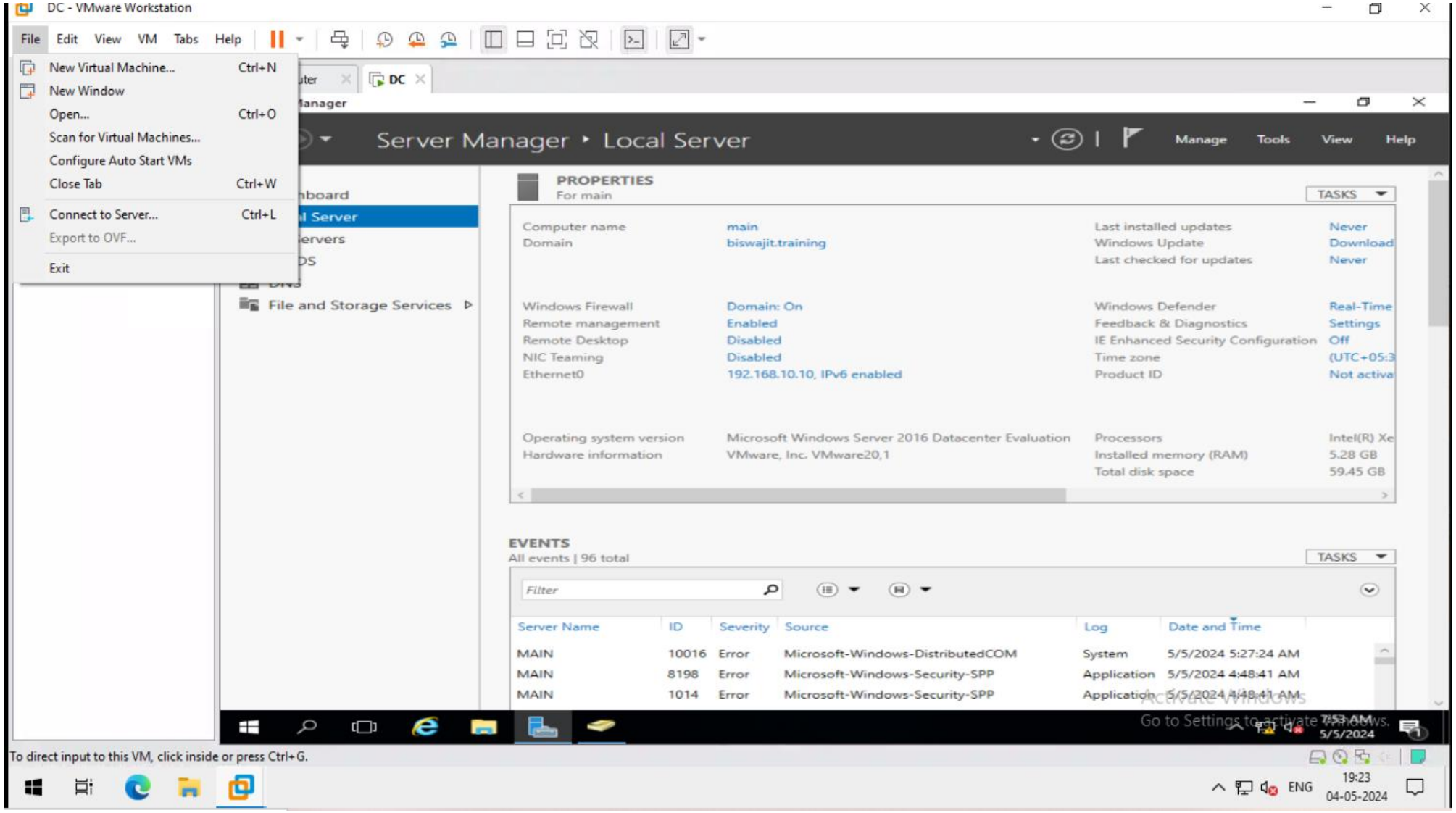


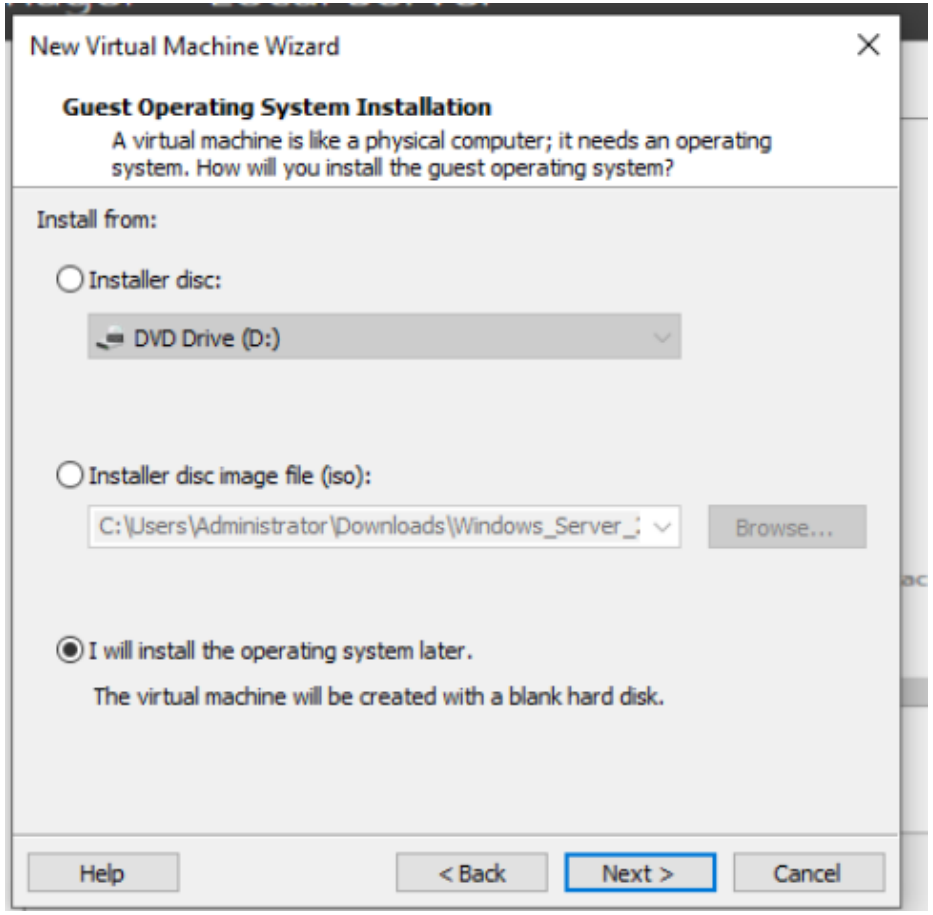


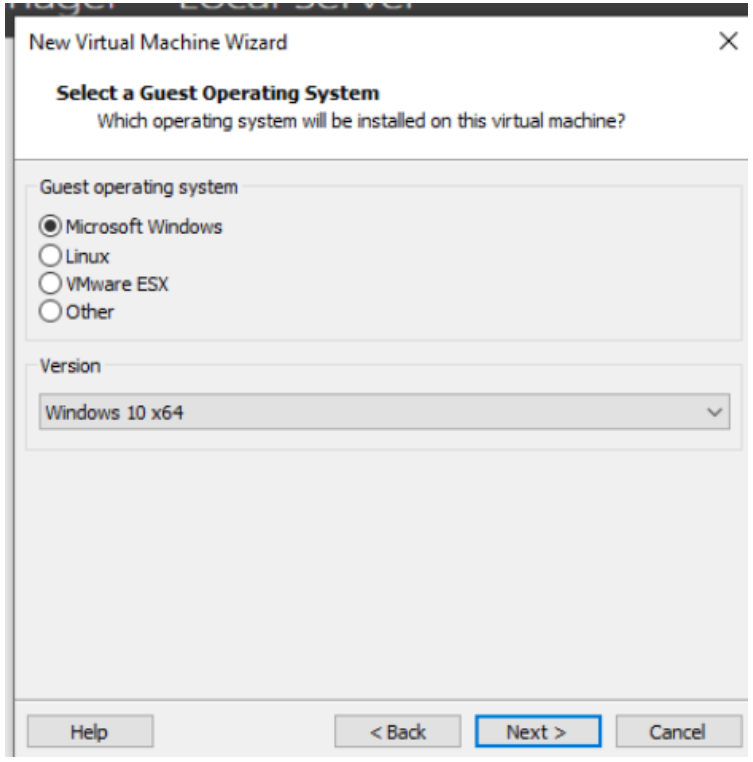


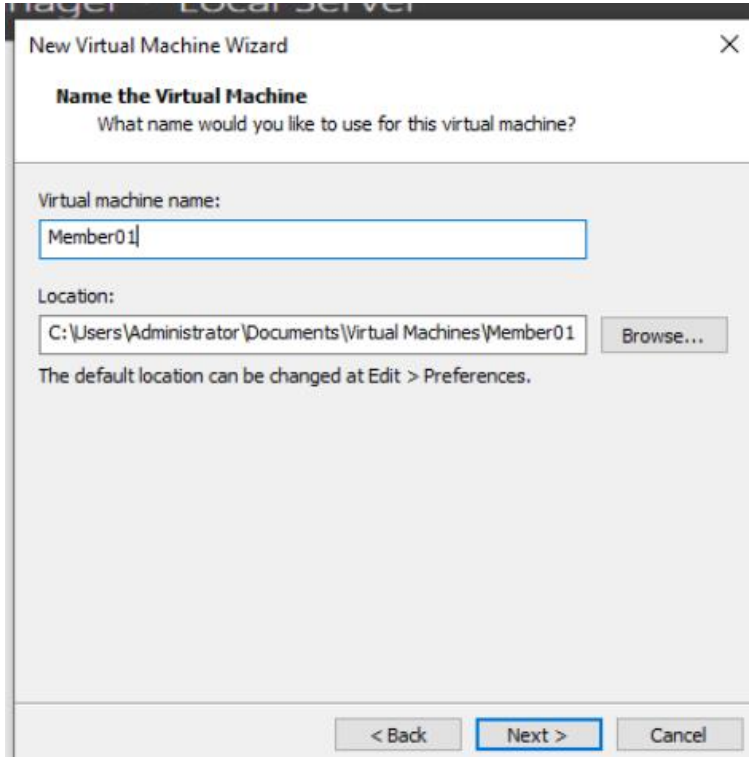


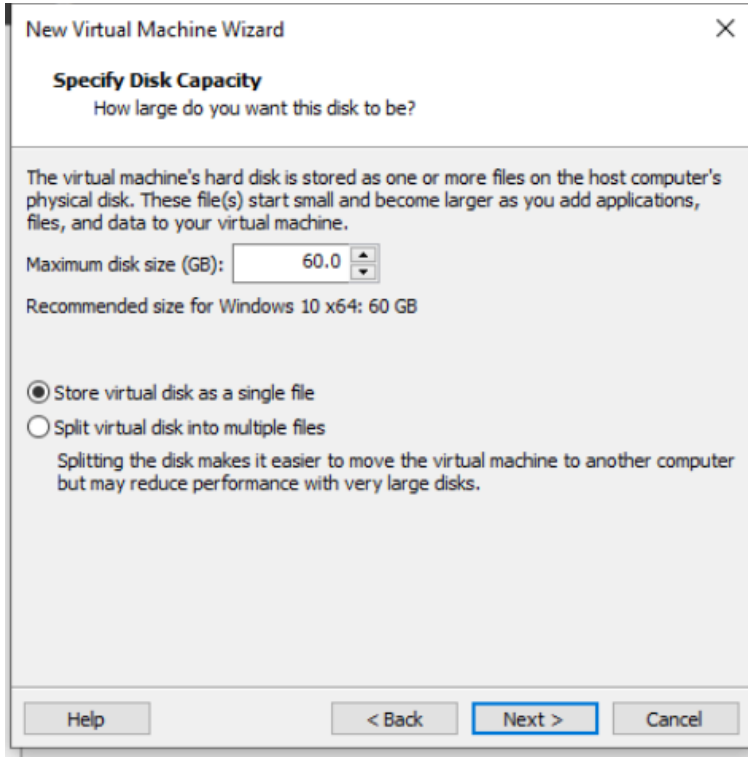
5. Install another Windows server 2016 (as GUI) with the name “Member01”

