

Q1. Install Virtual box and making Ubuntu And Window Virtual Machine.

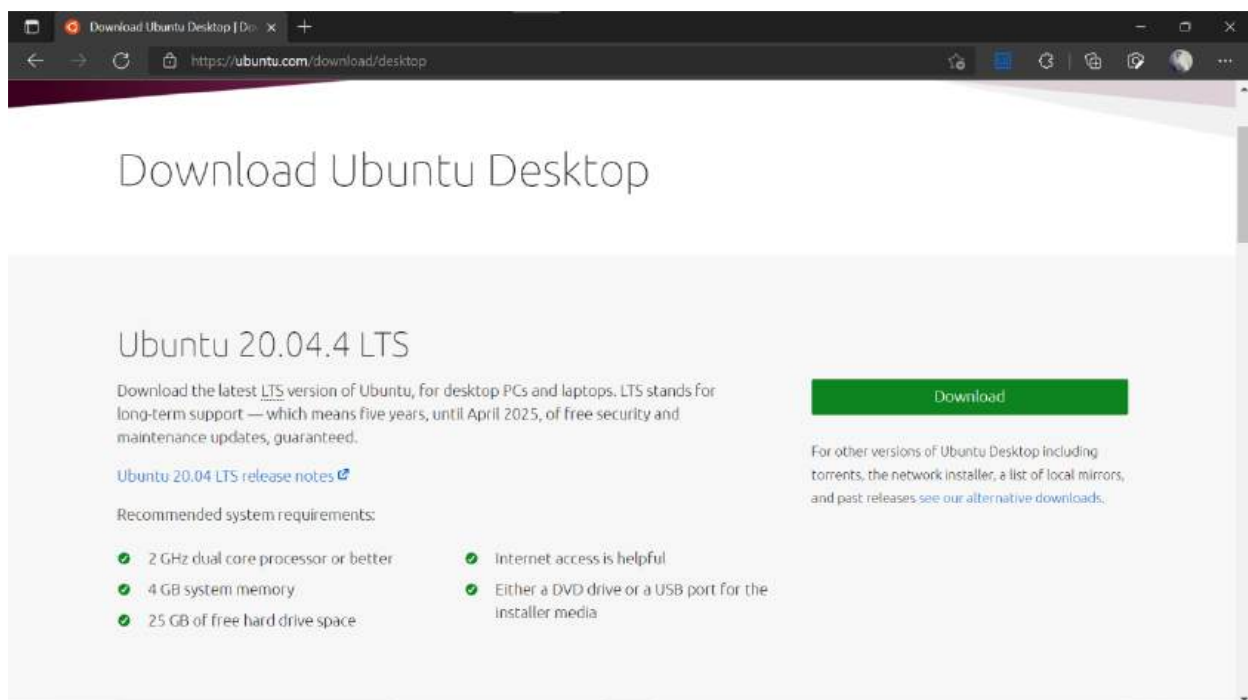
Ubuntu:

Step-1: Download VirtualBox for Windows and install it on your computer



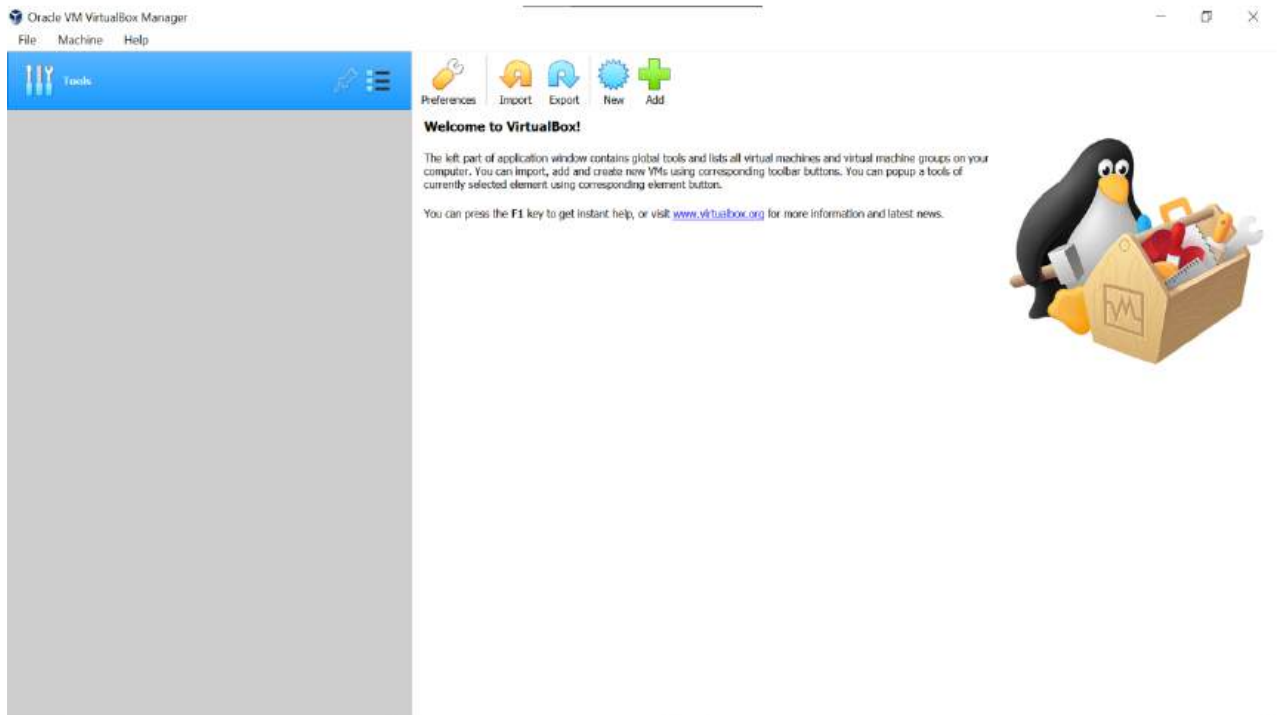
<https://www.virtualbox.org/wiki/Downloads>

Step-2: Download the Ubuntu ISO file you want to install from the Ubuntu download page.

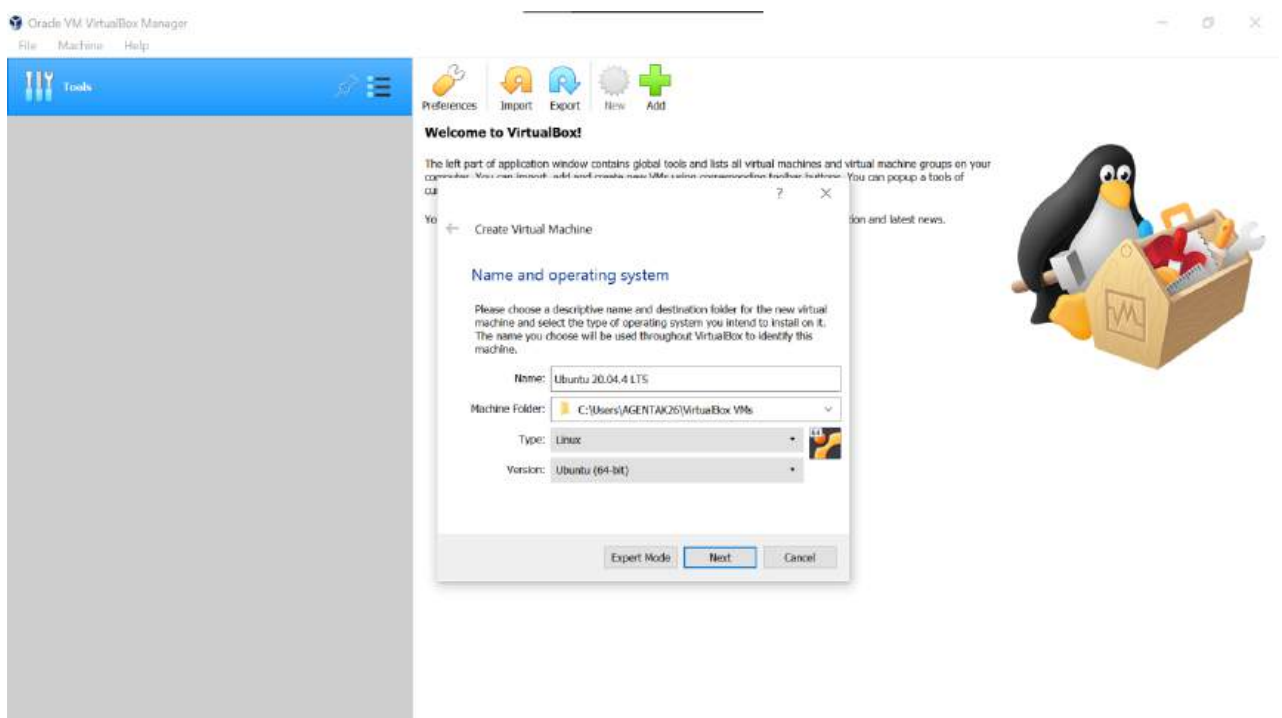


Note: The current version of Ubuntu only works on 64-bit machines.

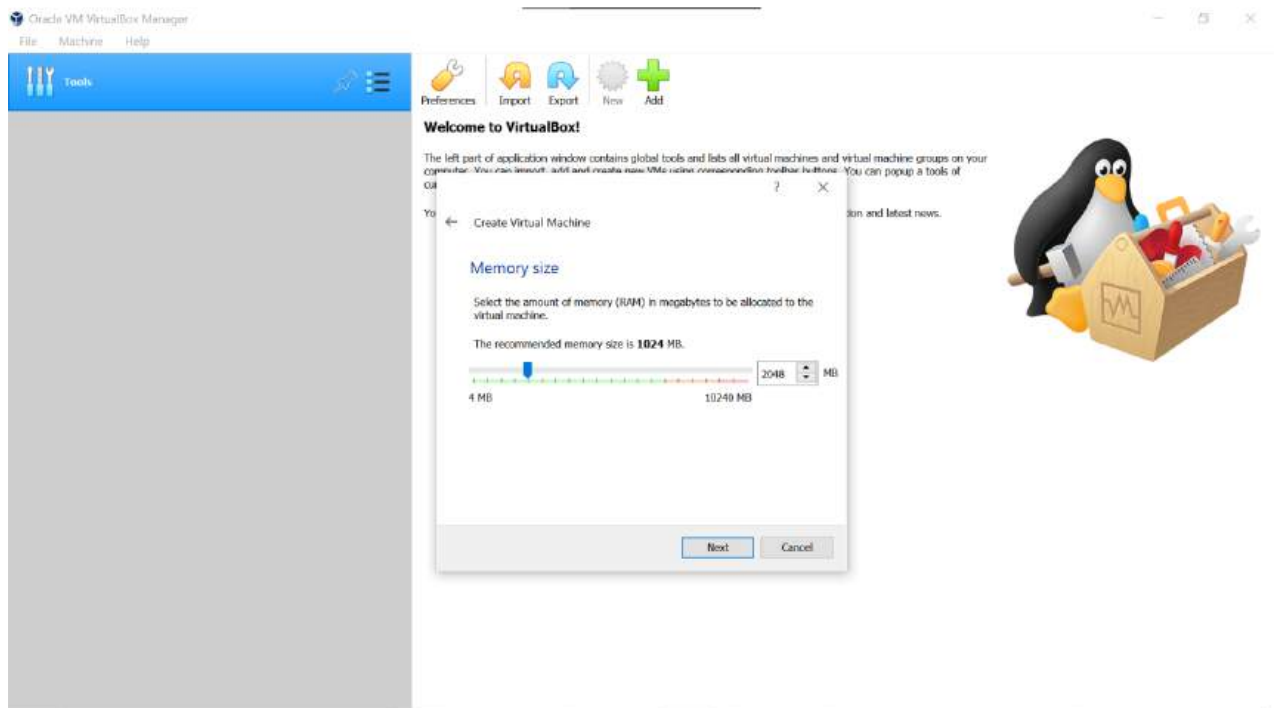
Step-3: Open VirtualBox and select New in the top taskbar.



Step-4: Give your VM a name, choose Linux as the Type, then choose Ubuntu as the Version and select Next.

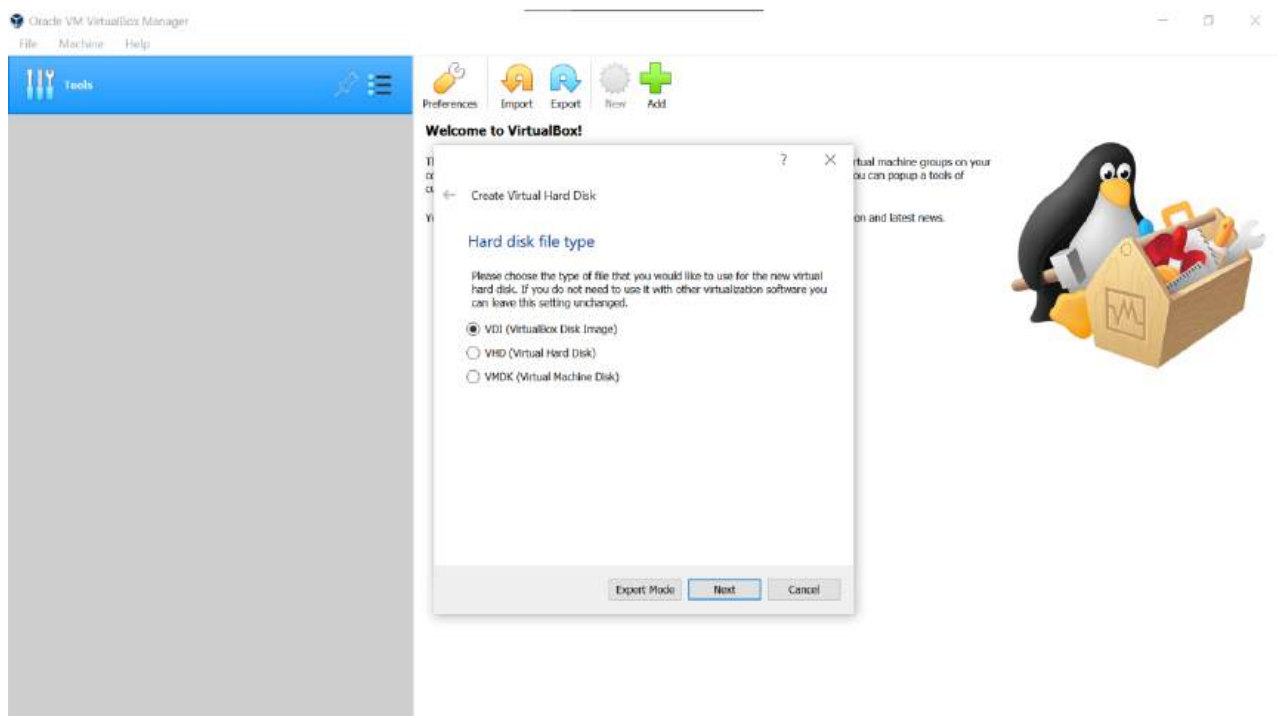


Step-5: Choose how much RAM you want to assign to the virtual machine and select Next. The recommended minimum is 1024 MB.



Step-6: Choose Create a virtual hard disk now and select Create.

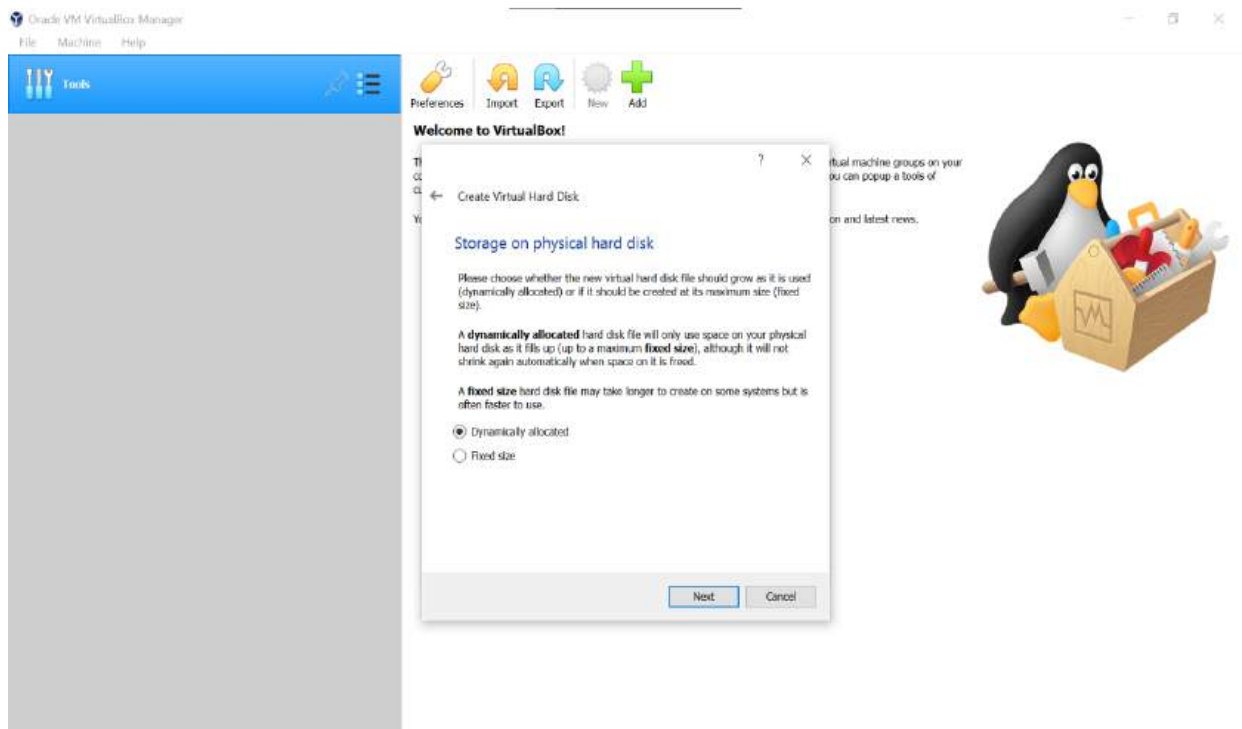
Step-7: Choose VDI (VirtualBox Disk Image) and select Next.



Note on (VDI): Normally, Oracle VM VirtualBox uses its own container format for guest hard

disks. This is called a Virtual Disk Image (VDI) file. This format is used when you create a new virtual machine with a new disk.

Step-8: Choose Dynamically allocated or Fixed size for the storage type and select Next.

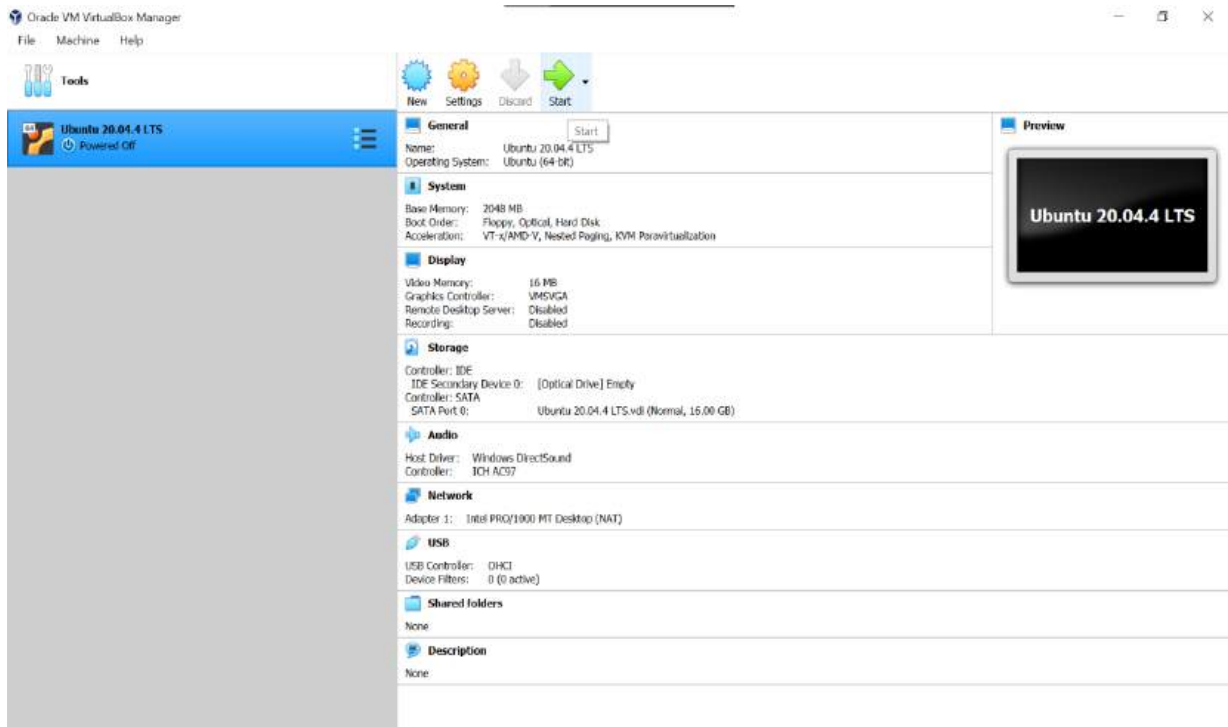


Tip: A fixed size disk performs better because the virtual machine doesn't have to increase the file size as you install software.

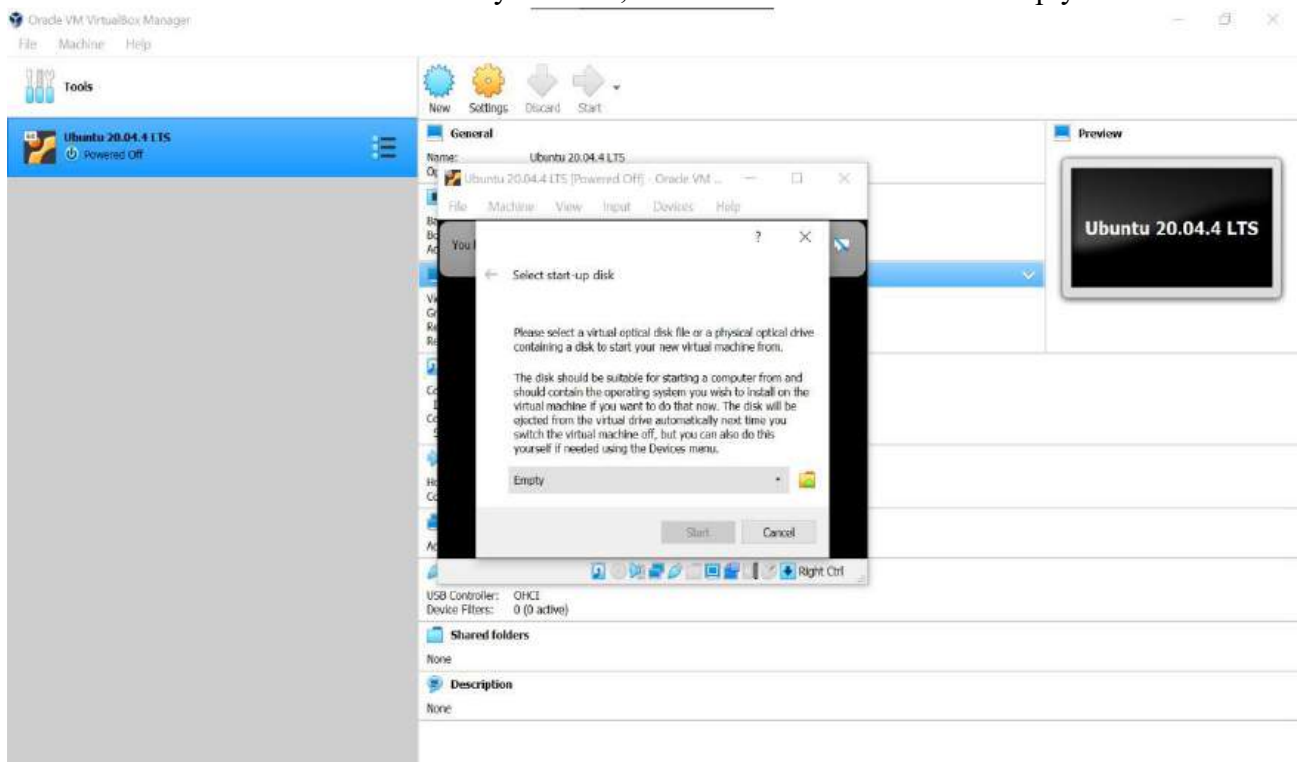
Step-9: Choose how much space you wish to set aside for Ubuntu and select Create.

Note: The amount of space you allocate for your virtual machine determines how much room you must install applications, so set aside a sample amount.

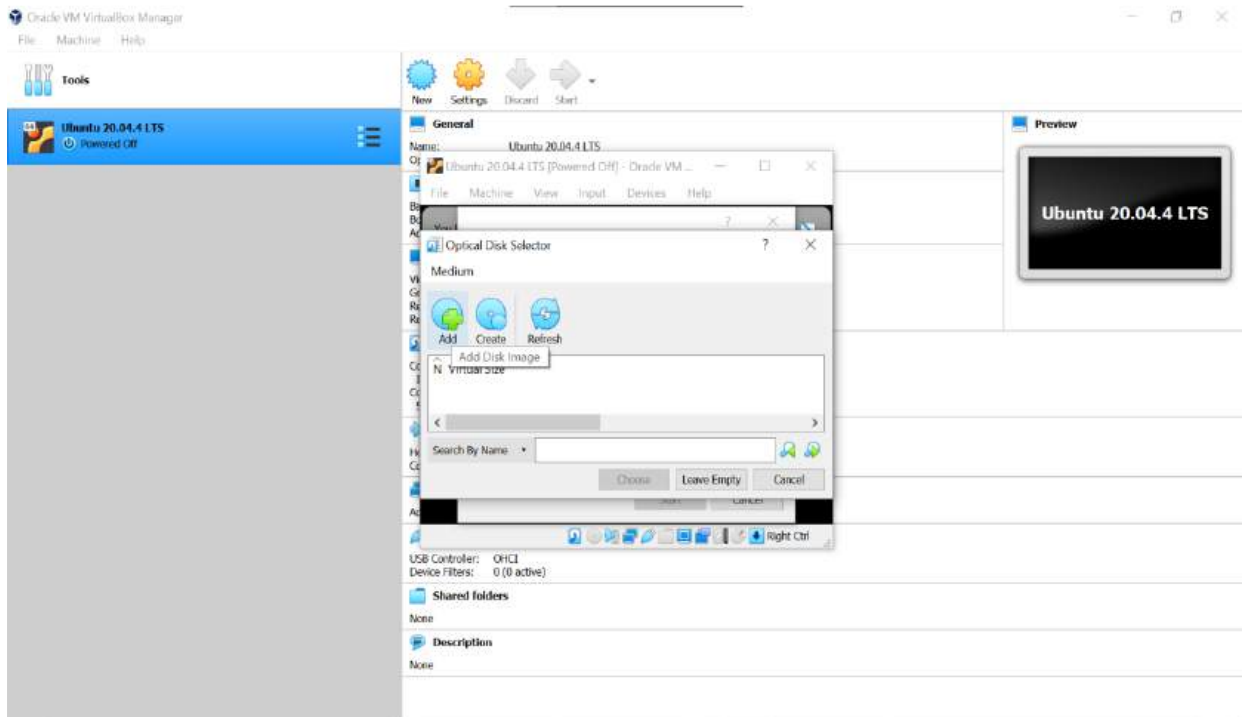
Step-10: The name of your virtual machine will now appear on the left side of the VirtualBox manager. Select Start in the toolbar to launch your VM.



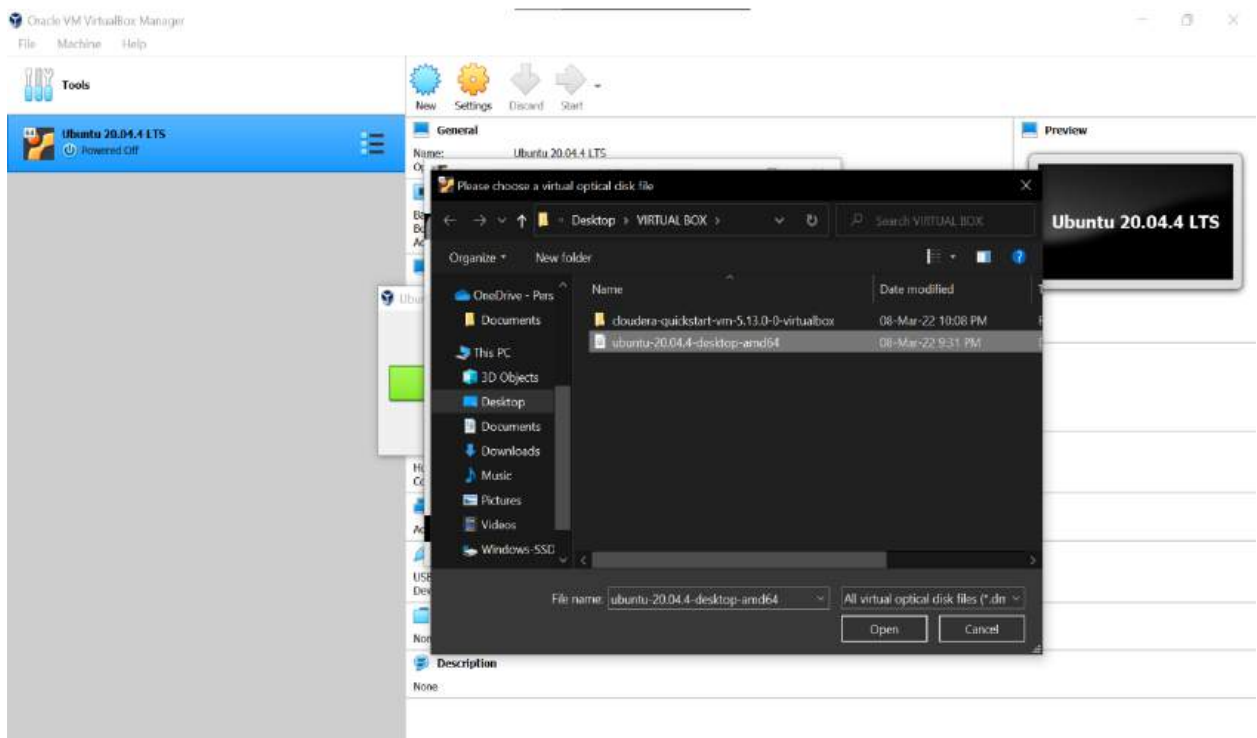
Step-11: This is the point where you need to choose the Ubuntu ISO file you downloaded earlier. If the VM doesn't automatically detect it, select the folder next to the Empty field.



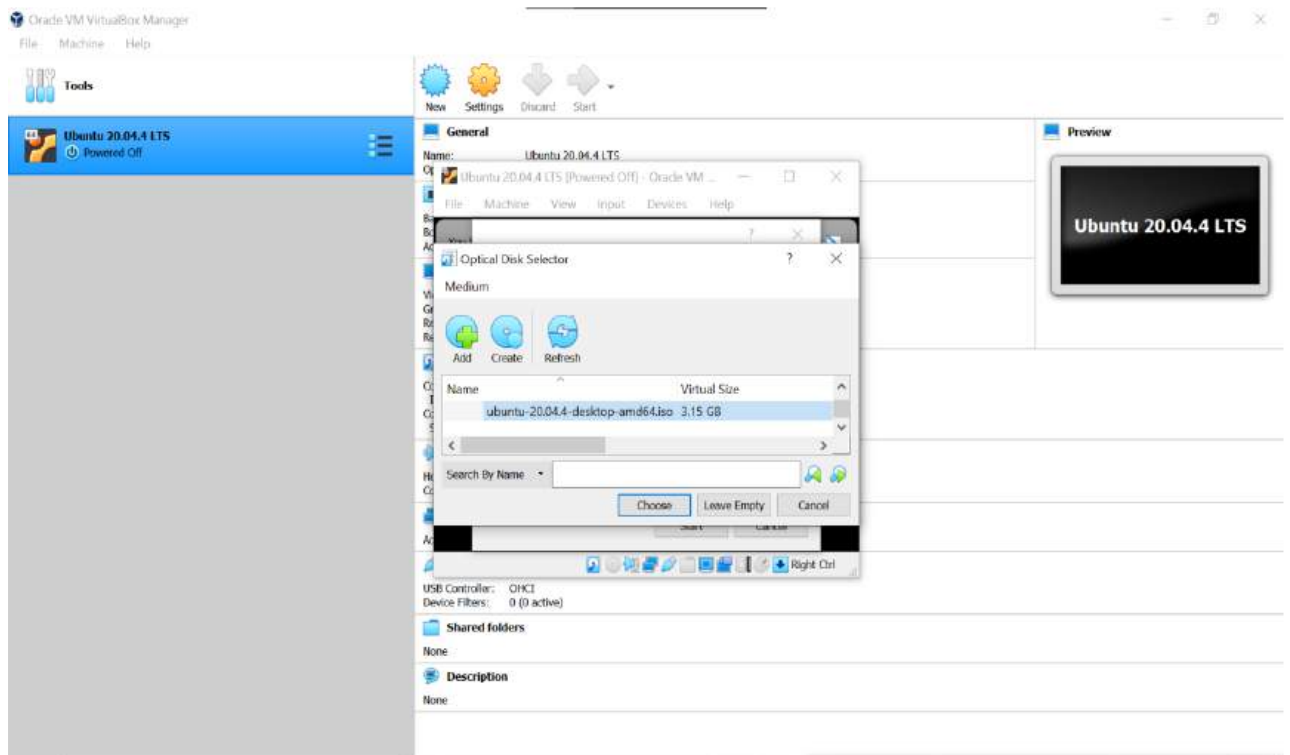
Step-12: Select Add in the window that pops up.



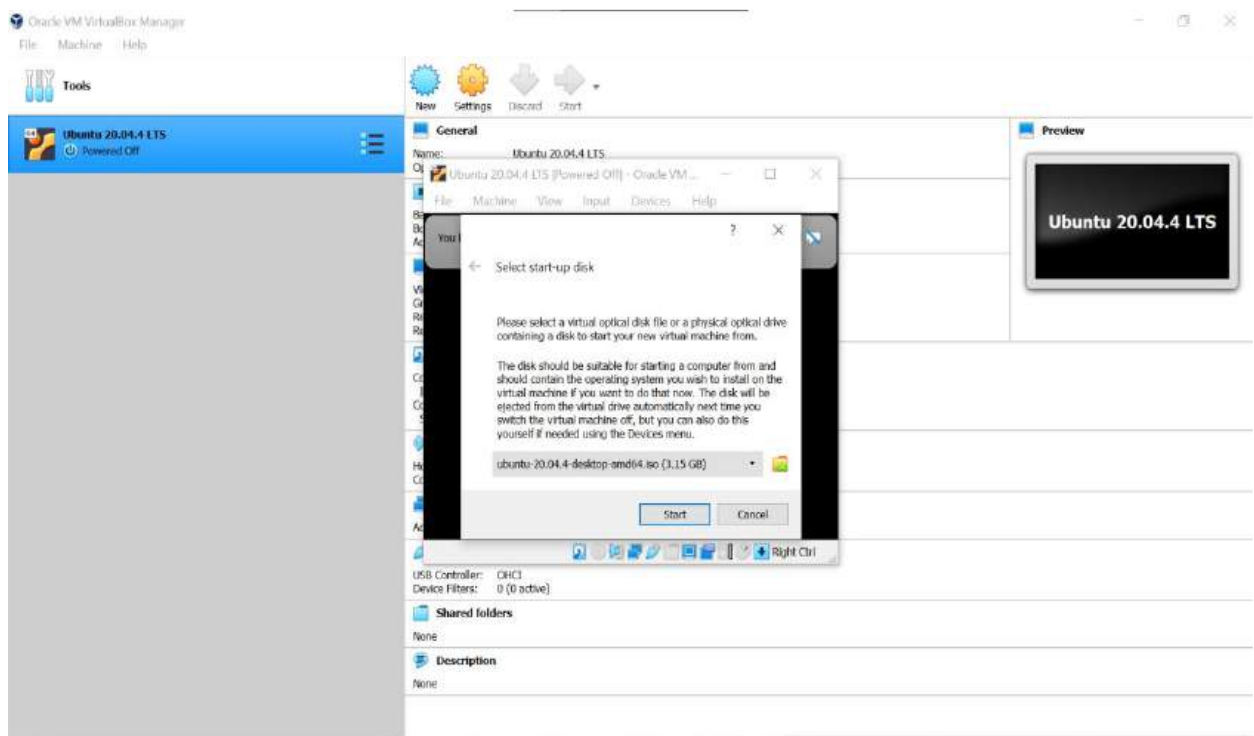
Step-13: Choose your Ubuntu disk image and select Open.



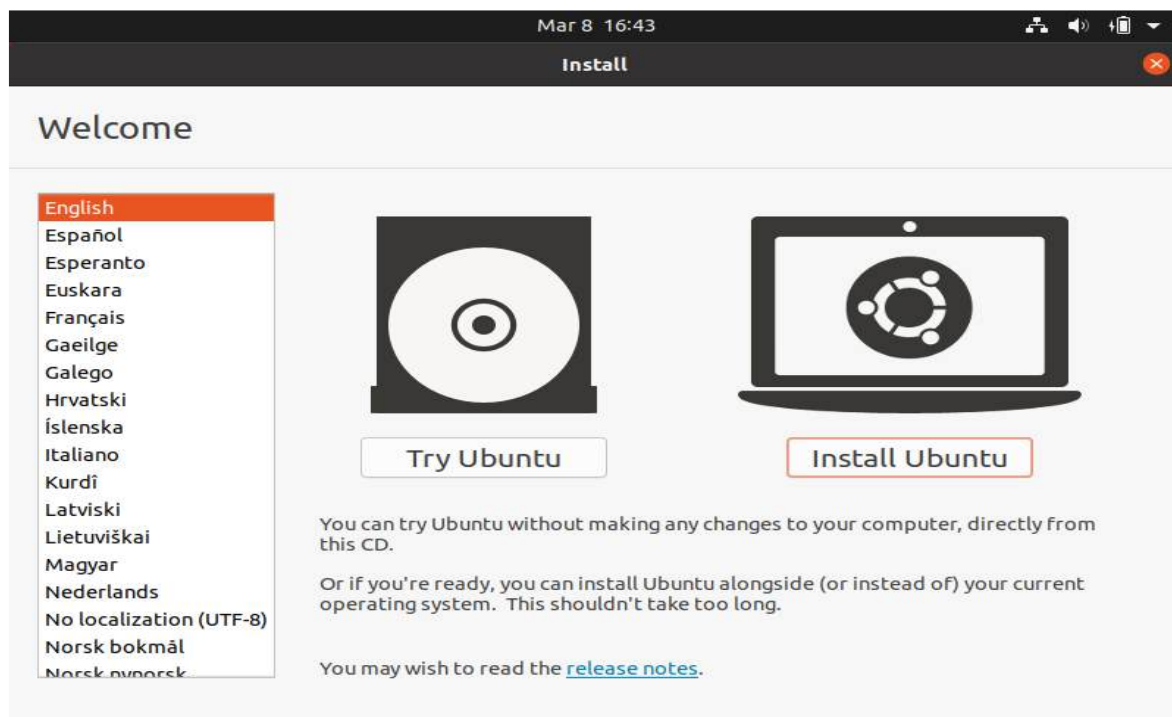
Step-14: - Select Choose



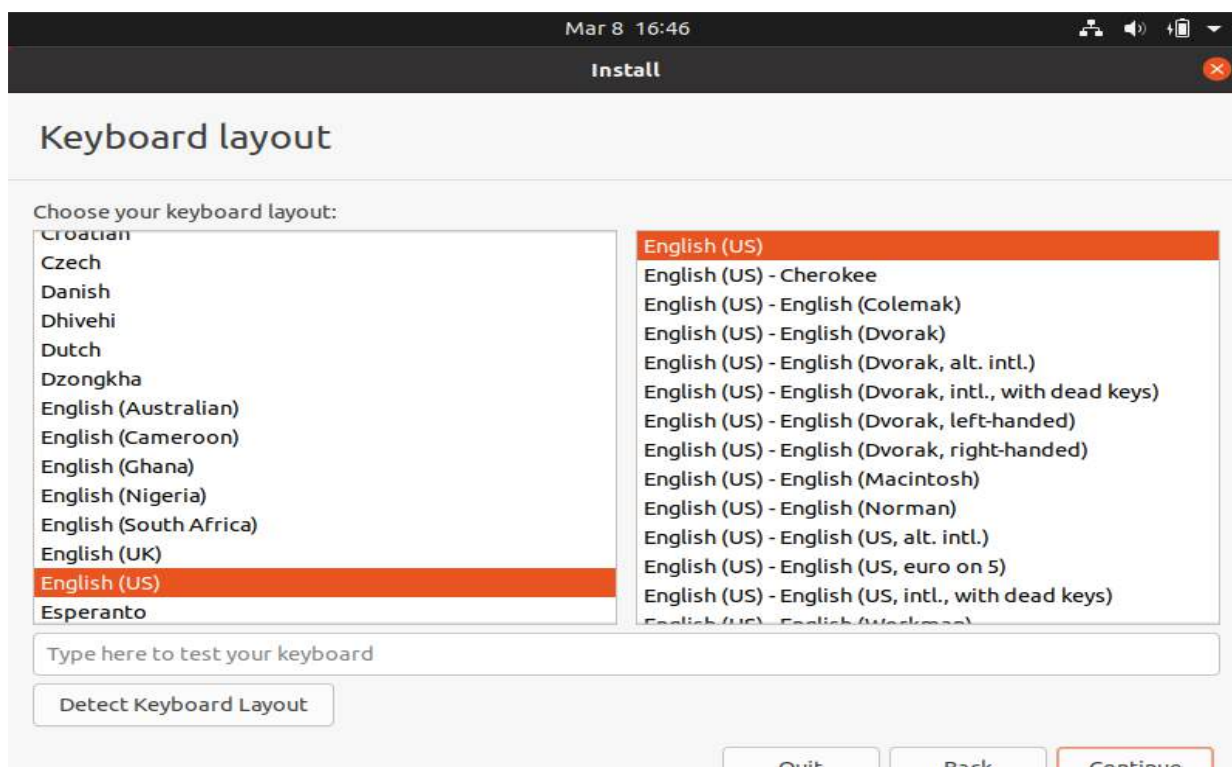
Step-15: Select Start.



Step-16: Your VM will now boot into a live version of Ubuntu. Choose your language and select Install Ubuntu



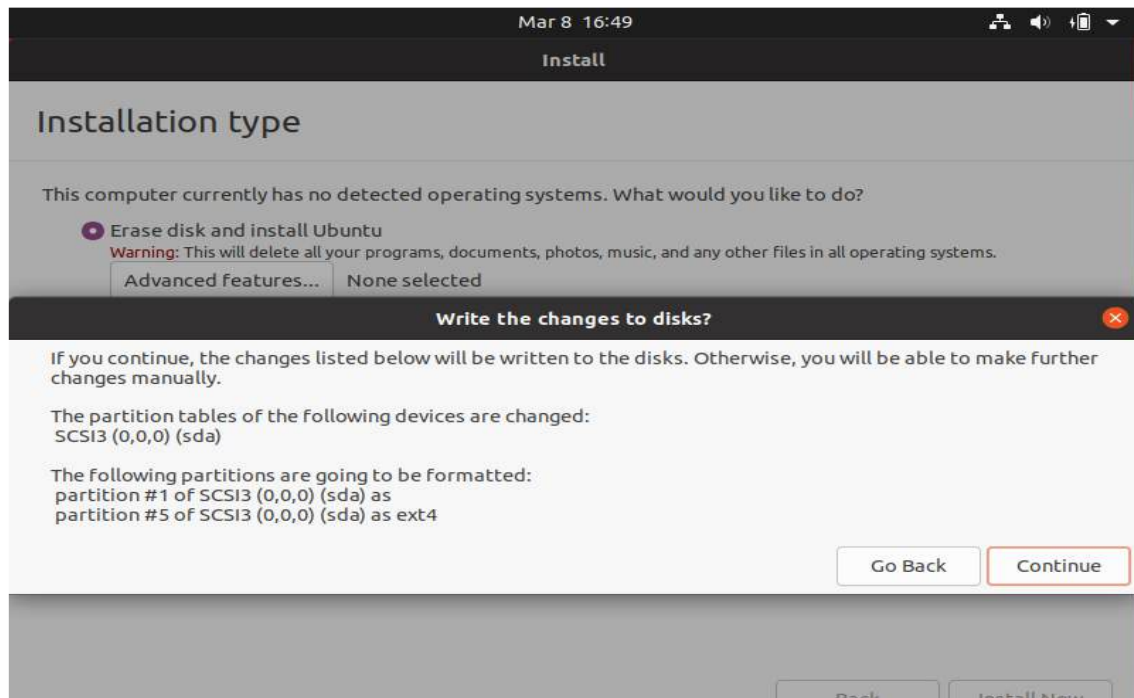
Step-17: Choose your keyboard layout and select Continue.



Step-18: Choose Normal installation or Minimal installation, then select Continue.

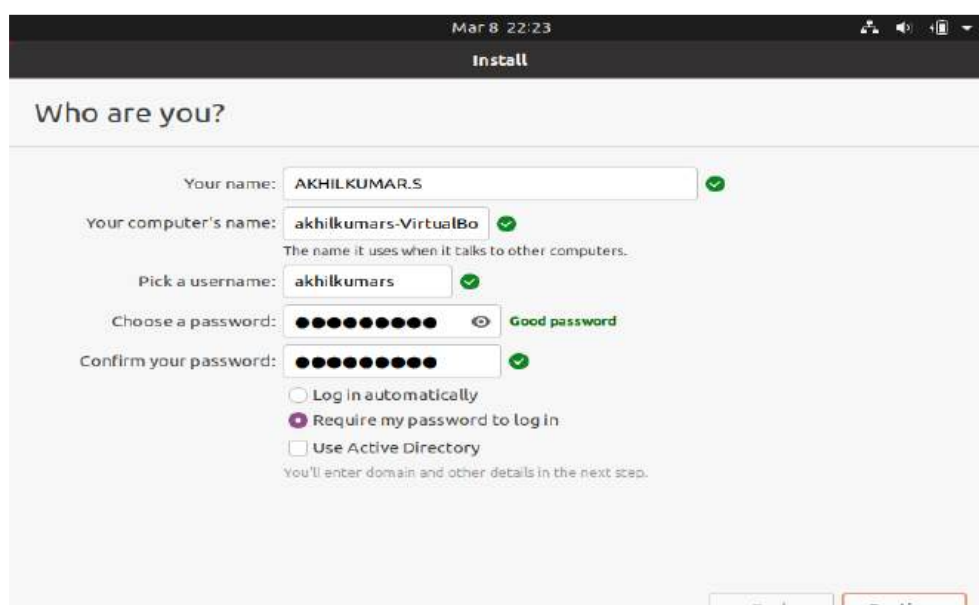
Step-19: Choose Erase disk and install Ubuntu and select Install Now, then select Continue to ignore the warning.

Note: This step will not erase your computer's physical hard drive; it only applies to the virtual machine.

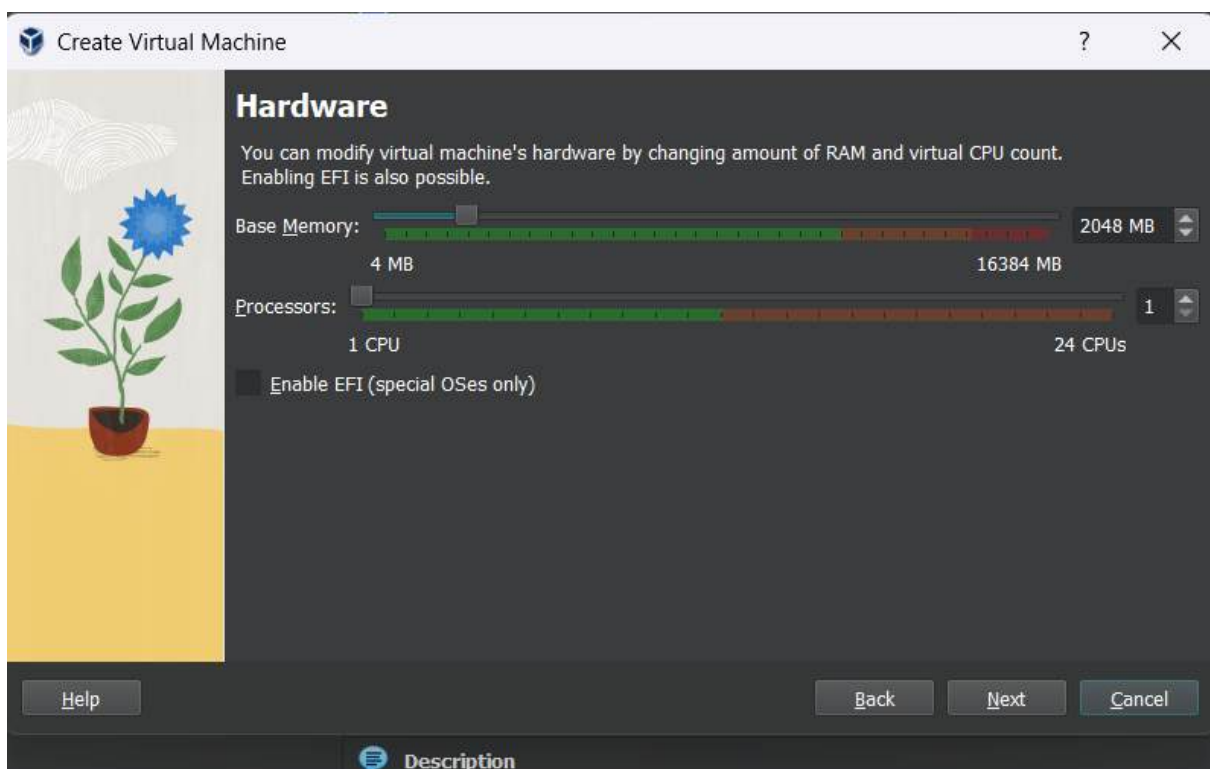
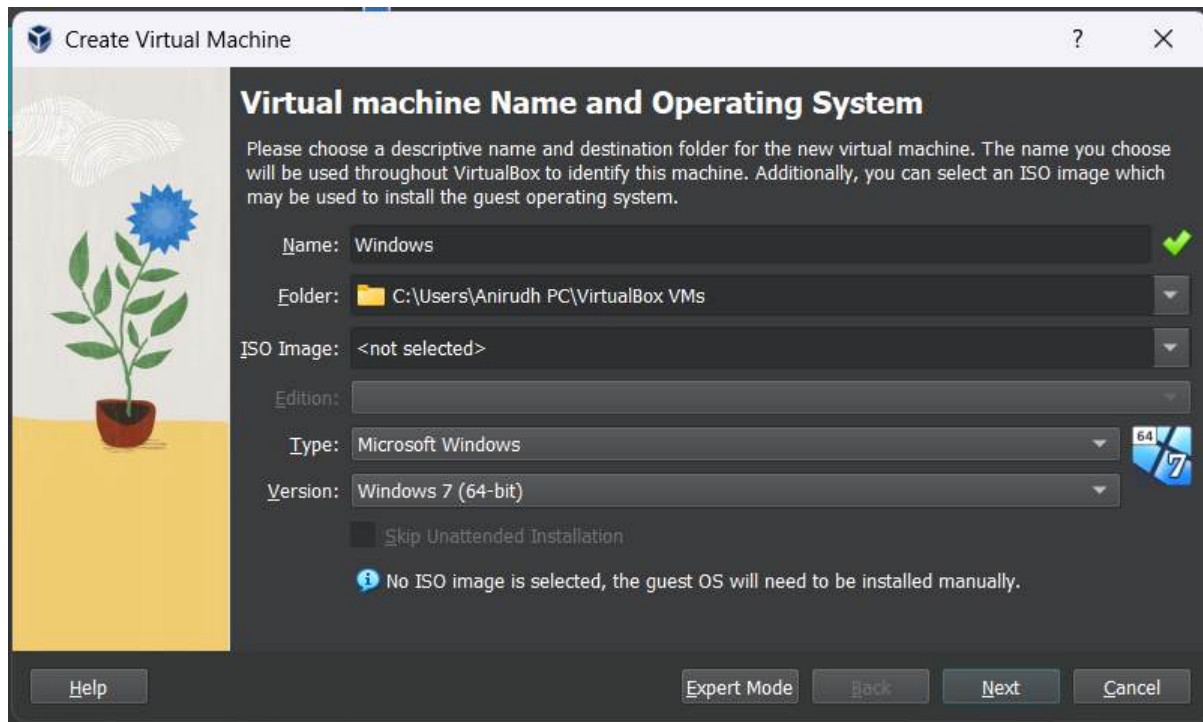


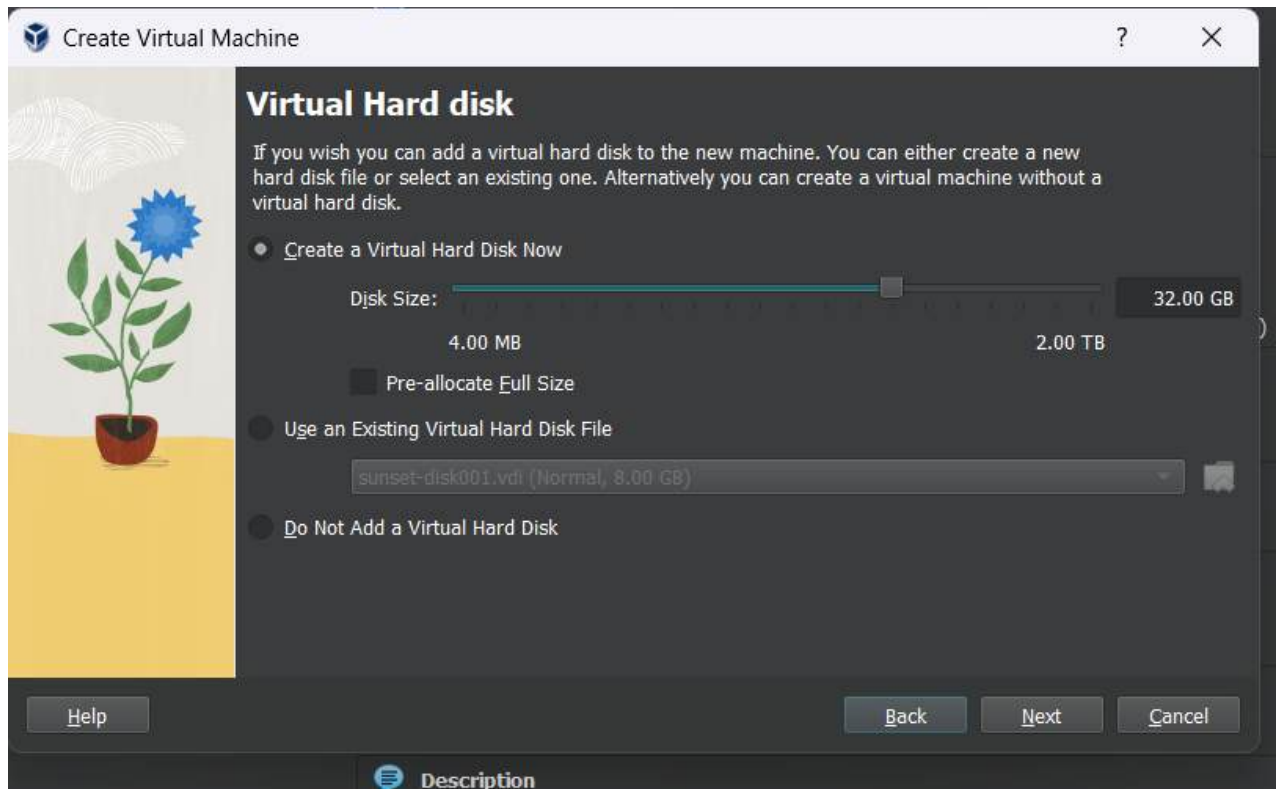
Step-20: - Choose your time zone on the map, then select Continue.

Step-21: - Set up your user account and select Continue.

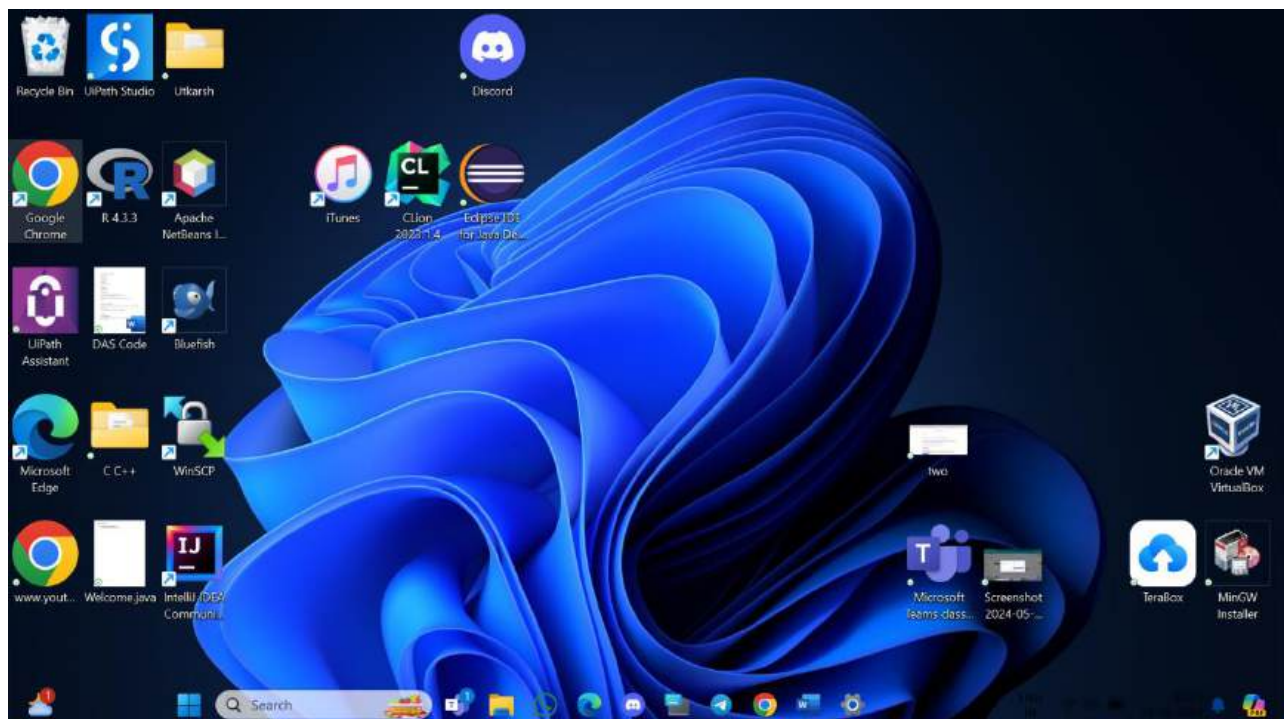


Similarly, Follow the same steps above to Build Windows Virtual Machine.