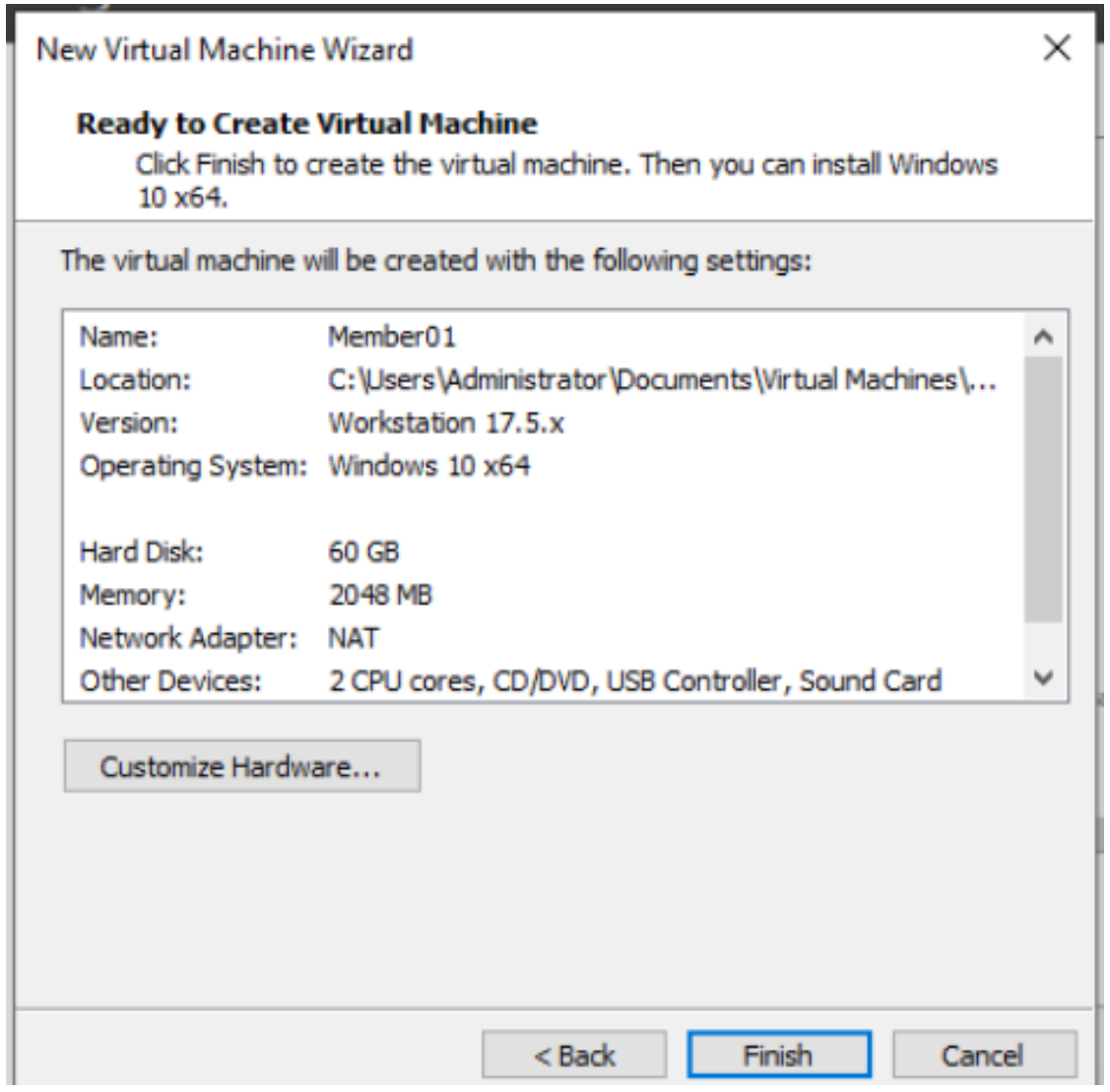


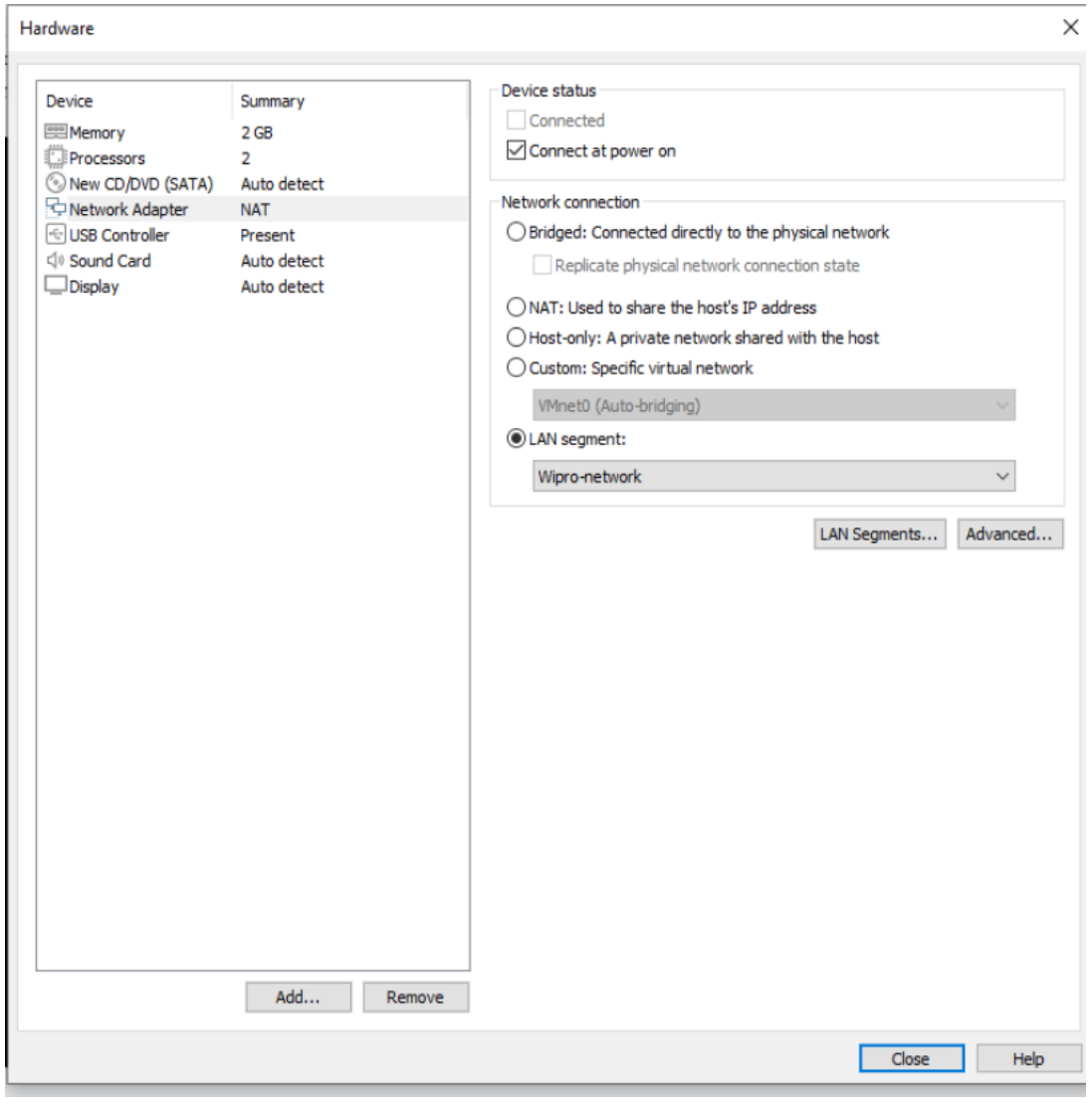


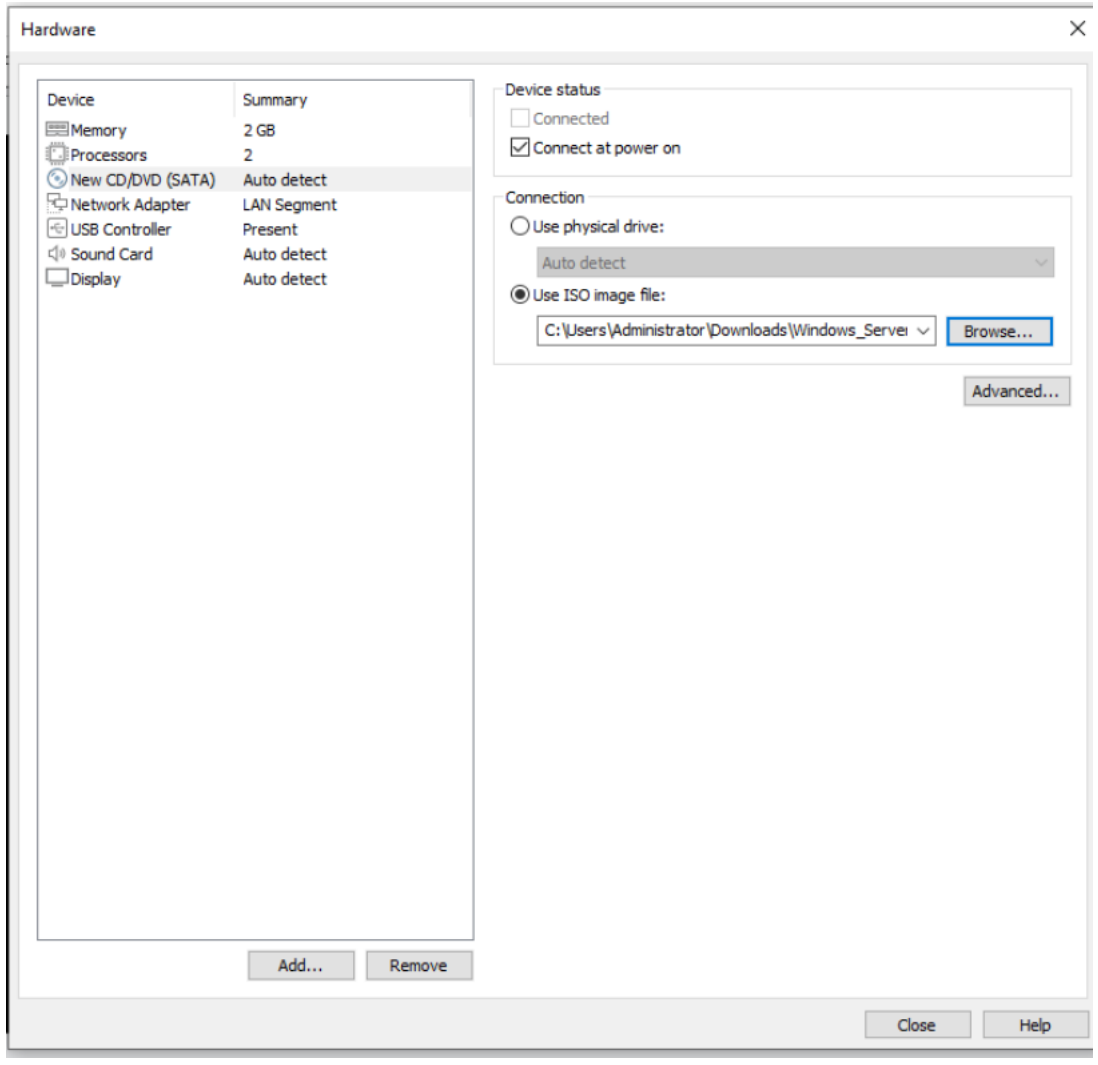


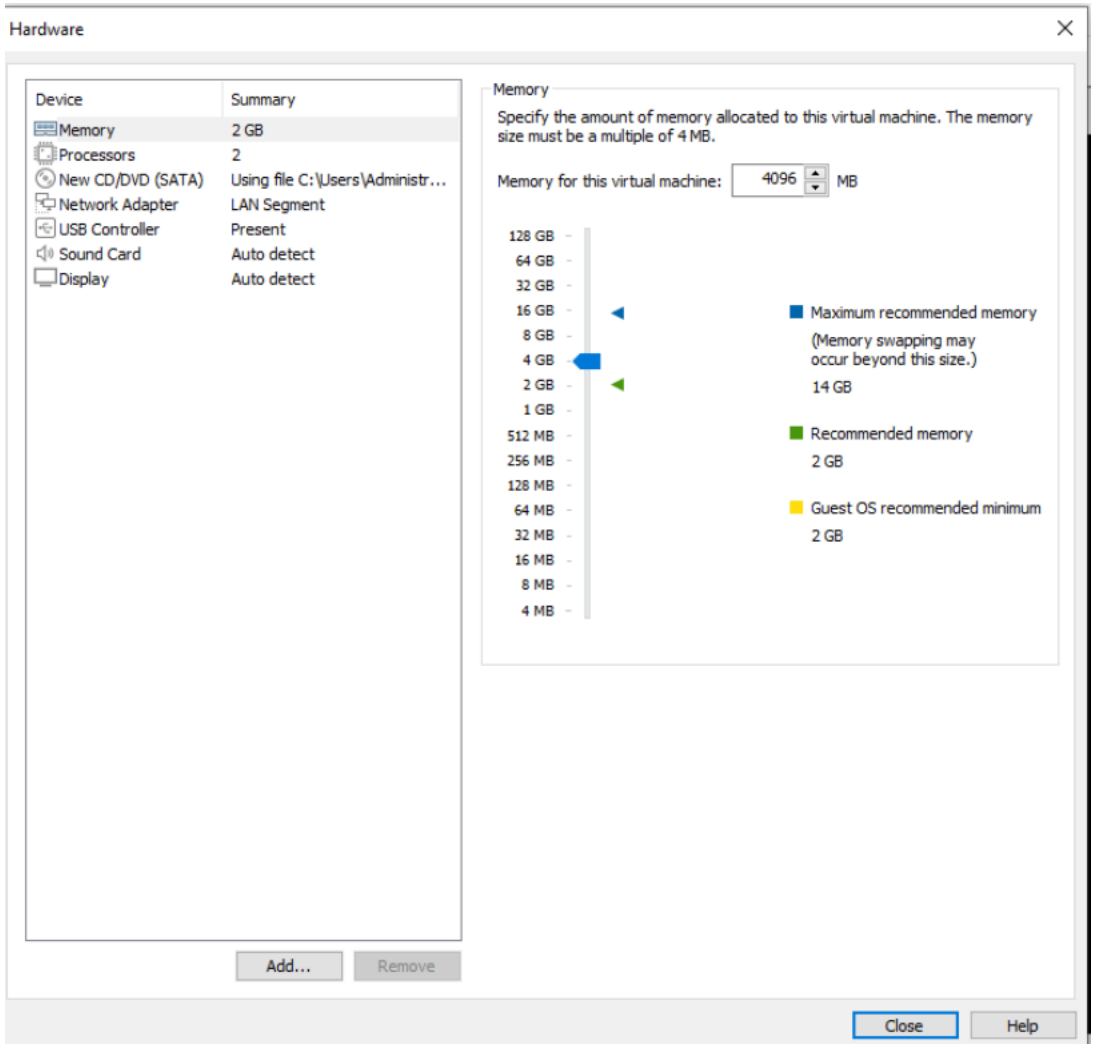


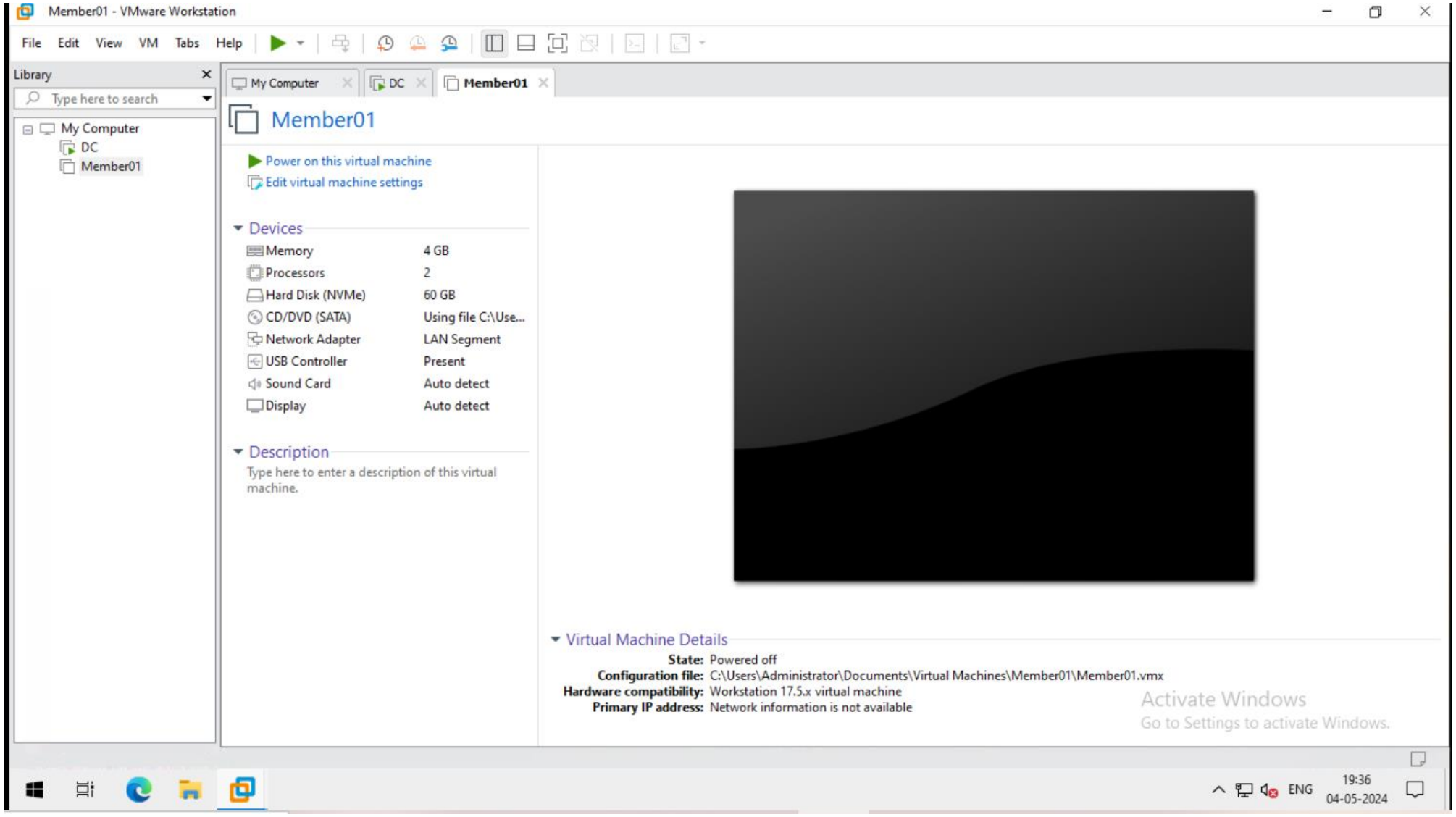


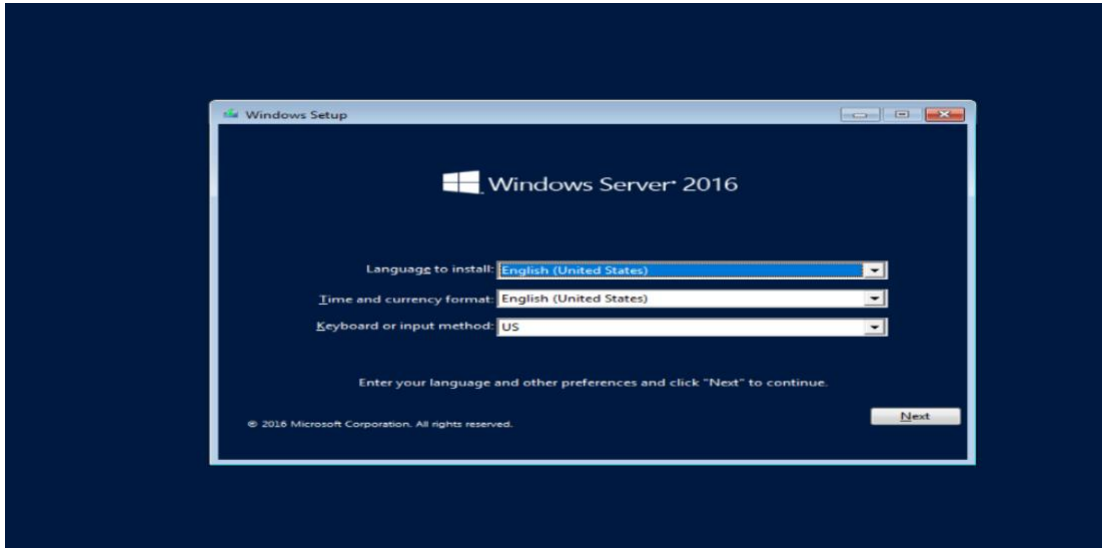


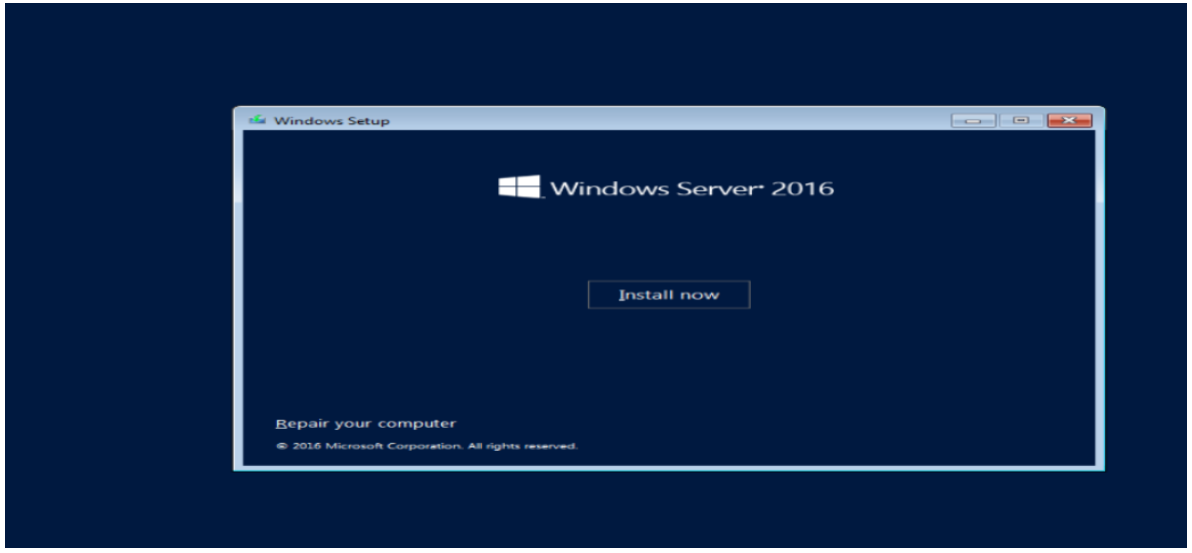


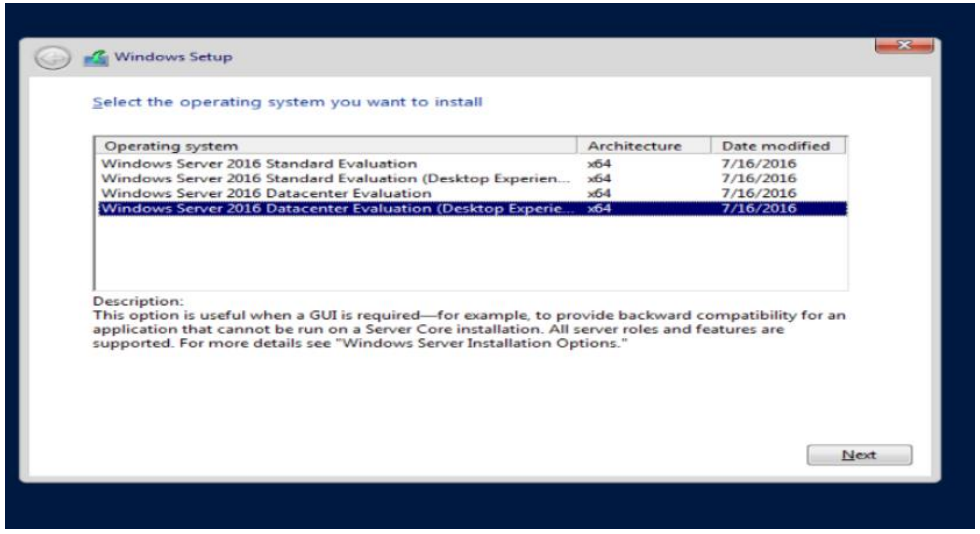


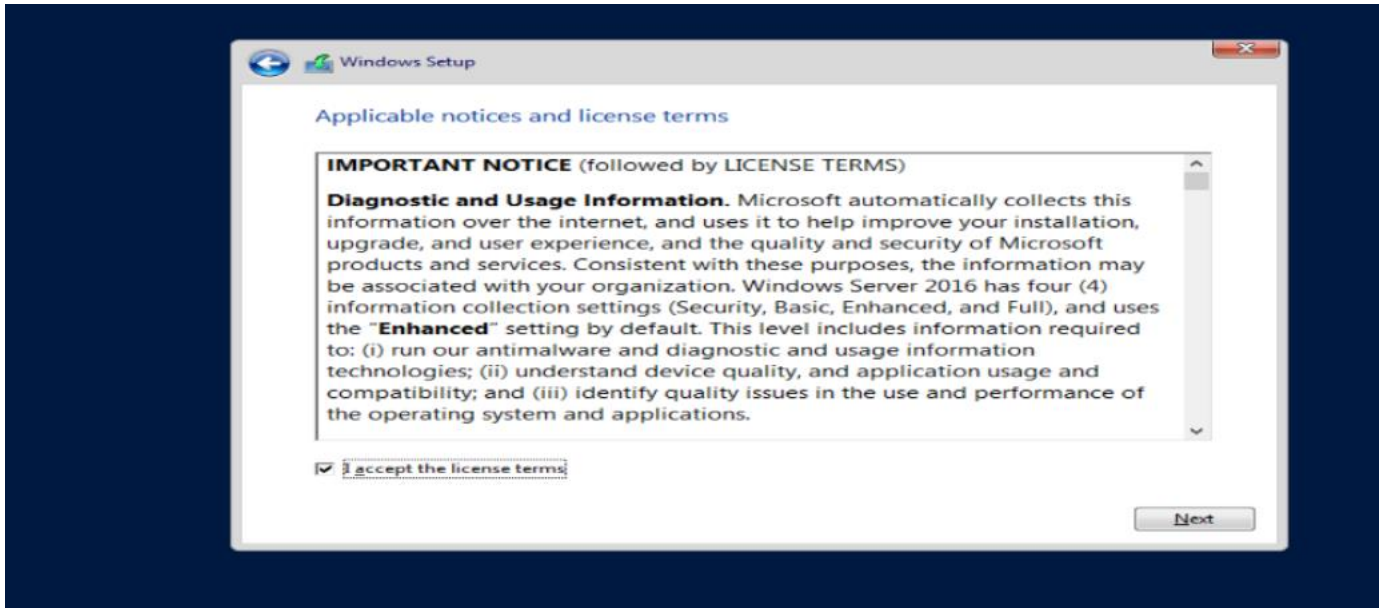