Output:

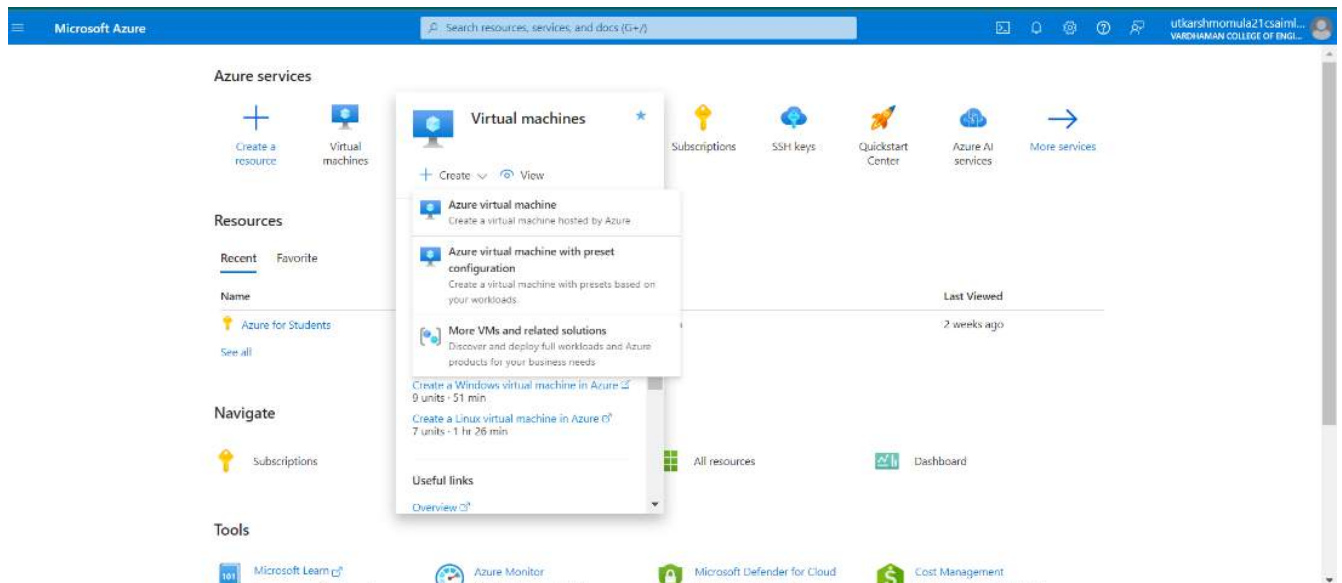


Virtual Box installed for both Ubuntu and Windows. Hence experiment is successfully executed and verified.

Q2) Create a Windows Virtual Machine in Microsoft Azure

Step-1: Sign in to your Microsoft Azure account.

Step-2: Go To Virtual machine, and click on “Create” to create a window virtual machine.



Step-3: Fill the details in that window by creating a “Resource Group”, Zone: Asia, Image: window, Select the disk storage and so on. After that click on “Create + Review”. And Finally click on “Create”

Instance details

Virtual machine name * ⓘ

Region * ⓘ

Availability options ⓘ

Availability zone * ⓘ

☒ You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type ⓘ

[Configure security features](#)

Image * ⓘ

[See all images](#) | [Configure VM generation](#)

VM architecture ⓘ ☒ x64 ☐ Arm64

☒ Arm64 is not supported with the selected image.

Configure the network of your virtual machine

Administrator account

Username * ✓

Password * ✓

Confirm password * ✓

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ☐ None ☒ Allow selected ports

Select inbound ports * ✓

Info All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.

Step-4: Firstly, copy the public IP Address of that created virtual machine.

Microsoft Azure Search resources, services, and docs (G+)

Home > Virtual machines >

Create a virtual machine

Validation passed

Basics Disks Networking Management Monitoring Advanced Tags **Review + create**

Info Cost given below is an estimate and not the final price. For all your pricing needs, please use the pricing calculator. ⓘ

Price

1 X Standard D51 v2 by Microsoft [Terms of use](#) | [Privacy policy](#)

Subscription credits apply ⓘ

6,9884 INR/hr

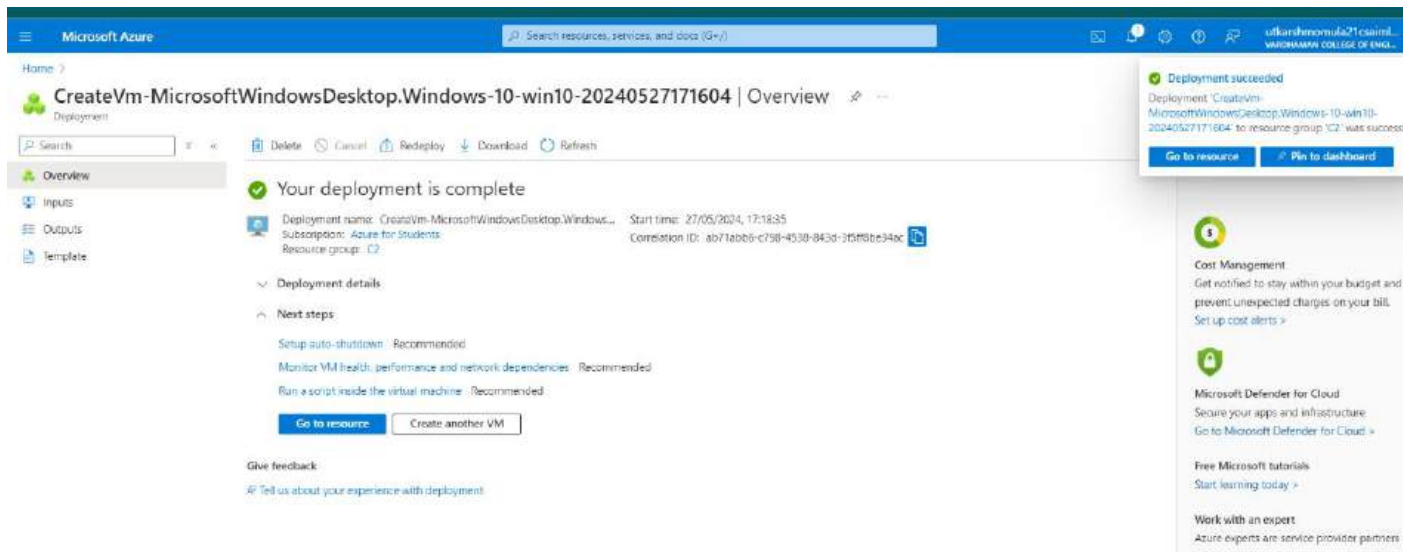
[Pricing for other VM sizes](#)

TERMS

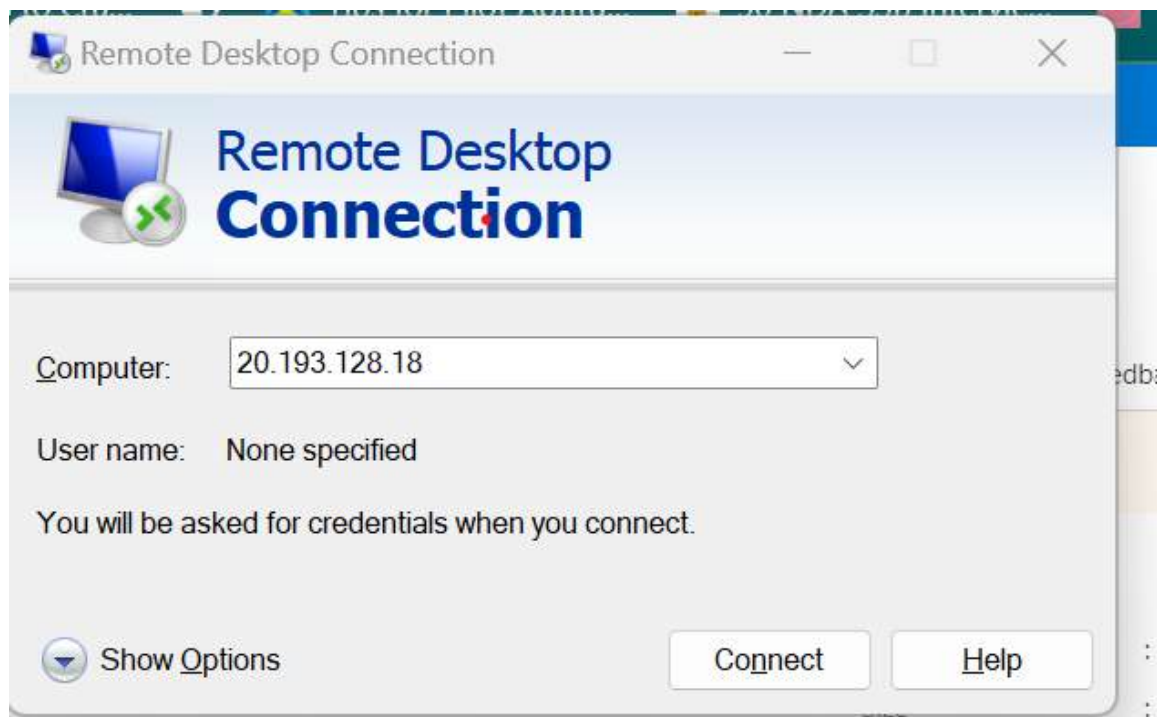
By clicking "Create", I (a) agree to the legal terms and privacy statements(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

< Previous Next > **Create**

[Download a template for automation](#) [Give feedback](#)



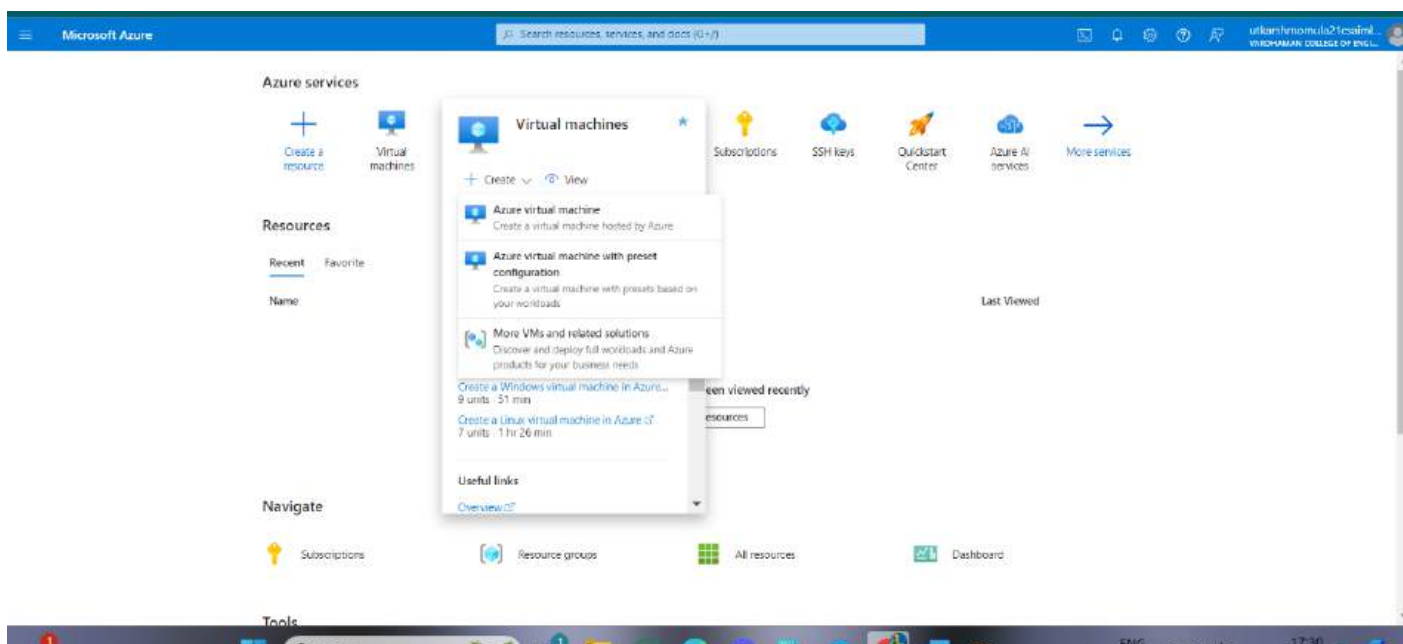
Step-6: By using that copied IP Address open the window virtual machine through remote desktop connection.



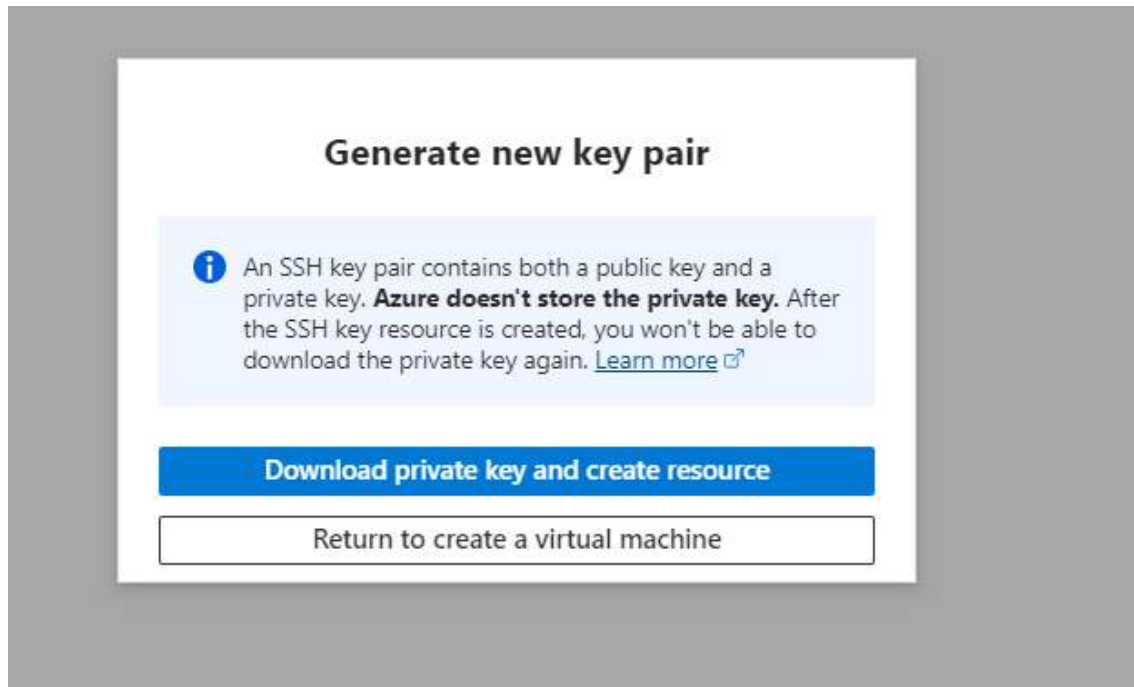
Output:

Q3) Create a Ubuntu Virtual Machine in Microsoft Azure

Step-2: Go To Virtual machine, and click on “Create” to create a window virtual machine.



Step-3: Fill the details in that ubuntu by creating a “Resource Group”, Zone: Asia, Image: ubuntu, select “SSH”, Select the disk storage and so on. After that click on “Create + Review” and click on “Create” then download key and open resource group.



Delete Cancel Redeploy Download Refresh

Your deployment is complete

Deployment name: CreateVm-canonical.0001-com-ubuntu-server-f... Start time: 27/05/2024, 17:33:20
Subscription: [Azure for Students](#) Correlation ID: 7339fa1d-07dc-4466-bc77-a0ba4d06215a
Resource group: C2

▼ Deployment details

^ Next steps

[Setup auto-shutdown](#) Recommended

[Monitor VM health, performance and network dependencies](#) Recommended

[Run a script inside the virtual machine](#) Recommended

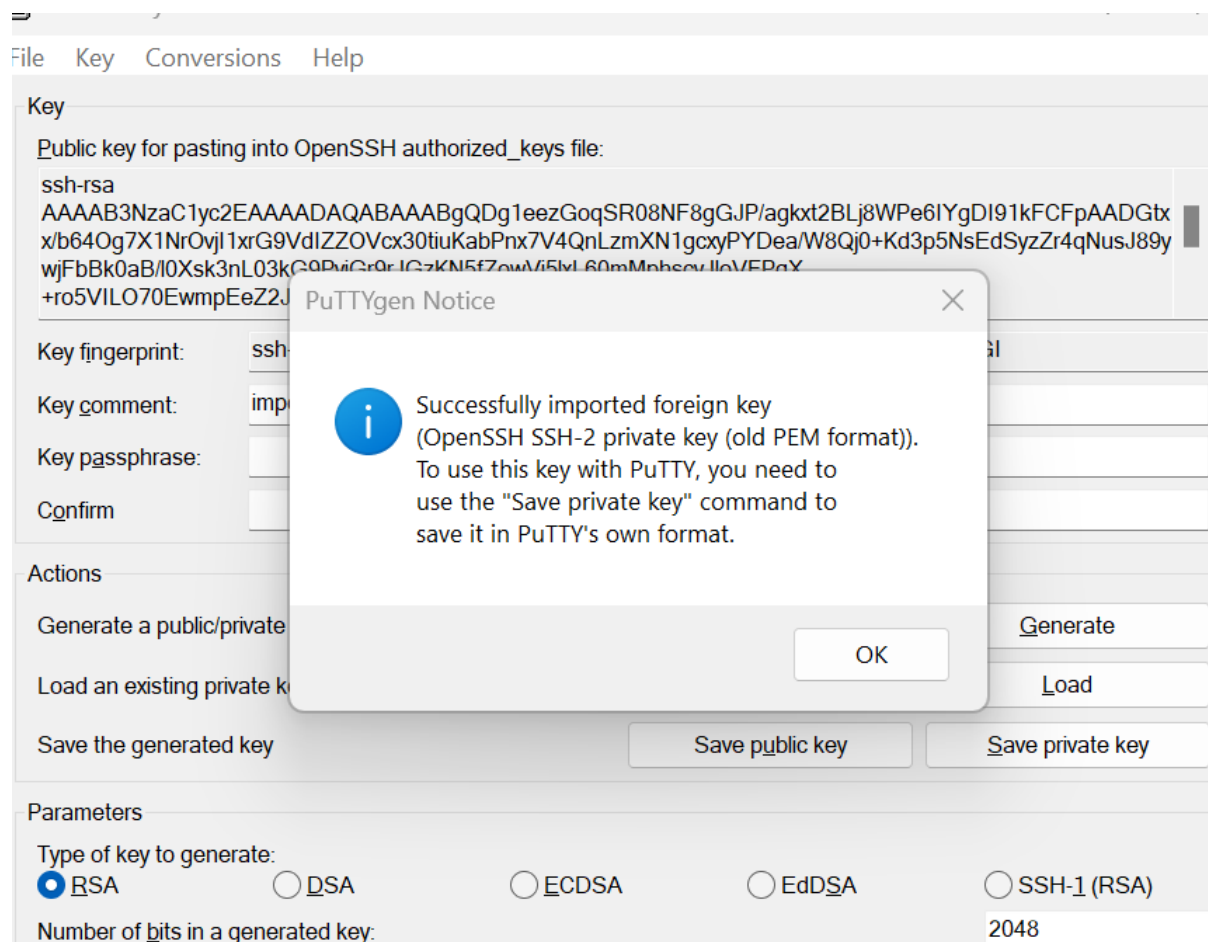
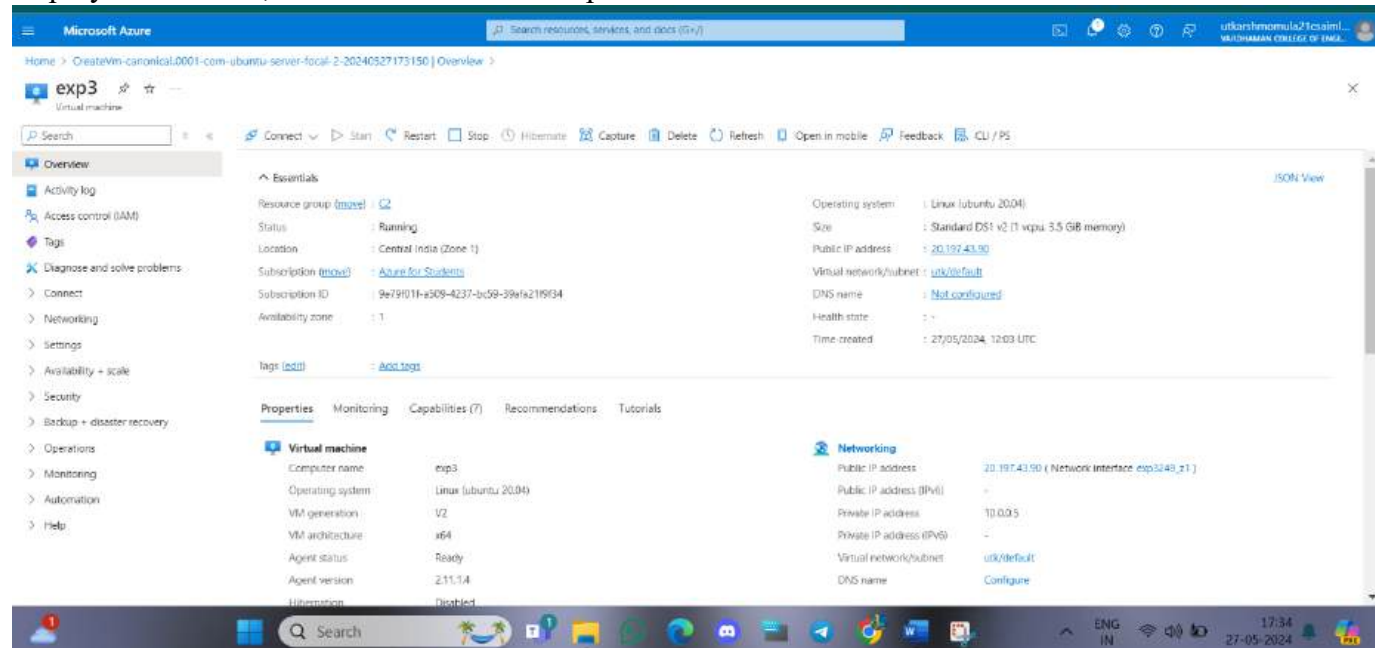
[Go to resource](#)

[Create another VM](#)

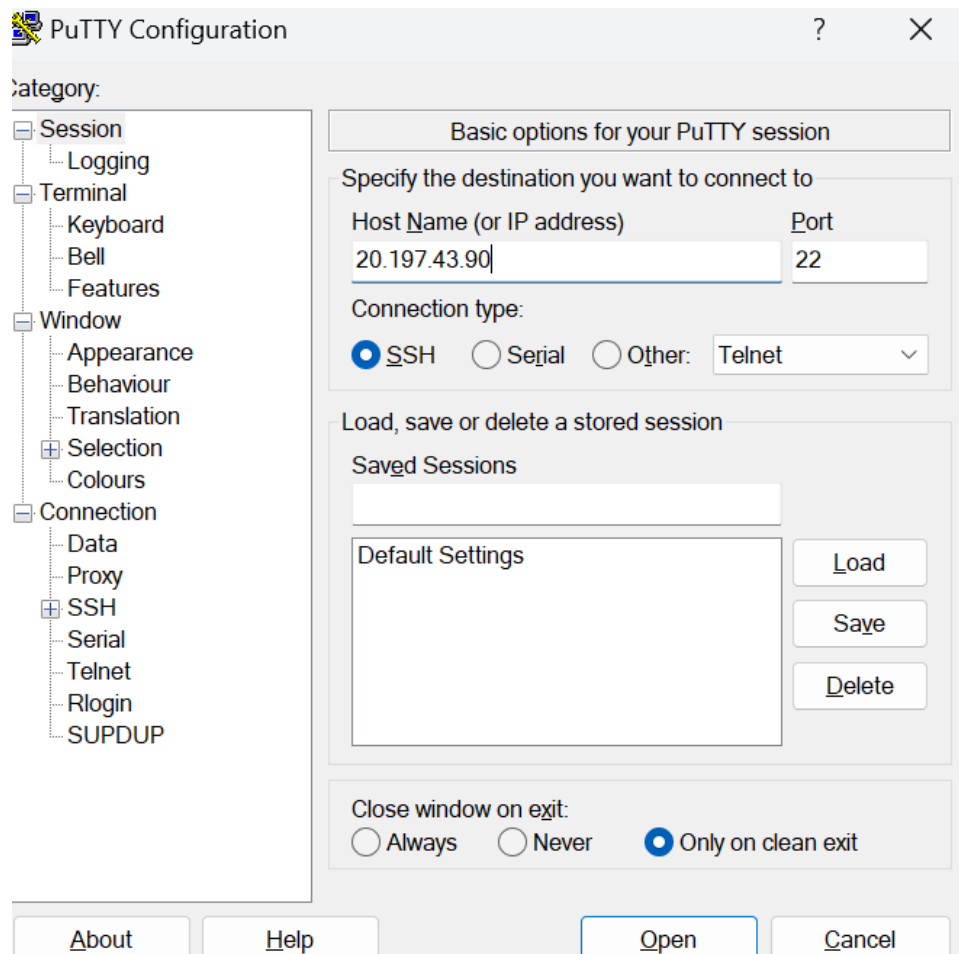
Give feedback

[Tell us about your experience with deployment](#)

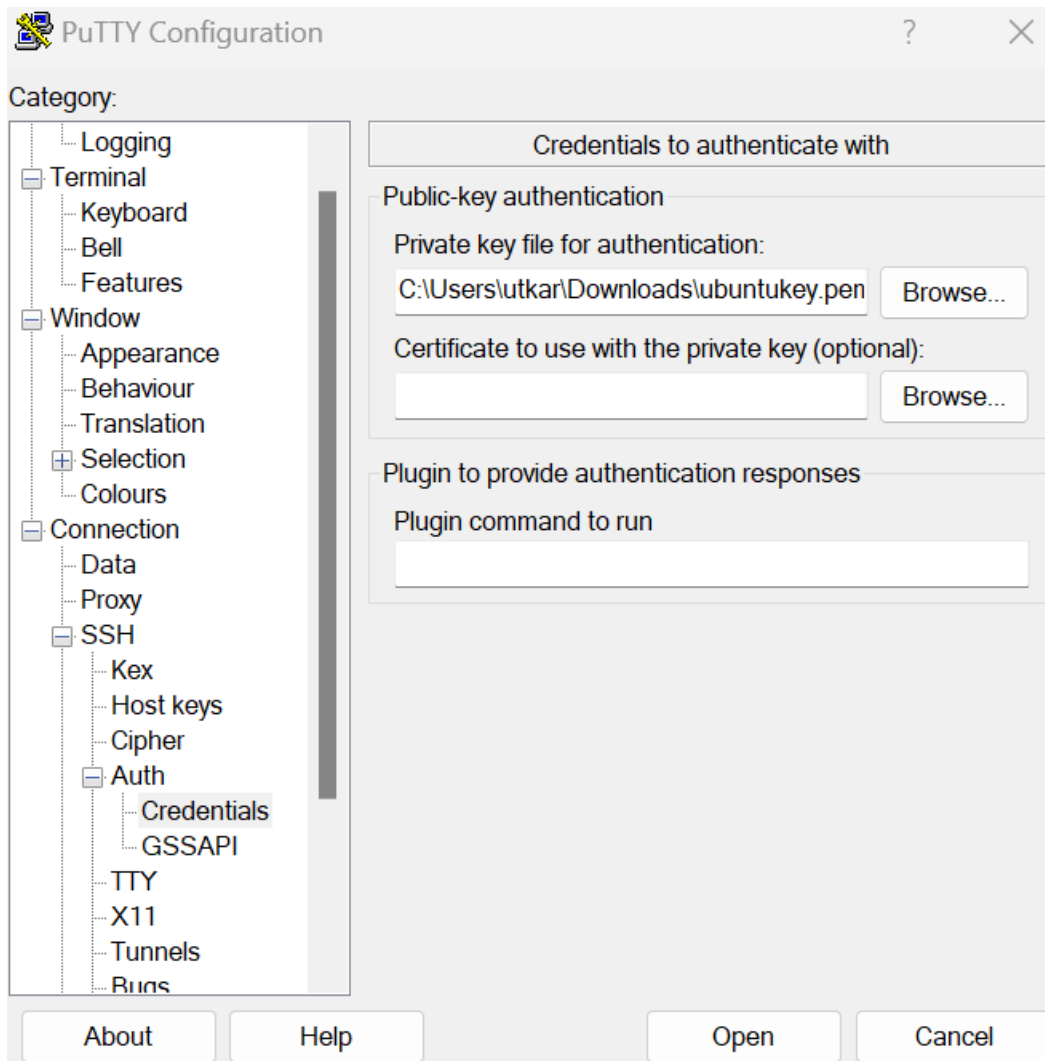
Step-5: Firstly, copy the public IP Address of that created virtual machine and after Deployment is over, Go to the remote desktop connection.



Step-6: Go to putty gen and click on load the key generator that you have downloaded.



Step-7: In putty, put the Copied IP Adress into it, and then go to ssh->auth->credentials And the put the generated private key.



Step-8: A login page will be opened in that type your username and you will be into the ubuntu.

Step-9: After this delete its resource group and virtual machine.