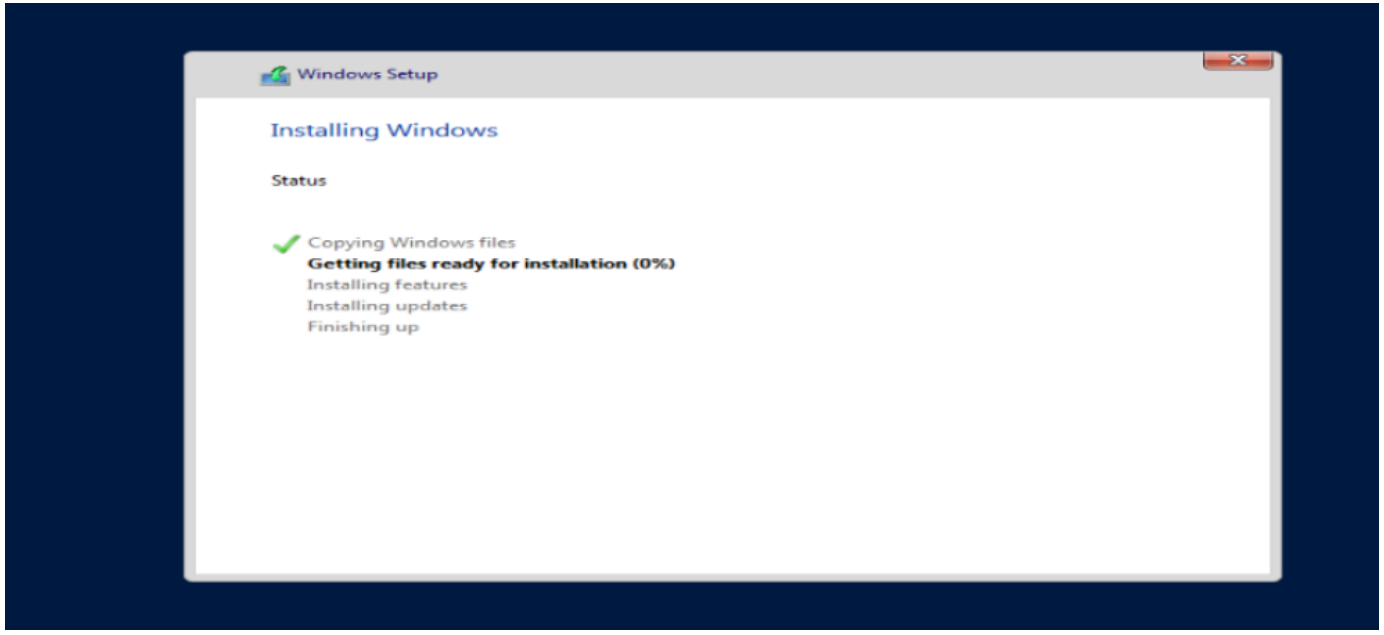


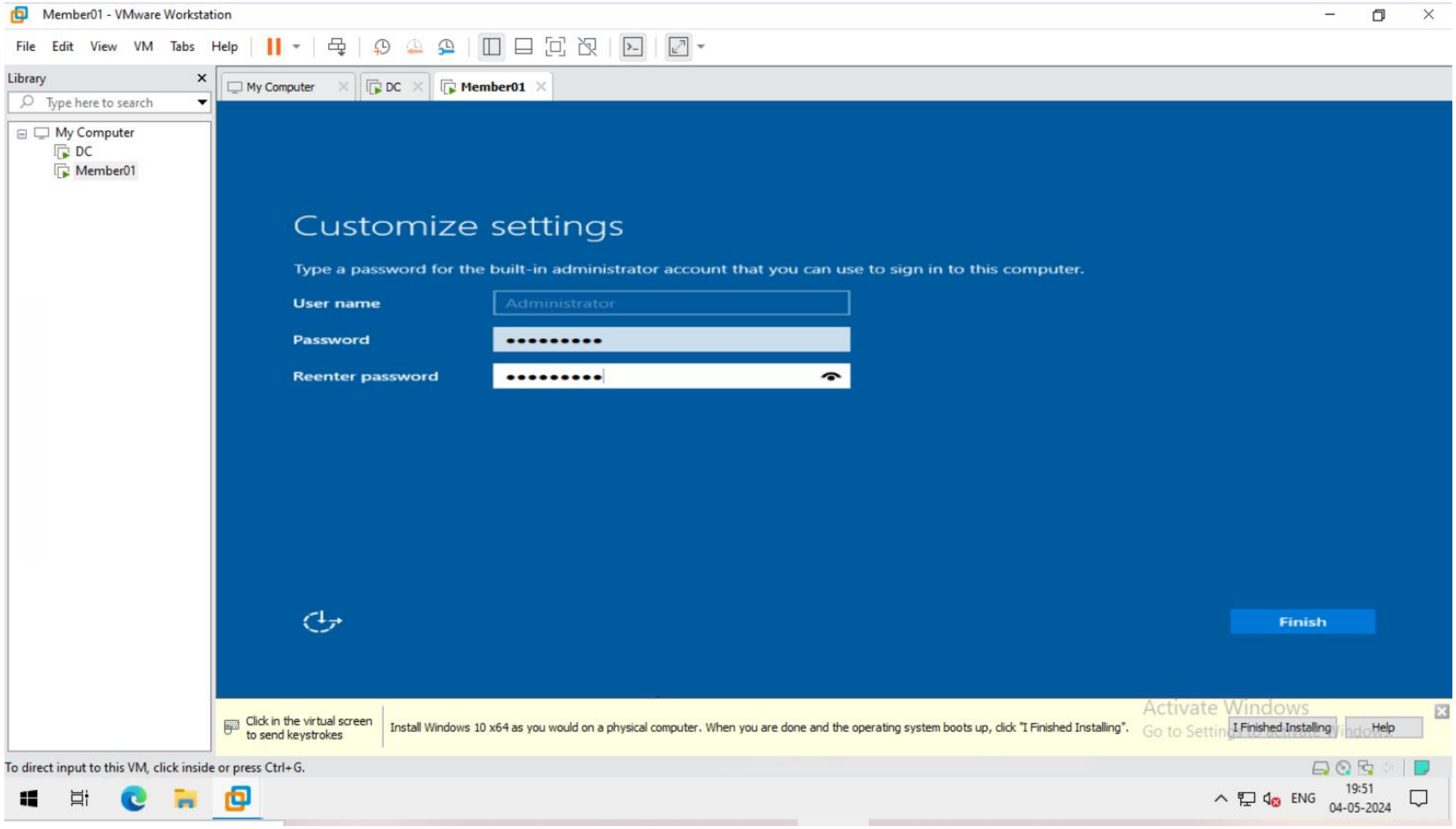




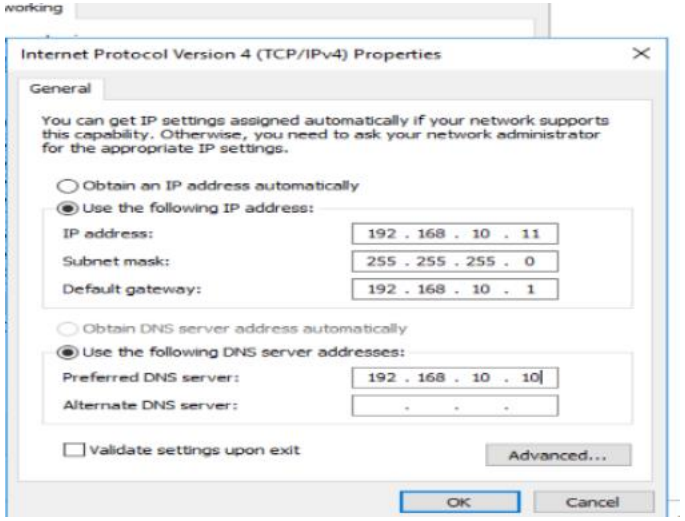


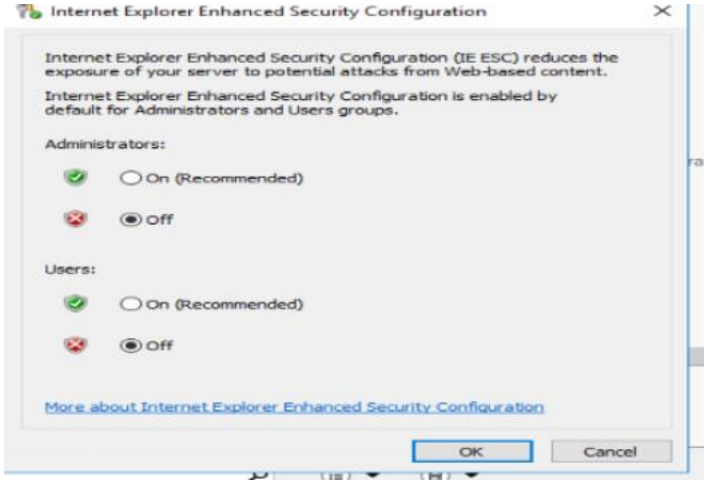


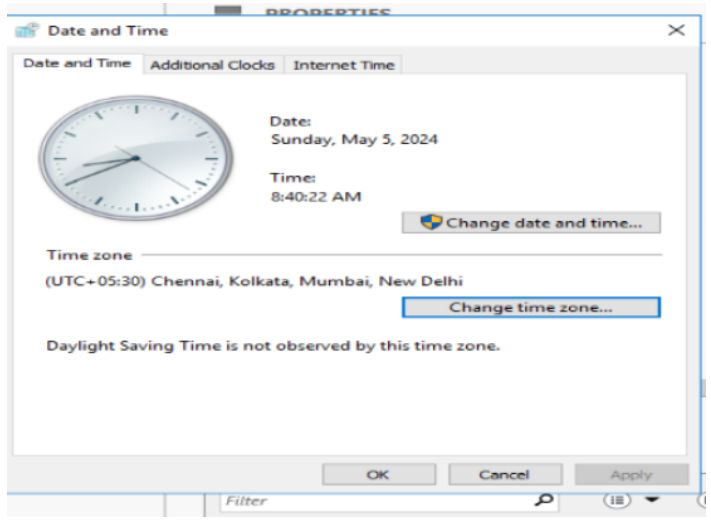


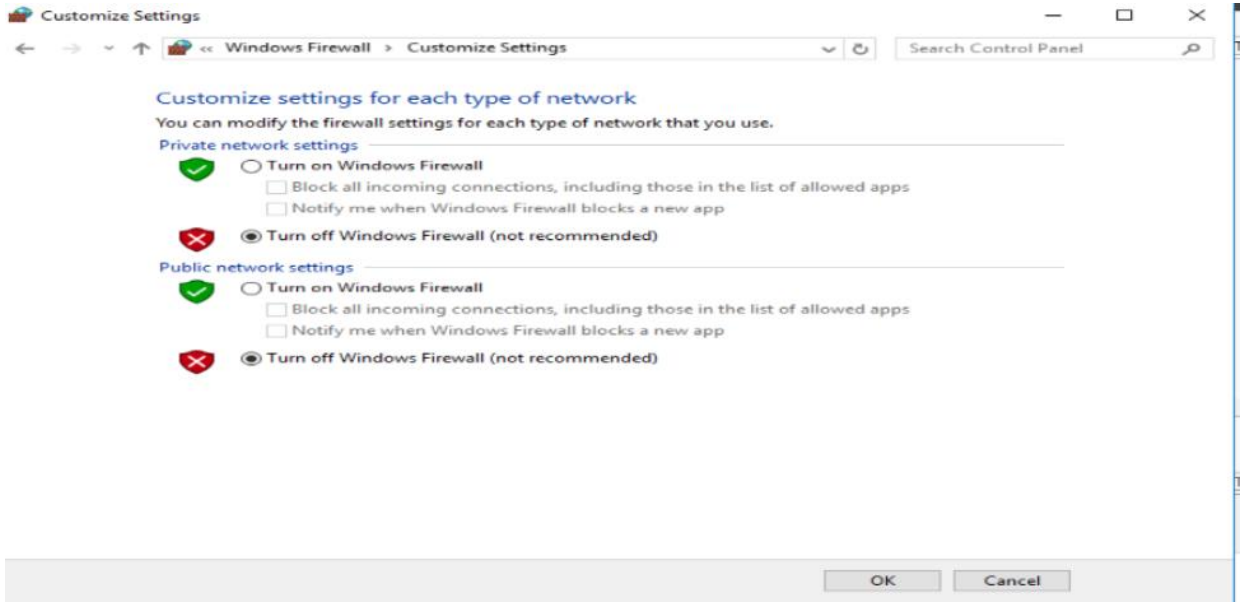


6. Post-installation configuration

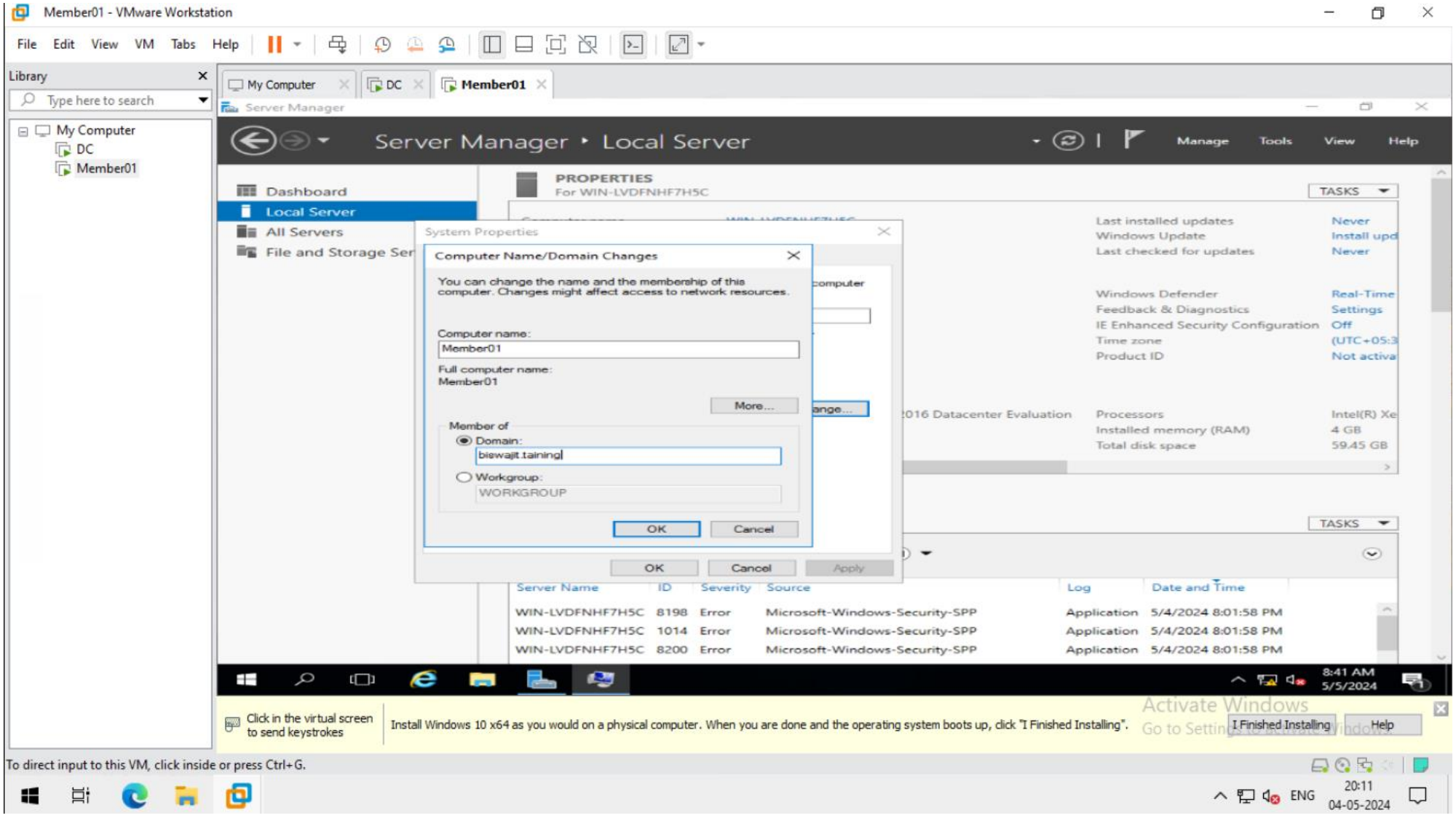


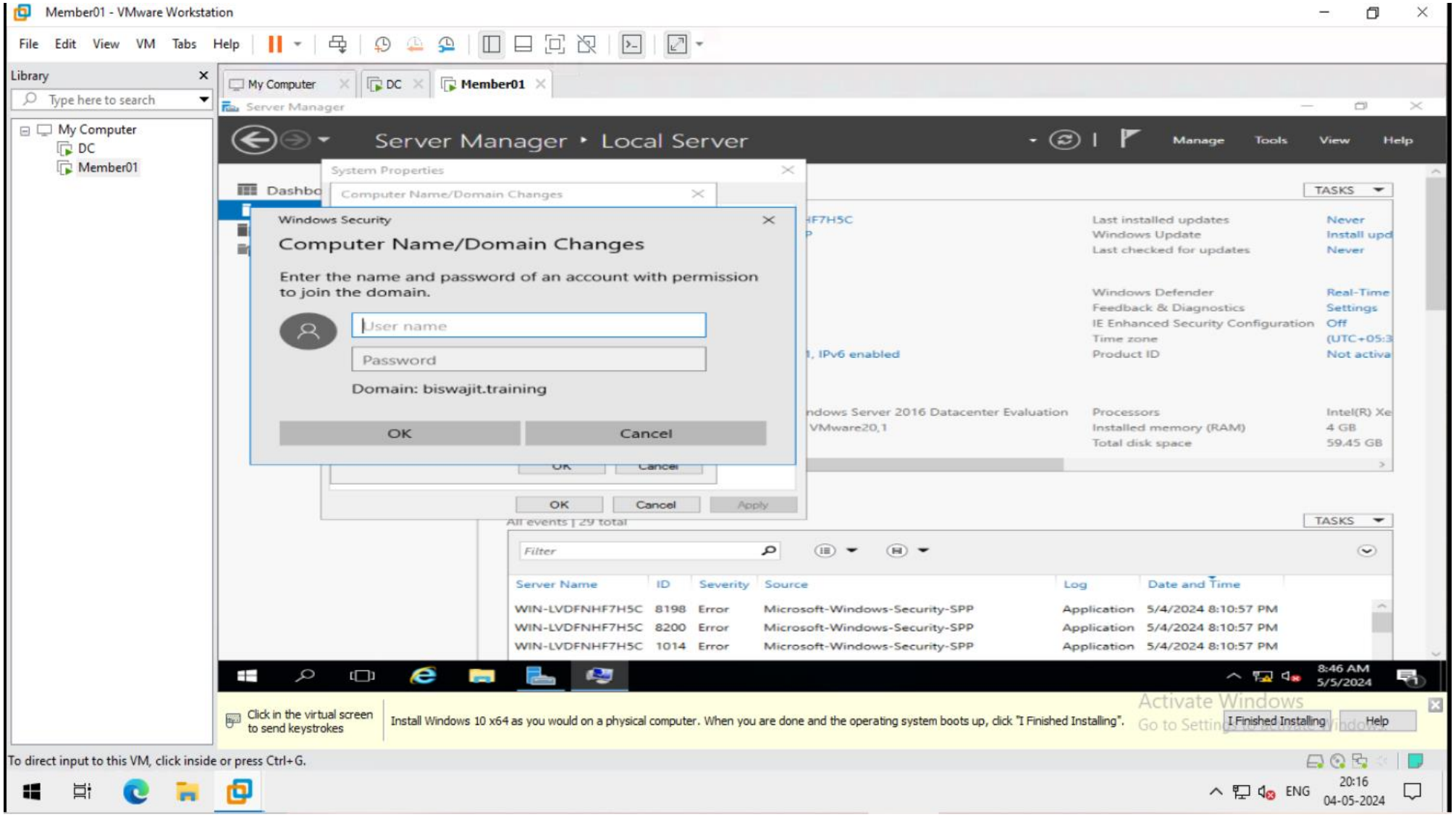


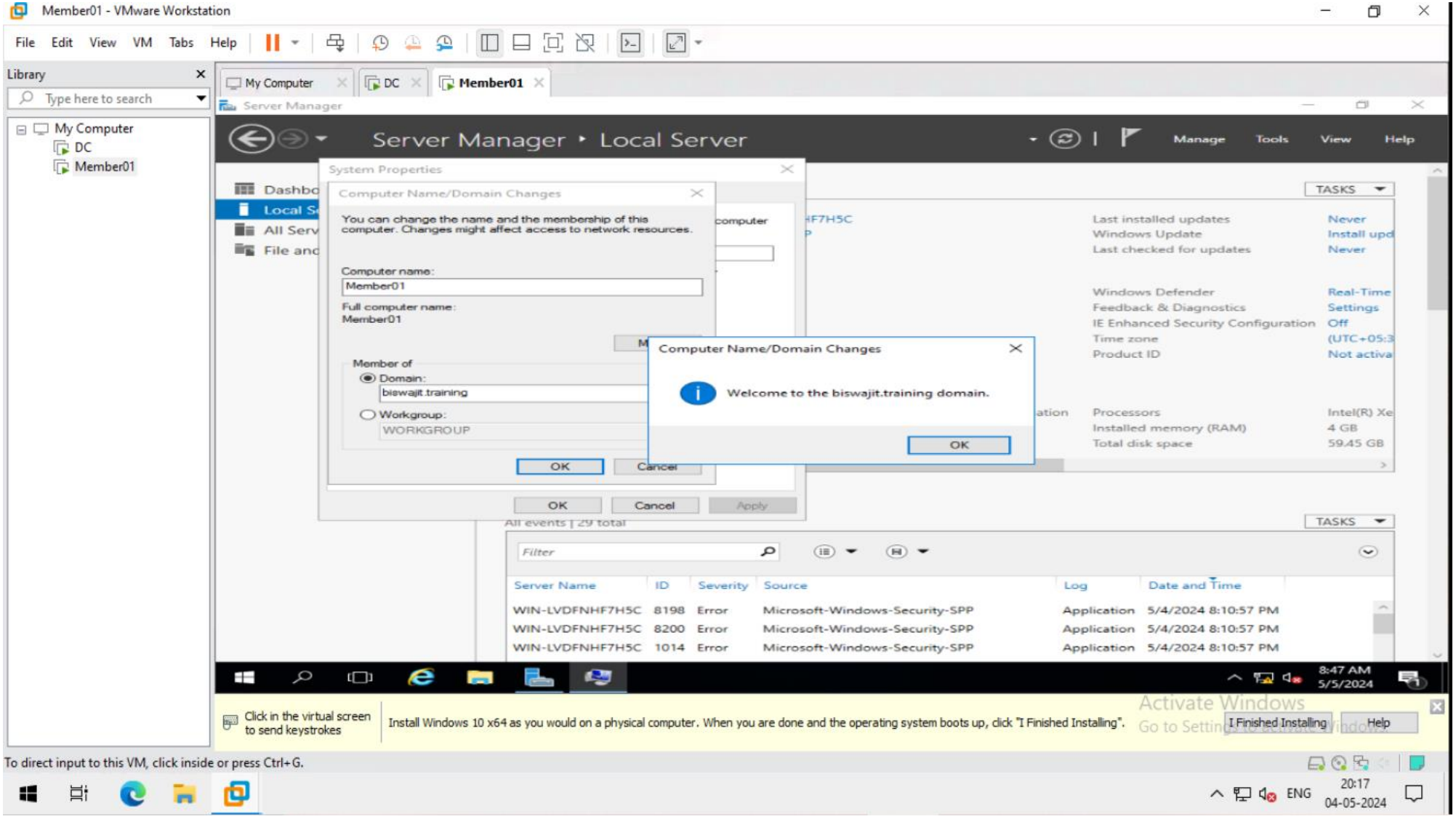


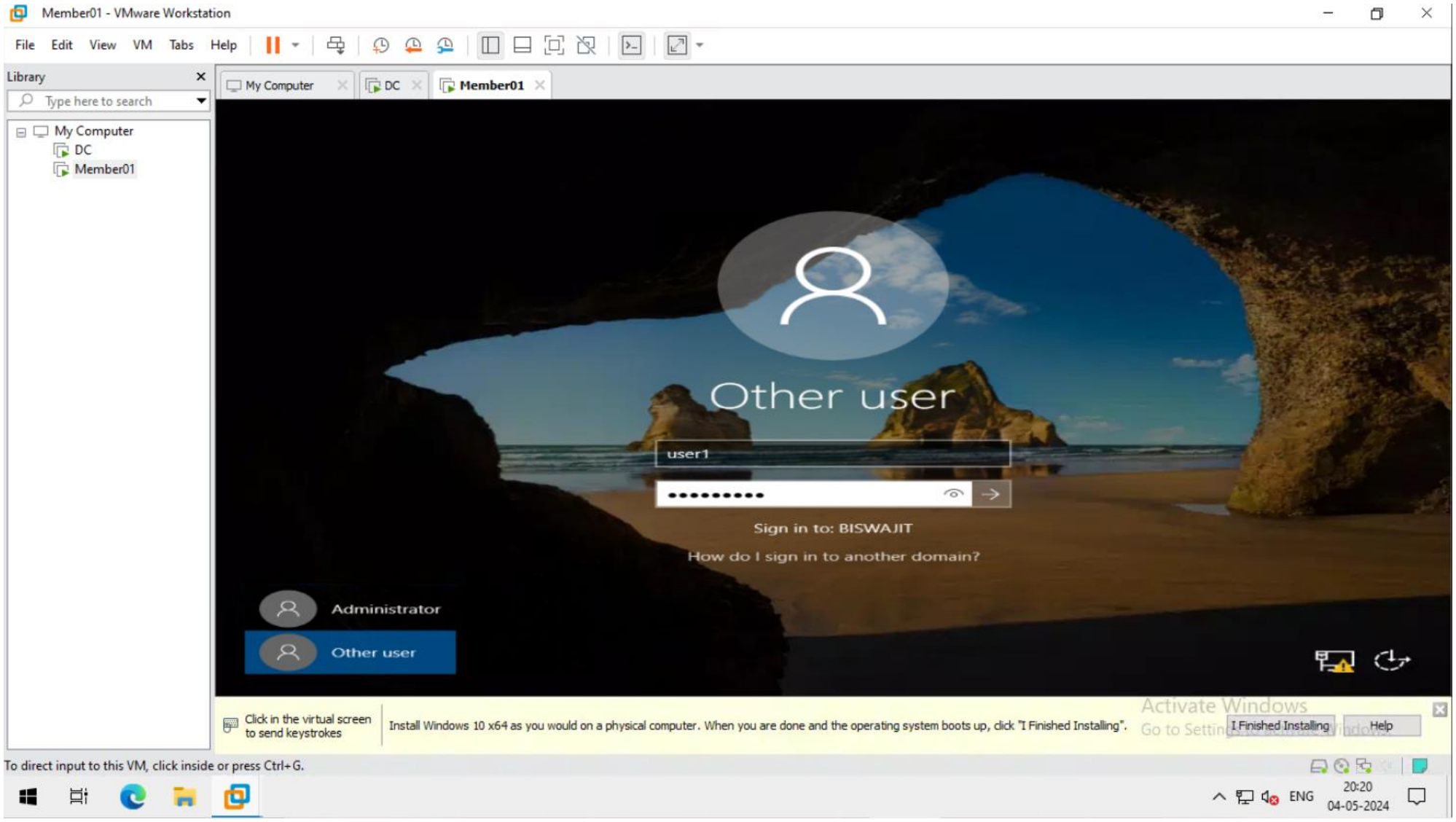


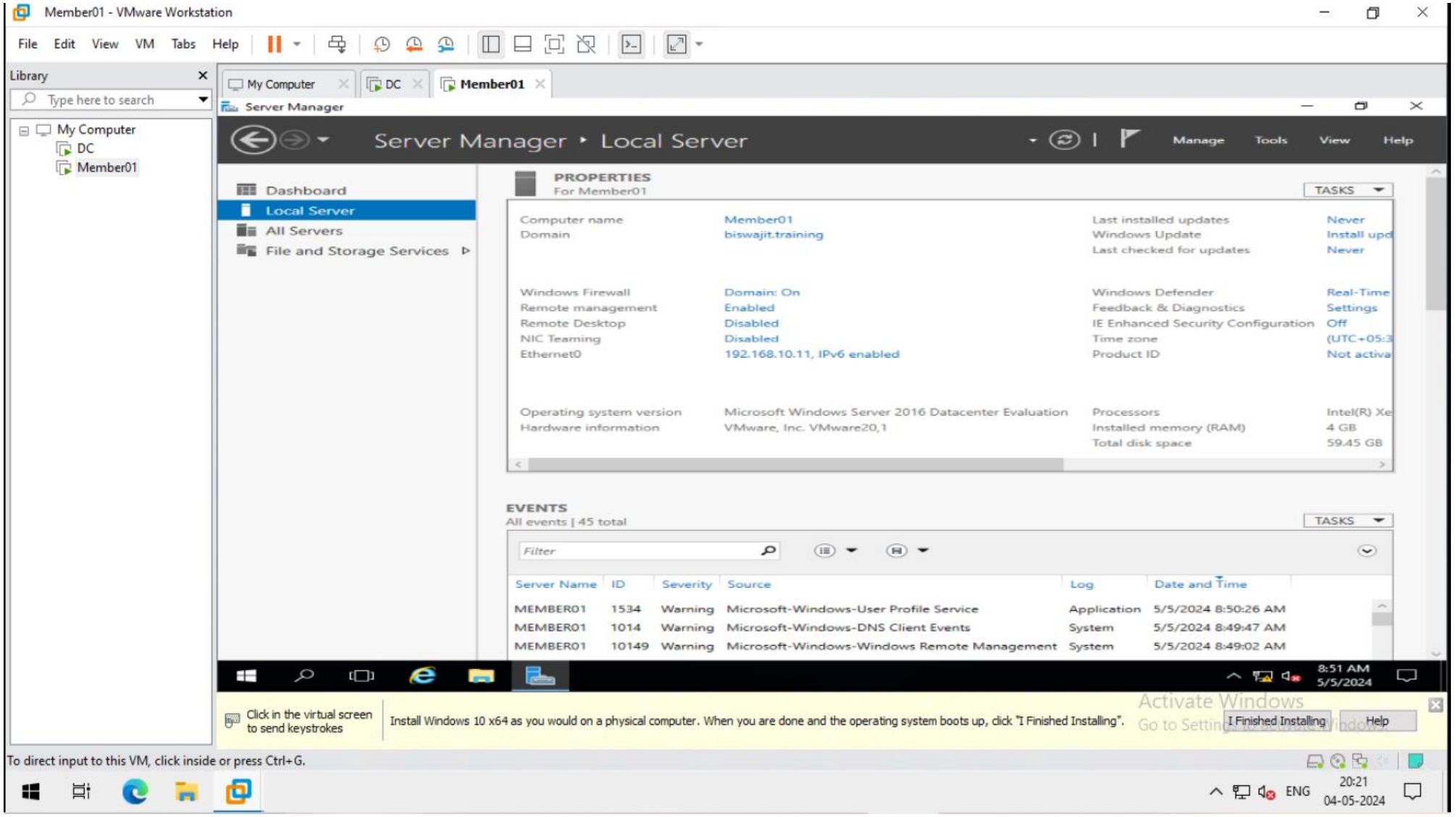
7- Domain join



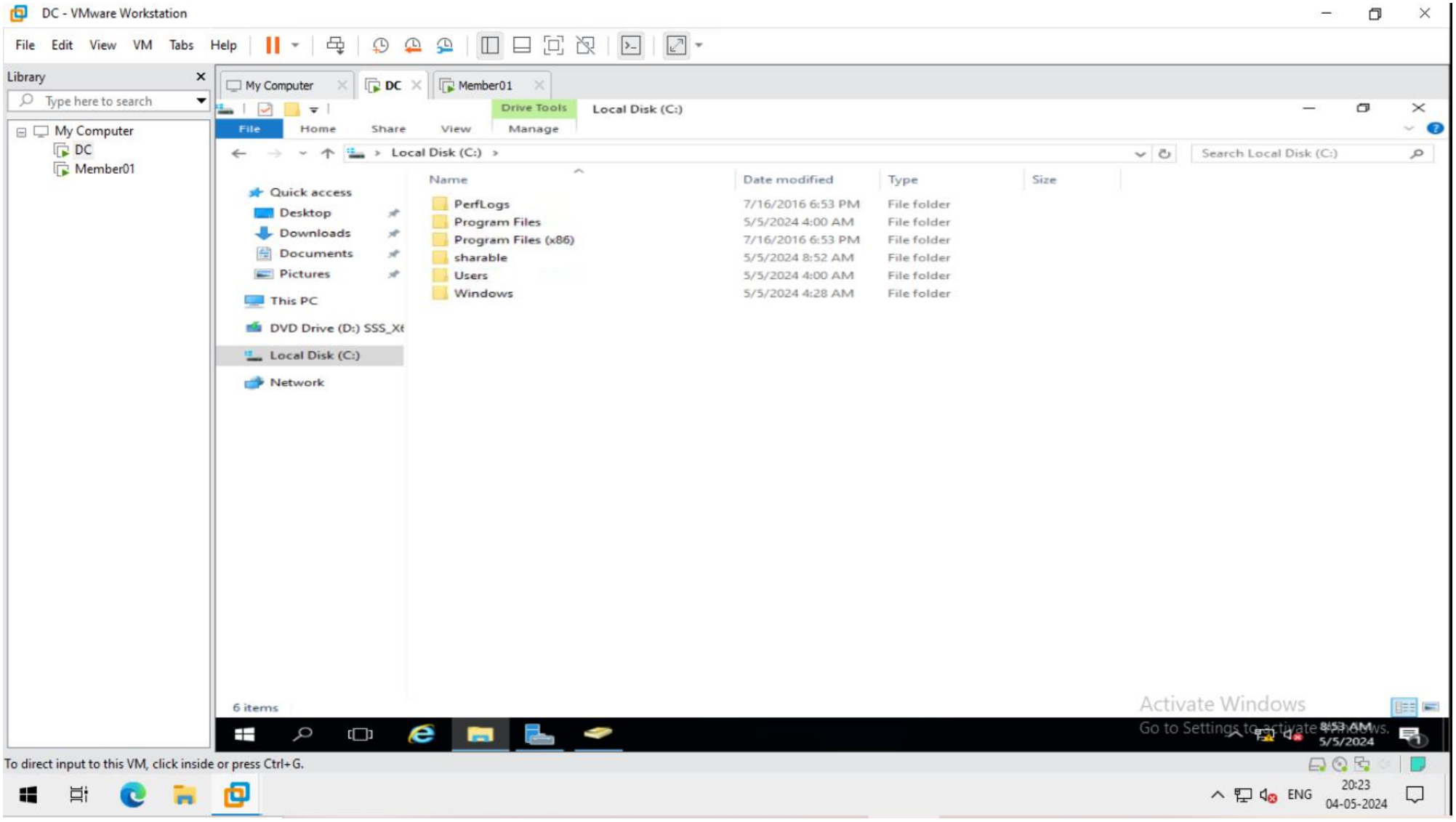




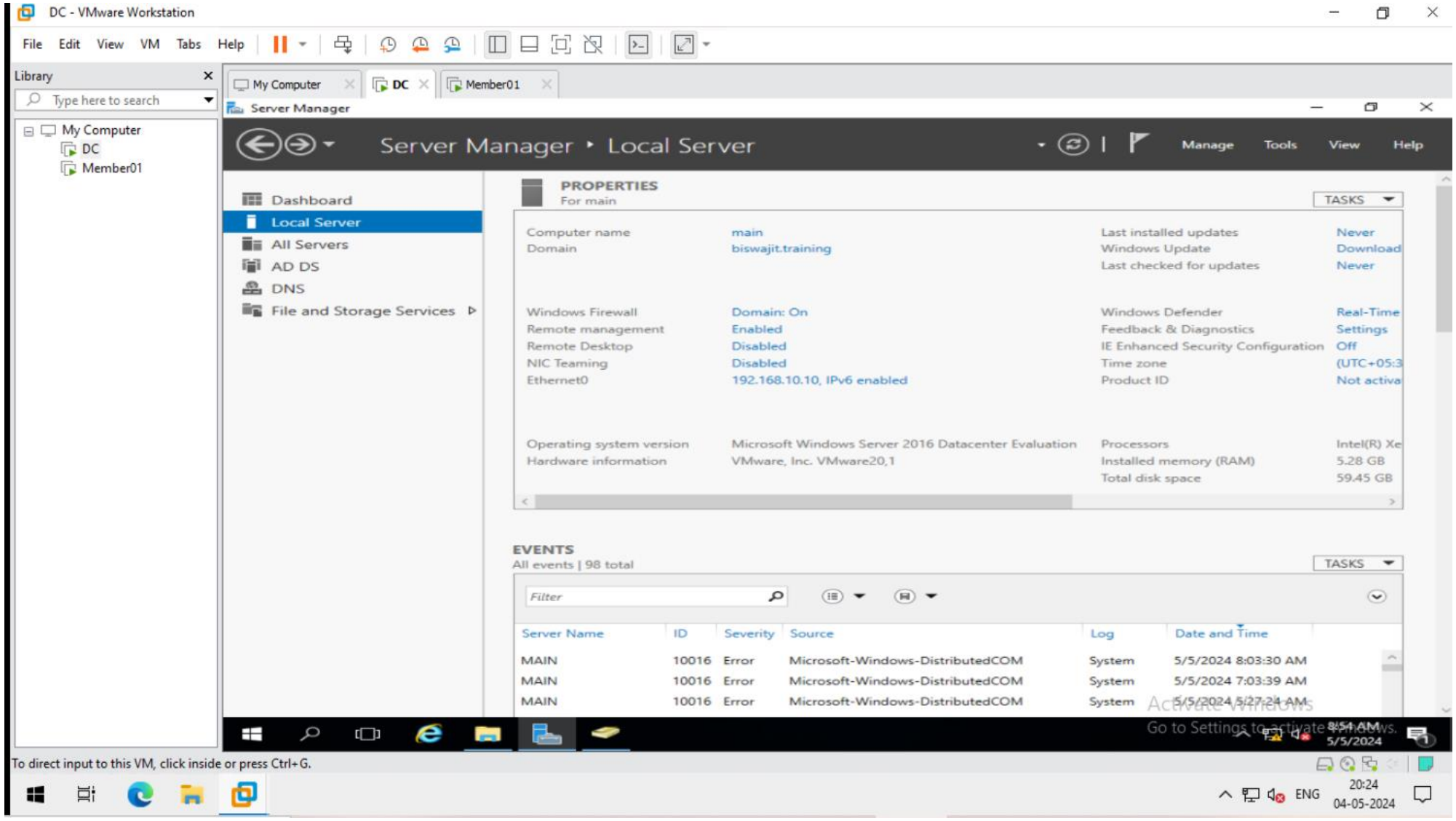


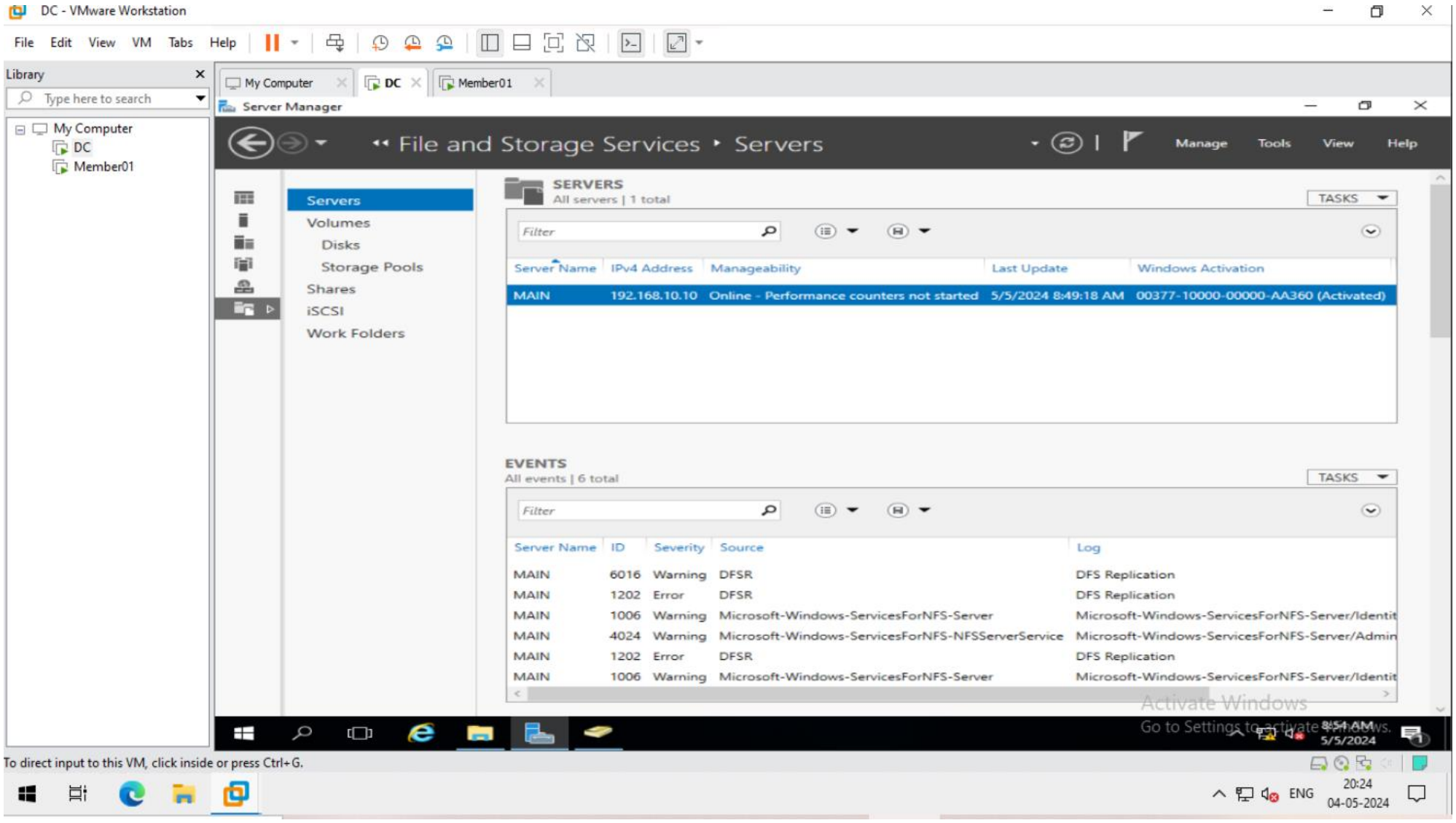


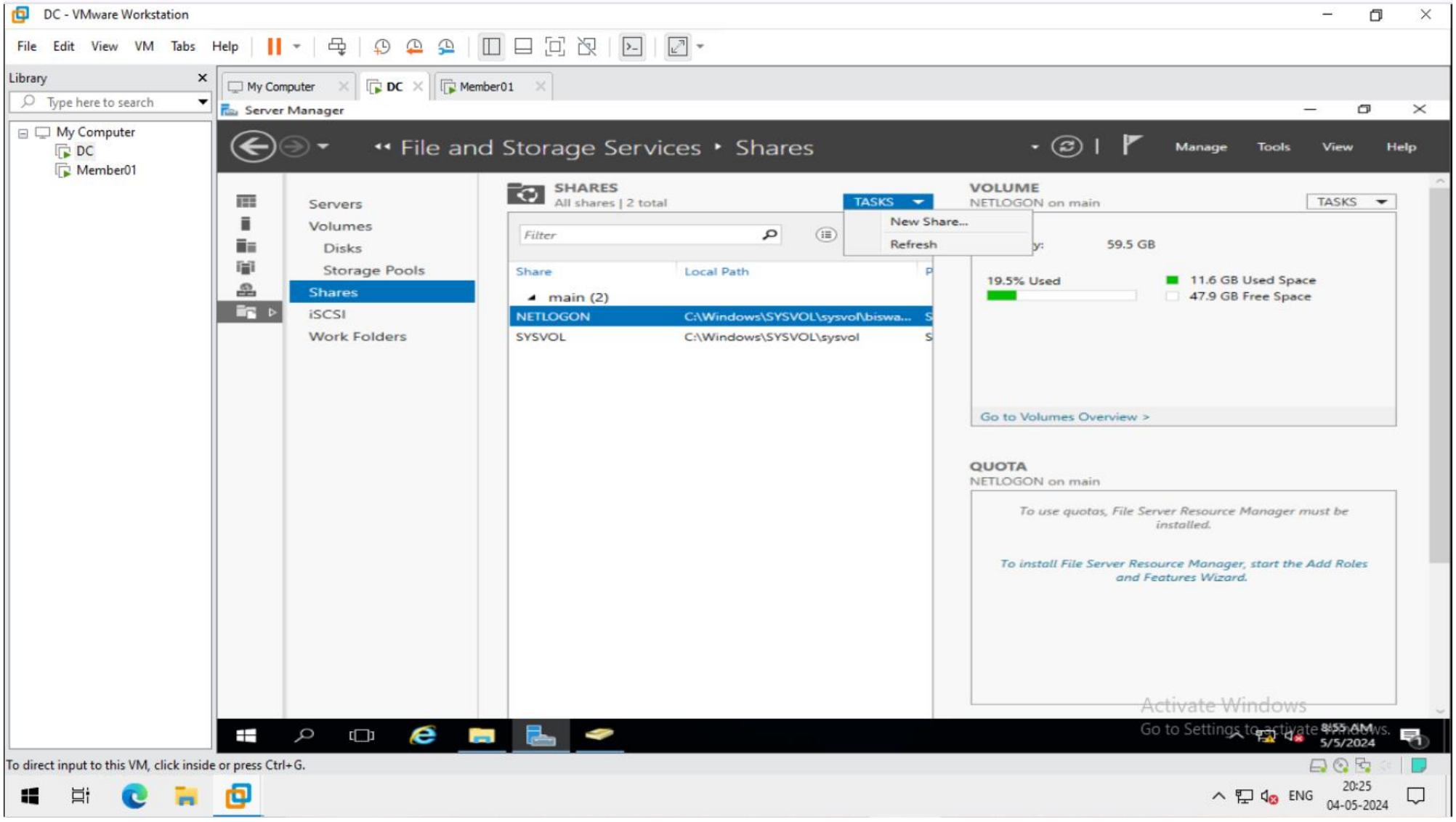
8. Create a new directory as “c:\sharable” on domain controller