Output:


```

login as: azureuser
Authenticating with public key "imported-openssh-key"
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 6.5.0-1018-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:   https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sun Apr 21 13:11:06 UTC 2024

System load:  0.08349609375      Processes:            126
Usage of /:   5.1% of 28.89GB    Users logged in:     0
Memory usage: 4%                IPv4 address for eth0: 10.0.0.5
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

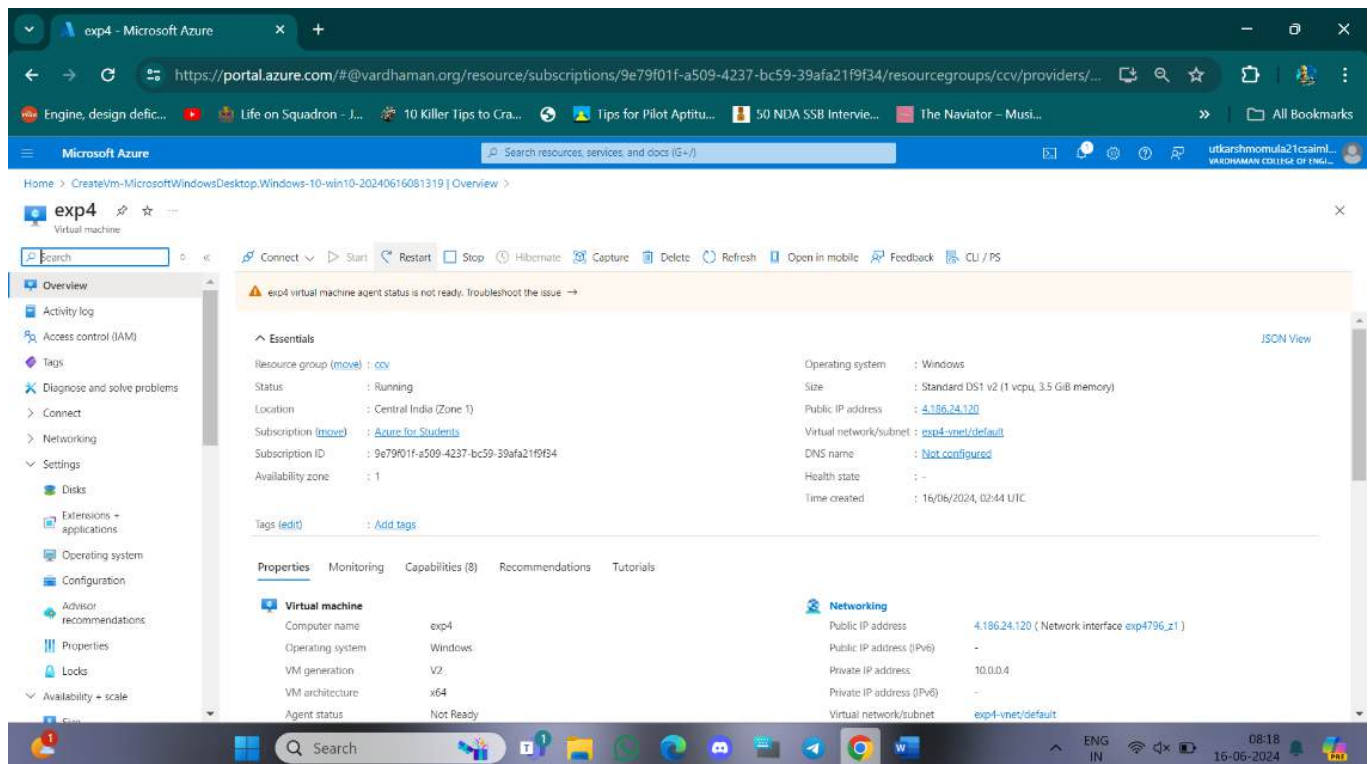
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

```

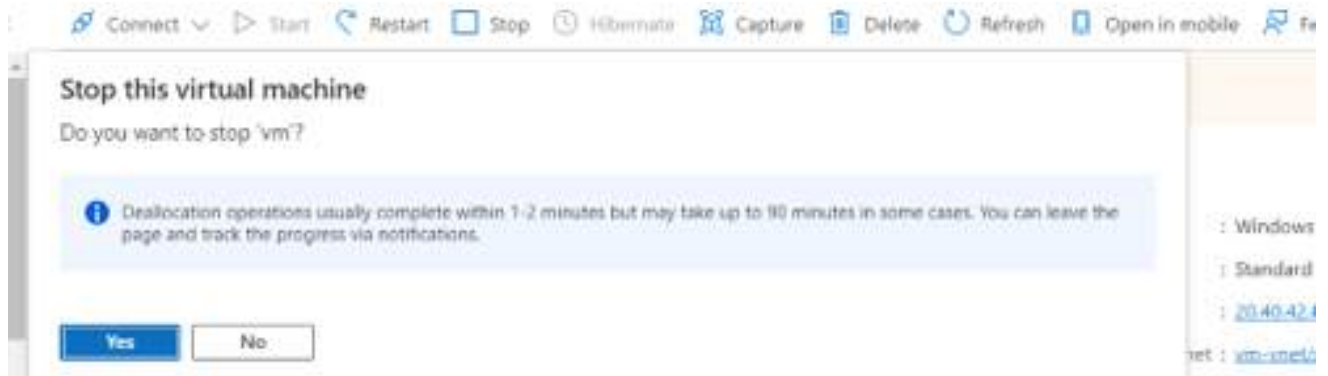
Virtual Machine created. Hence experiment is successfully executed and verified.

Q4) Create a Virtual machine and do scale up in Azure.

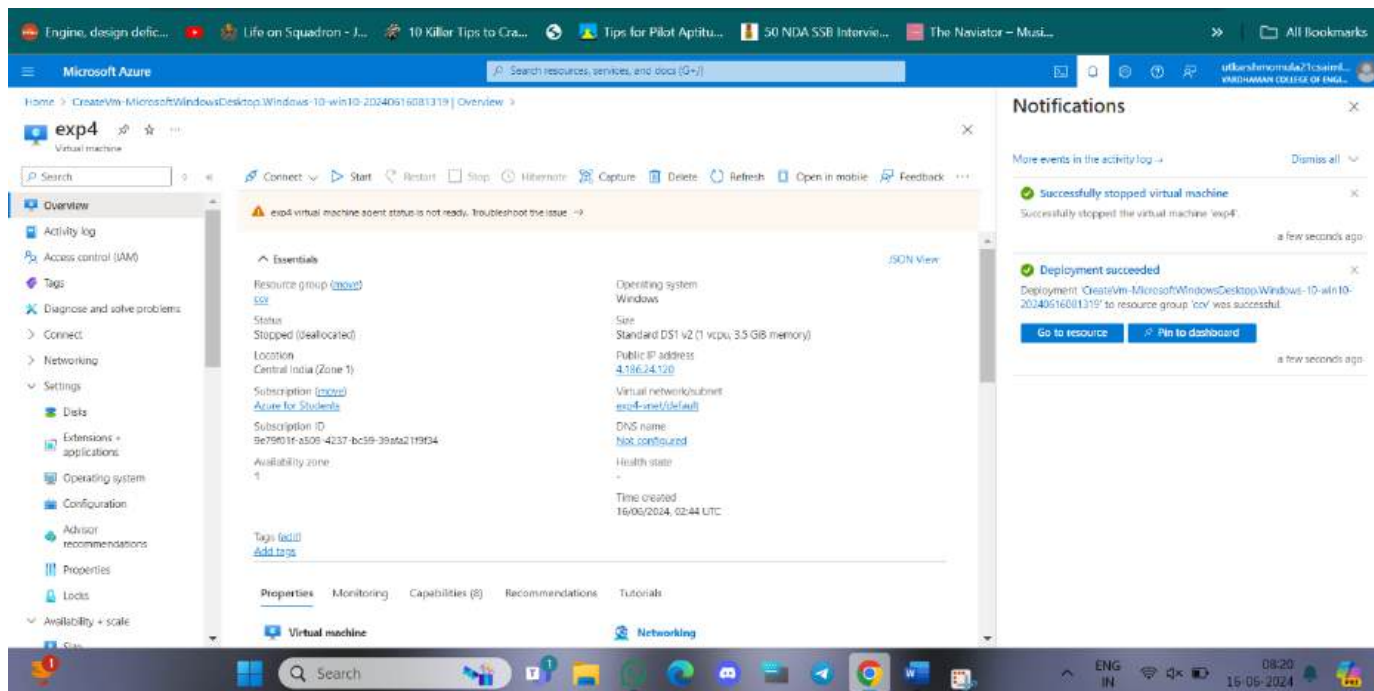
Step-1: Create a virtual machine (ubuntu or windows).



Step-2: After deployment of VM stop VM for scaling.



Step-3: On the left side there will be settings and click on disks.



Step-4: click on disk name and select your preferred size, save it.

exp4_OsDisk_1_73d09f567168438388dcb0fd32852d23 | Size + performance

Storage type: Premium SSD (locally-redundant storage)

Size	Disk tier	Provisioned IOPS	Provisioned throughput	Max Shares	Max burst IOPS
4 GiB	P1	120	25	3	3500
8 GiB	P2	120	25	3	3500
16 GiB	P3	120	25	3	3500
32 GiB	P4	120	25	3	3500
64 GiB	P6	240	50	3	3500
128 GiB	P10	500	100	3	3500
256 GiB	P15	1100	125	3	3500
512 GiB	P20	2300	150	3	3500
1024 GiB	P30	5000	200	5	-
2048 GiB	P40	7500	250	5	-
4096 GiB	P50	7500	250	5	-
8192 GiB	P60	16000	500	10	-
16384 GiB	P70	16000	750	10	-
32768 GiB	P80	20000	900	10	-

Save Discard Give feedback

Notifications

More events in the activity log → Dismiss all

- Successfully stopped virtual machine
Successfully stopped the virtual machine 'exp4'.
a minute ago
- Deployment succeeded
Deployment 'CreateVm-MicrosoftWindowsDesktop-Windows-10-win10-20240616081319' to resource group 'ccv' was successful.
Go to resource Pin to dashboard
3 minutes ago

Step-5: On the left side there will be select + performance and click on size then click on disk name and select your preferred ram size, save it.

exp4_OsDisk_1_73d09f567168438388dcb0fd32852d23 | Size + performance

Custom disk size (GiB): 127

Performance tier: P10 - 500 IOPS, 100 MB/s (default)

Save Discard Give feedback

Notifications

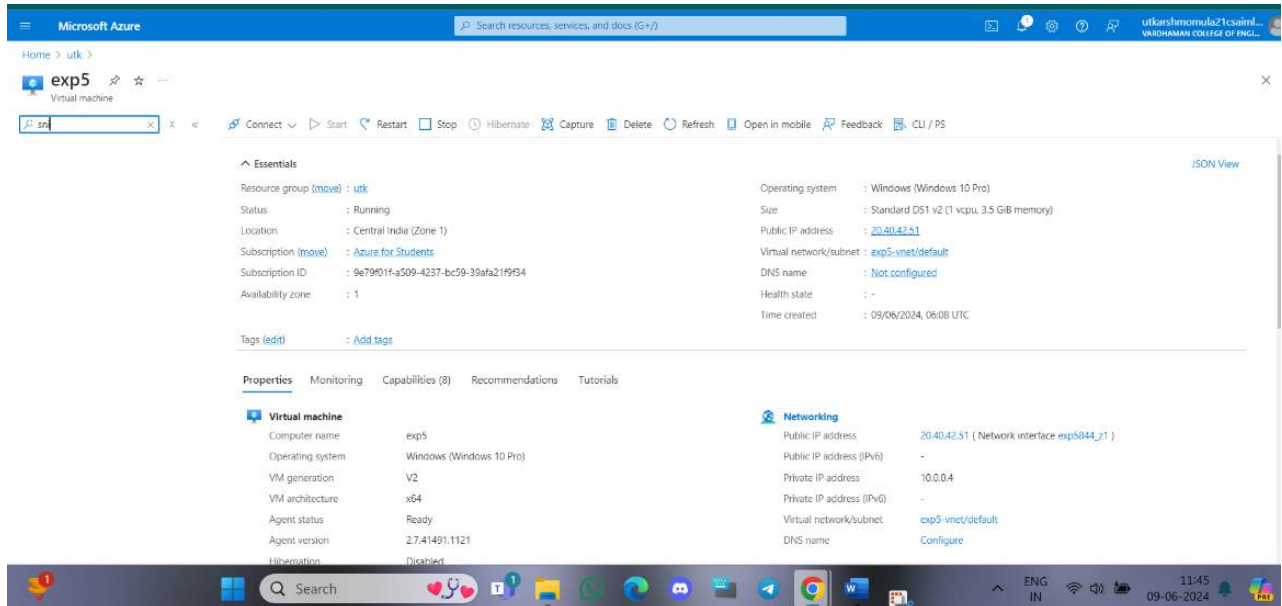
More events in the activity log → Dismiss all

- Successfully updated disk
Successfully updated disk 'exp4_OsDisk_1_73d09f567168438388dcb0fd32852d23'.
a few seconds ago
- Successfully stopped virtual machine
Successfully stopped the virtual machine 'exp4'.
2 minutes ago
- Deployment succeeded
Deployment 'CreateVm-MicrosoftWindowsDesktop-Windows-10-win10-20240616081319' to resource group 'ccv' was successful.
Go to resource Pin to dashboard
4 minutes ago

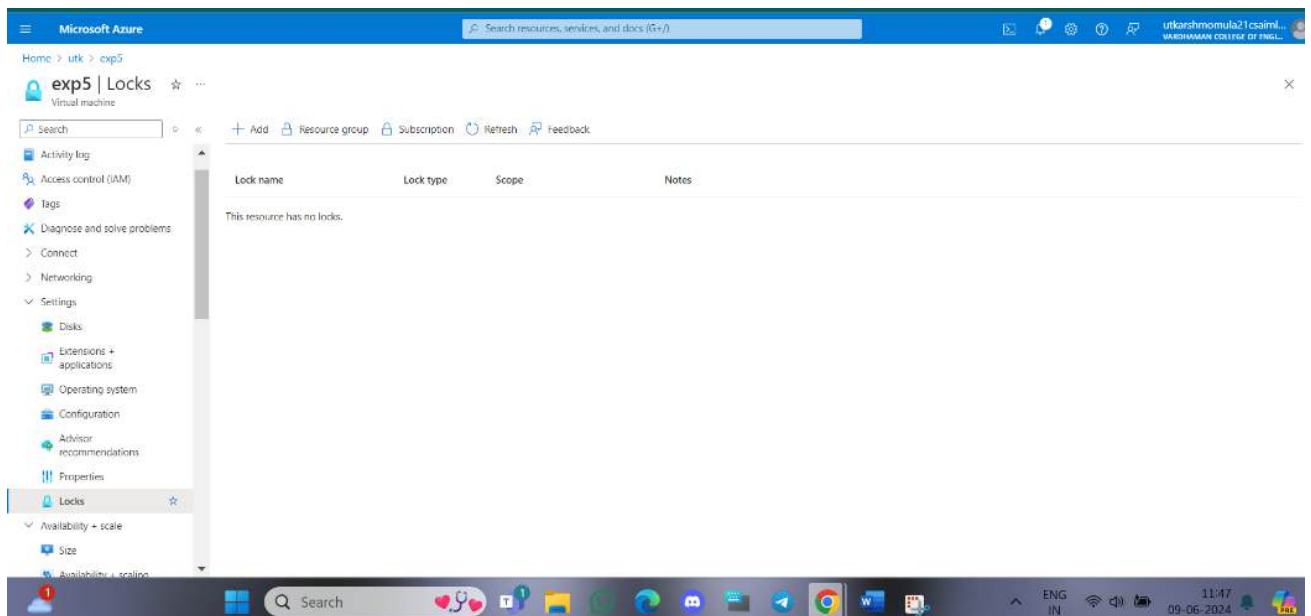
Scaling done correctly. Hence experiment is successfully executed and verified.

Q5) Create a Virtual machine and do lock for VM in AZURE.

Step-1: Create a virtual machine (ubuntu or windows).

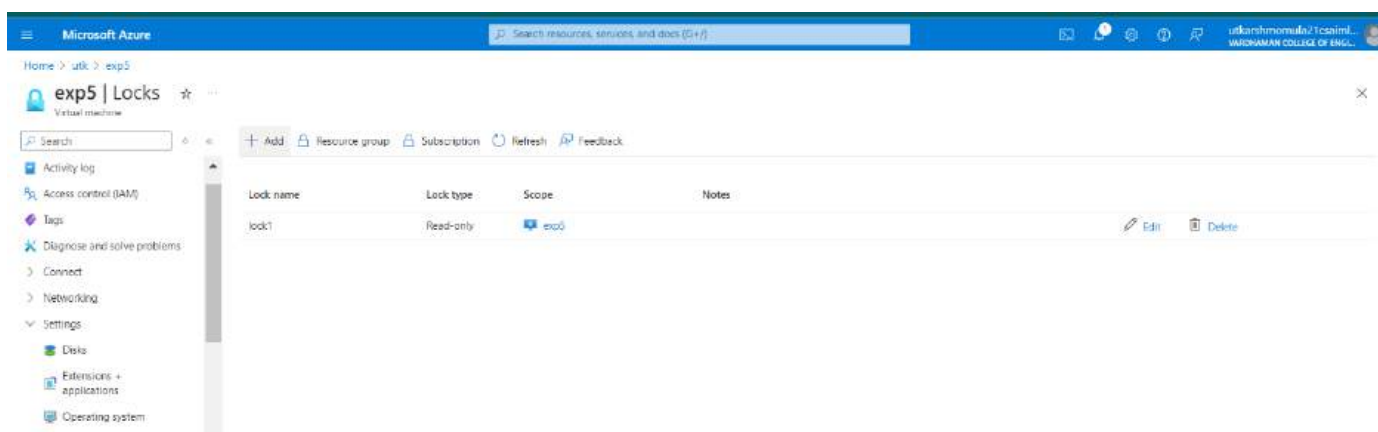
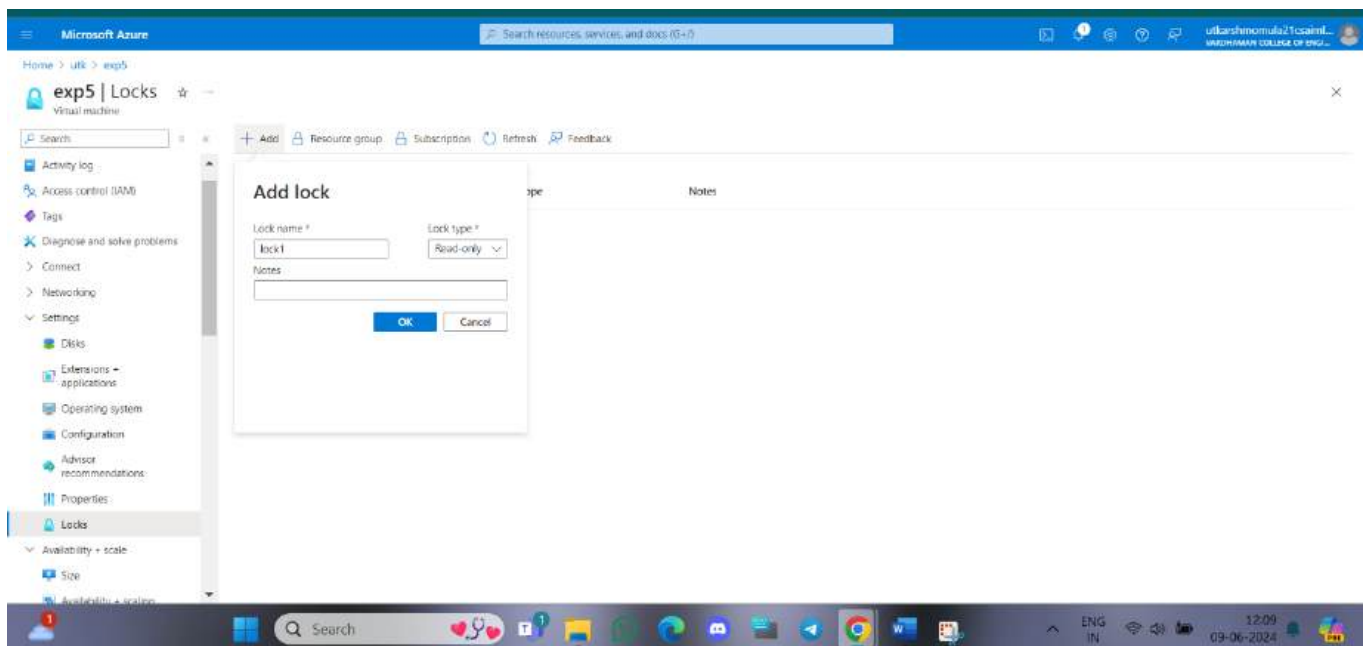


Step-2: On the left side there will be settings and click on locks, give lock name and select lock type.



Step-3: click on ok.

Similarly, you can do for Resource group and subscriptions.



Locks implemented and removed. Hence experiment is successfully executed and verified.

Q6) Create Ubuntu VM and run a python program in it.

Step-1: Create a ubuntu virtual machine using SSH key same as previous experiment.

Step-2: Login with your username and type python3, write your python program and execute it.


```

azureuser@ubuntuvm:~$
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/pro

System information as of Tue Jun 11 18:33:28 UTC 2024

System load:  0.37          Processes:    123
Usage of /:   5.1% of 28.89GB Users logged in:   0
Memory usage: 8%           IPv4 address for eth0: 10.0.0.5
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

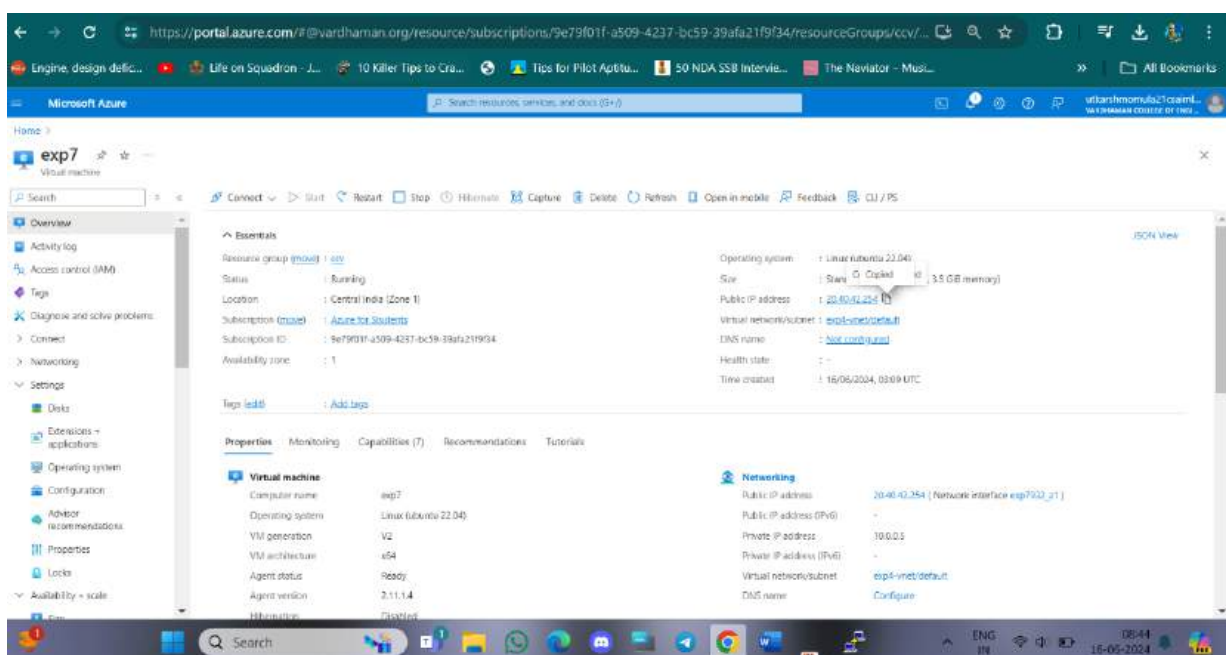
azureuser@ubuntuvm:~$ python3
Python 3.10.12 (main, Nov 20 2023, 15:14:05) [GCC 11.4.0] on linux
Type "help", "copyright", "credits" or "license()" for more information.
>>> a=10
>>> b=20
>>> c=30
>>> if(a>b and a>c) g=a
      file "<stdin>", line 1
        if(a>b and a>c) g=a
        ^
SyntaxError: invalid syntax
>>> if(a>b and a>c): g=a
... elif(b>a and b>c): g=b
... else: g=c
...
>>> print("Greatest No is: ",g)
Greatest No is: 30
>>>

```

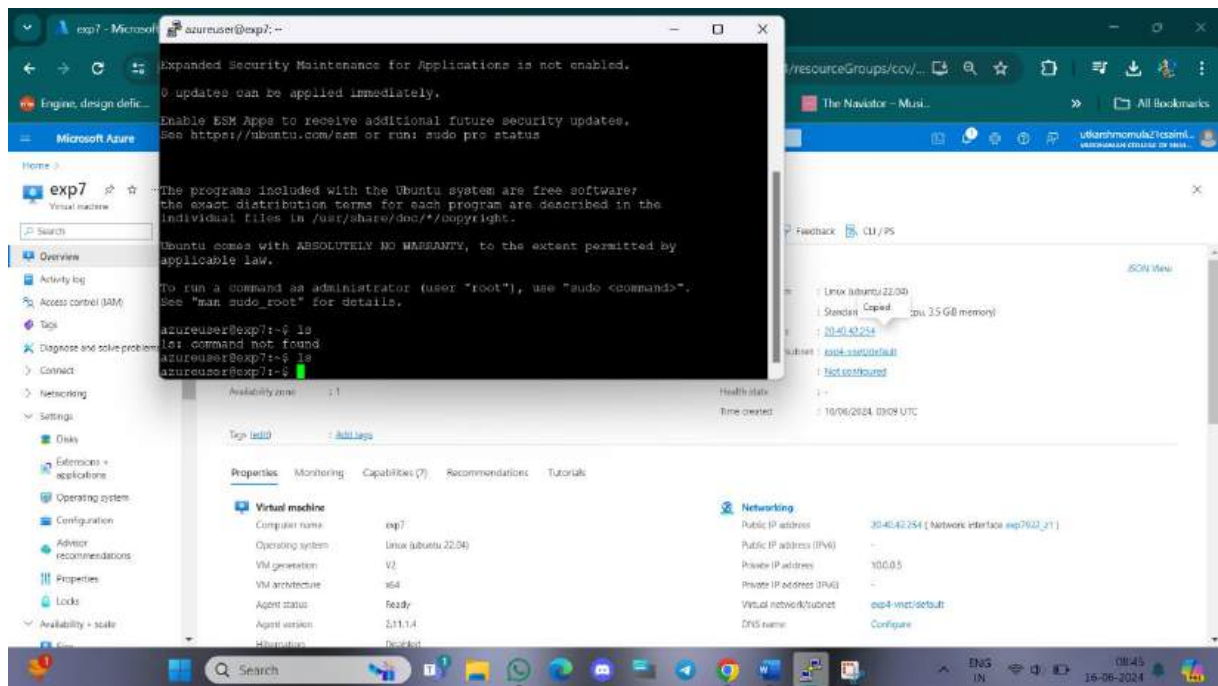
Hence experiment is successfully executed and verified.

Q7) Create a Ubuntu VM and transfer files using WinScp.

Step-1: Create a ubuntu virtual machine using SSH as previous experiment and copy public IP address.



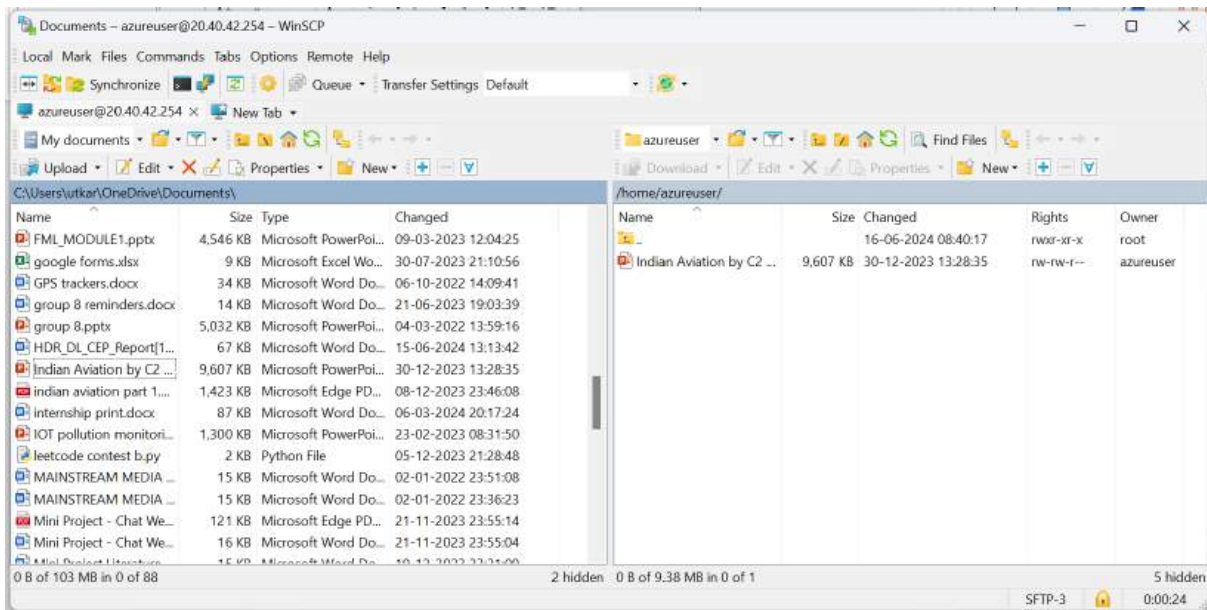
Step-2: Login into your ubuntu VM using PUTTY and type ls command as you can see nothing.