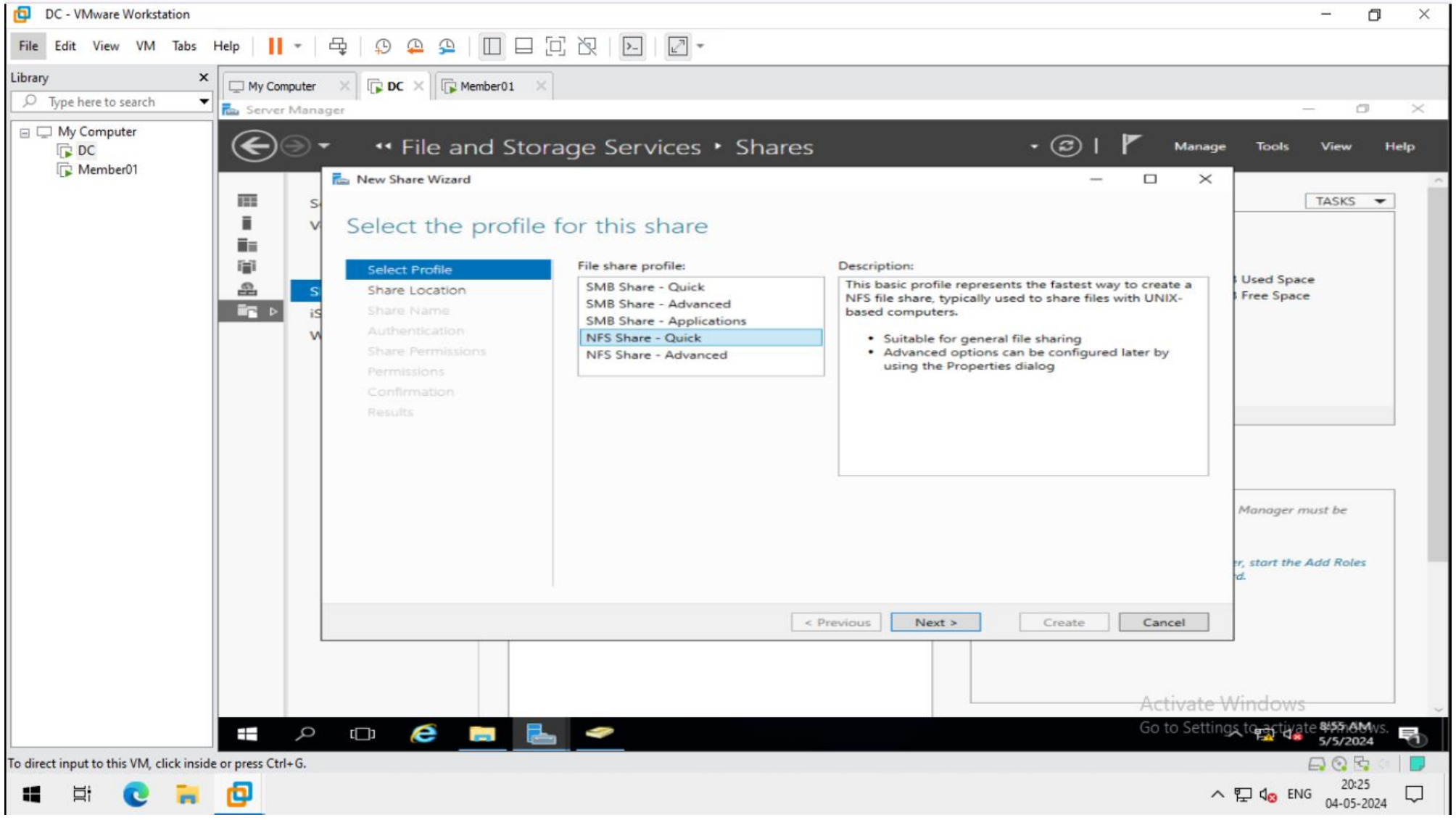


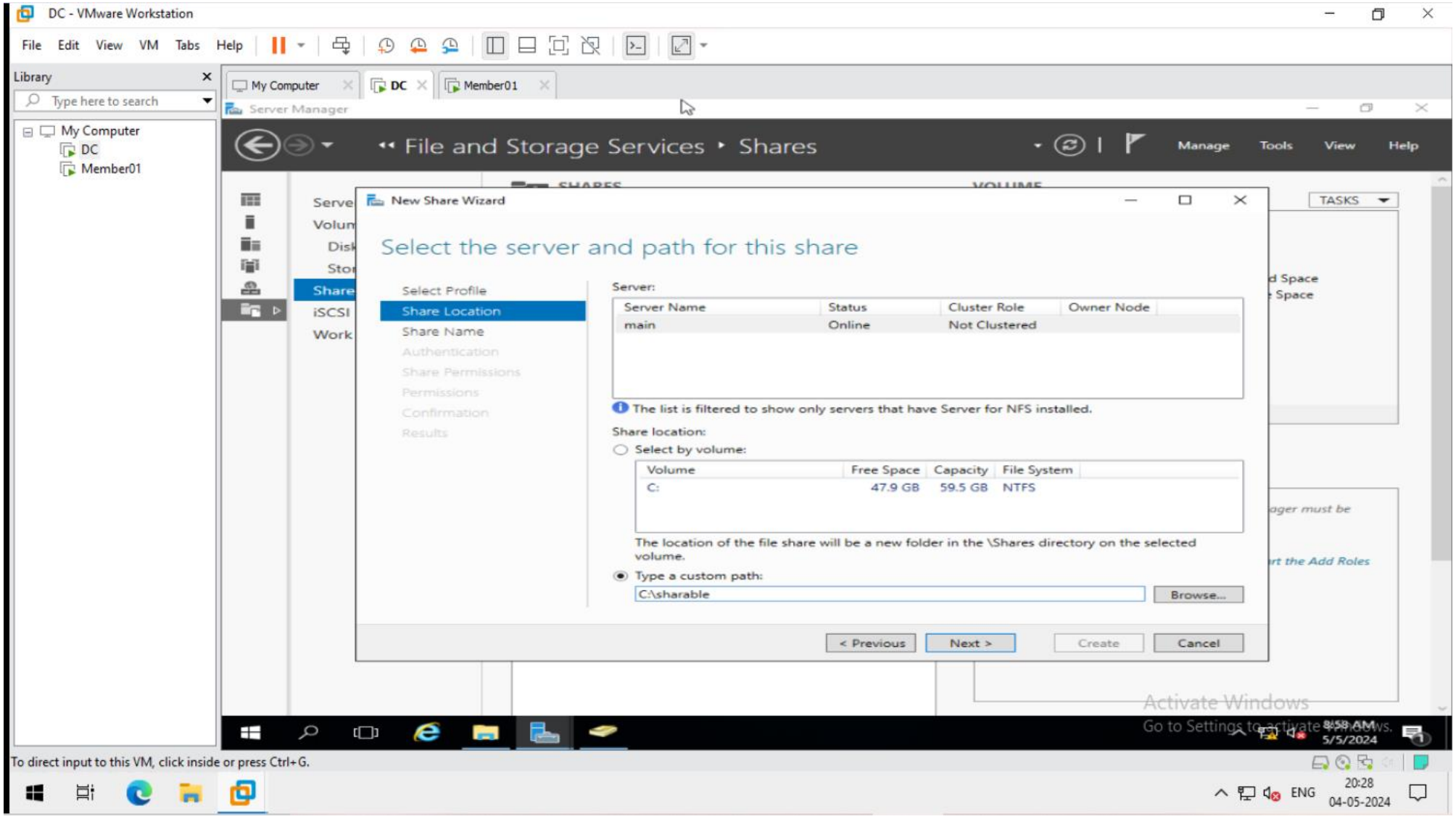
9 give read-only permission in NFS

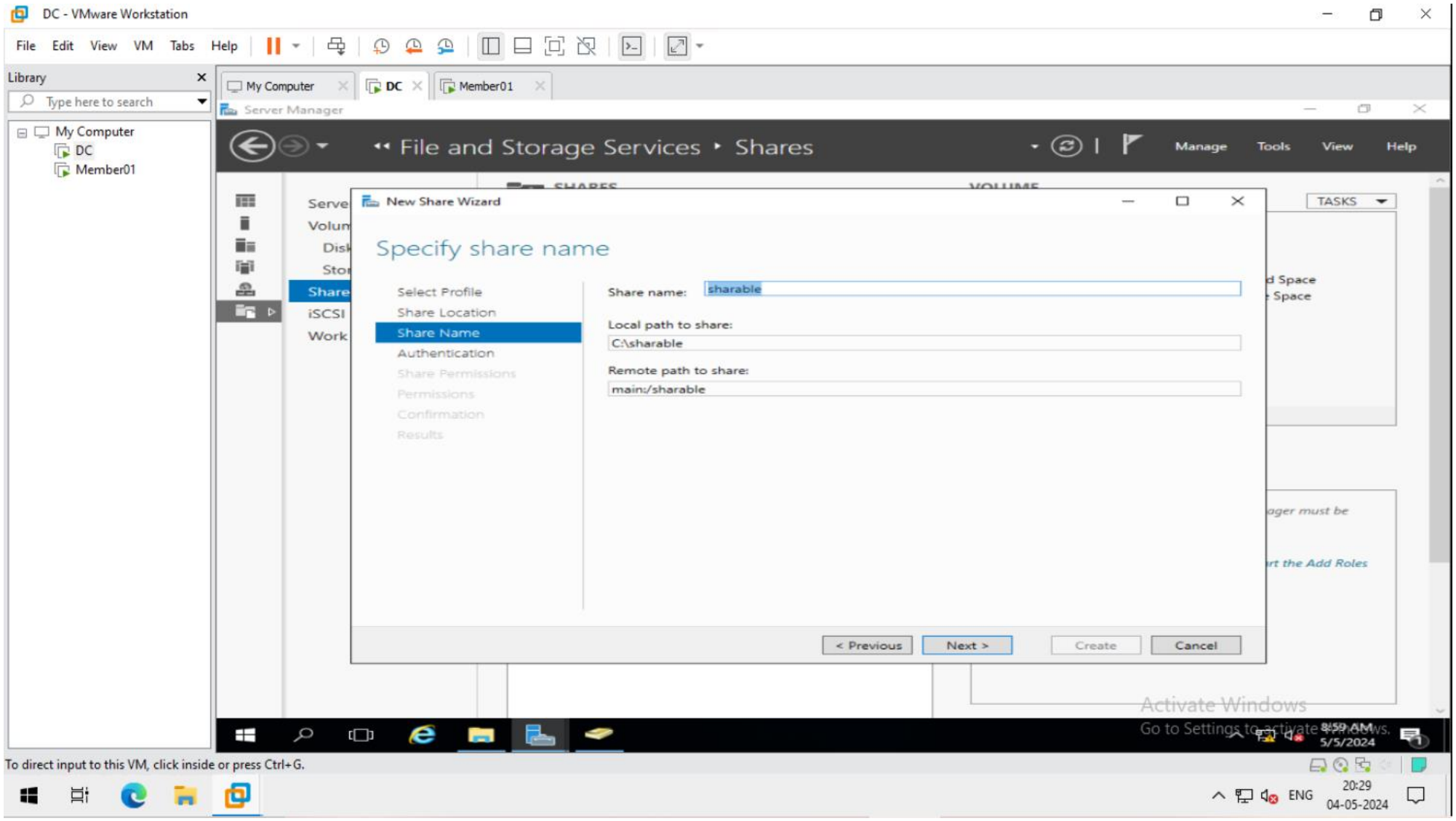


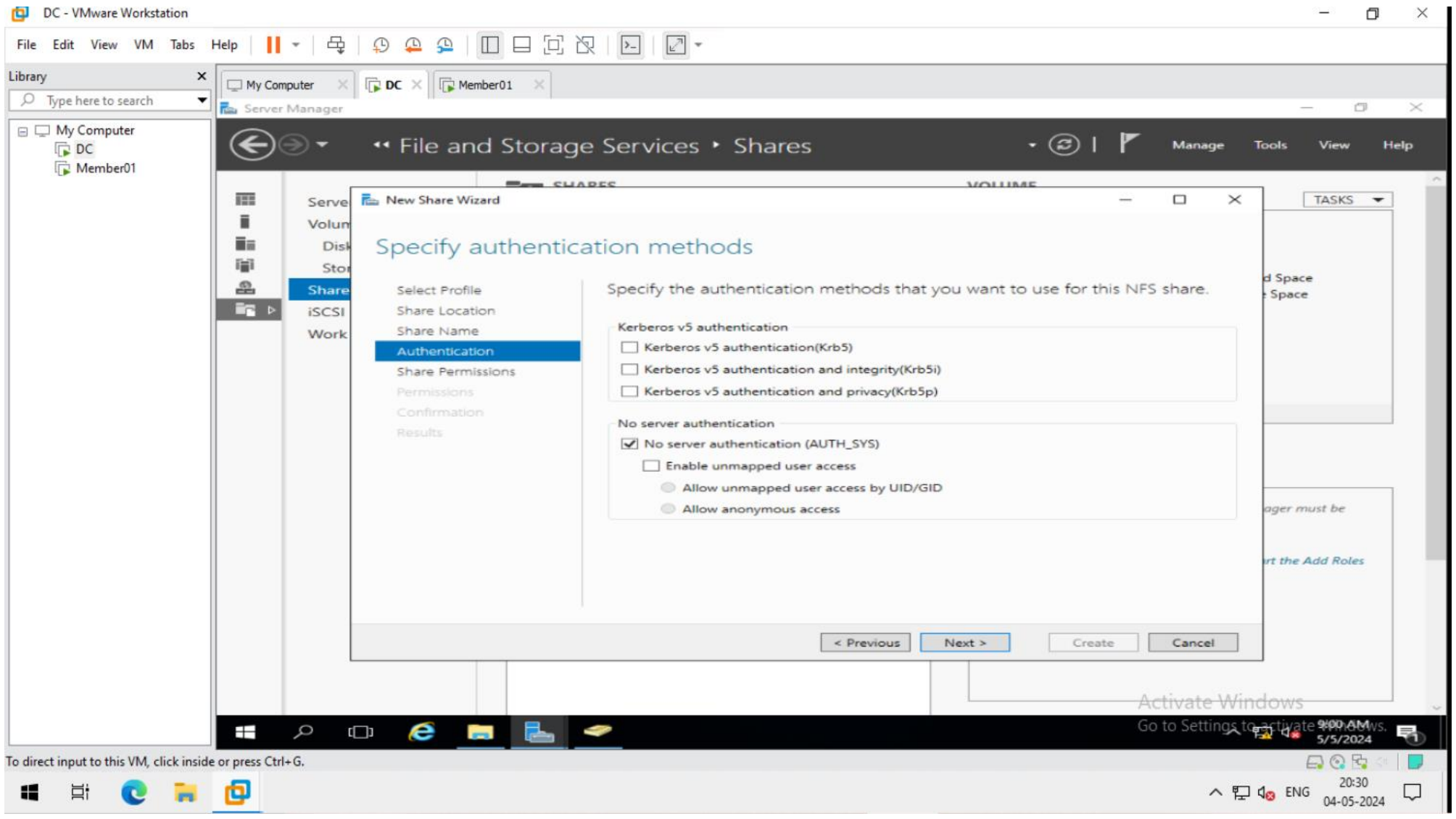


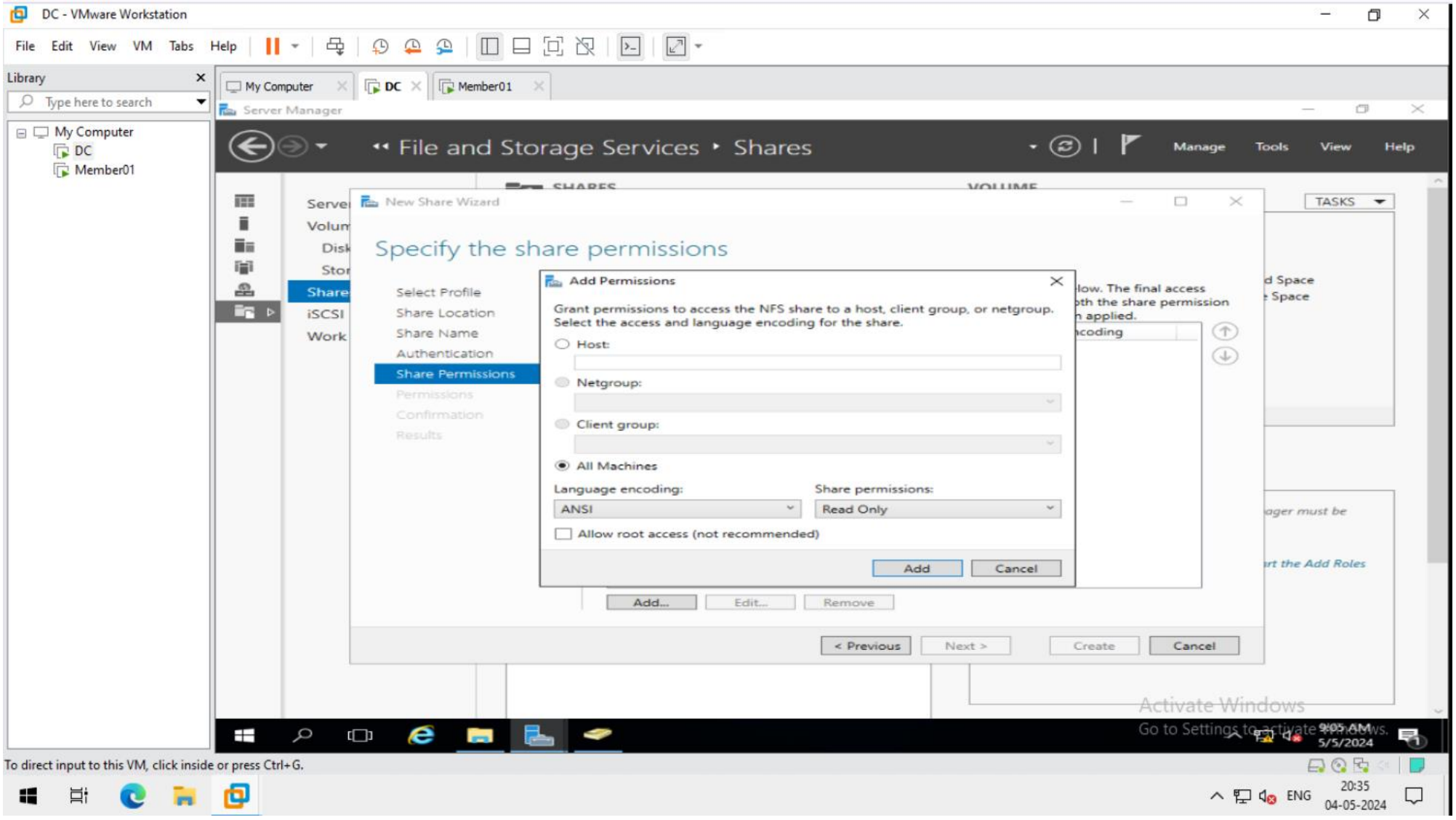


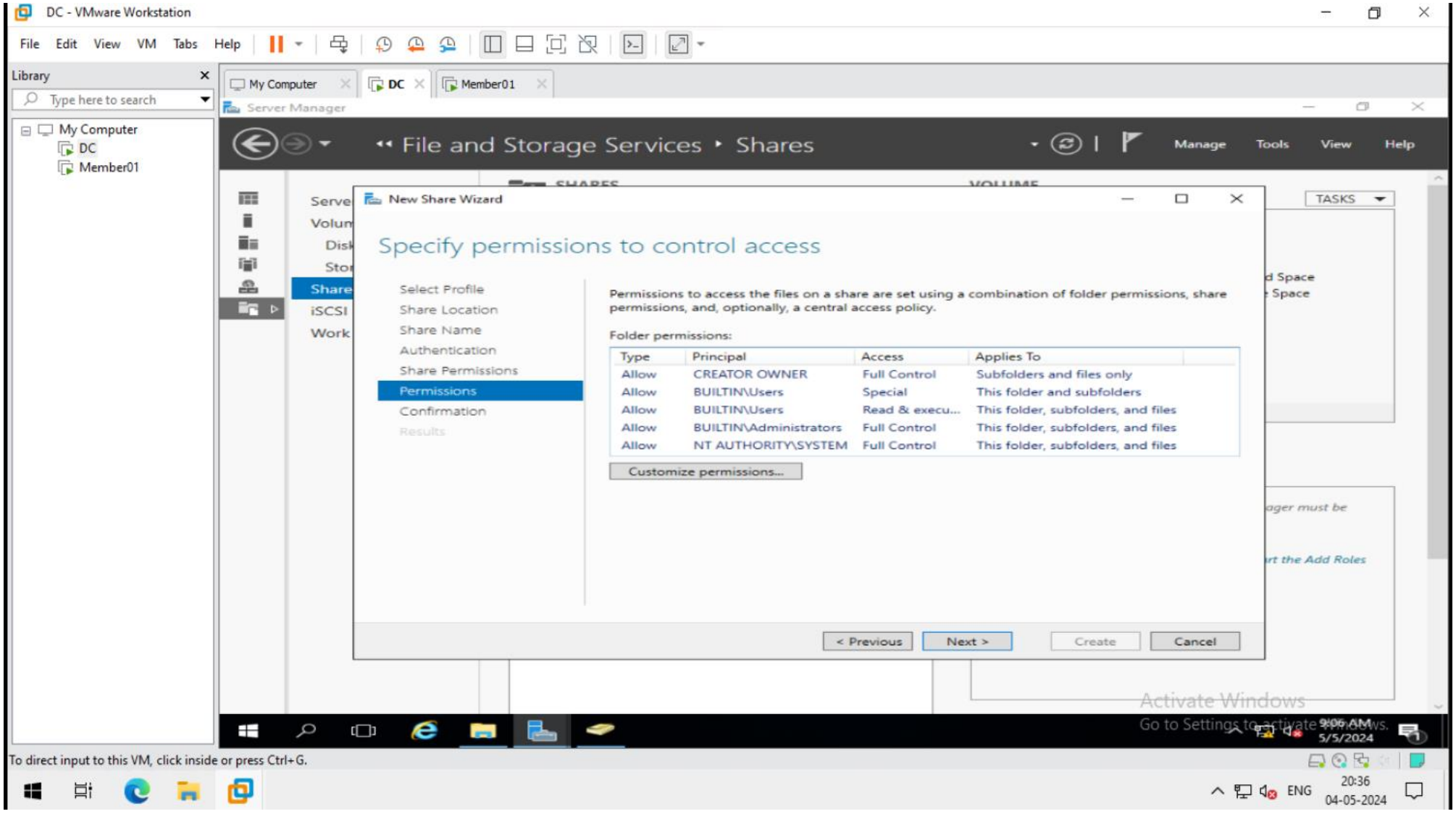