Step-3: Open WinScp at right bottom you can see Advanced option->SSH->Authentication->In that drag private key file and click on ok.

At last Login into your account using public IP address and username in WinScp.

Now, you can drag your files from your desktop to ubuntu VM in WinScp.



Step-4: Now again type ls command as you can see file inside ubuntu VM.

```

azureuser@exp7: ~
System information as of Sun Jun 16 03:14:32 UTC 2024

System load: 0.02          Processes:           122
Usage of /: 5.1% of 28.89GB Users logged in:      0
Memory usage: 9%          IPv4 address for eth0: 10.0.0.5
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

azureuser@exp7:~$ ls
ls: command not found
azureuser@exp7:~$ ls
azureuser@exp7:~$ ls
'Indian Aviation by C2 and C9.pptx'
azureuser@exp7:~$

```

Files transferred successfully. Hence experiment is successfully executed and verified.

Q8) How to make Linux server as web server in AZURE.

Step-1: Create a ubuntu virtual machine using SSH and enable HTTP port as well, as previous experiment and copy public IP address.

The top screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The 'Authentication type' is set to 'Password'. The 'Username' is 'azureuser'. The 'Password' and 'Confirm password' fields are filled with masked characters. Under 'Inbound port rules', 'Public inbound ports' is set to 'Allow selected ports', and 'Select inbound ports' is set to 'HTTP (80), SSH (22)'. A note states: 'All traffic from the Internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.'

The bottom screenshot shows the 'Overview' page of a virtual machine named '66c2'. The VM is running Linux. The 'Essentials' section shows the VM is 'Running' in 'Central India (Zone 1)' with a 'Standard D51 v2 (1 vcpu, 3.5 GiB memory)' size. The 'Public IP address' is listed as '10.0.0.8'. The 'Networking' section shows the 'Public IP address' is '10.0.0.8' and the 'Private IP address' is '10.0.0.8'. The 'Virtual network/subnet' is 'exp12-vnet/default'.

Step-2: Login into your Ubuntu VM using your username and type the following commands.

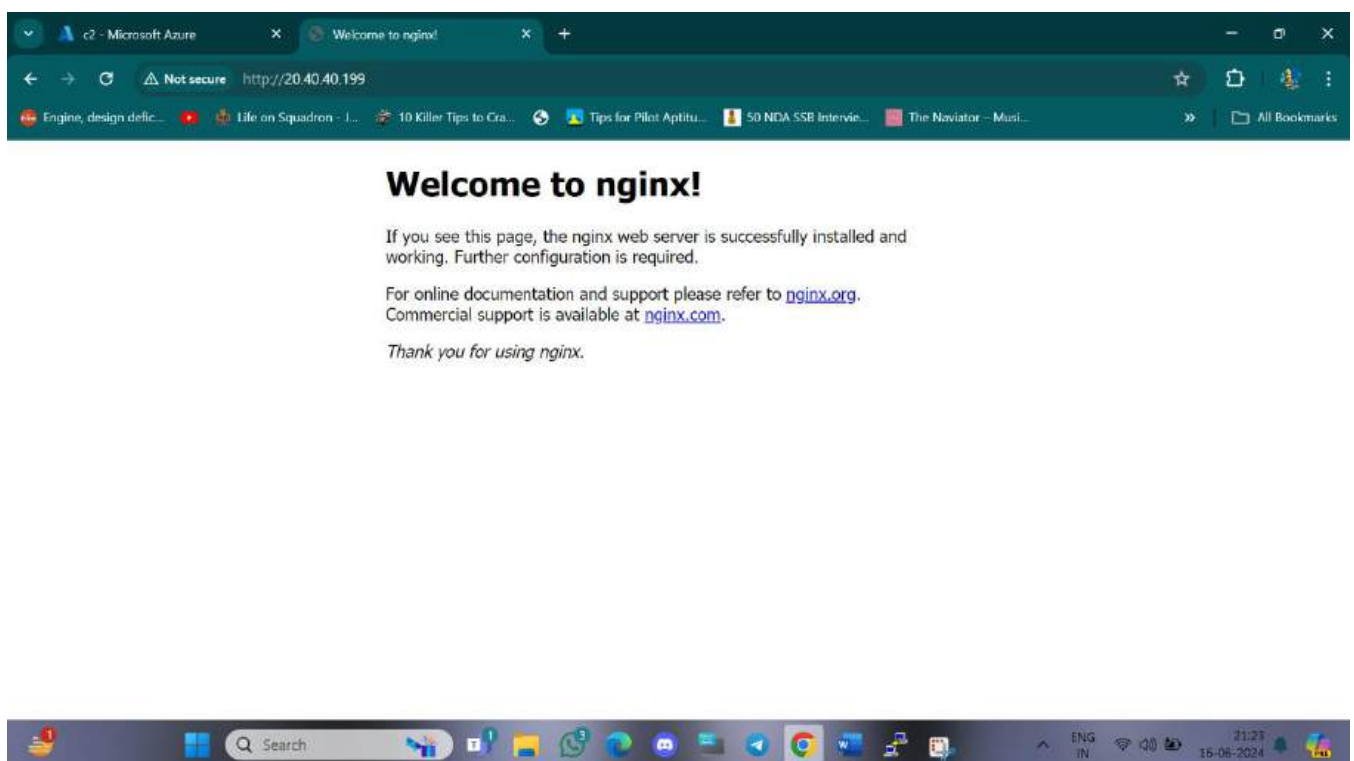
\$sudo su

\$sudo apt-get update

After typing the two command, now install web server using the below command

\$sudo apt-get install nginx

After installing in VM, paste the public ip address in desktop browser and you can see.

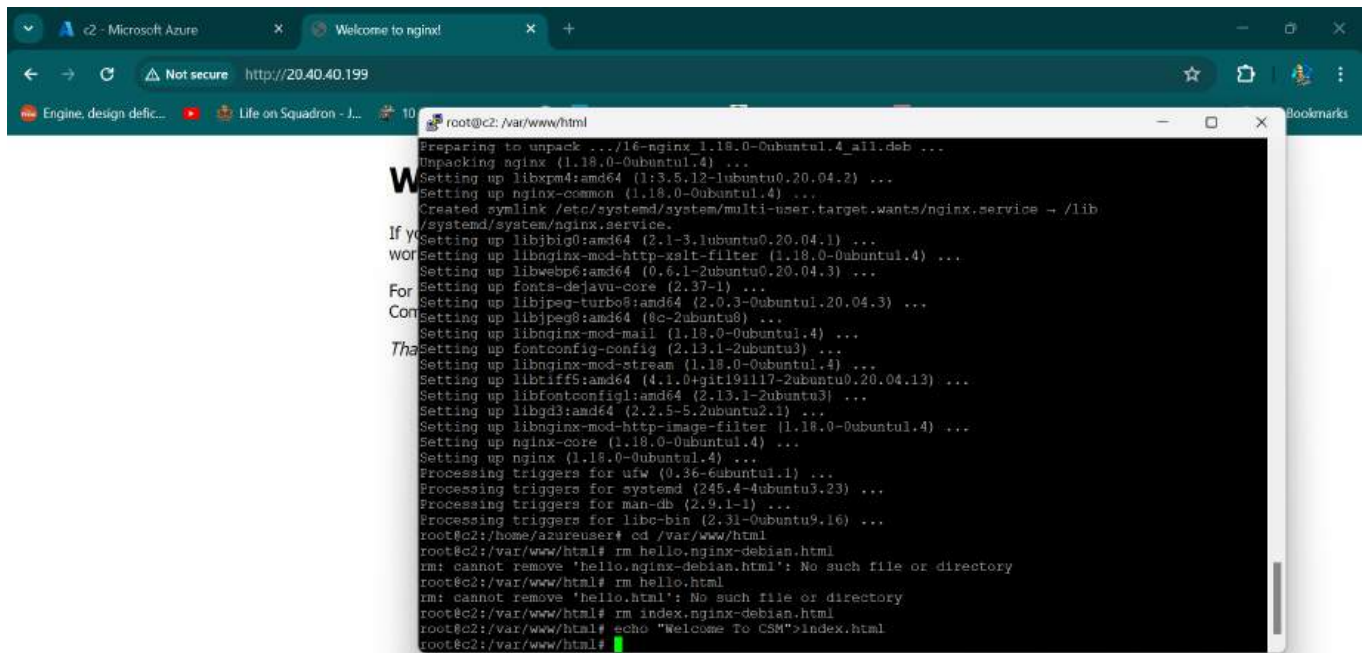


Step-3: To remove following information and keep new information in that page type the following command and refresh the browser page.

\$cd /var/www/html

\$rm index.nginx-debian.html

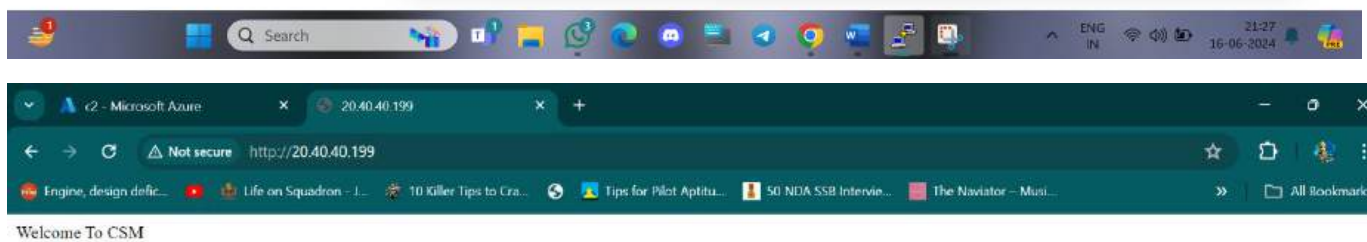
\$echo "Welcome to CSM ">index.html



```

root@c2: /var/www/html
Preparing to unpack .../16-nginx_1.18.0-0ubuntu1.4_all.deb ...
Unpacking nginx (1.18.0-0ubuntu1.4) ...
Setting up libxpm4:amd64 (1:3.5.12-1ubuntu0.20.04.2) ...
Setting up nginx-common (1.18.0-0ubuntu1.4) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /lib
/systemd/system/nginx.service.
Setting up libjpeg8:amd64 (2.1-3.1ubuntu0.20.04.1) ...
Setting up libnginx-mod-http-xslt-filter (1.18.0-0ubuntu1.4) ...
Setting up libwebp6:amd64 (0.6.1-2ubuntu0.20.04.3) ...
Setting up fonts-dejavu-core (2.37-1) ...
Setting up libjpeg-turbo8:amd64 (2.0.3-0ubuntu1.20.04.3) ...
Setting up libjpeg8:amd64 (8c-2ubuntu8) ...
Setting up libnginx-mod-mail (1.18.0-0ubuntu1.4) ...
Setting up fontconfig-config (2.13.1-2ubuntu3) ...
Setting up libnginx-mod-stream (1.18.0-0ubuntu1.4) ...
Setting up libtiff5:amd64 (4.1.0+git191117-2ubuntu0.20.04.13) ...
Setting up libfontconfig1:amd64 (2.13.1-2ubuntu3) ...
Setting up libgd3:amd64 (2.2.5-5.2ubuntu2.1) ...
Setting up libnginx-mod-http-image-filter (1.18.0-0ubuntu1.4) ...
Setting up nginx-core (1.18.0-0ubuntu1.4) ...
Setting up nginx (1.18.0-0ubuntu1.4) ...
Processing triggers for ufw (0.36-6ubuntu1.1) ...
Processing triggers for systemd (245.4-4ubuntu3.23) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.16) ...
root@c2:/home/azureuser# cd /var/www/html
root@c2:/var/www/html# rm hello.nginx-debian.html
rm: cannot remove 'hello.nginx-debian.html': No such file or directory
root@c2:/var/www/html# rm hello.html
rm: cannot remove 'hello.html': No such file or directory
root@c2:/var/www/html# rm index.nginx-debian.html
root@c2:/var/www/html# echo "Welcome To CSM">index.html
root@c2:/var/www/html#

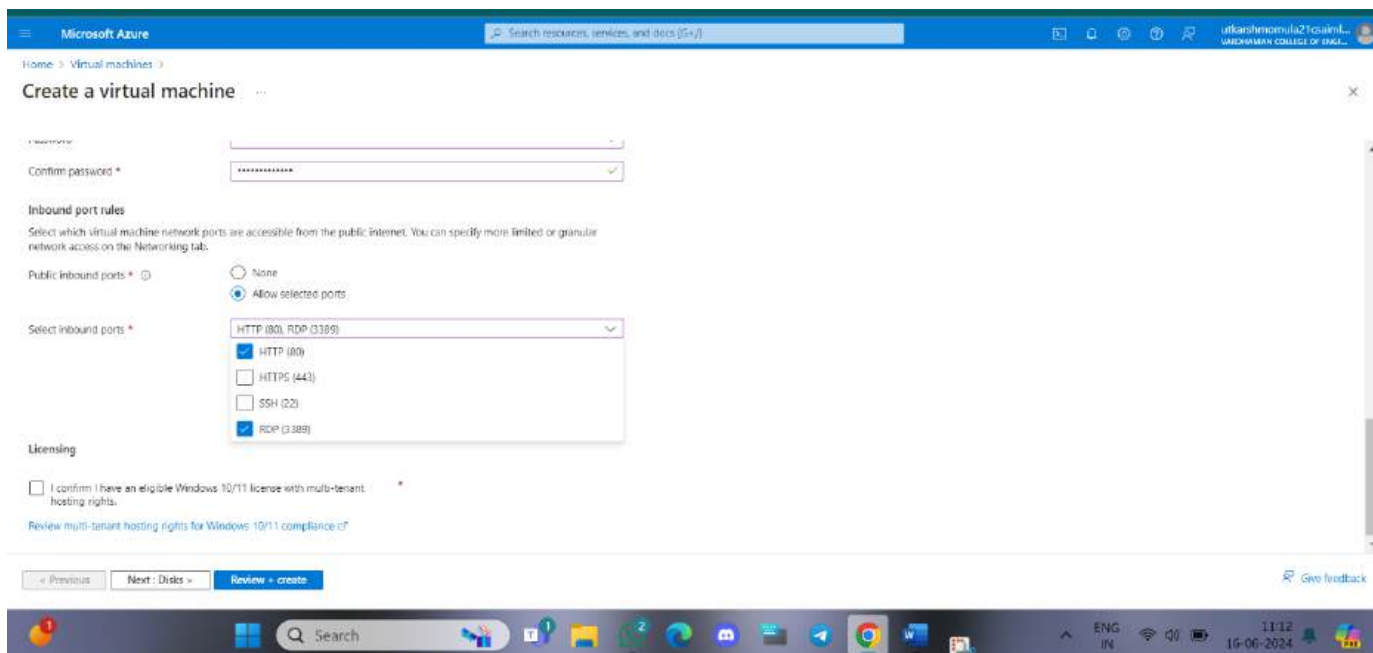
```



Web server created. Hence experiment is successfully executed and verified.

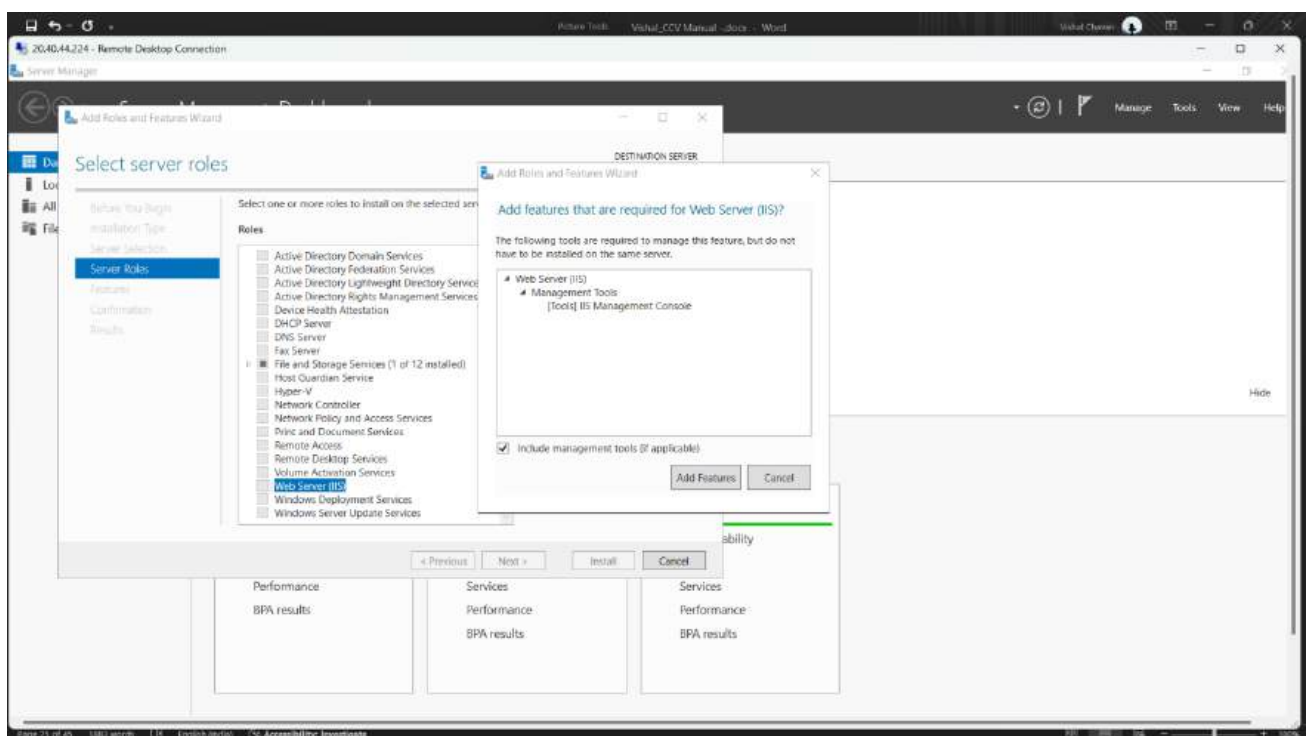
Q9) Setup and configure AZURE web server for windows server(IIS).

Step-1: Create VM with Rdp and Http port enable and login windows VM same as previous experiment and copy public IP address.

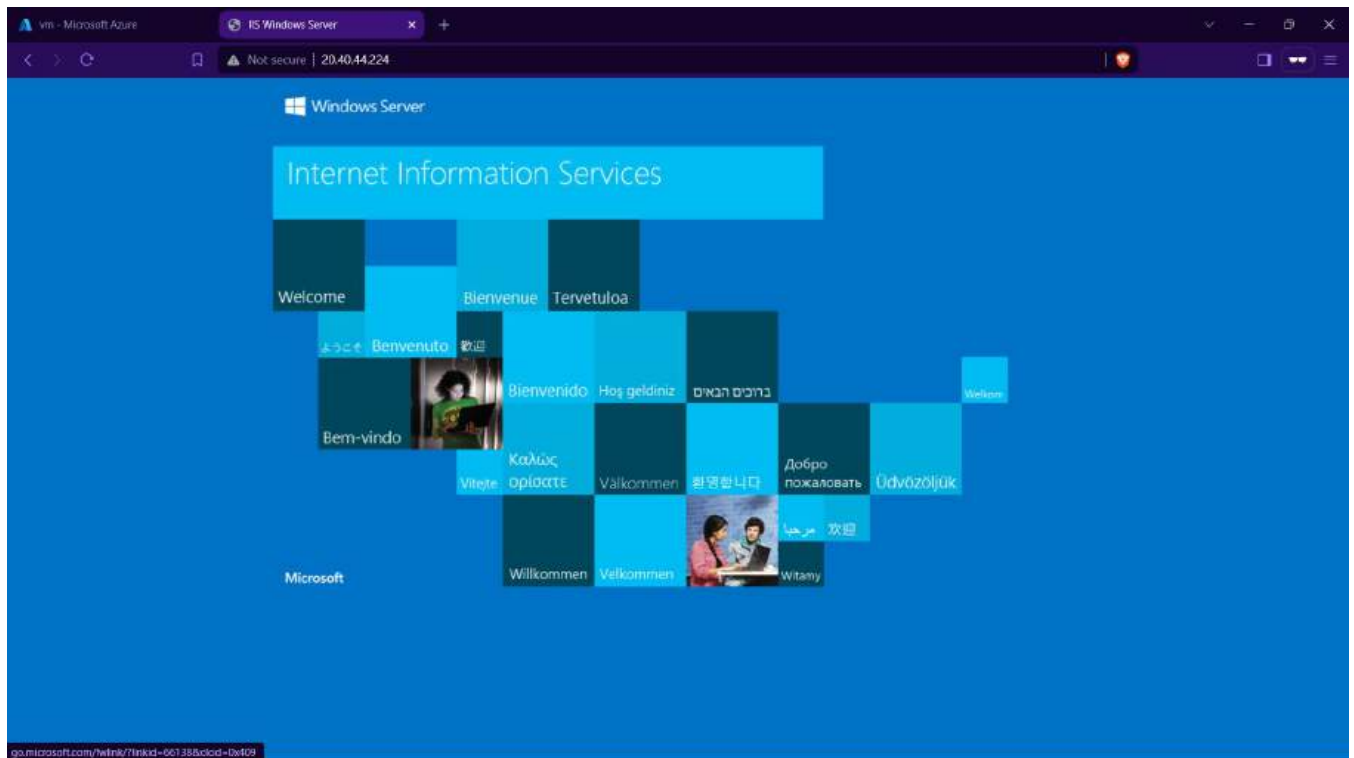


Step-2: When remote desktop will start(windows vm) you can see there will be Server Manager will be opened and in that you can see Configure this local server , Click on “Add roles and features”.

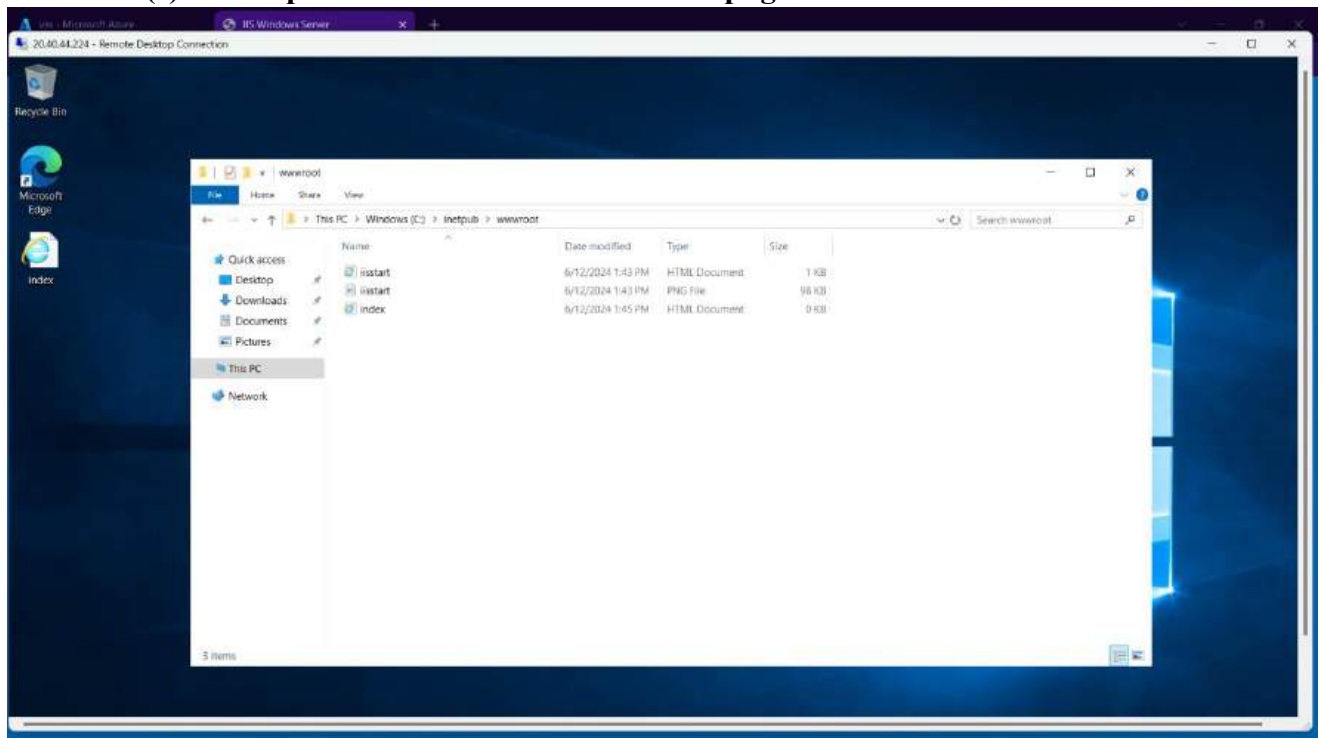
Step-3: Click on next, next and in Server Roles select Web Server(IIS) click on add feature ,click on next, next till you can get install button and click on install .



Step-4: paste the public ip address in desktop browser and you can see.



Now to remove this all information first of all create index.html in desktop and that should paste in the specified location of remote desktop VM that is ThisPC->windows(c)->inetup->wwwroot and remove iistart.png.



Step-5: Refresh the browser page.



Hence experiment is successfully executed and verified.

Q10) Create Azure Storage Account, Container – Upload and Delete Objects(blob) in it.

Step-1: Click On Storage Account and Create one and select redundancy as GRS/LRS.

 A screenshot of the Microsoft Azure portal's 'Create a storage account' page. The page is titled 'Create a storage account' and shows the following details:

- Project details:** Subscription is 'Azure for Students' and Resource group is 'CCV'.
- Instance details:** Storage account name is 'exp10', Region is '(Asia Pacific) Central India', and Performance is 'Standard: Recommended for most scenarios (general-purpose v2 account)'.
- Redundancy:** Locally-redundant storage (LRS).

 At the bottom, there are 'Previous', 'Next', and 'Review + create' buttons. The Windows taskbar at the bottom shows the date as 16-06-2024 and time as 11:25.

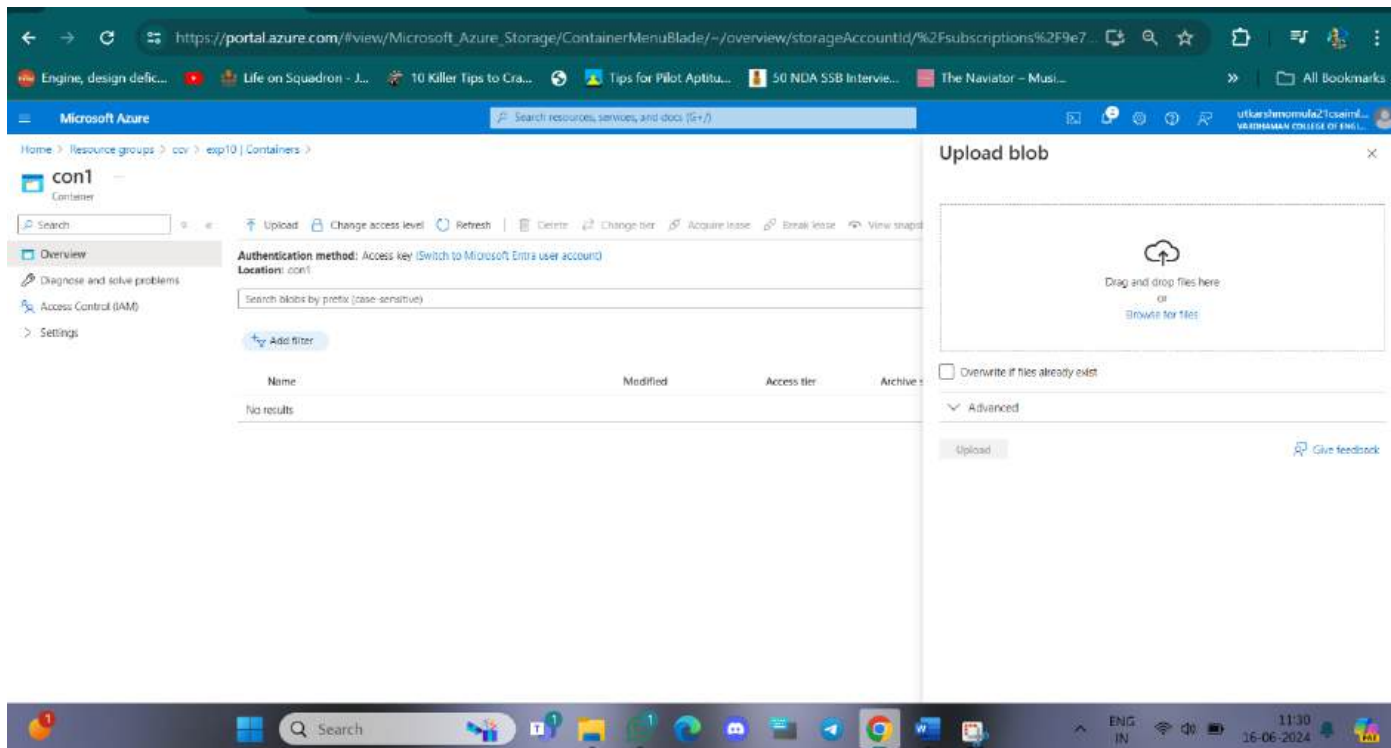
Step-2: Go to advance and Allow enabling anonymous access on individual containers.