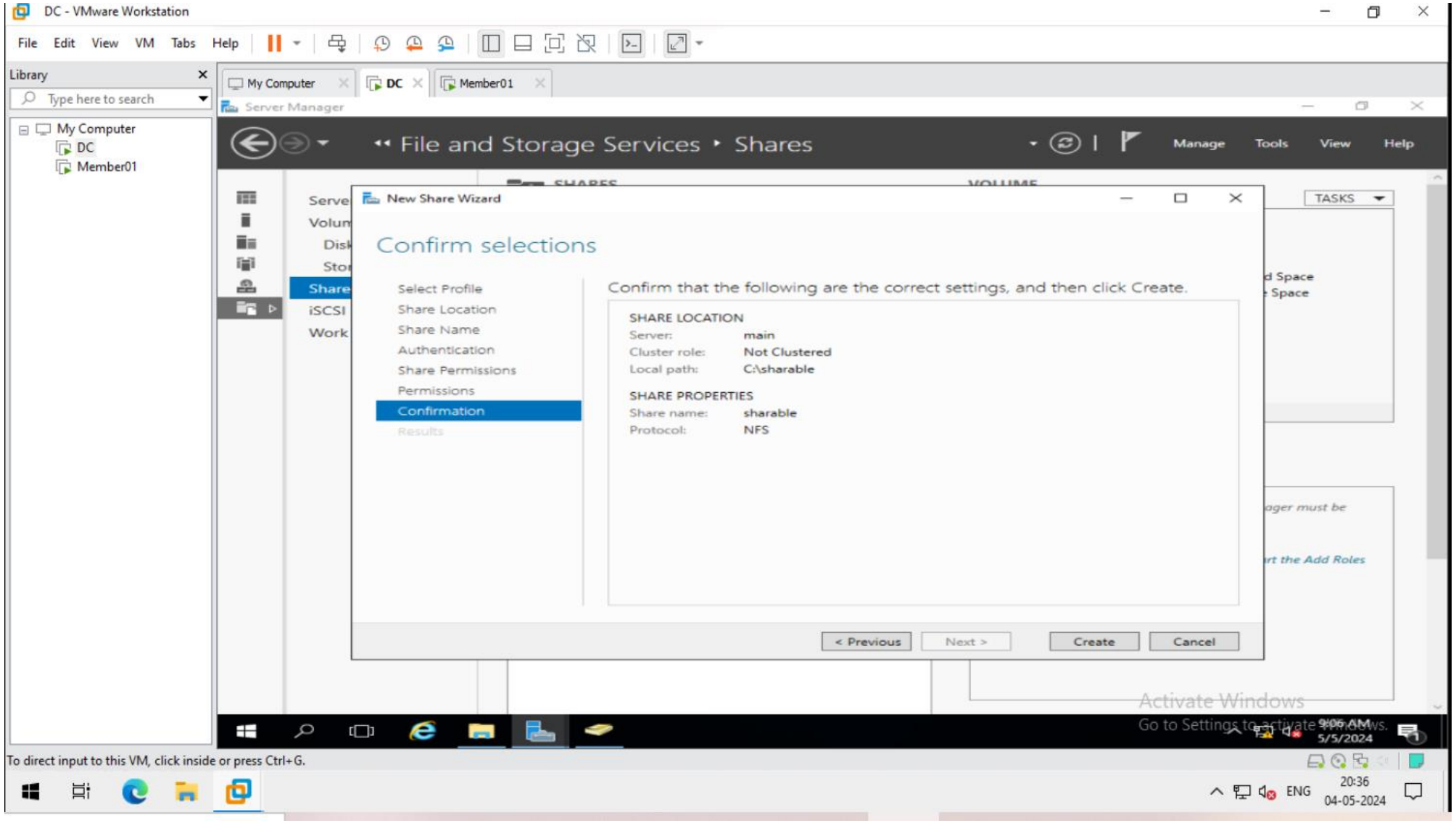


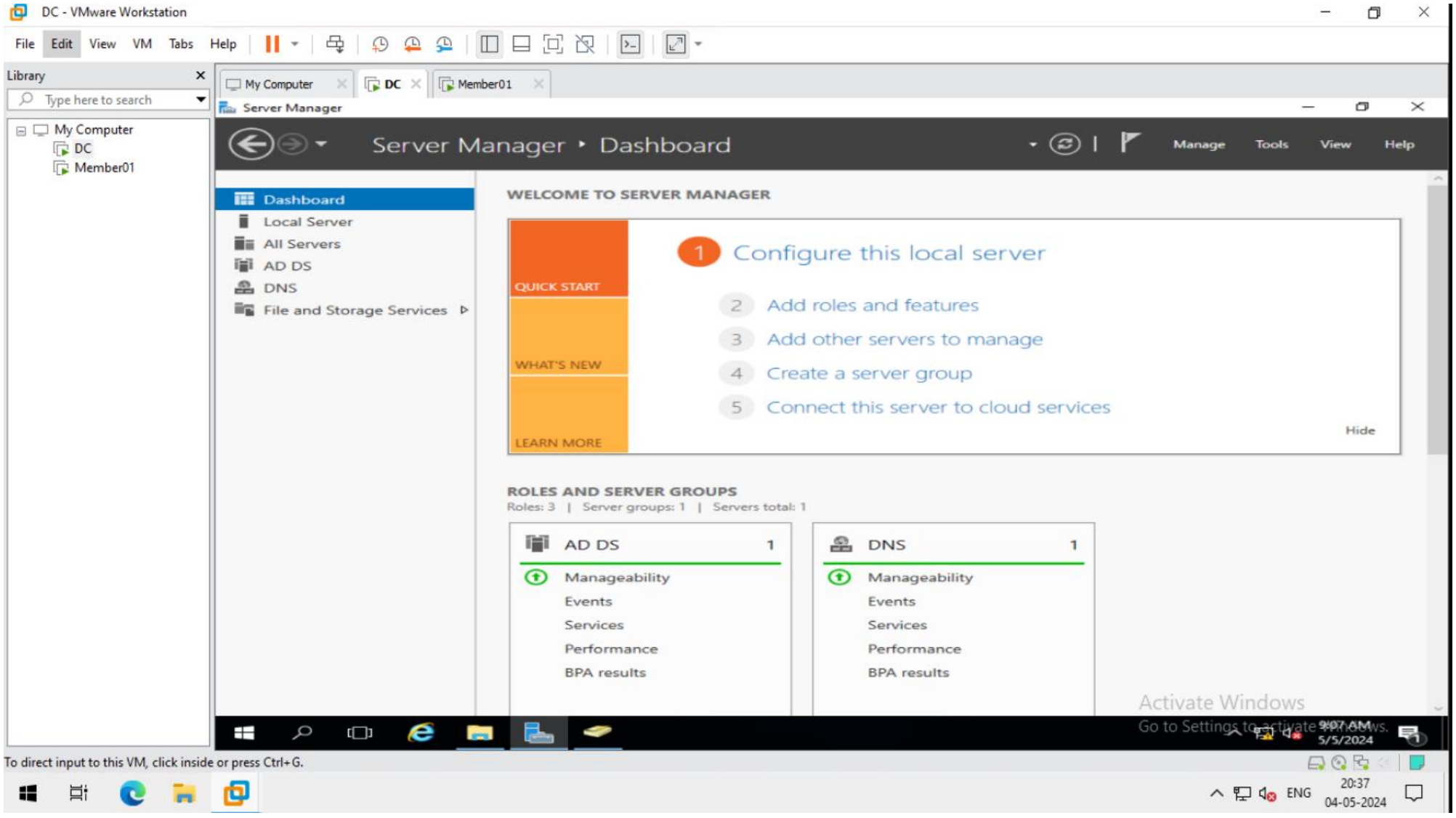


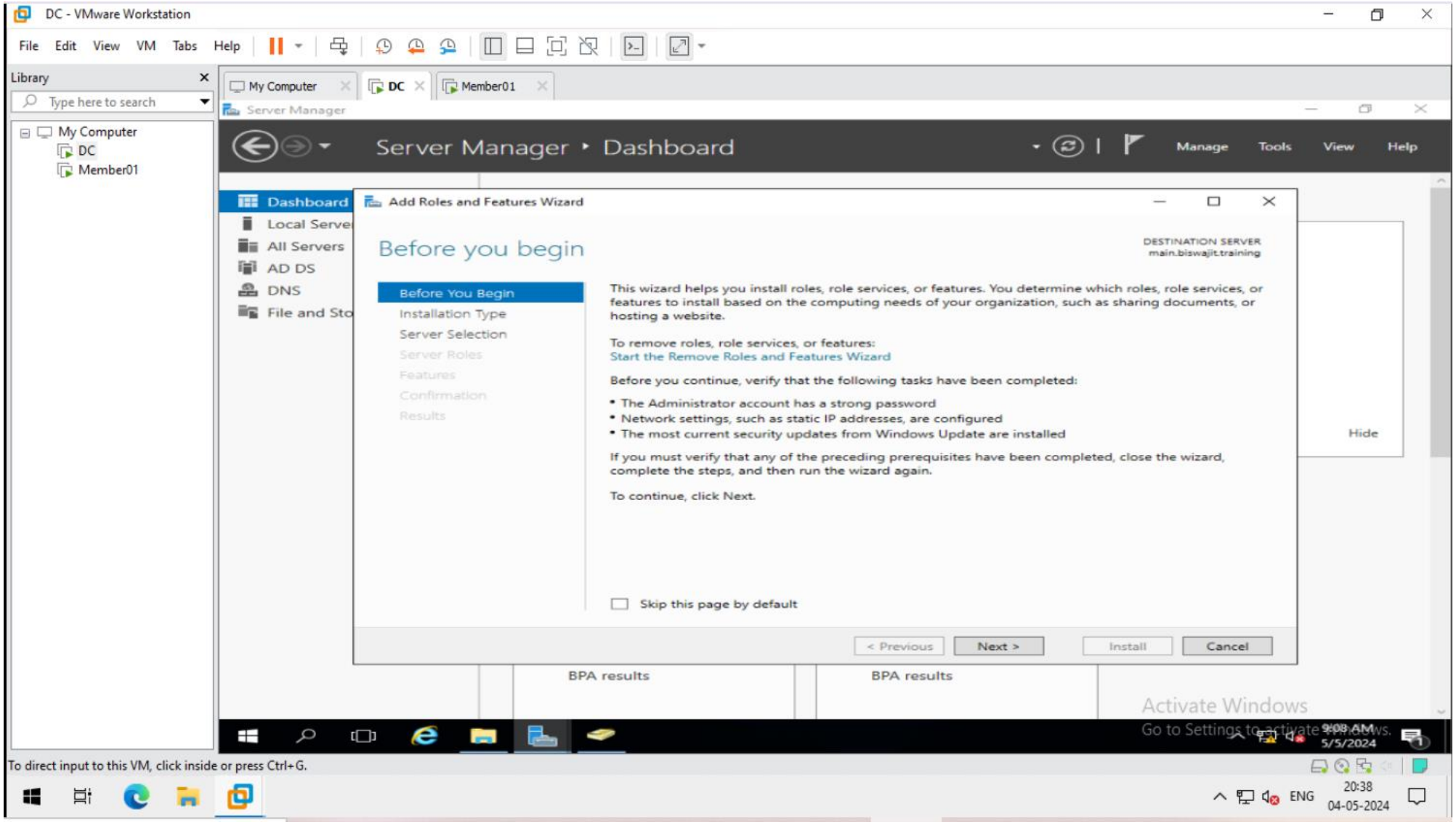


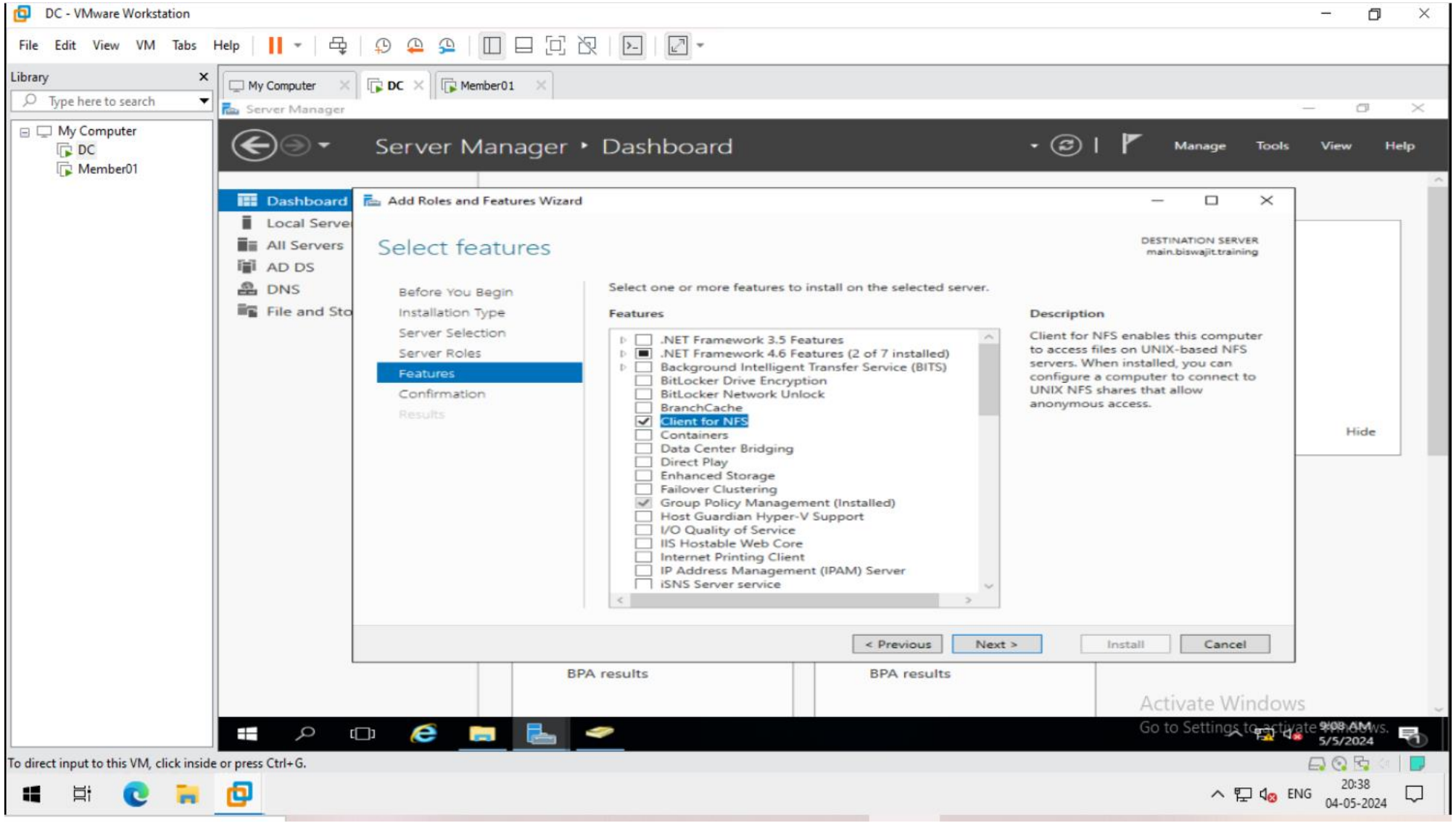


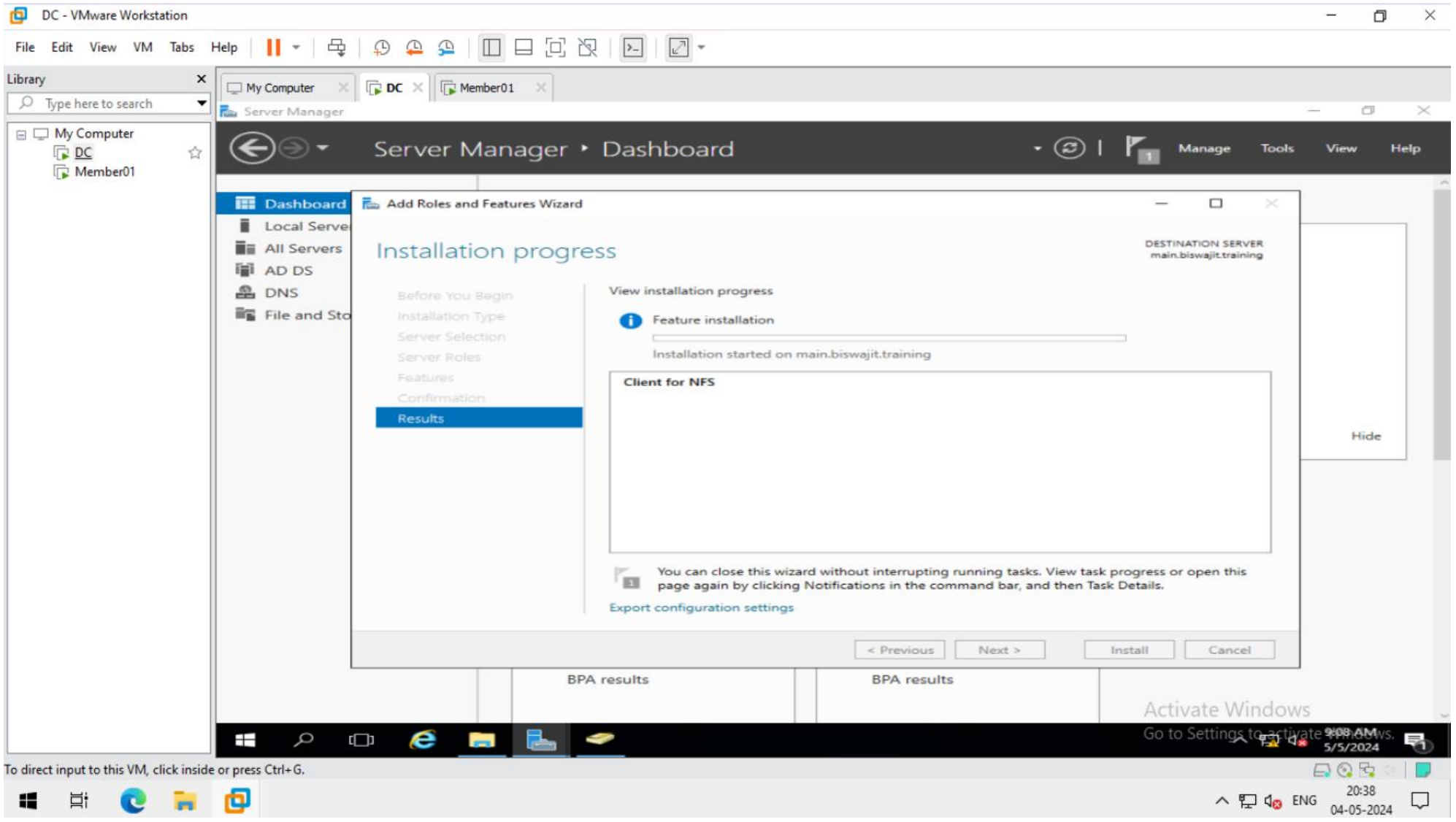


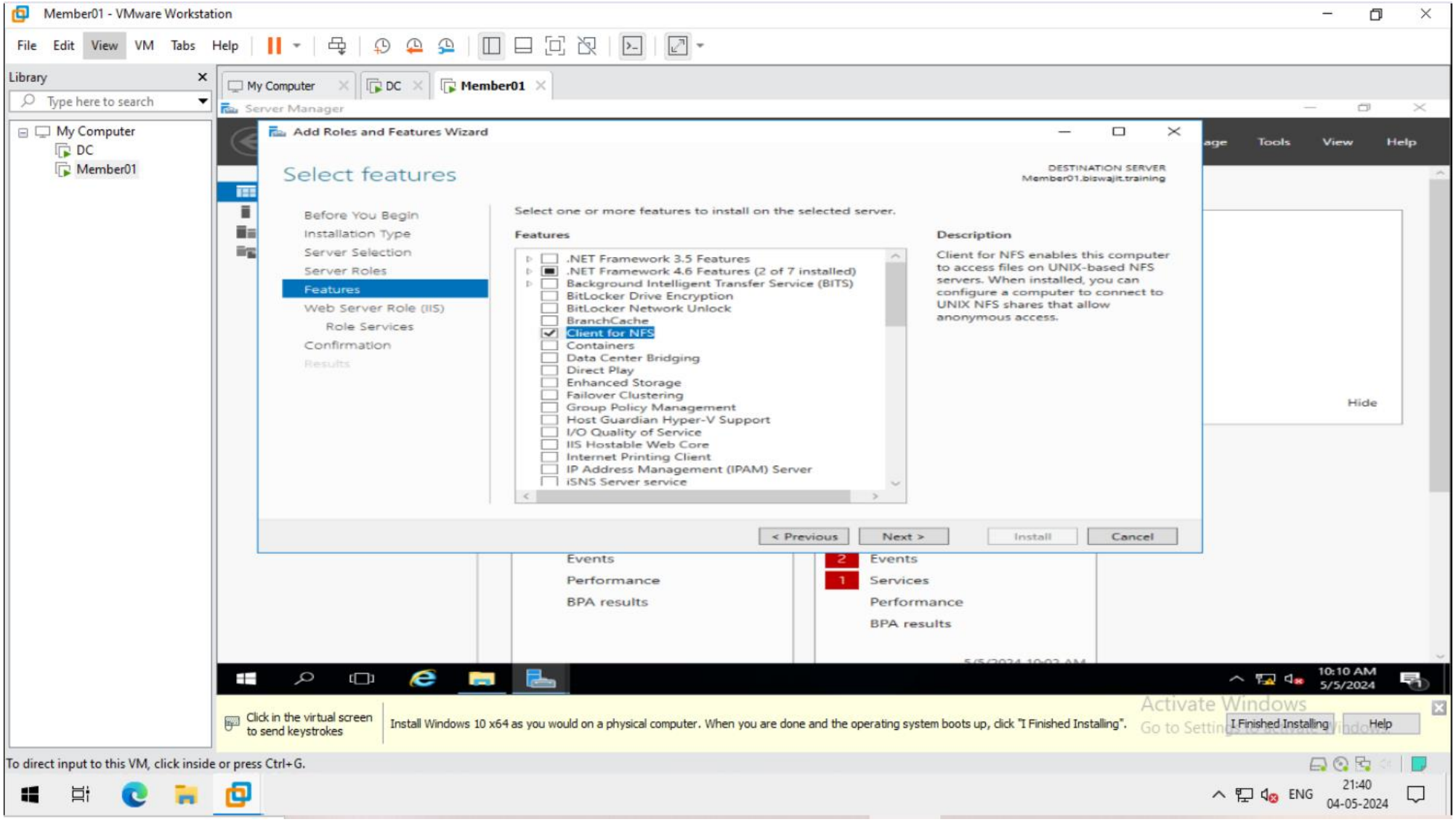


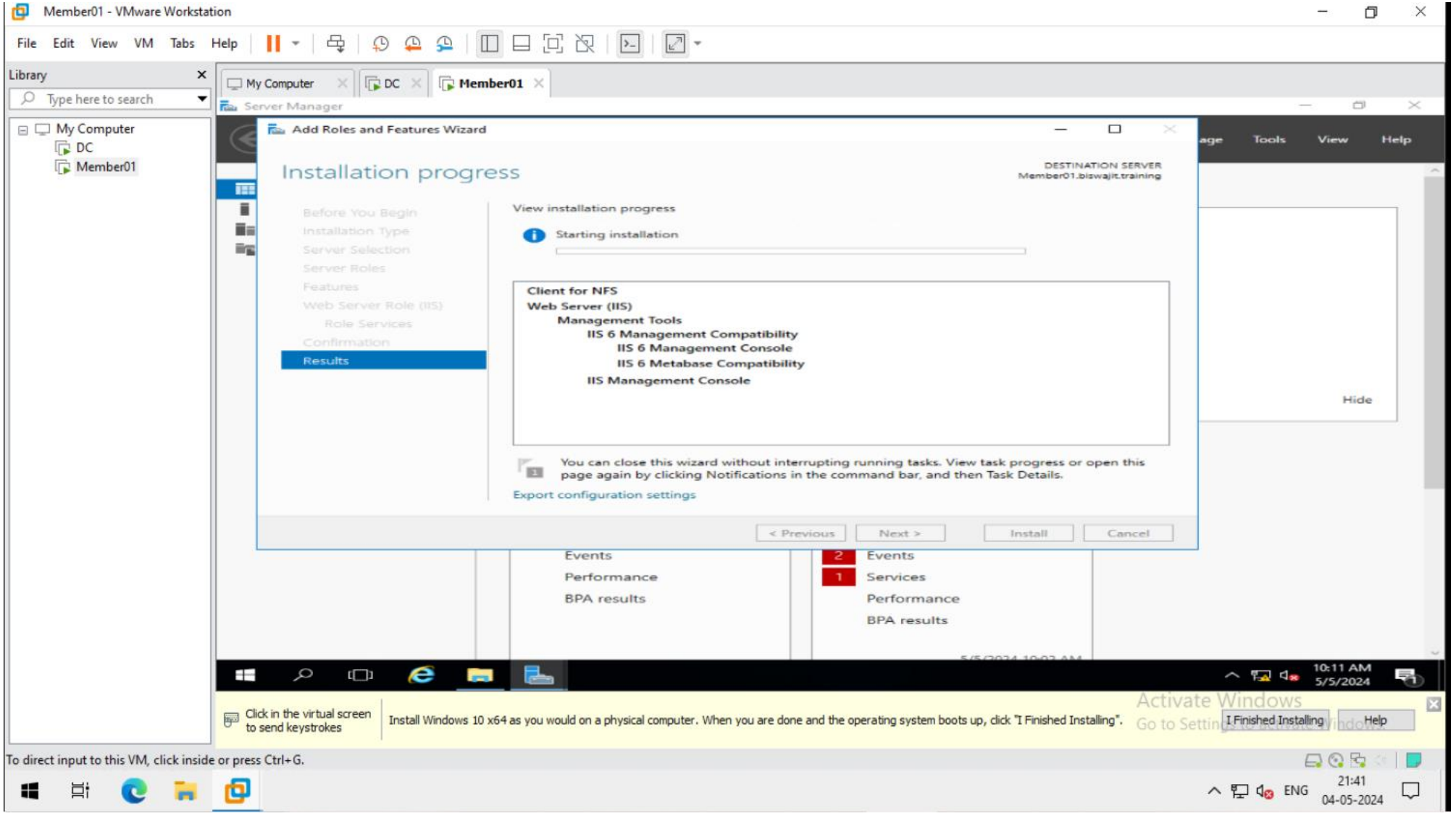




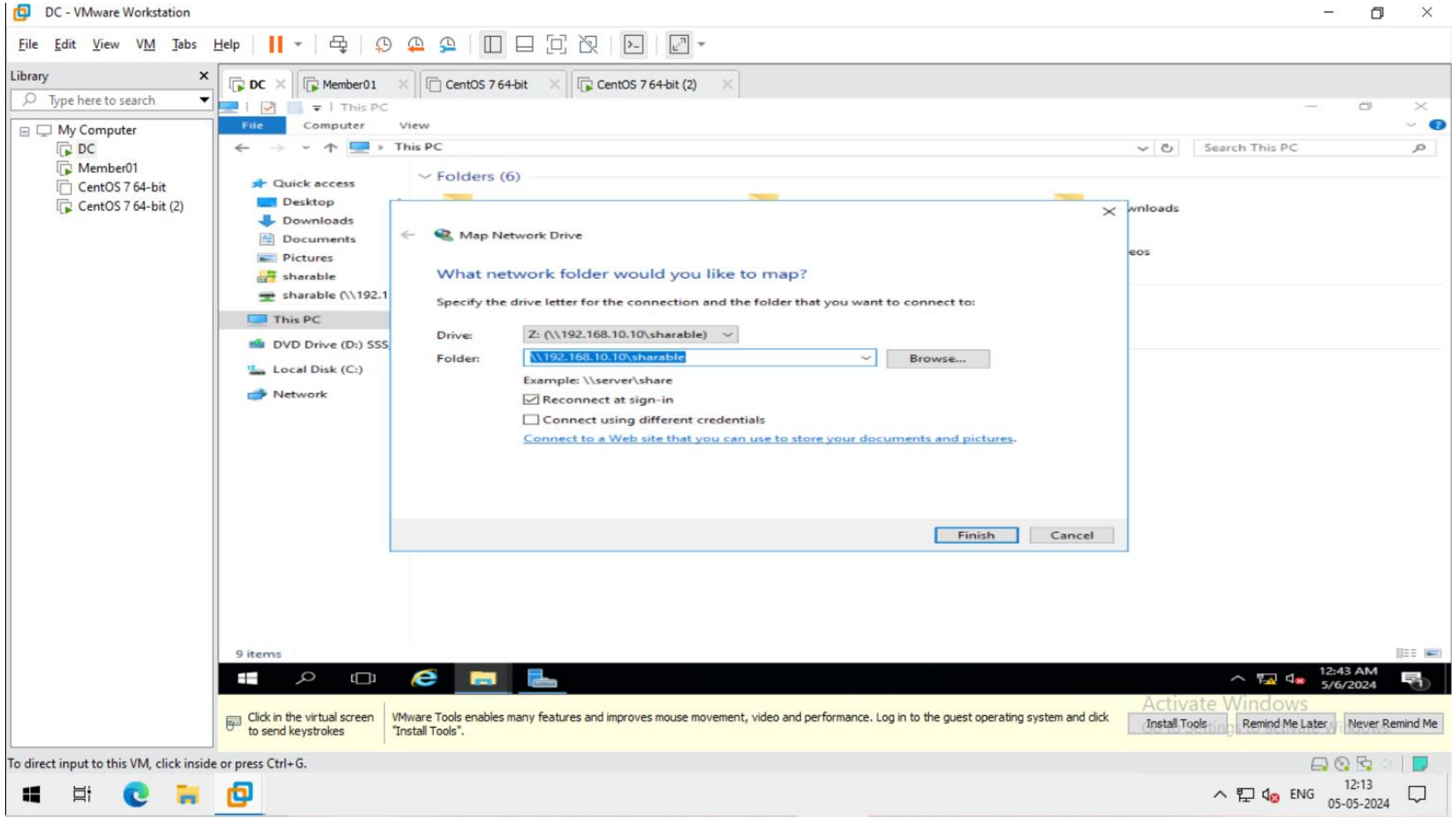


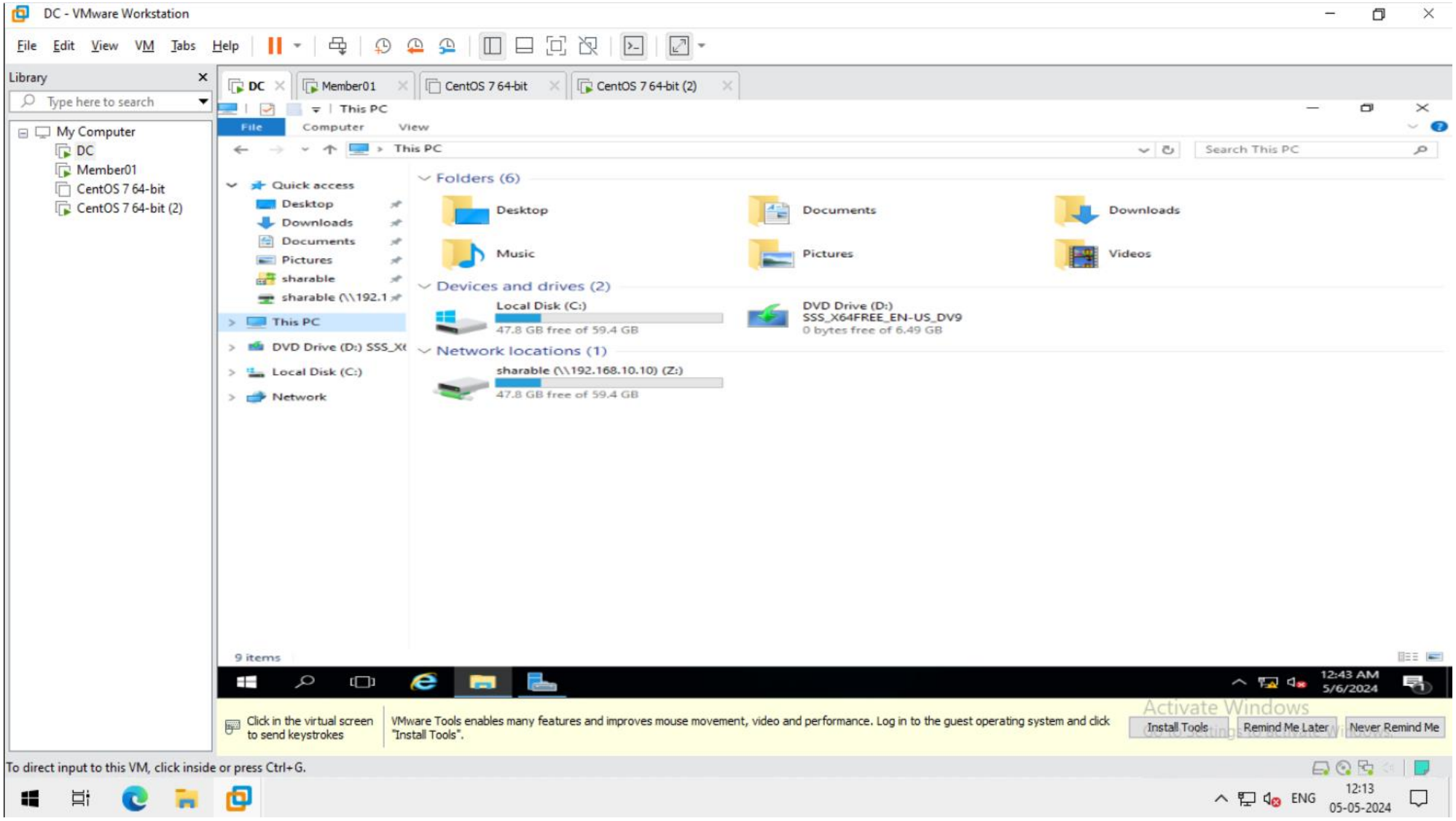


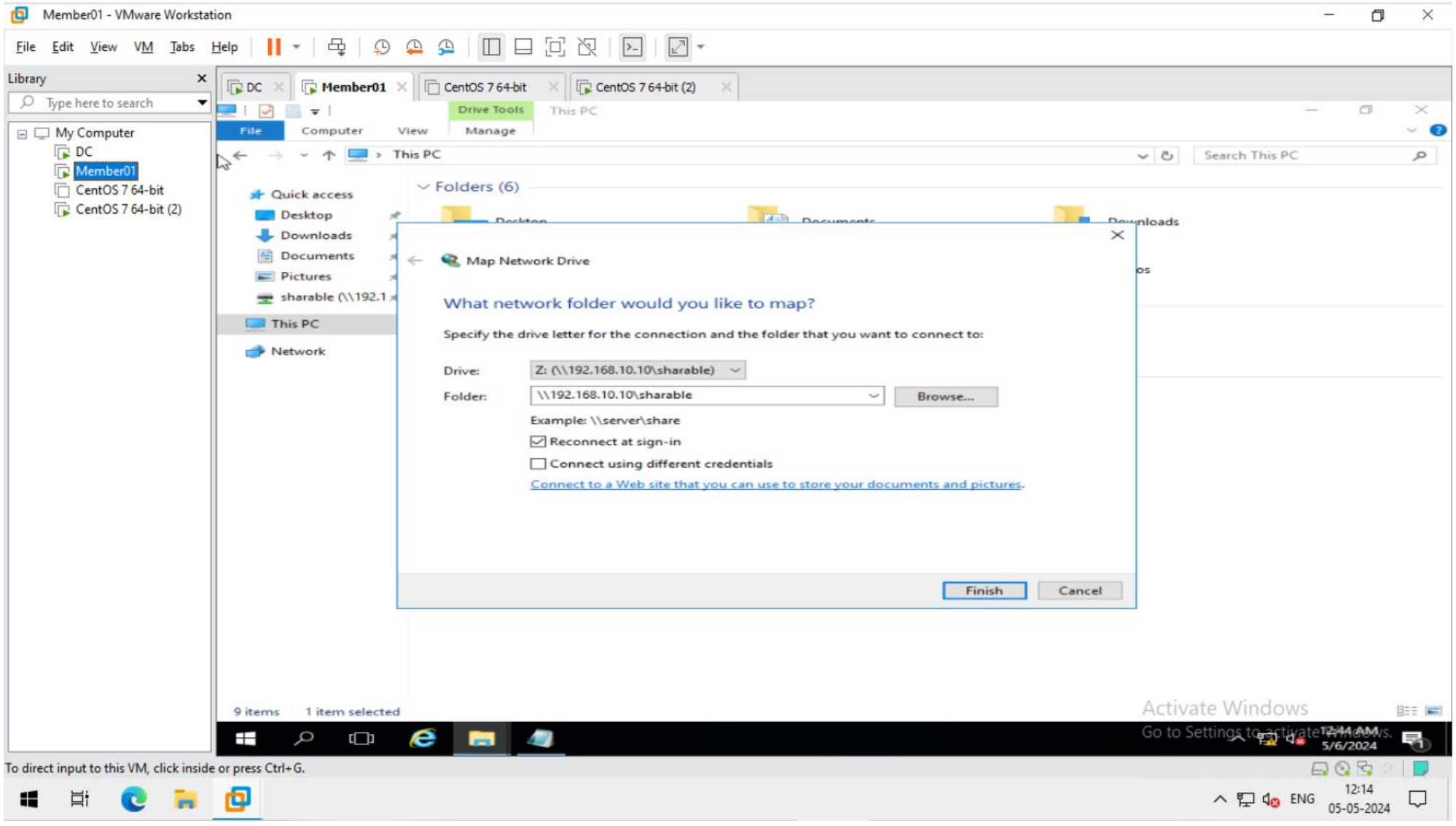


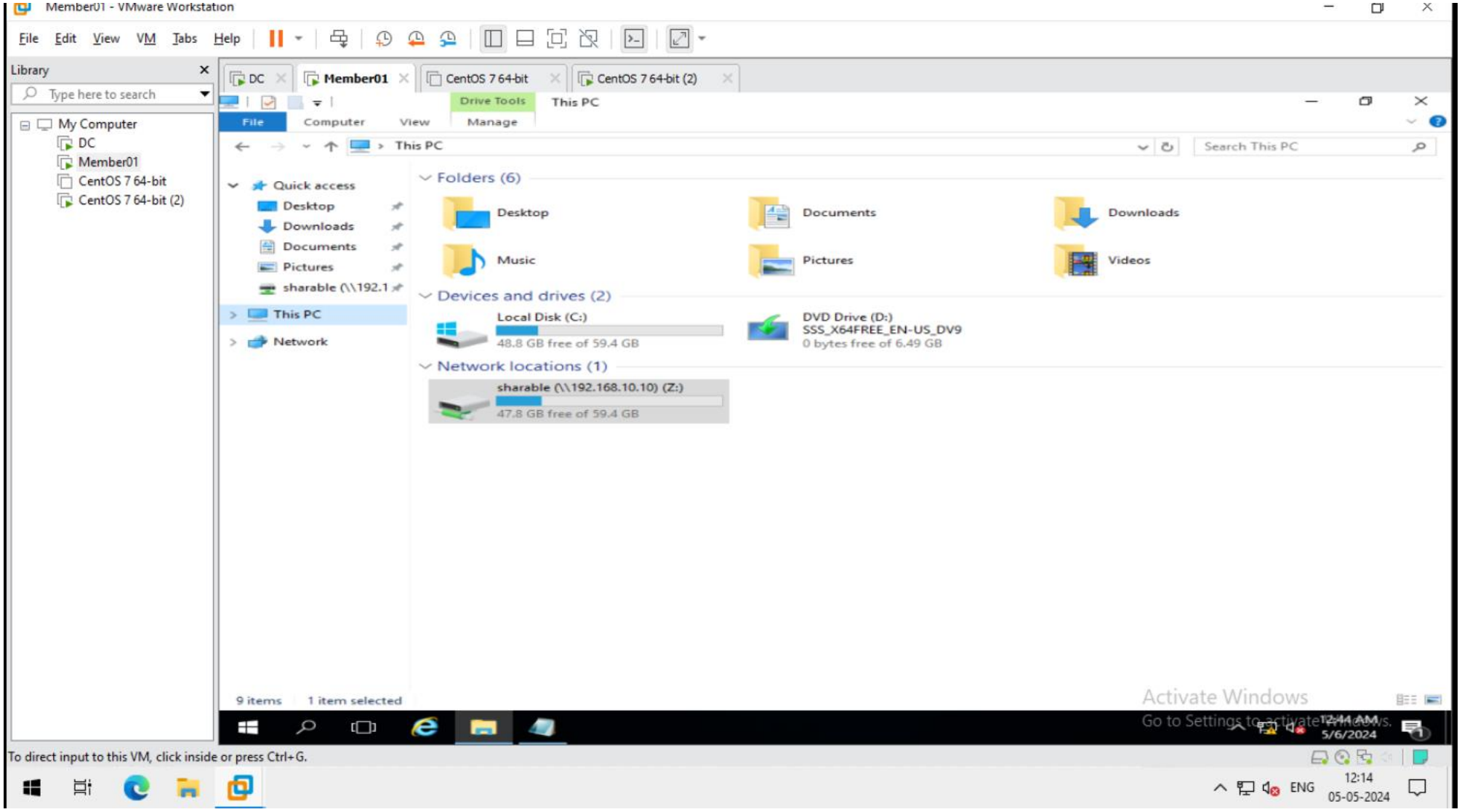


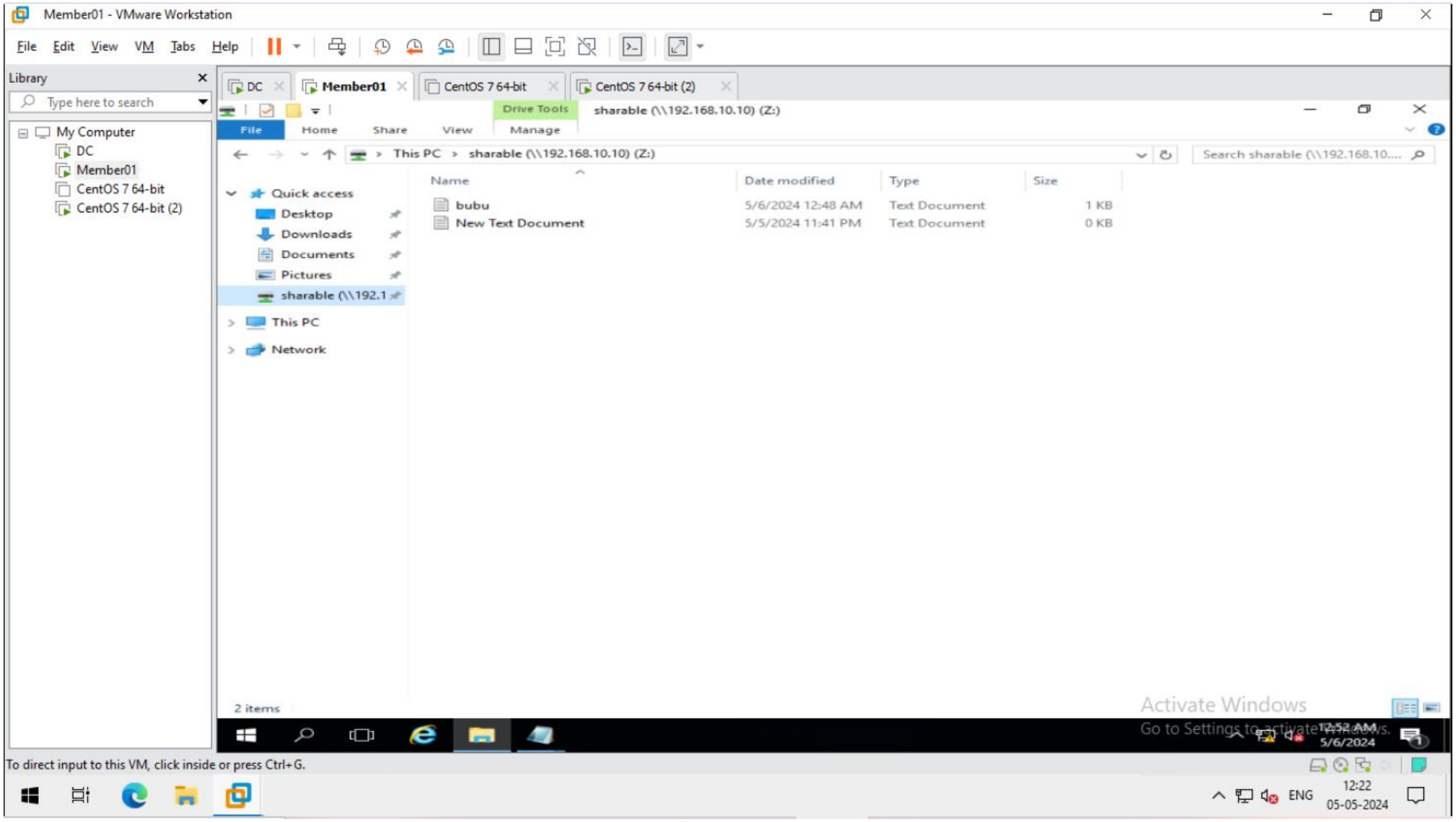
10 share it through map network device using \\IP\folder or domain name:\folder