The screenshot shows the 'Create a storage account' page in the Microsoft Azure portal, specifically the 'Advanced' tab. The 'Security' section is expanded, showing options to configure security settings. The 'Allow enabling anonymous access on individual containers' checkbox is checked. Other options like 'Require secure transfer for REST API operations' and 'Enable storage account key access' are also checked. The 'Default to Microsoft Entra authorization in the Azure portal' checkbox is unchecked. The 'Minimum TLS version' is set to 'Version 1.2'. The 'Permitted scope for copy operations (preview)' is set to 'From any storage account'. The 'Hierarchical Namespace' section is also visible, with the 'Enable hierarchical namespace' checkbox unchecked. At the bottom, there are 'Previous', 'Next', and 'Review + create' buttons.

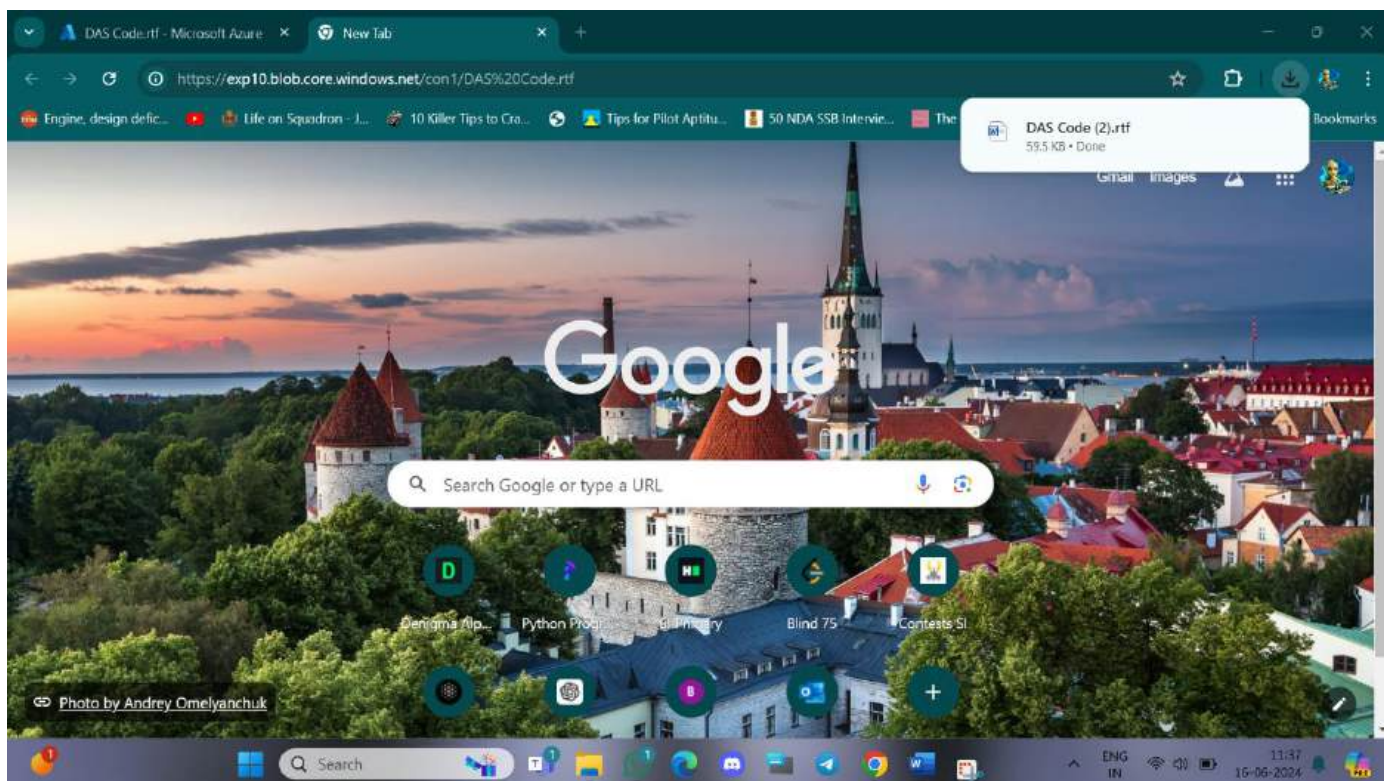
Step-3: After deployment Click on go to resource group and on Left Click on Containers and Create it with anonymous access level as blob(anonymous read access to blob only)

The screenshot shows the 'New container' page in the Microsoft Azure portal. The left sidebar shows the 'Containers' option under 'Data storage'. The main area displays a table of containers with columns for 'Name', 'Last modified', and 'Anonymous access level'. A single container named 'blob1' is listed with a last modified date of 16/06/2024, 11:28:15 and an anonymous access level of 'Private'. The right sidebar shows the 'New container' form with the 'Name' field set to 'blob1' and the 'Anonymous access level' dropdown set to 'Blob (anonymous read access for blobs only)'. A warning message states: 'Blobs within the container can be read by anonymous request, but container data is not available. Anonymous clients cannot enumerate the blobs within the container.' At the bottom, there is a 'Create' button.

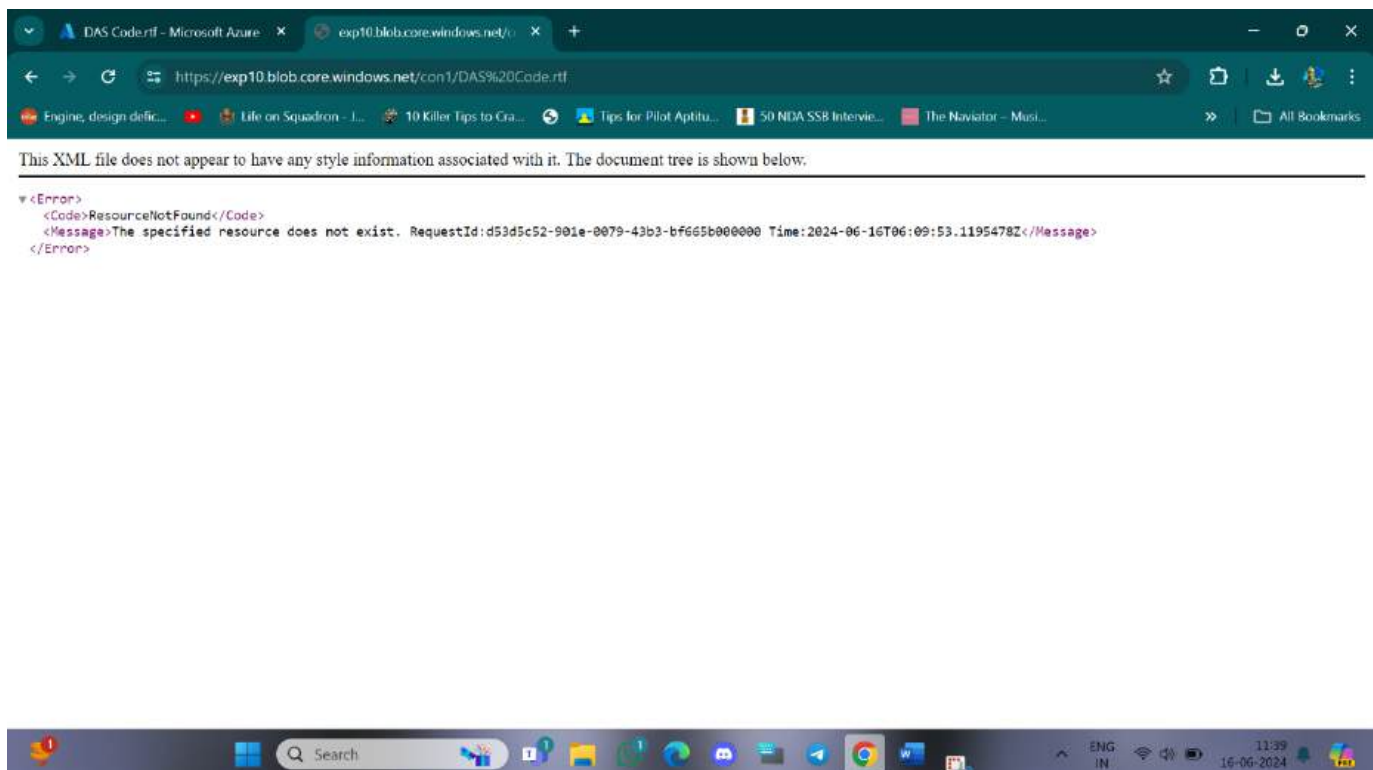
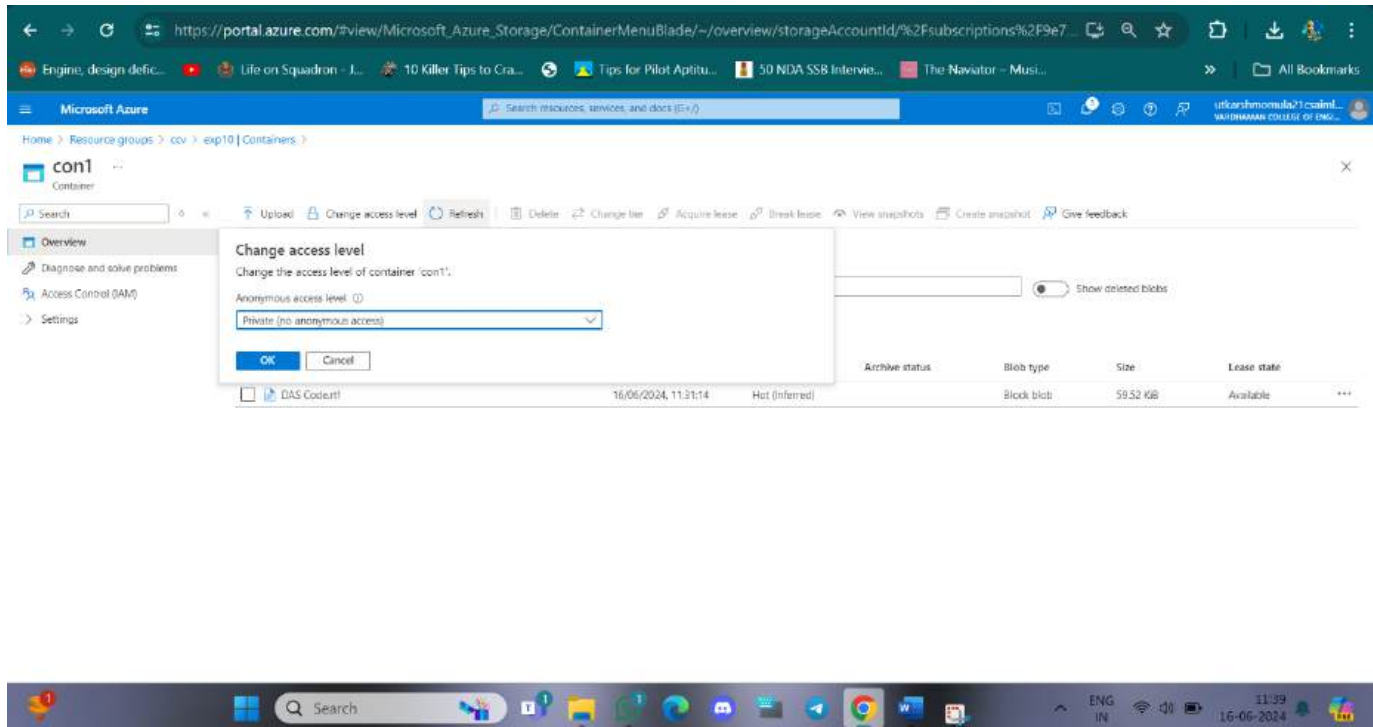
Step-4: Then open new container , click on upload and upload a file from desktop.



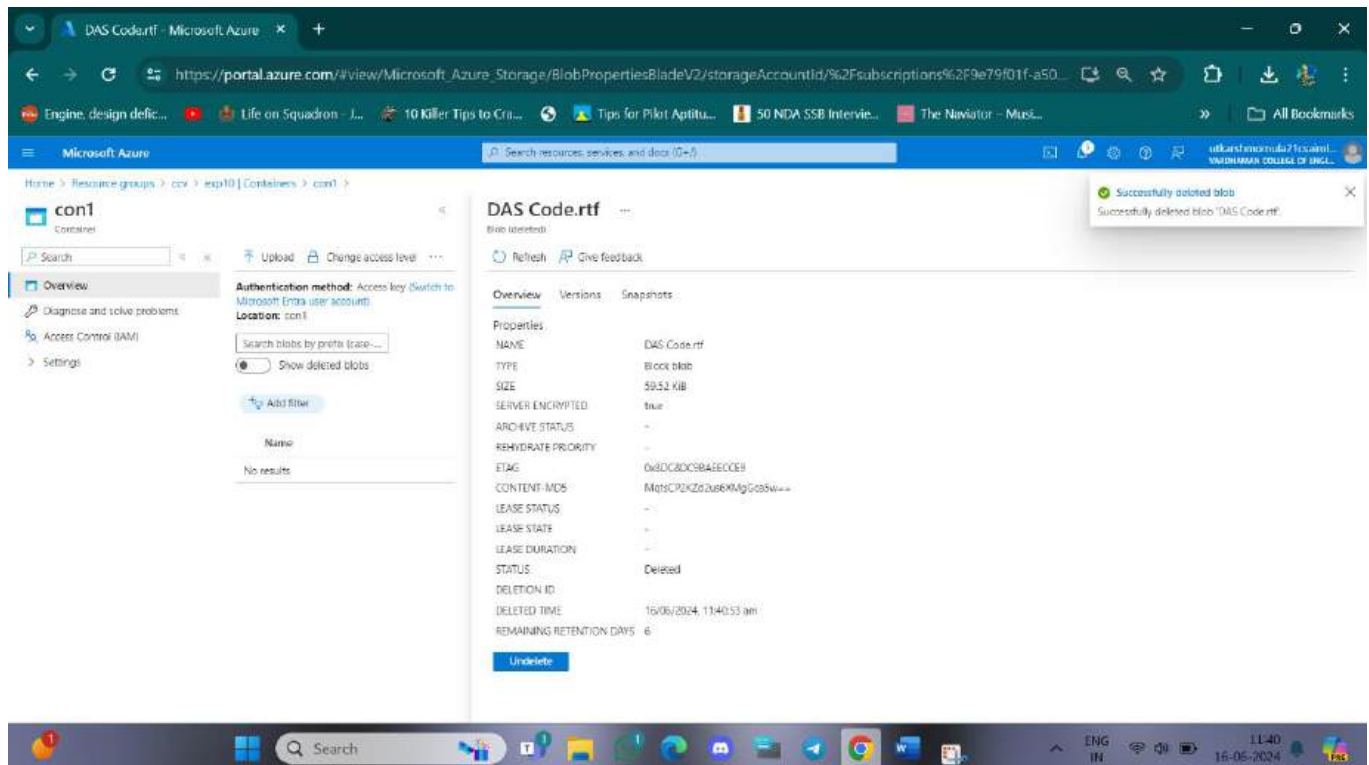
Step-5: Select the file and click on provided URL to open the file.



Step-6: On container click Change access level to Private(no anonymous access) and try to open the file in new tab it will show error.



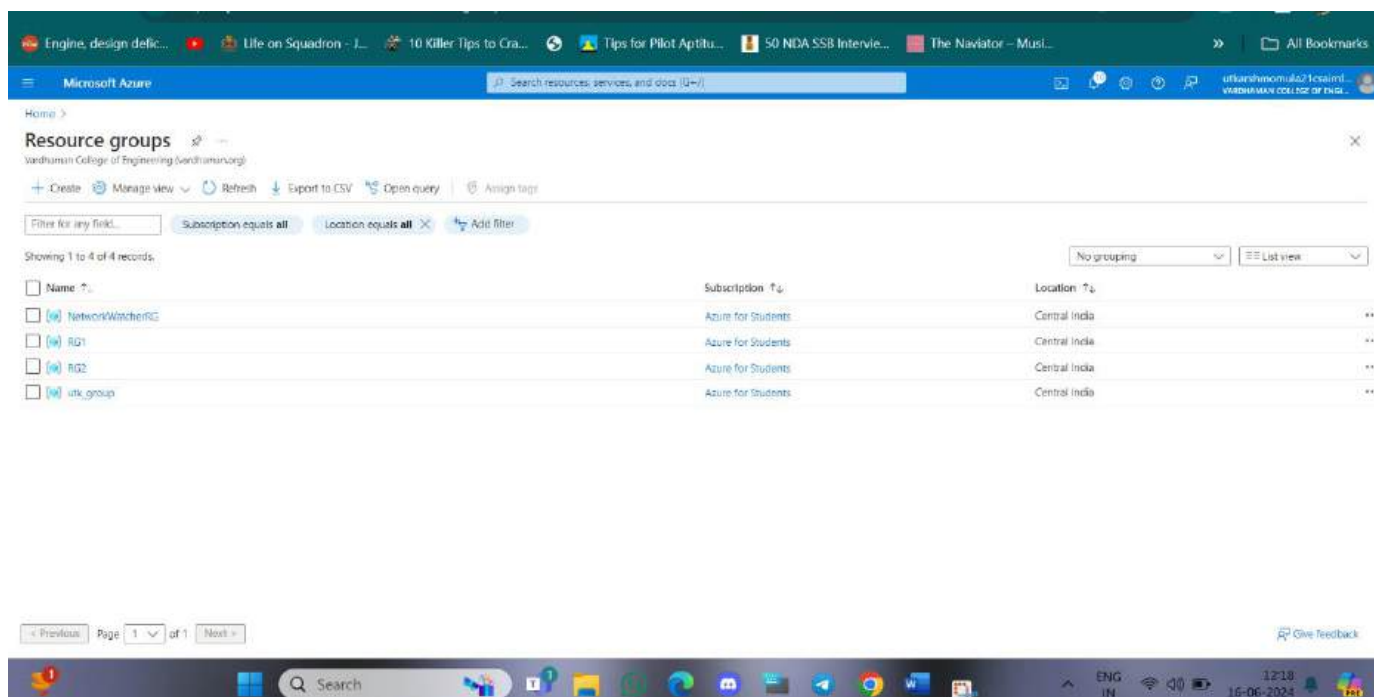
Step-7: Then delete blob container and storage account.

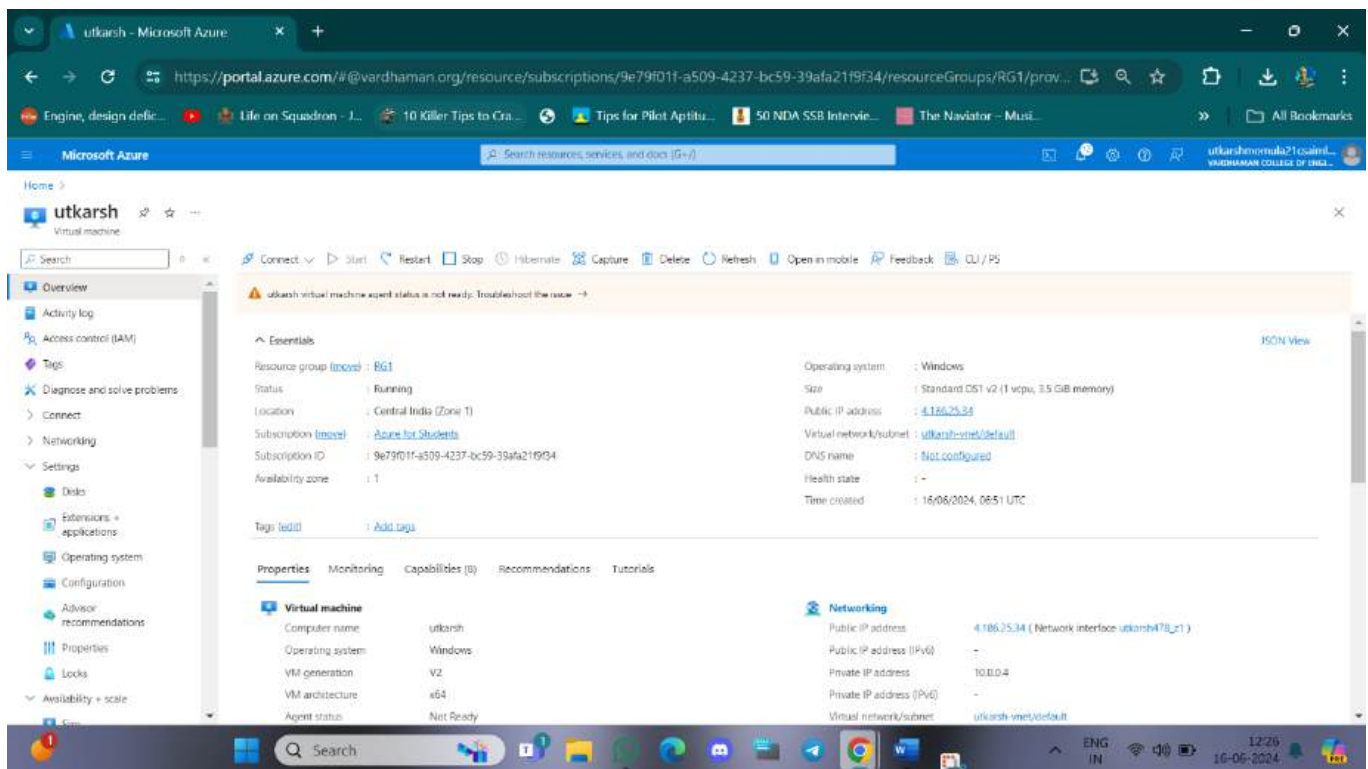


Azure Storage account created successfully. Hence experiment is successfully executed and verified.

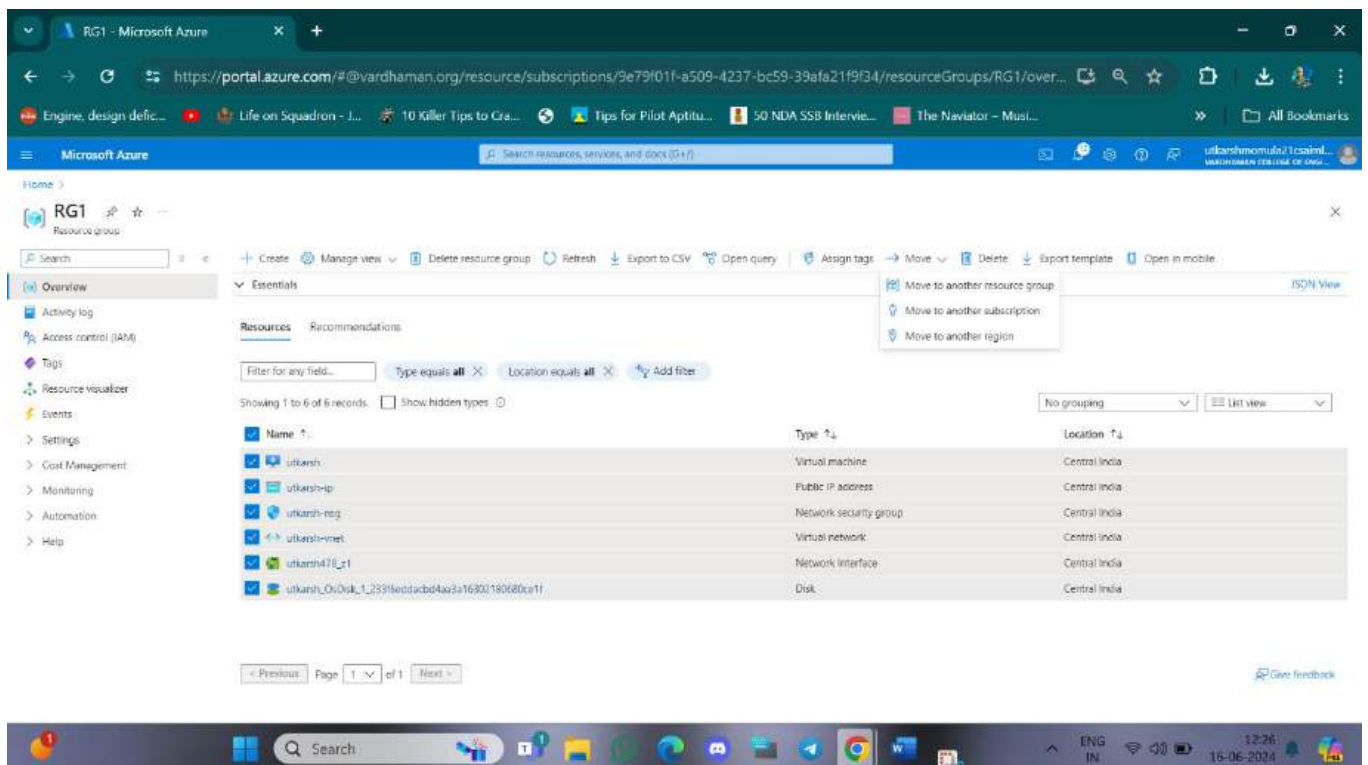
Q11) Move Server Files from one Resource Group to another.

Step-1: Create ResourceGroup1 , ResourceGroup2 and a Virtual machine on ResourceGroup1.

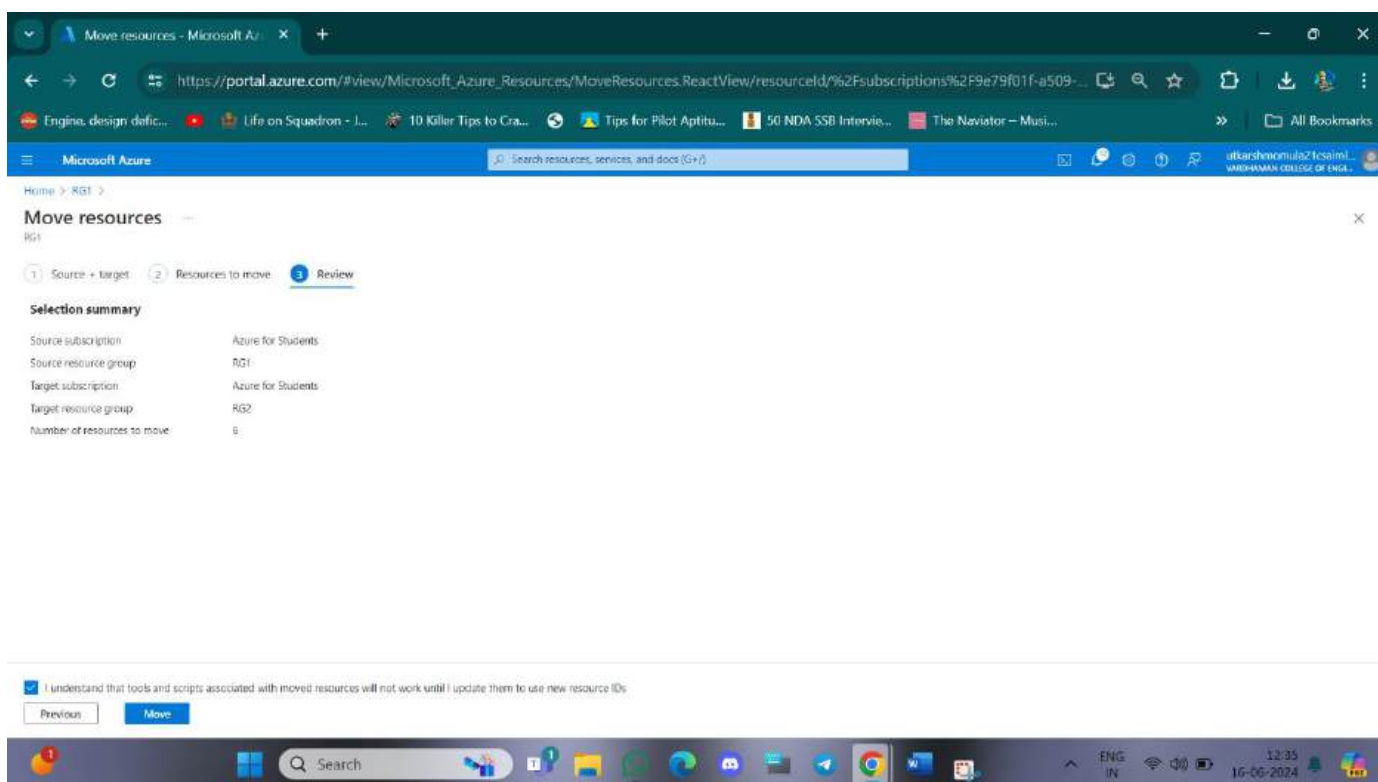
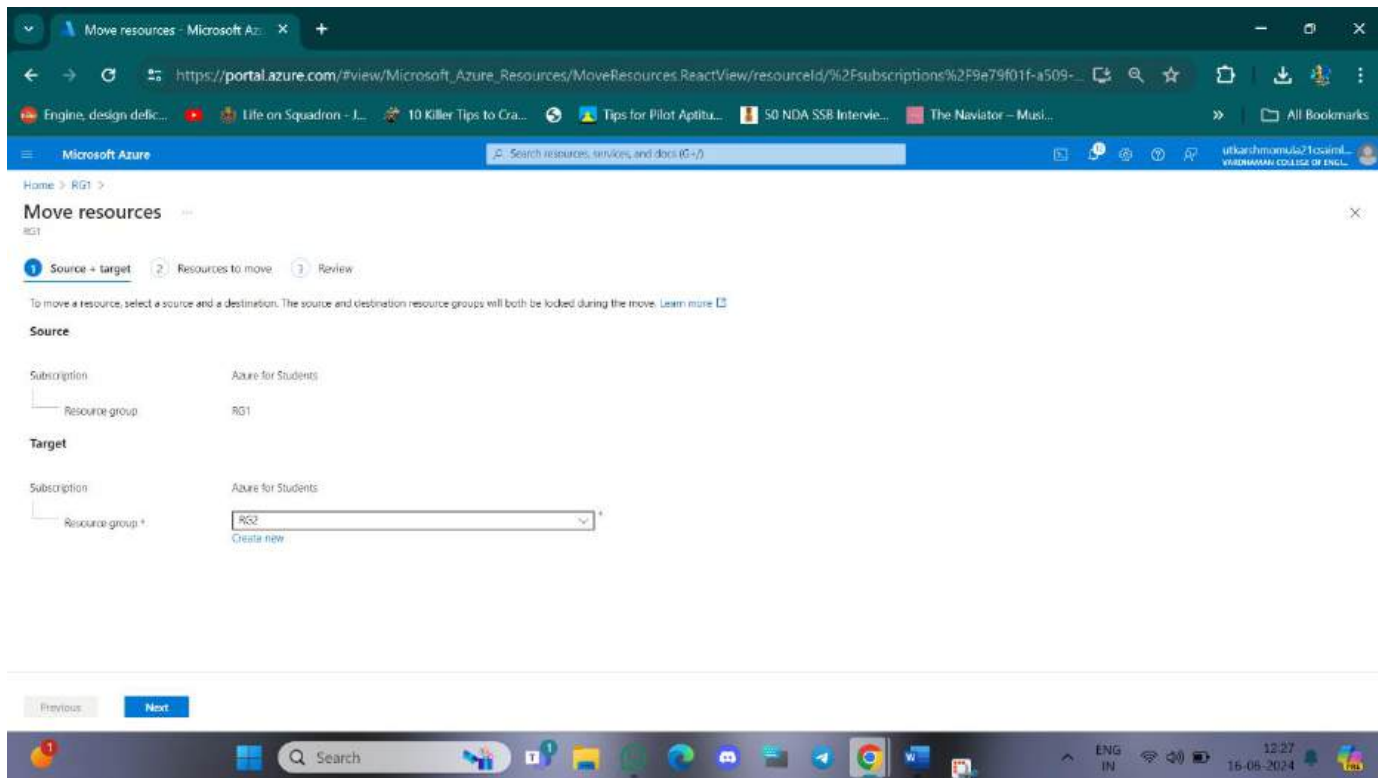