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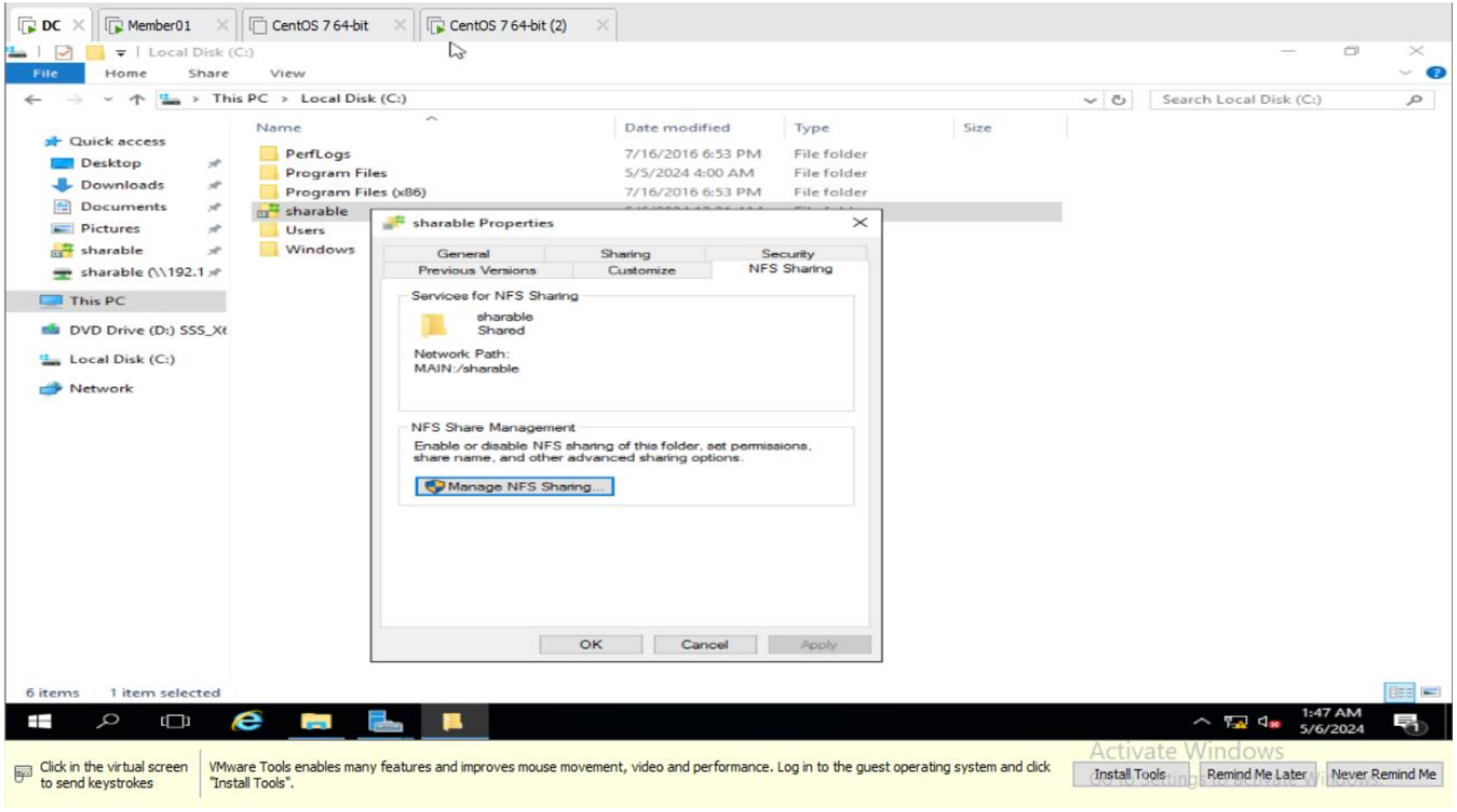
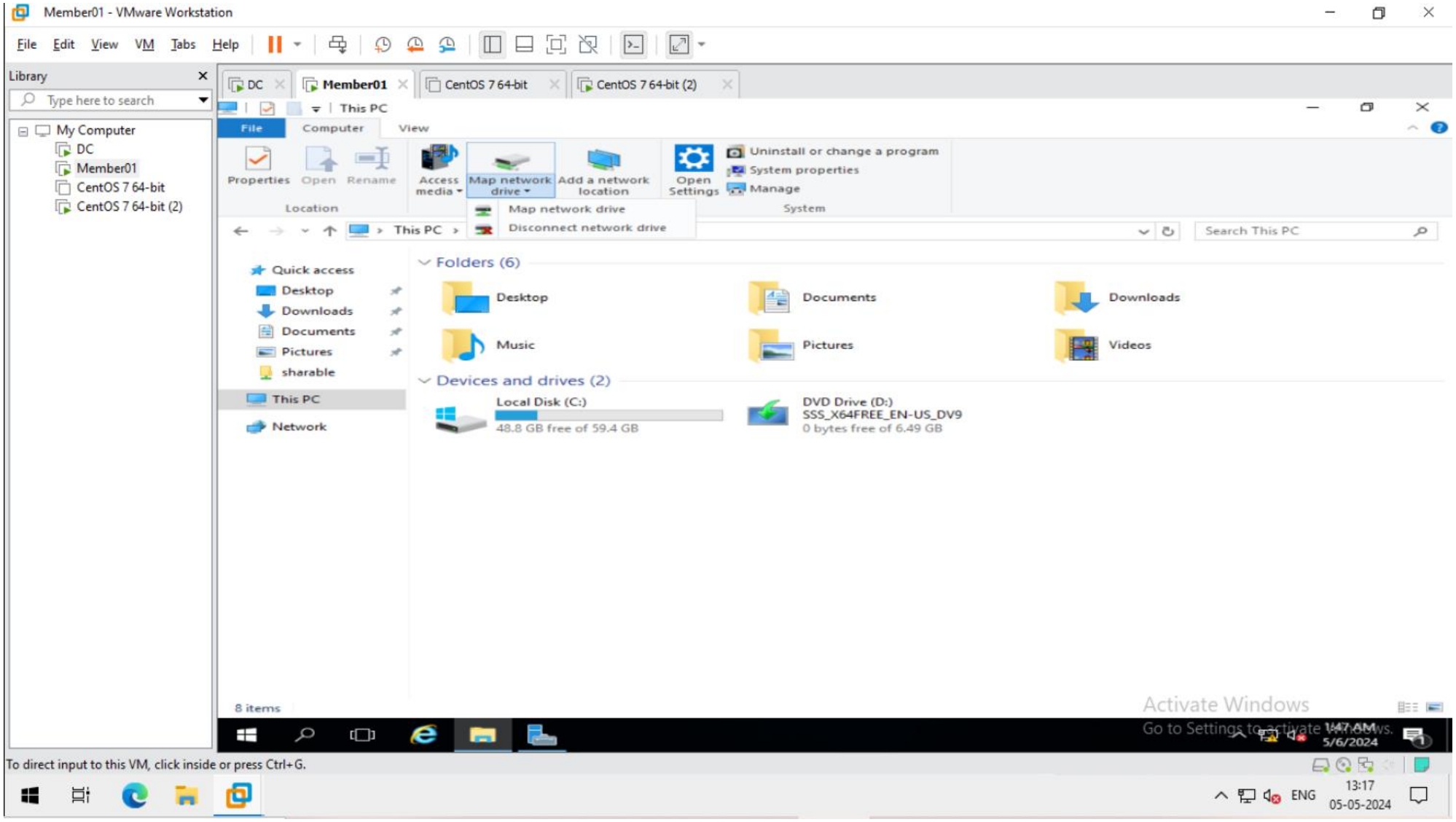
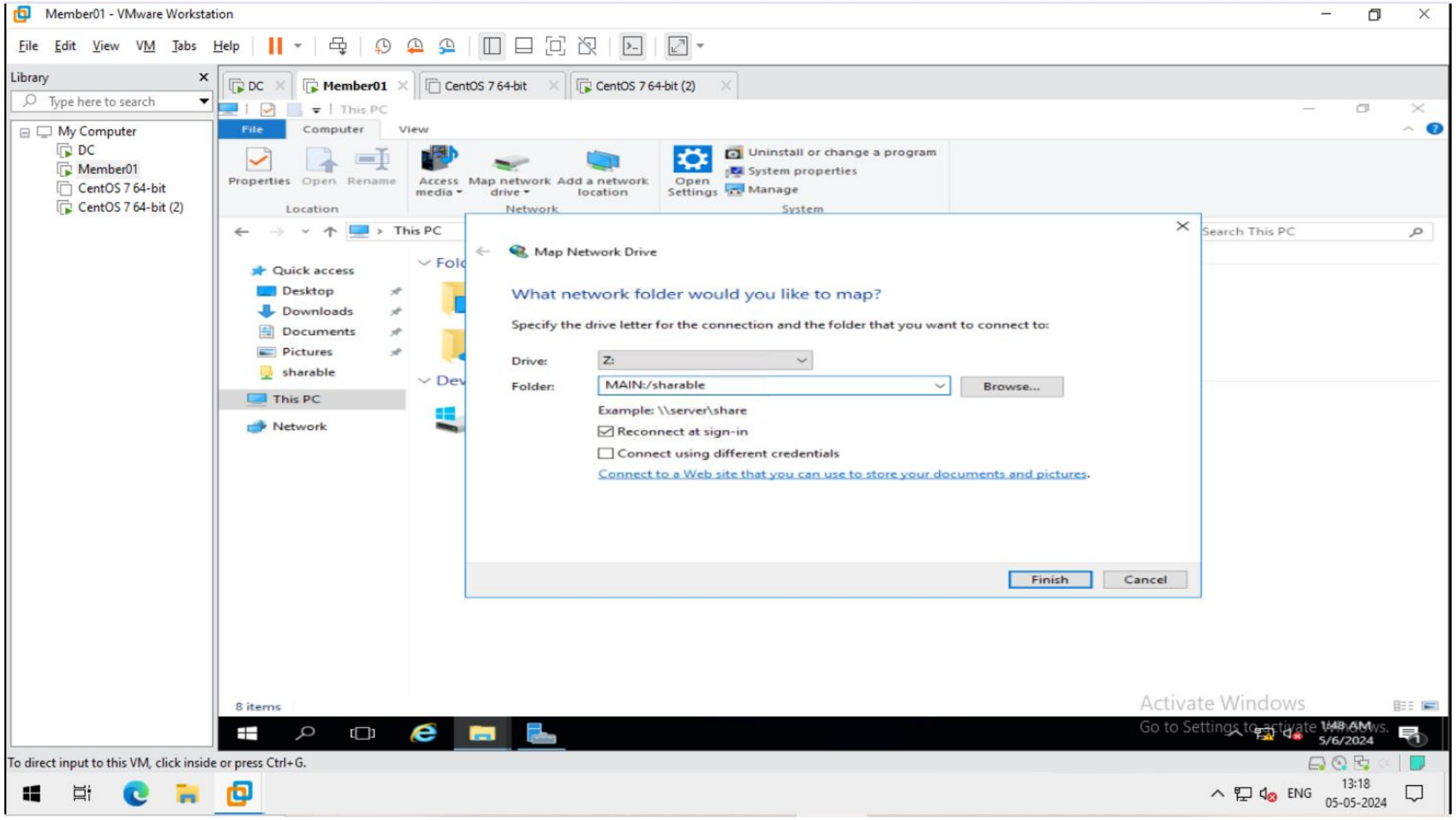
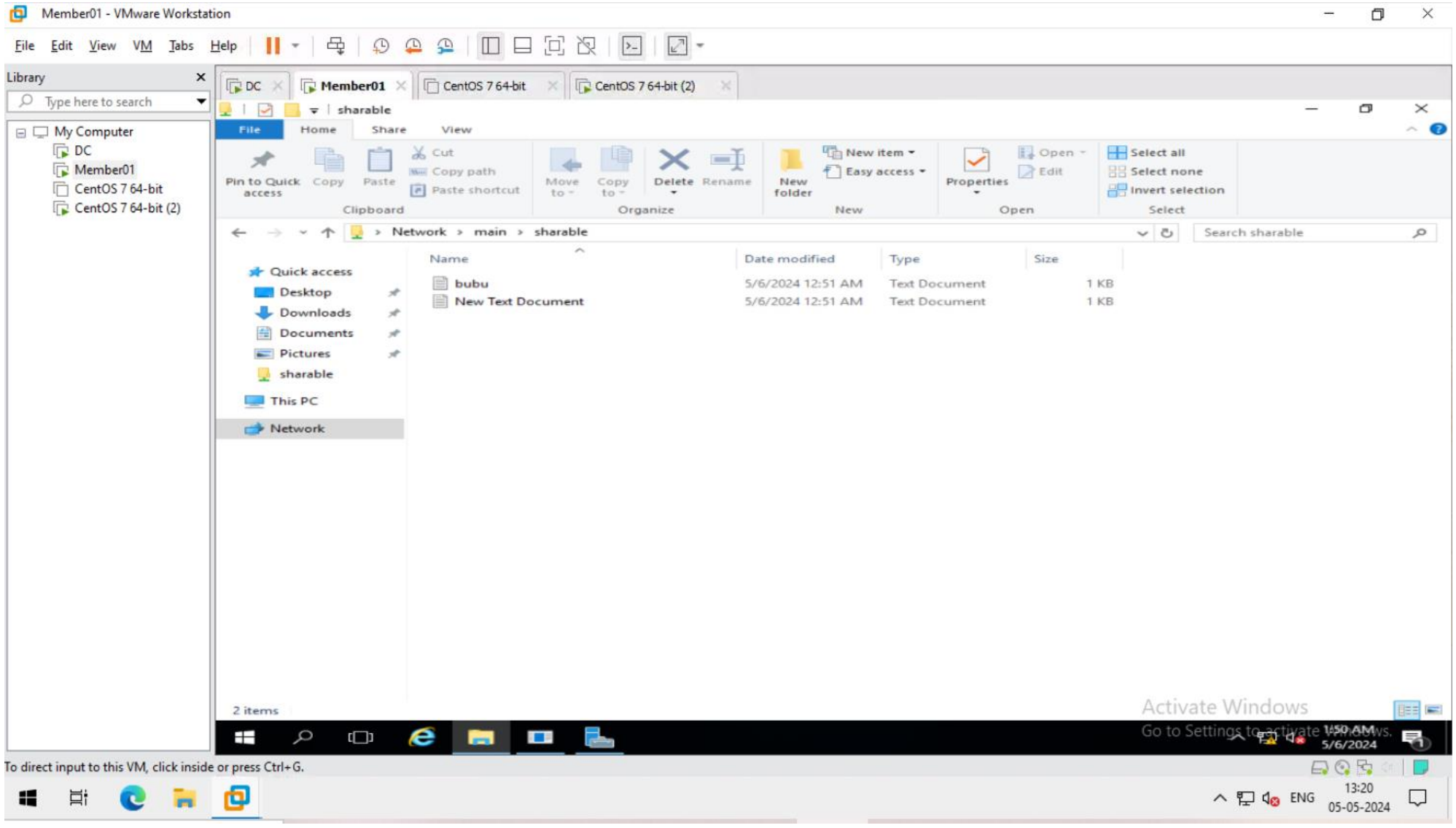
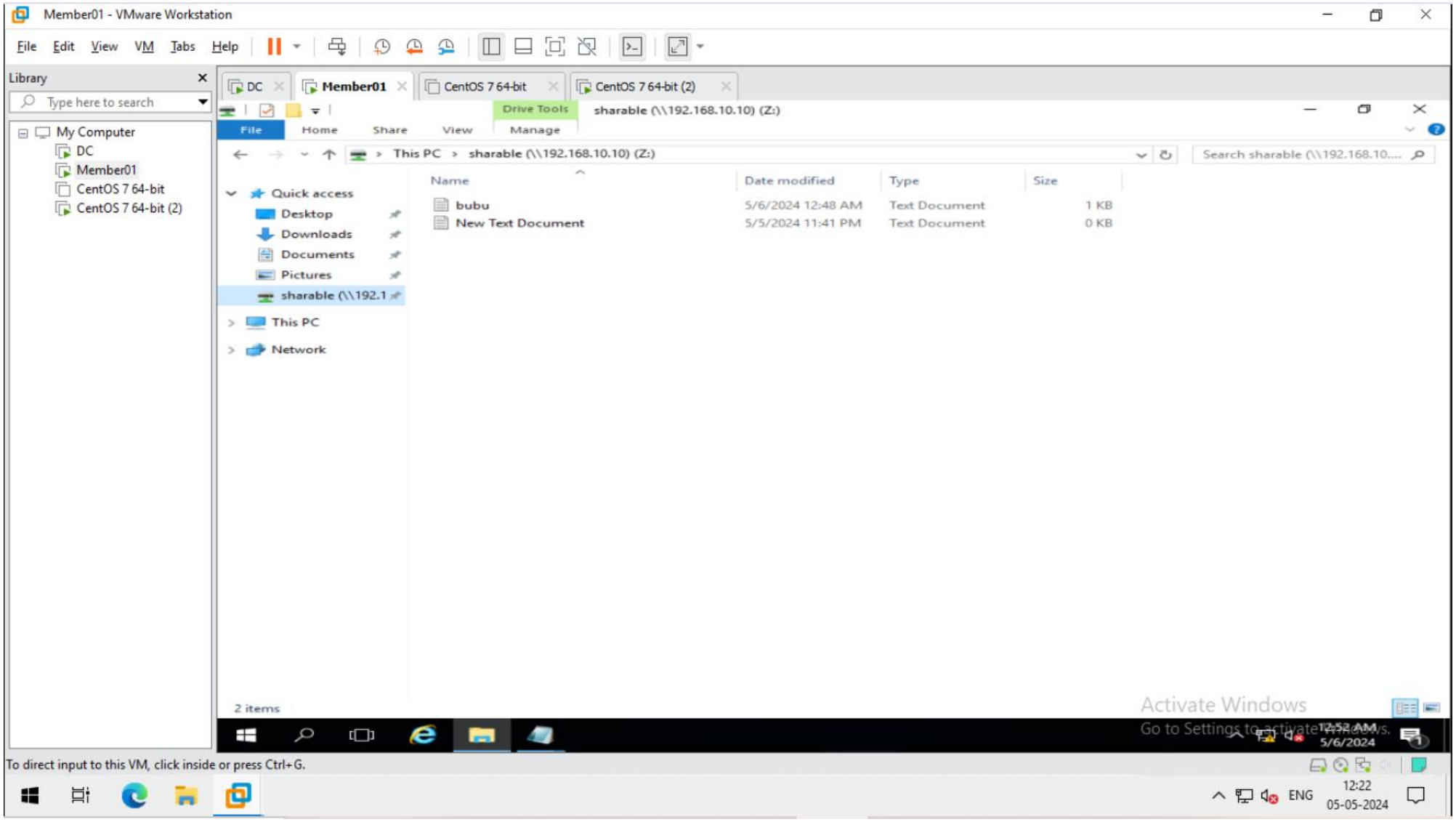


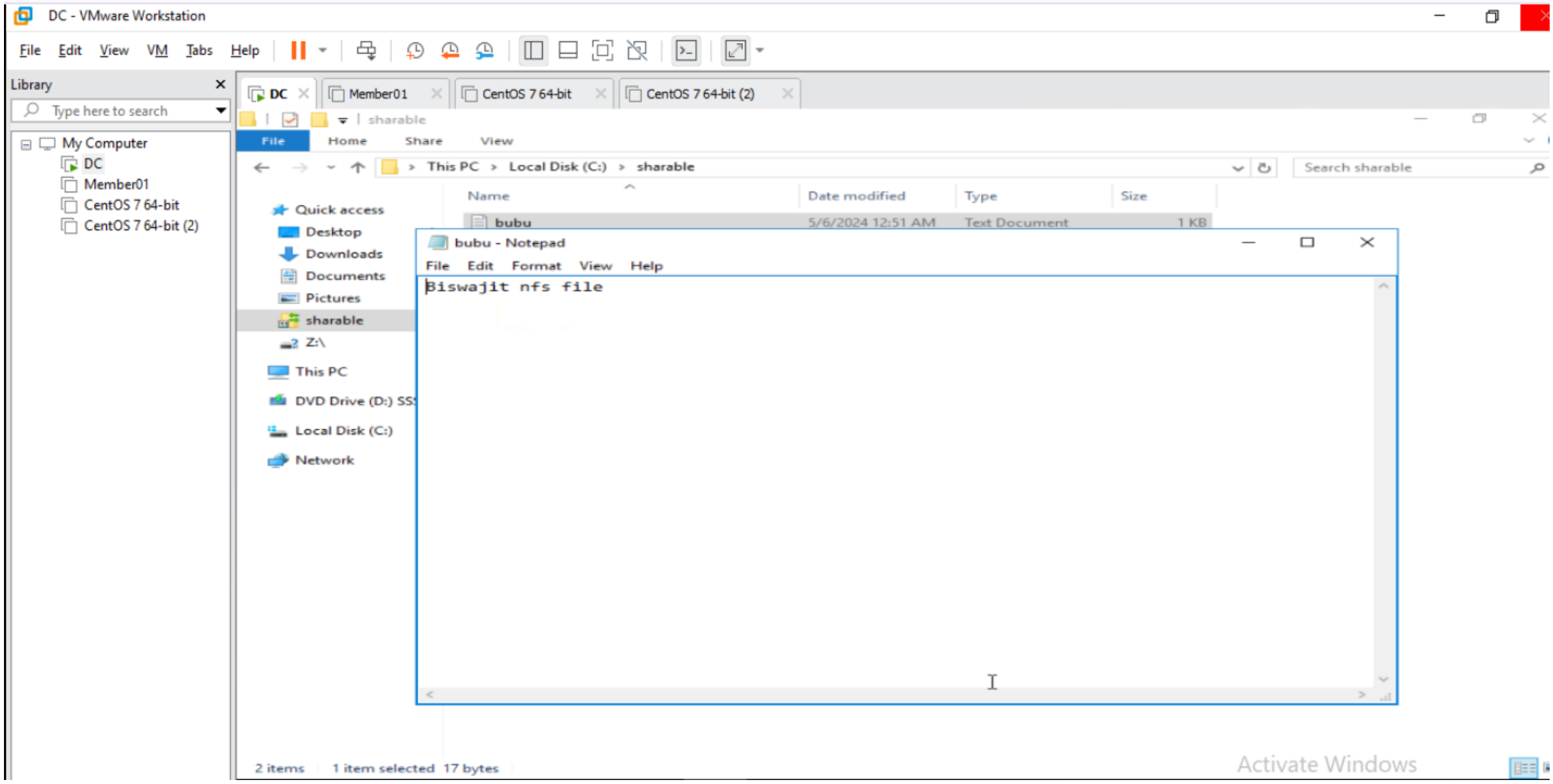


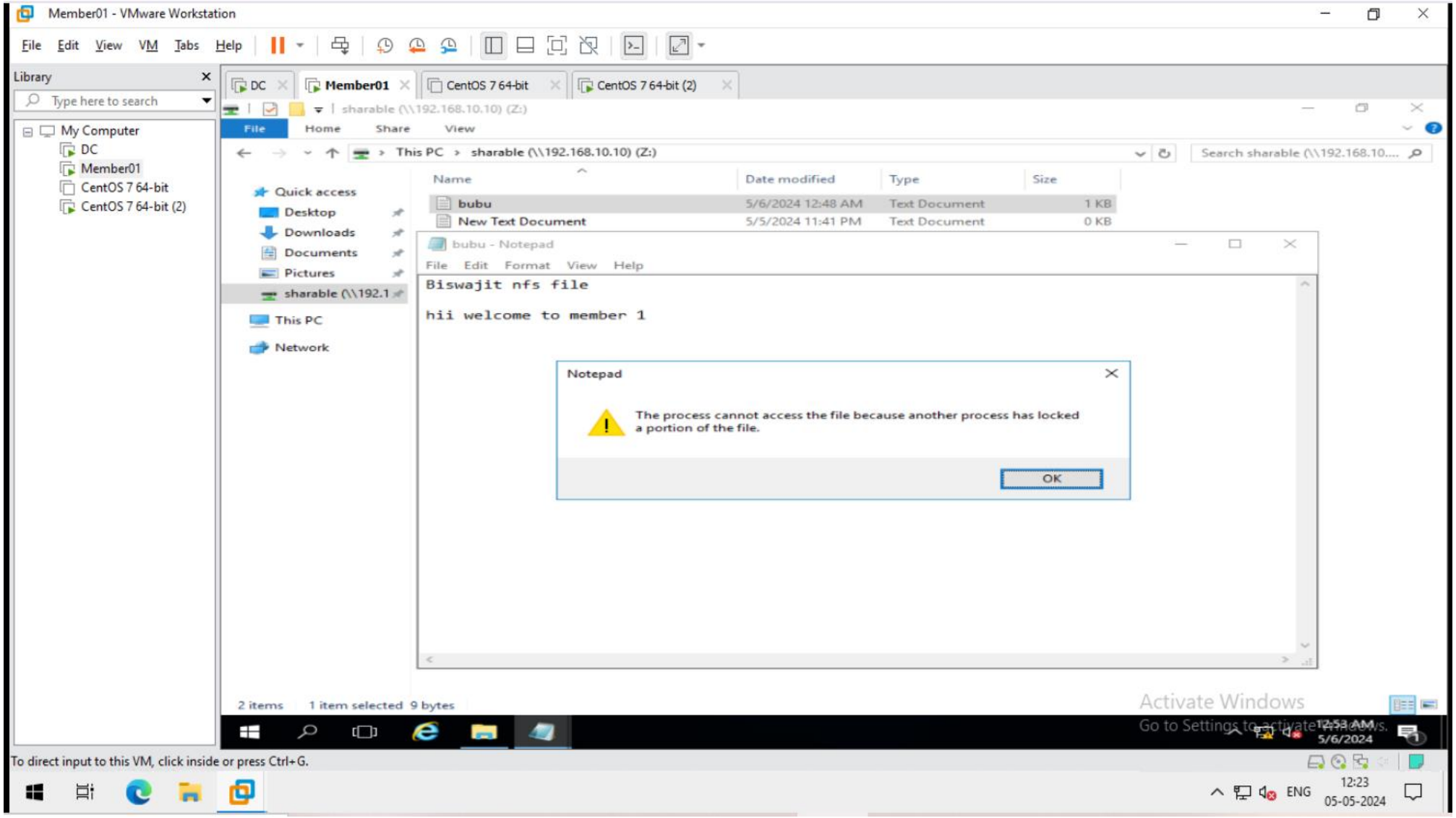


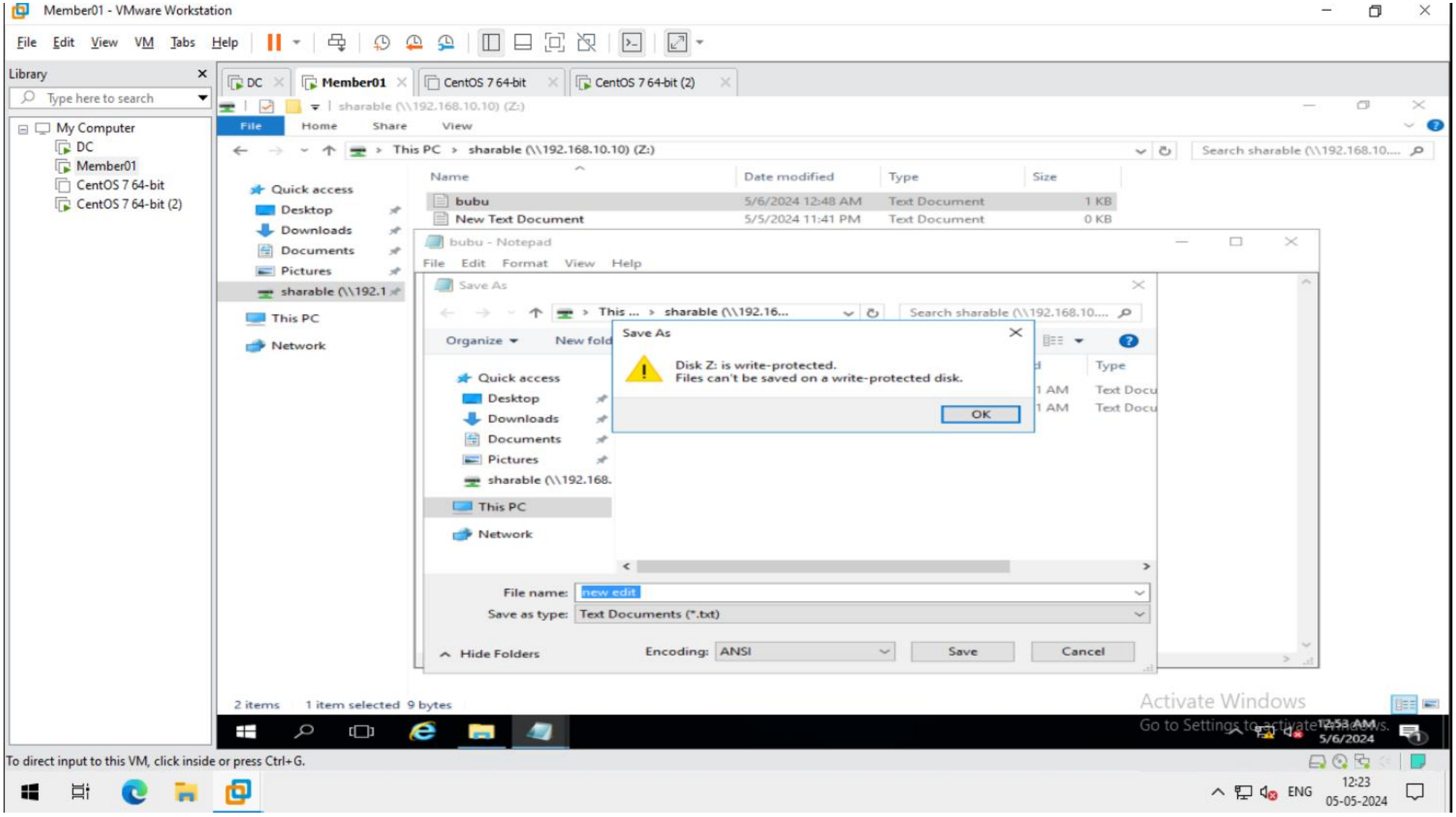


11. now try to access from member machine









Thank You