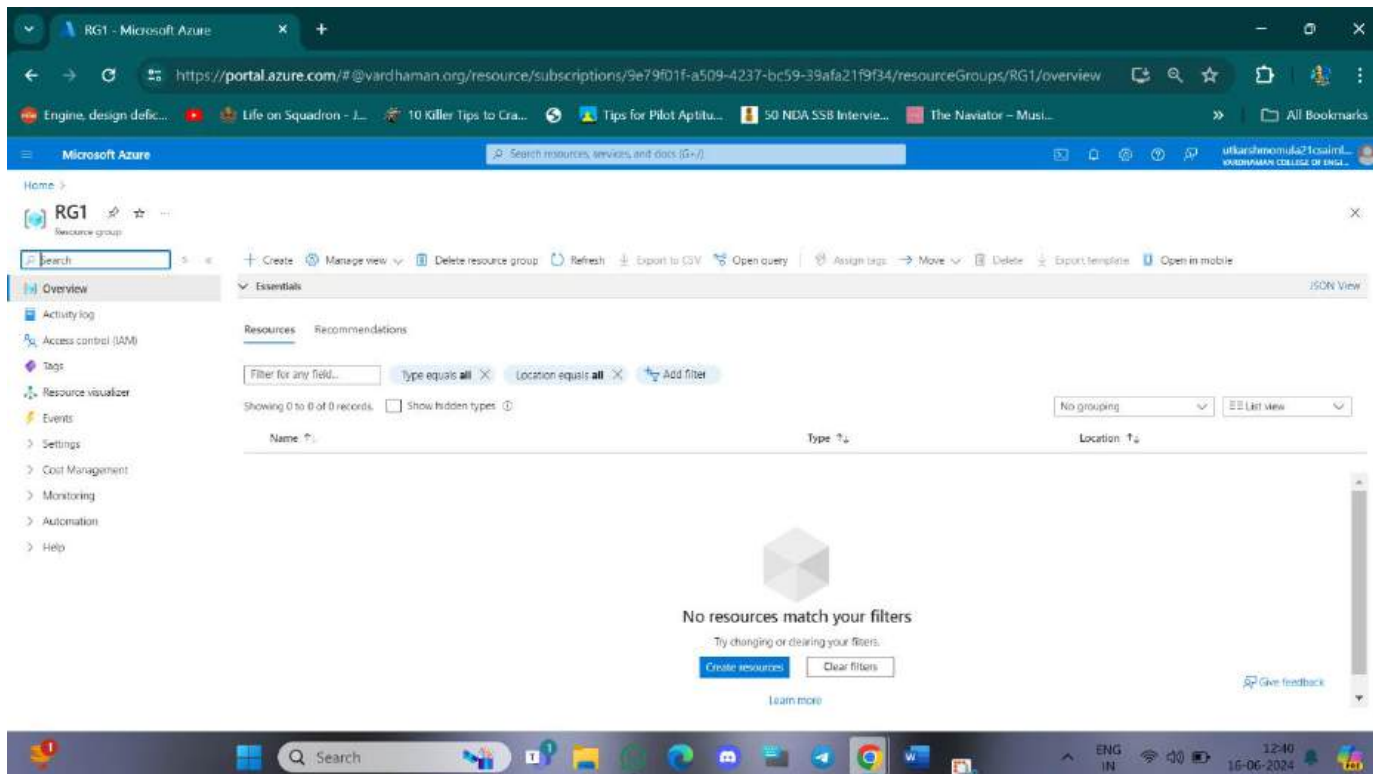


Step-2: Select all the resources from ResourceGroup1 and then click on Move->Move to another resource group.



Step-3: Select the target Resource Group as ResourceGroup2 and click on move.





Transfer successful. Hence experiment is successfully executed and verified.

Q12) How we are adding new users, login credentials, changing owner, create authorized key files.

Step-1: Create a ubuntu virtual machine using SSH as previous experiment.

Step-2: Login into your Ubuntu VM using your username and type the following commands.

To add new user in Linux server:

\$sudo useradd -m vishal

To set new password:

\$sudo password vishal

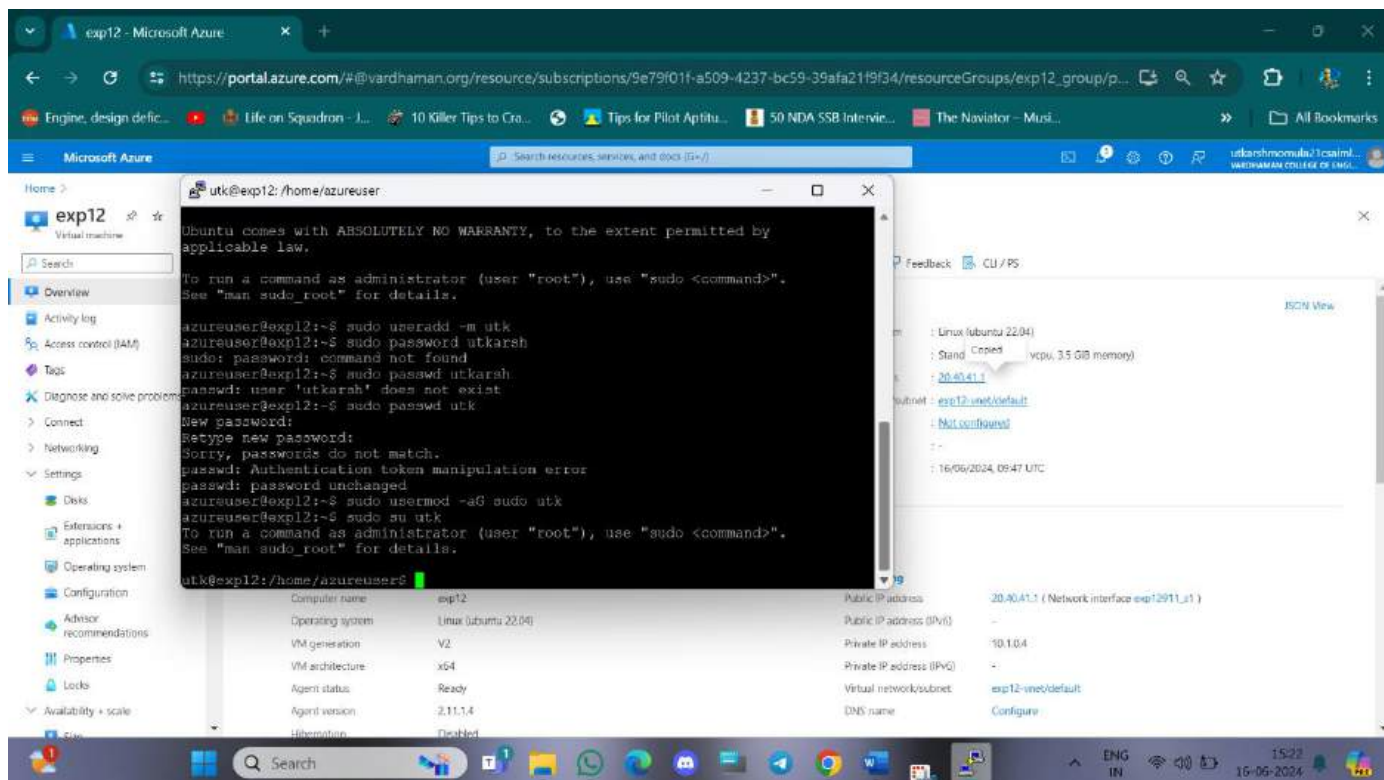
Enter new password and Retype password.

To modify login credentials:

\$sudo usermod -aG sudo vishal

To switch the user:

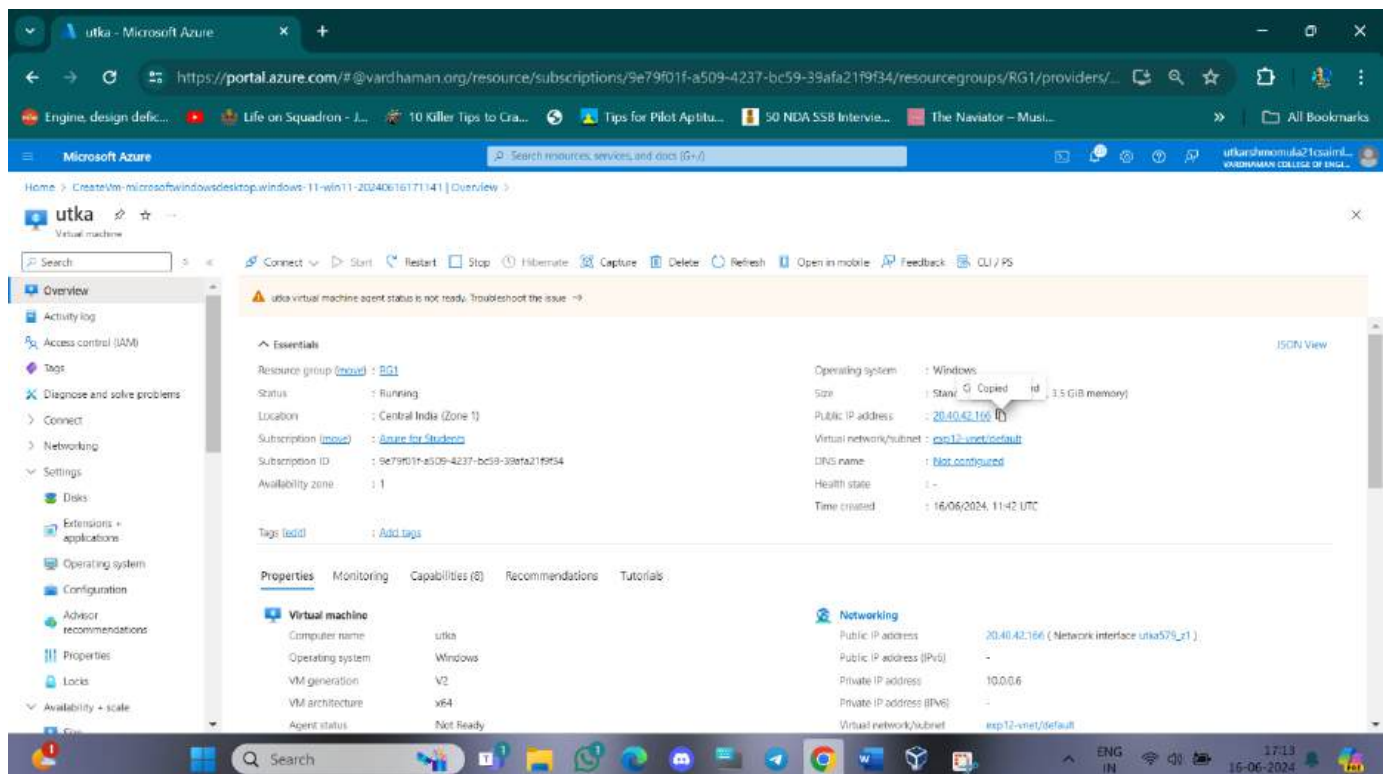
\$sudo su vishal



Hence experiment is successfully executed and verified.

Q12) Create a Windows VM and transfer files from desktop to remote desktop VM.

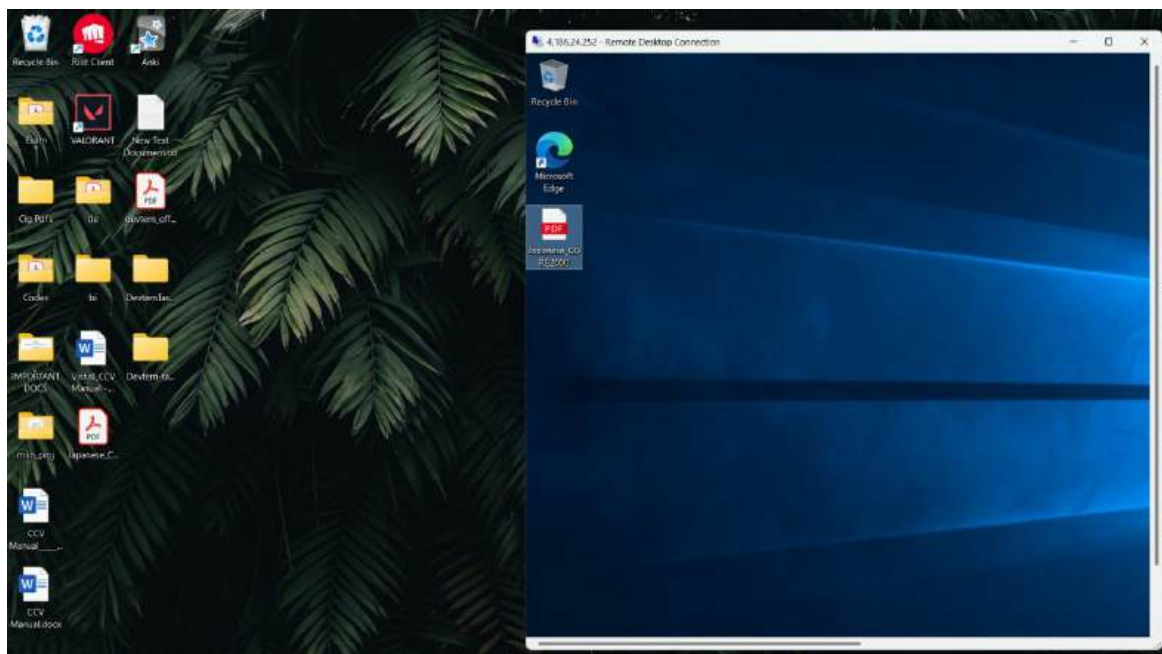
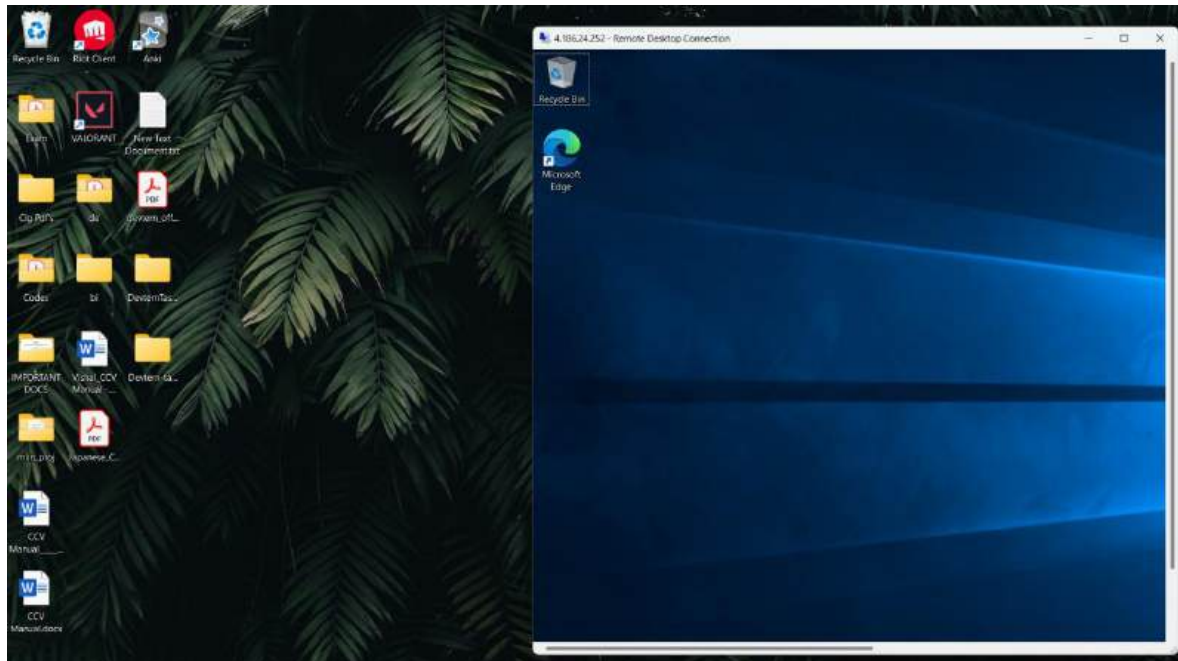
Step-1: Create Windows VM same as previous experiments and copy public IP Address.



Step-2: Login into your account using username and password using remote desktop.

Step-3: Minimize the Remote desktop and copy file from desktop.

Right click in remote desktop and click on paste.



Hence experiment is successfully executed and verified.

Q13) How to attach and detach data disk to Windows Server in Azure data center

Step-1: Create Virtual Machine with username and password and click on Next: Disks

Microsoft Azure

Home > Virtual machines >

Create a virtual machine

Changing Basic options may reset selections you have made. Review all options prior to creating the virtual machine.

Administrator account

Username *

Password *

Confirm password *

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ☐ None ☒ Allow selected ports

Select inbound ports *

All traffic from the Internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.

< Previous Next > Disks Review + create

Give feedback

Step-2: Click on create and attach new disk

Create a virtual machine

Encryption at host is not registered for the selected subscription. [Learn more about enabling this feature.](#)

OS disk

OS disk size: Image default (127 GiB)

OS disk type: Premium SSD (locally-redundant storage)

Delete with VM: ☒

Key management: Platform-managed key

Enable Ultra Disk compatibility: ☐
Ultra disk is not supported for the selected VM size Standard_DS1_v2 in Central India.

Data disks for exp12

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM

[Create and attach a new disk](#) [Attach an existing disk](#)

[< Previous](#) [Next: Networking >](#) [Review + create](#)

Step-3: Click on change size and select 10GiB and click on ok.

Select a disk size

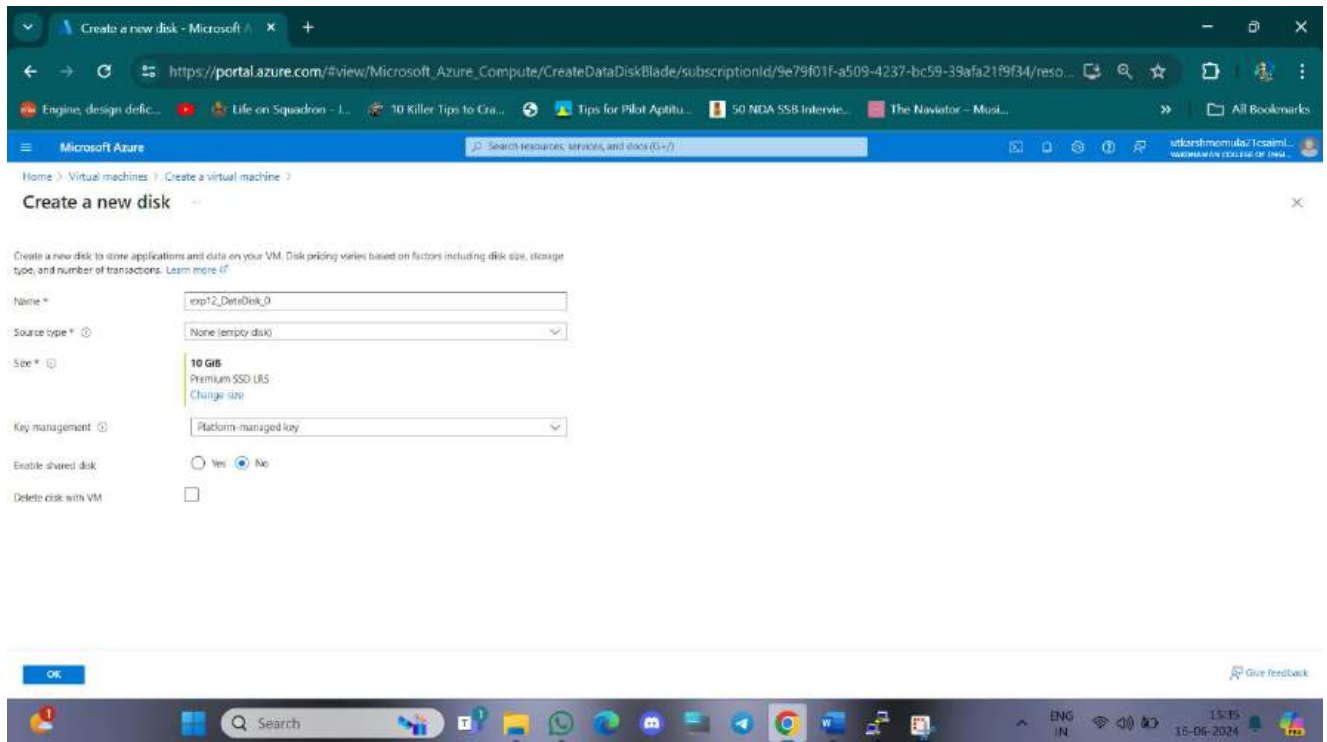
Browse available disk sizes and their features

Storage type: Premium SSD (locally-redundant storage)

Size	Performance tier	Provisioned IOPS	Provisioned throughput	Max Shares	Max burst IOPS	Max burst throughput
4 GiB	P1	120	25	3	3500	170
8 GiB	P2	120	25	3	3500	170
16 GiB	P3	120	25	3	3500	170
32 GiB	P4	120	25	3	3500	170
64 GiB	P6	240	50	3	3500	170
128 GiB	P10	500	100	3	3500	170
256 GiB	P15	1100	125	3	3500	170
512 GiB	P20	2300	150	3	3500	170
1024 GiB	P30	5000	200	5	-	-
2048 GiB	P40	7500	250	5	-	-
4096 GiB	P50	7500	250	5	-	-
8192 GiB	P60	16000	500	10	-	-
16384 GiB	pm	16000	750	10	-	-

[OK](#)

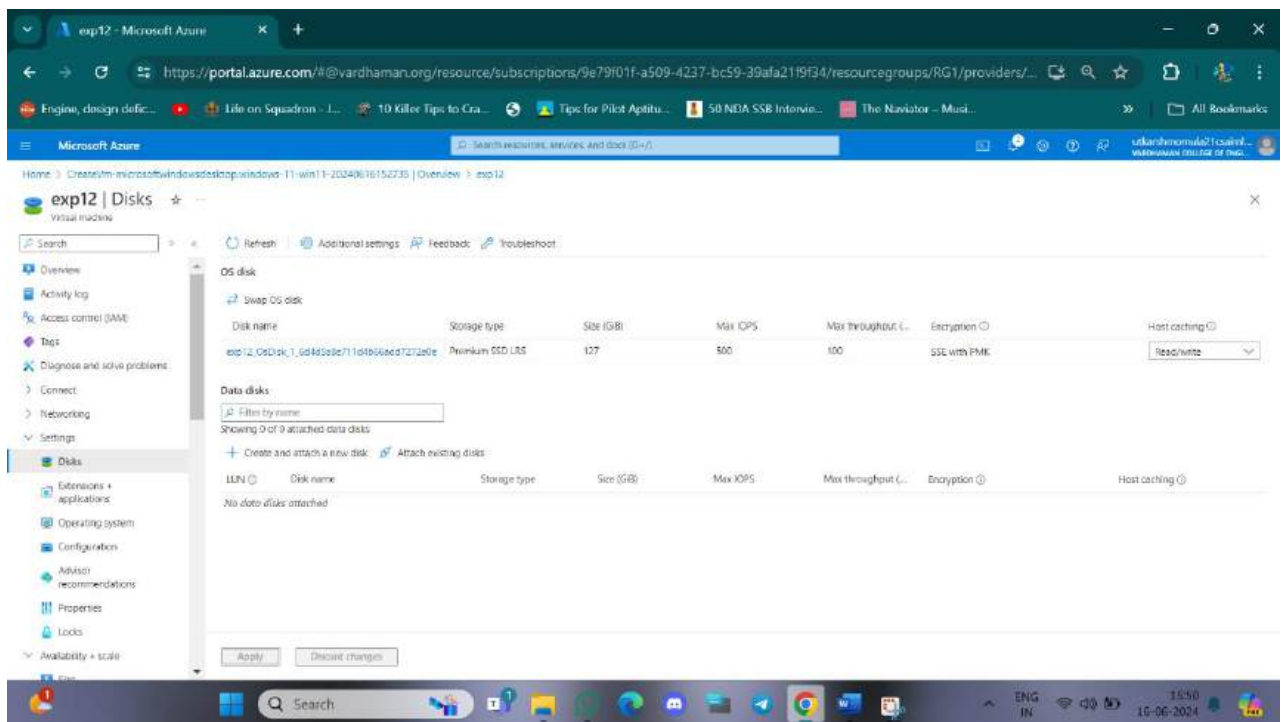
Step-4: Select delete disk with VM and click OK



Step-5: Click on review+create and then create, go to resource group and copy Ip address and login to remote desktop connection with username and password.

Step-6: Click on Disks in left hand side to check the attached data disk to windows server.

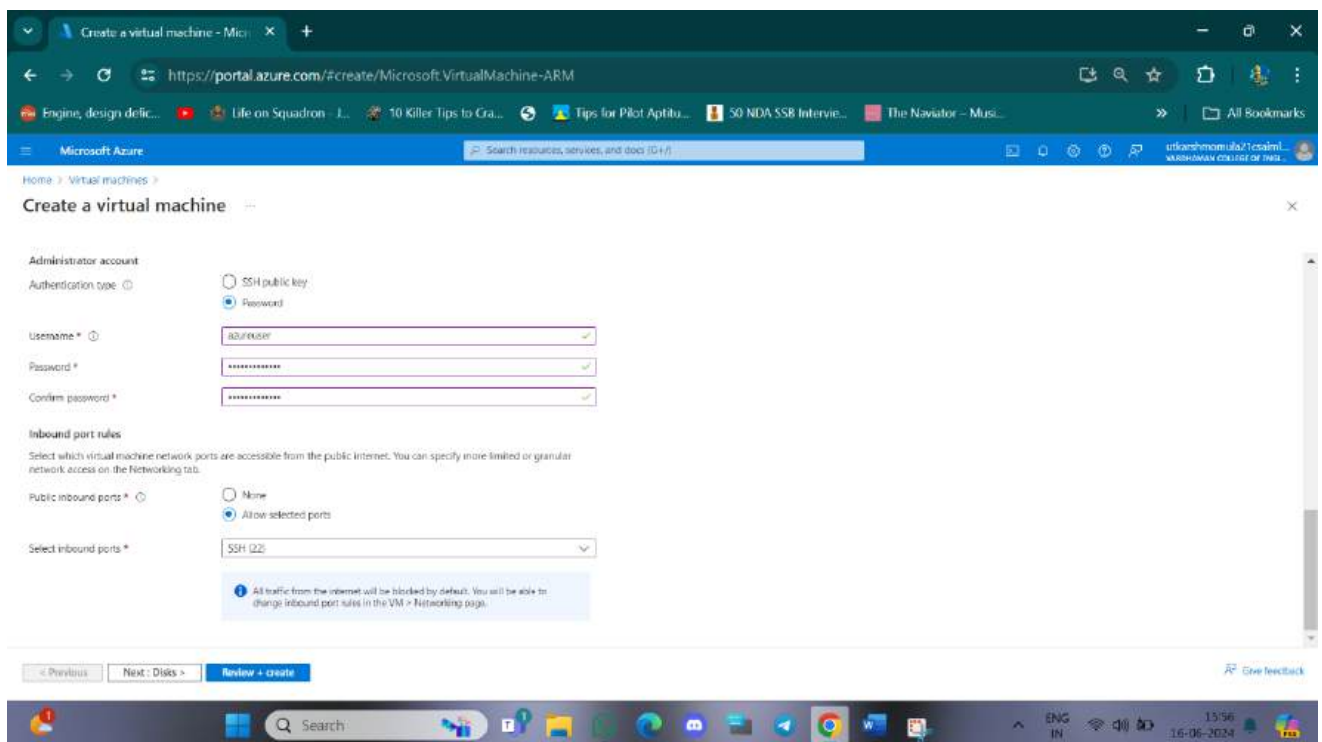
Step-7: Click on detach symbol at right end of data disk and click apply to detach data disk from windows server.



Hence experiment is successfully executed and verified.

Q14)How to attach and detach data disk to Linux server in azure?

Step-1: Create a Virtual Machine with ubuntu sever and username and password.



Step-2: Click on Next: Disk and then select OS disk size-30GiB, Os disk type – Premium SSD(LRS) , enable “Delete with VM” and click on “Create and Attach a new data disk”.

Step-3: Change size to 5GiB and Select Delete disk with VM

Home > Virtual machines >

Create a virtual machine

Encryption at host

Encryption at host is not registered for the selected subscription.
[Learn more about enabling this feature](#)

OS disk

OS disk size Image default (30 GiB)

OS disk type Premium SSD (locally-redundant storage)

Delete with VM ☒

Key management Platform-managed key

Enable Ultra Disk compatibility ☐
Ultra disk is not supported for the selected VM size Standard_DS1_v2 in Central India.

Data disks for exp13

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM

[Create and attach a new disk](#) [Attach an existing disk](#)

[< Previous](#) [Next: Networking >](#) [Review + create](#)

[Give feedback](#)

The image shows two screenshots of the Microsoft Azure portal. The top screenshot is the 'Create a new disk' page, and the bottom screenshot is the 'Create a virtual machine' page.

Create a new disk

Create a new disk to store applications and data on your VM. Disk pricing varies based on factors including disk size, storage type, and number of transactions. [Learn more](#)

Name*: exp13_DataDisk_0

Source type*: None (empty disk)

Size*: 5 GiB
Premium SSD LRS
[Change size](#)

Key management: Platform-managed key

Enable shared disk: ☐ Yes ☒ No

Delete disk with VM: ☒

Create a virtual machine

OS disk

OS disk size: Image default (30 GiB)

OS disk type*: Premium SSD (locally-redundant storage)

Delete with VM: ☒

Key management: Platform-managed key

Enable Ultra Disk compatibility: ☐
Ultra disk is not supported for the selected VM size Standard_DS1_v2 in Central India.

Data disks for exp13

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM
0	exp13_DataDisk_0	5	Premium SSD LRS	Read-only	<input checked="" type="checkbox"/>

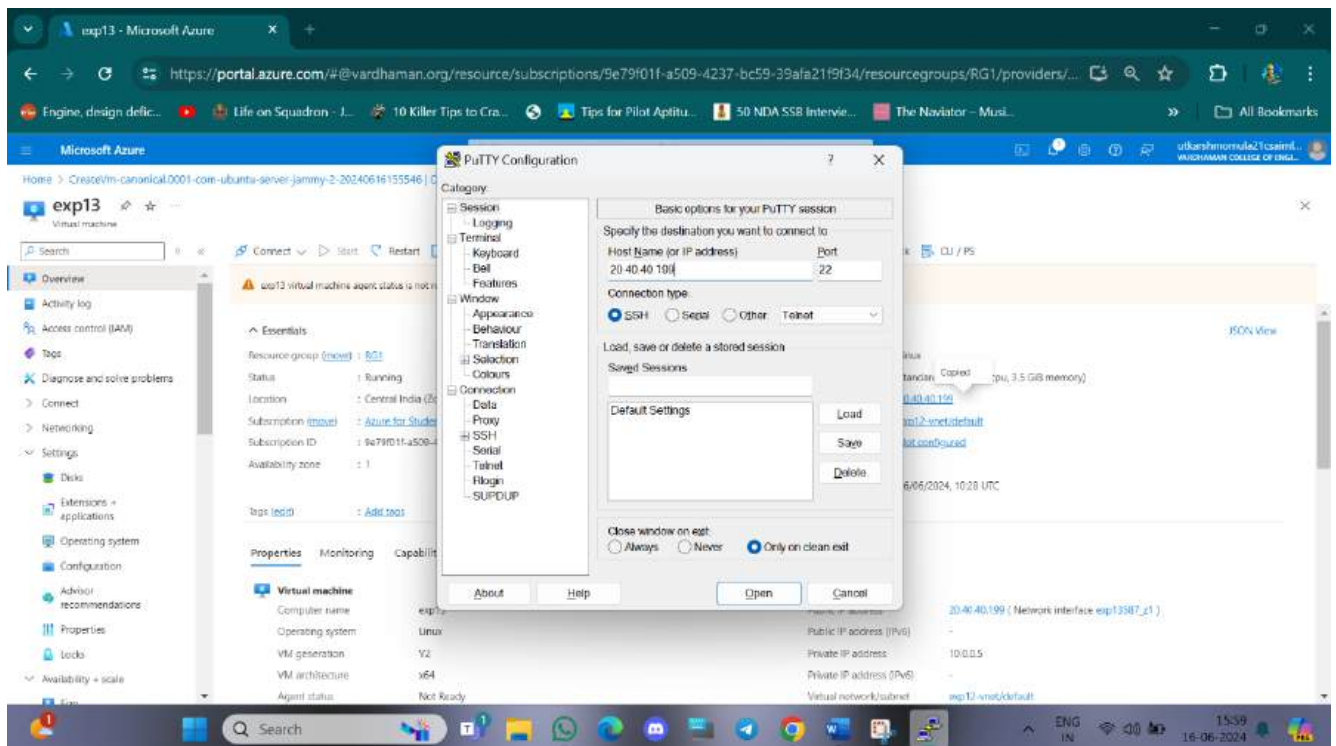
[Create and attach a new disk](#) [Attach an existing disk](#)

Advanced

[Previous](#) [Next: Networking](#) [Review + create](#)

Step-4: . Click OK and Review+Create then Create.

Step-5: Go to resource group and copy Ip address and then open “Putty” paste the Ip address and click Open.



Hence experiment is successfully executed and verified.

Step-6: Login with username and password and type the commands:

```
$ df -ht
```

```
$ lsblk
```

```
$ sudo fdisk -s/dev/sdc
```

```
$ sudo mkfs -t ext4 /dev/sdc
```

```
$ mkdir test
```

```
$ sudo mount /dev/sdc/ test
```

```
$ cd test
```

```
$ df -ht
```



```

azureuser@exp13: ~/test
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

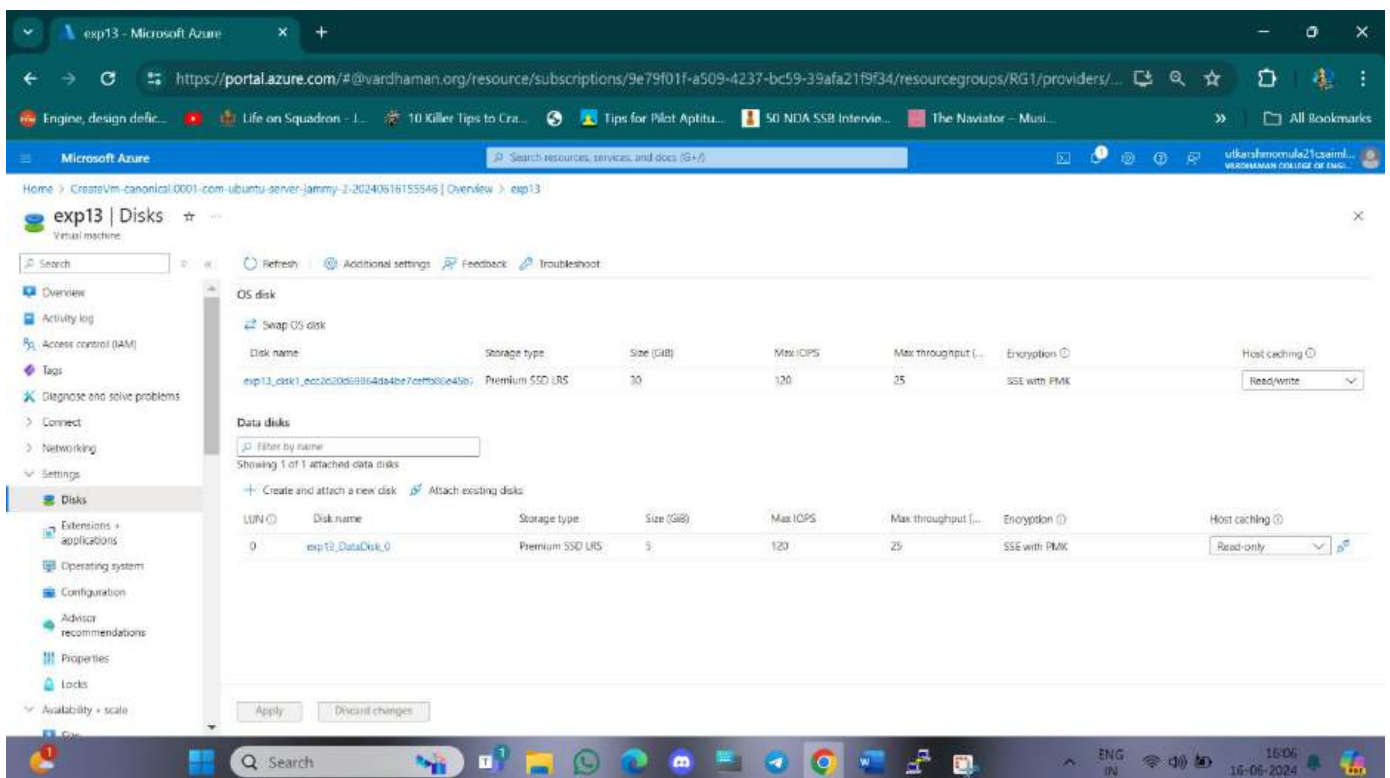
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

azureuser@exp13:~$ df -hT
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/root        ext4       29G   1.6G   28G   6% /
tmpfs            tmpfs      1.7G   0   1.7G   0% /dev/shm
tmpfs            tmpfs      670M   980K  669M   1% /run
tmpfs            tmpfs      5.0M   0   5.0M   0% /run/lock
efivarfs         efivarfs   128K   37K   87K   30% /sys/firmware/efi/efivars
/dev/sda15       vfat      105M   6.1M   99M   6% /boot/efi
/dev/sdb1        ext4       6.8G   28K   6.5G   1% /mnt
tmpfs            tmpfs      335M   4.0K  335M   1% /run/user/1000

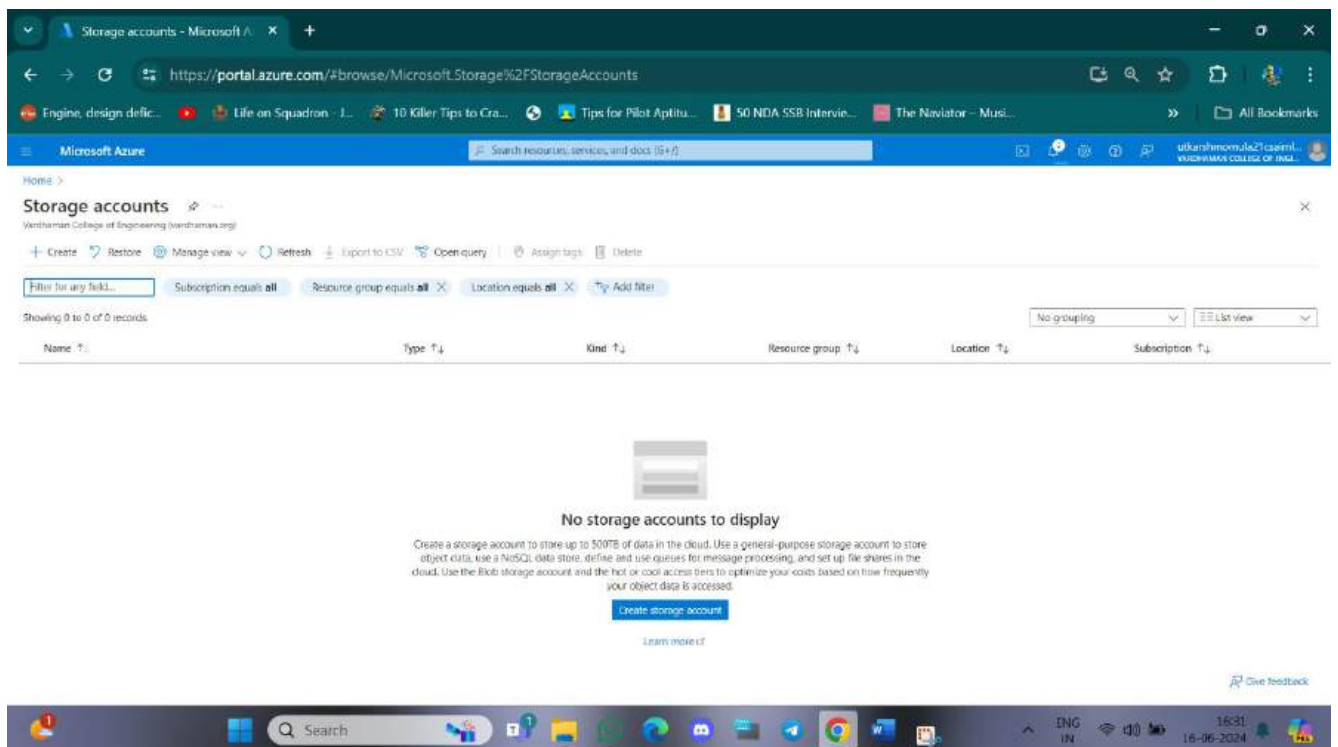
azureuser@exp13:~$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0        7:0      0   63.9M  1 loop /snap/core20/2318
loop1        7:1      0    87M  1 loop /snap/lxd/28373
loop2        7:2      0   38.8M  1 loop /snap/snapd/21759
sda           8:0      0    30G  0 disk 
├─sda1        8:1      0   29.9G  0 part /
├─sda14       8:14     0     4M  0 part 
├─sda15       8:15     0   106M  0 part /boot/efi
└─sdb         8:16     0     7G  0 disk 
├─sdb1        8:17     0     7G  0 part /mnt
└─sdc         8:32     0     5G  0 disk 
sdc0          11:0     1    628K  0 rom
azureuser@exp13:~$ sudo file -s /dev/sdc
file: invalid option -- 's'
Usage: file [-bcCdEhikLlMnpqrsSzvz20] [--apple] [--extension] [--mime-encoding]
        [--mime-type] [-e <testname>] [-F <separator>] [-f <namefile>]
        [-m <magicfiles>] [-P <parameter-value>] [--exclude-quiet]
        <file> ...
        file -C [-m <magicfiles>]
        file [--help]
azureuser@exp13:~$ sudo mkfs -t ext4 /dev/sdc

```

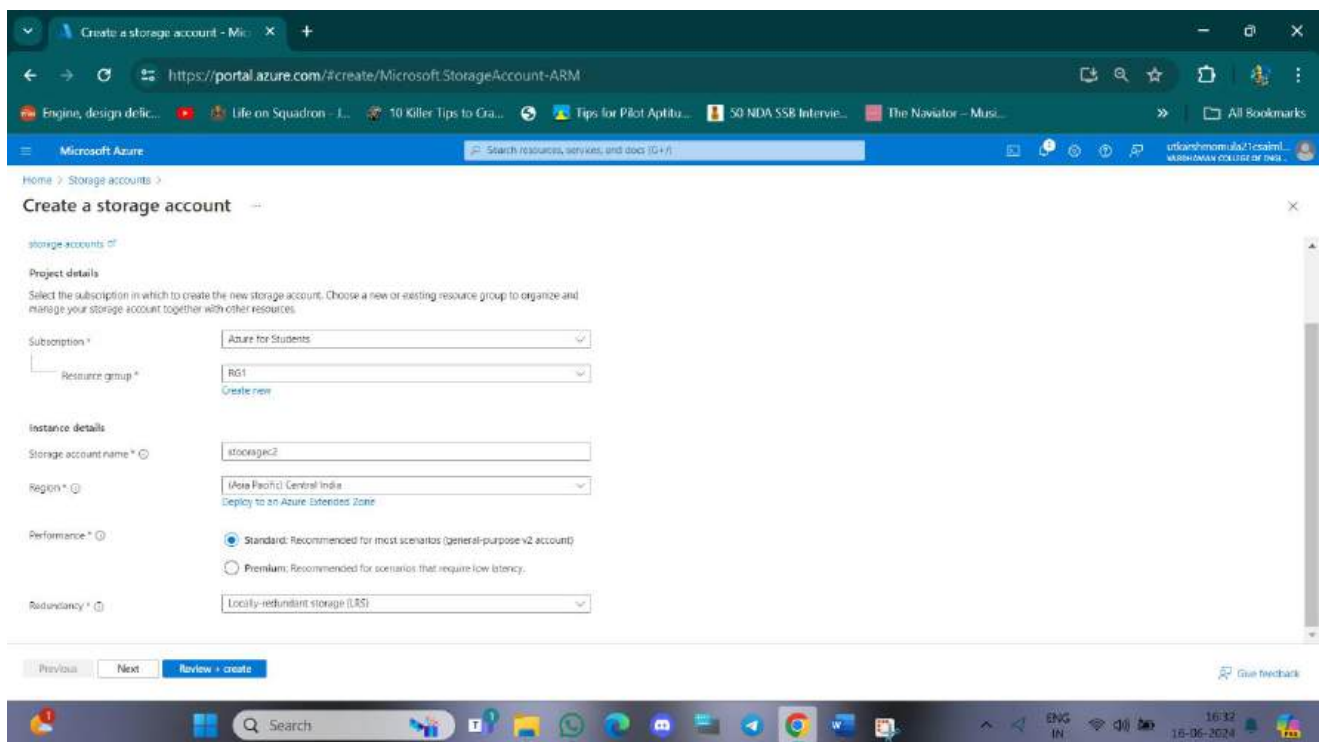


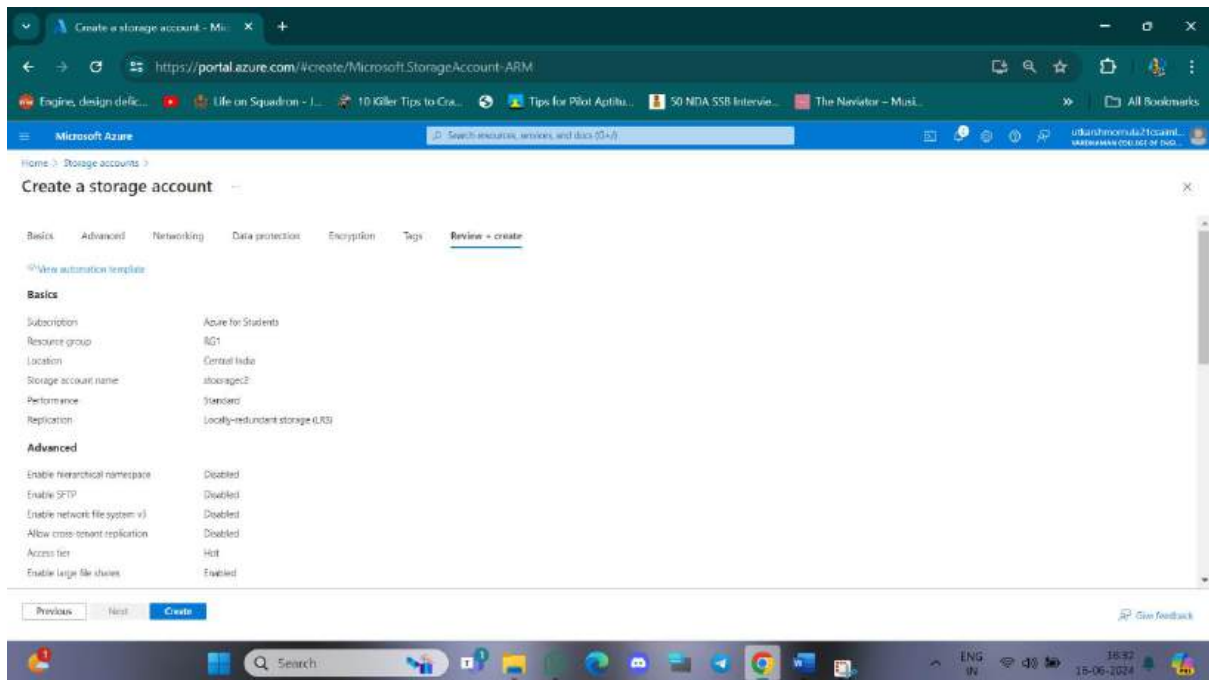
Q15) Hosting of a static website in Azure

Step-1: Create a Storage Account make sure to change redundancy as Locally Redundant storage and click review and click create.

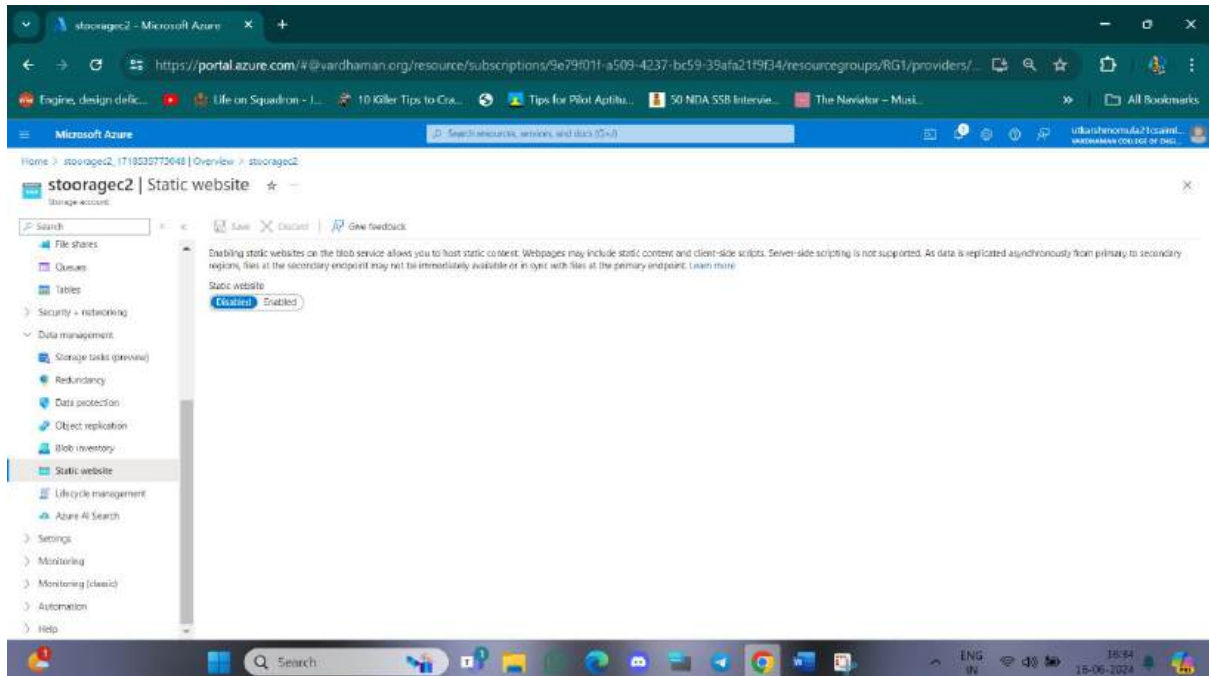


Step-2: After deployment of Storage Account click on go to resource then go to Static Website in left hand side.

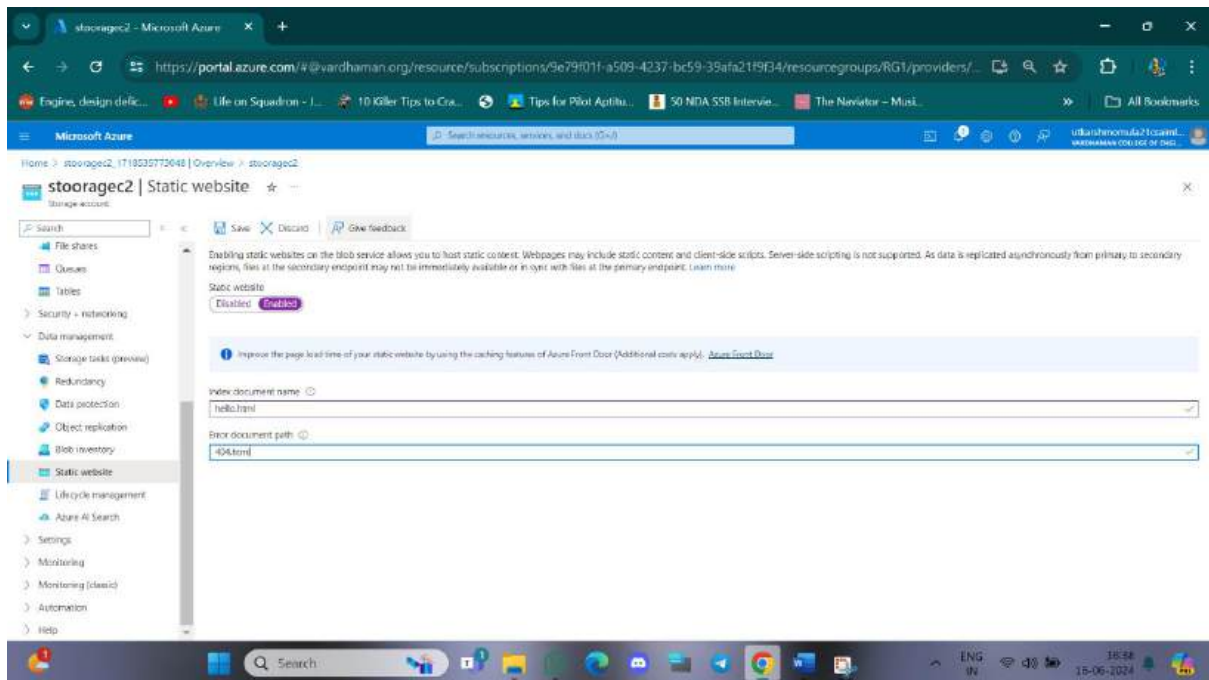




Step-3: Click on Enable under static website then fill index document and error document name and click save and copy the primary endpoint url.



Step-4: Navigate to Containers on left hand side and open \$web.



Step-5: Make a index.html file make sure to have the same name as given in static website.

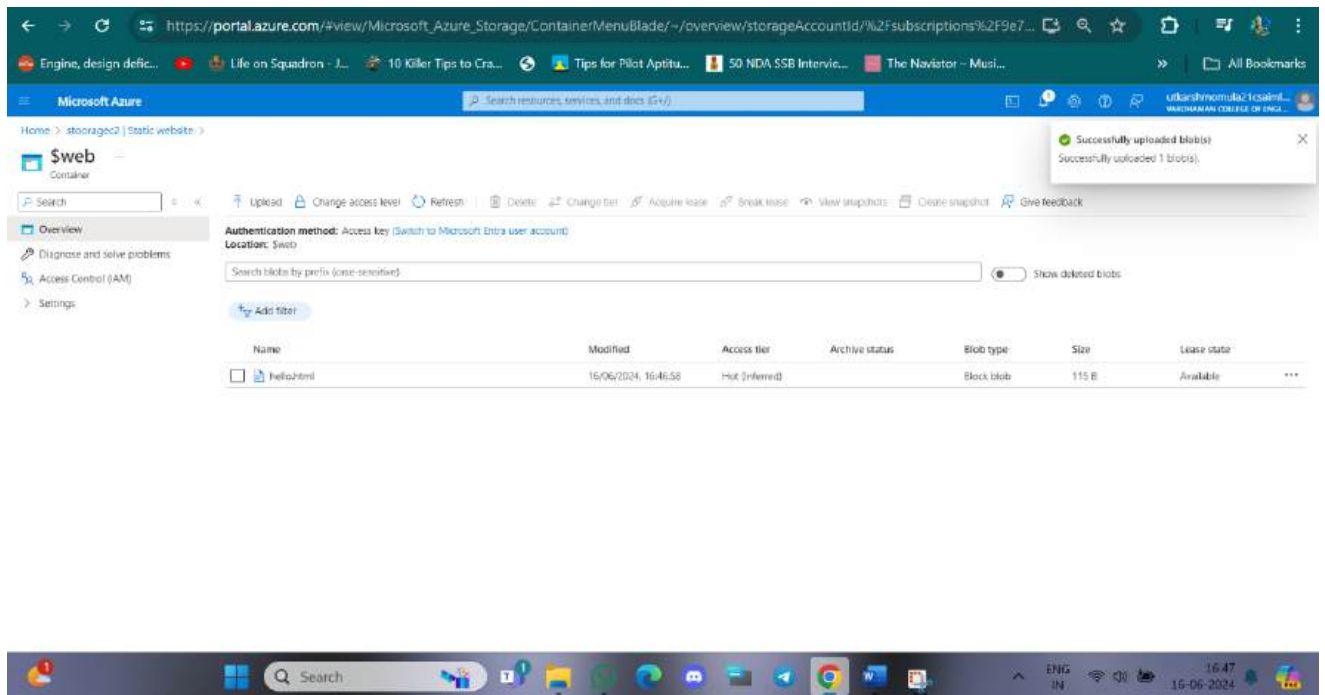
```

File    Edit    View

<!DOCTYPE html>
<html>
<head>
<title>Static Web</title>
</head>
<body>
<h1>Hello World</h1>
</body>
</html>

```

Step-6: Upload the file in web container by clicking on upload.



Step-7: Now paste the endpoint URL in new tab.



Hello World



Hence experiment is successfully executed and verified.

Github Profile link: <https://github.com/udimomula>

Repository Link: