Cloud Computing and Virtualization

Submitted in partial fulfillment of the requirements for the award of Degree of

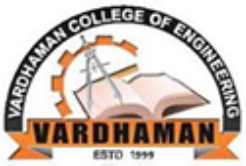
BACHELOR OF TECHNOLOGY

In

COMPUTER SCIENCE & ENGINEERING (AI&ML)

By

G. Veena Madhuri
(21881A6684)



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Shamshabad - 501 218, Hyderabad

ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of the task would be put incomplete without the mention of the people who made it possible, whose constant guidance and encouragement crown all the efforts with success.

We wish to express my deep sense of gratitude to **Dr. P. Pavankumar ,Associate Professor** for their able guidance and useful suggestions, which helped us in completing the design part of potential project in time.

We are particularly thankful to **Dr. M. A. Jabbar**, Professor & Head, Department of Computer Science and Engineering (AI&ML) for his guidance, intense support and encouragement, which helped us to mould our project into a successful one.

We show gratitude to our honorable Principal **Dr. J. V. R. Ravindra**, for having provided all the facilities and support.

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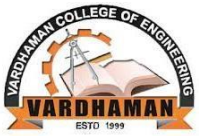
We also thank all the staff members of the department of **CSE(AI&ML)** for their valuable support and generous advice. Finally, thanks to all our friends and family members for their continuous support and enthusiastic help.

G. Veena Madhuri – 21881A6684



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CERTIFICATE

Certified that this is the bonafide record of practical work done by Ms. G. Veena Madhuri, roll number 21881A6684 of B. Tech in the "CLOUD COMPUTING & VIRTUALIZATION" laboratory during the year 2024.

No. of Experiments done:

Total No. of Experiments:

Date: HOD Staff Member Incharge

Roll Number -21881A6684

Submitted for the practical exam held on:

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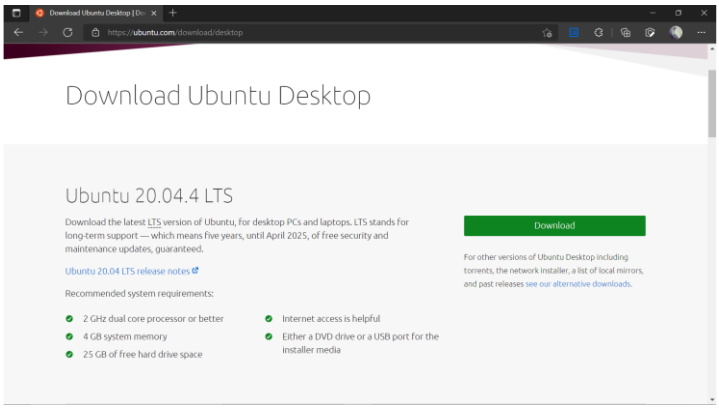
Q1. Install Virtual box and making Ubuntu and Window Virtual Machine.

Ubuntu:

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

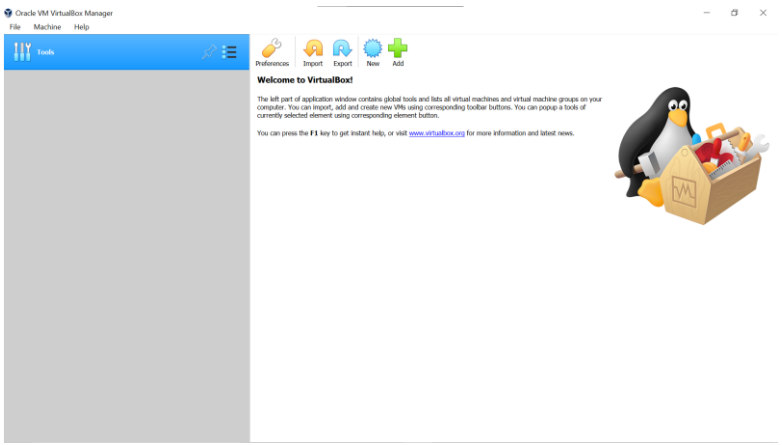
https://www.virtualbox.org/wiki/Downloads

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

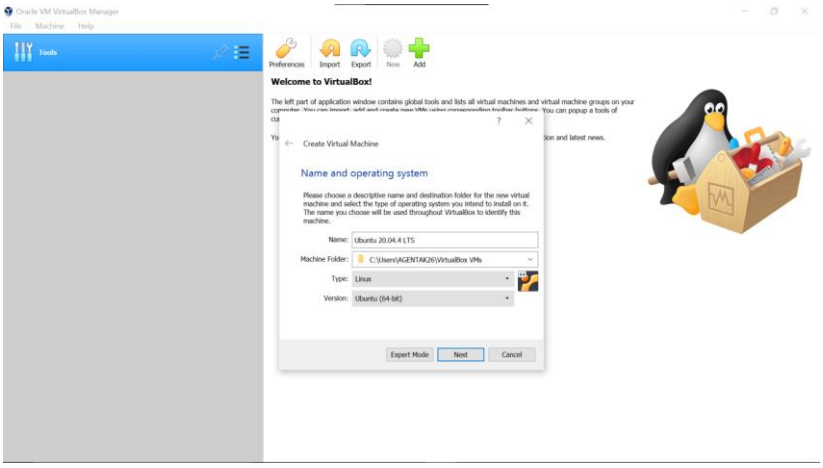


Note: The current version of Ubuntu only works on 64-bit machines.

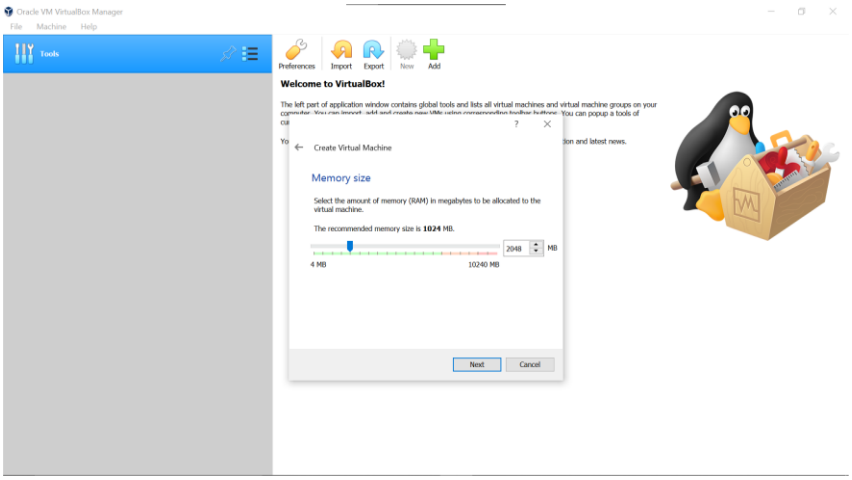
Step-3: Open VirtualBox and select New in the top taskbar.



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

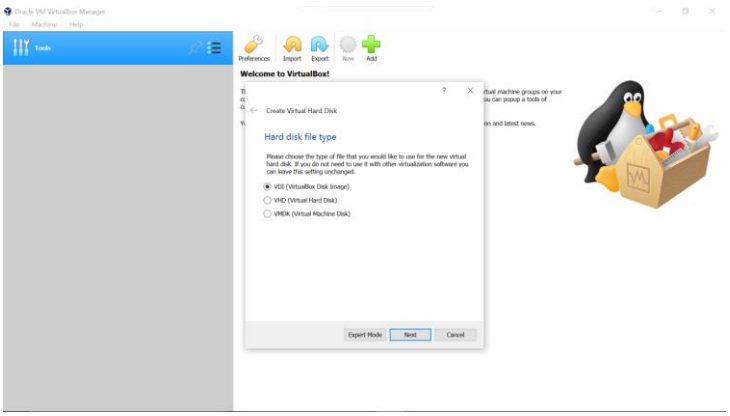


Step-5: Choose how much RAM you want to assign to the virtual machine and select Next. The recommended minimum is 1024 MB.



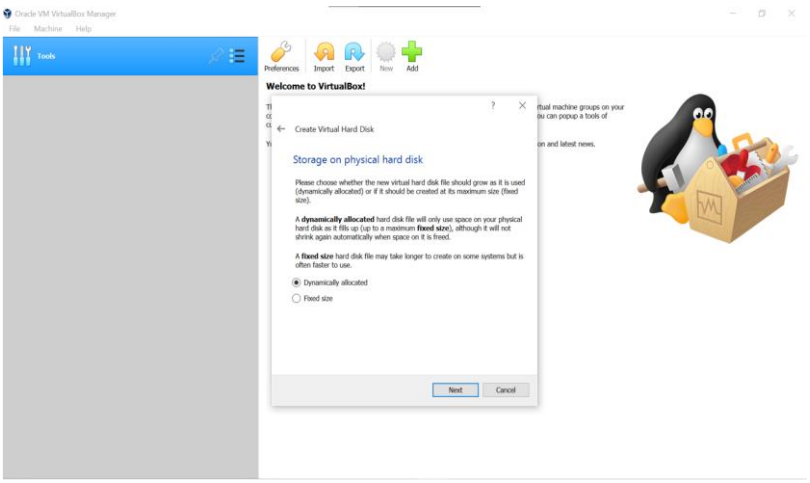
Step-6: Choose Create a virtual hard disk now and select Create.

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.

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

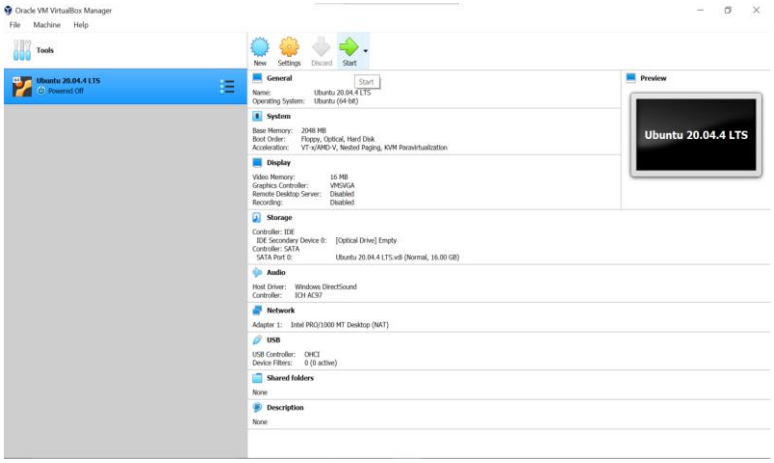


Tip: A fixed size disk performs better because the virtual machine doesn't have to increase the file size as you install software.

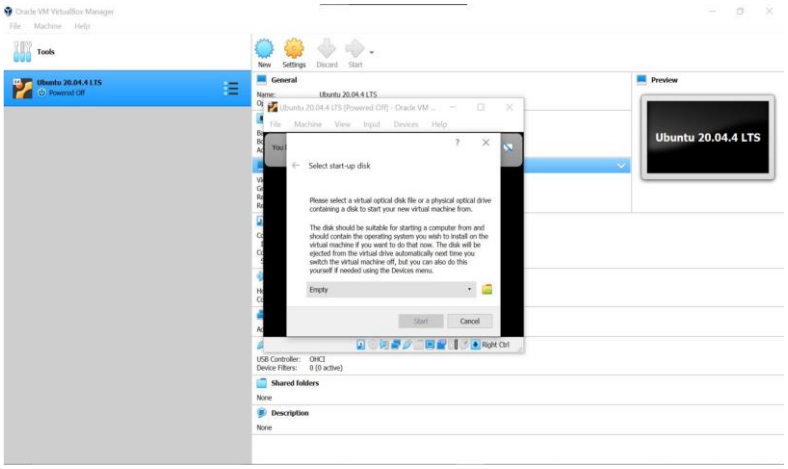
Step-9: Choose how much space you wish to set aside for Ubuntu and select Create.

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.

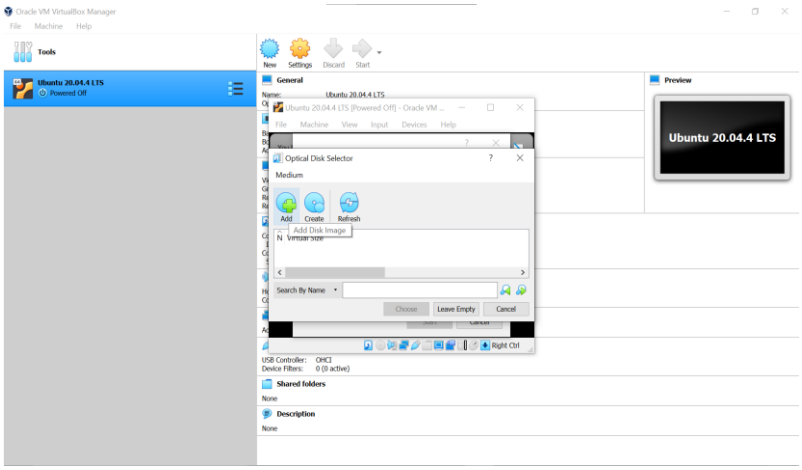
Step-10: The name of your virtual machine will now appear on the left side of the VirtualBox manager. Select Start in the toolbar to launch your VM.



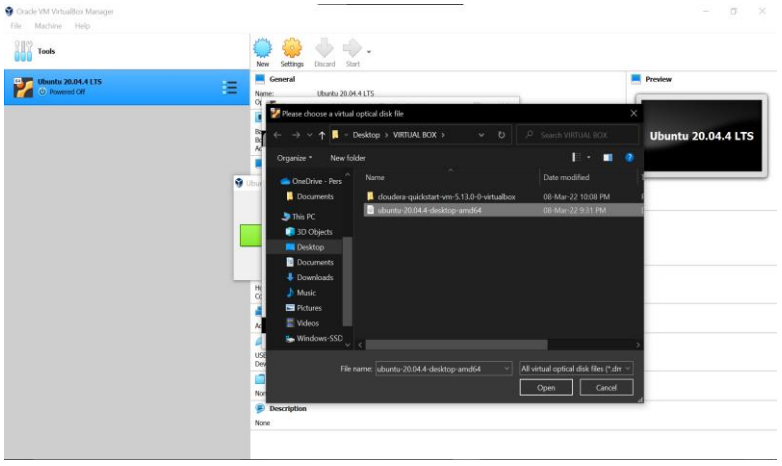
Step-11: This is the point where you need to choose the Ubuntu ISO file you downloaded earlier. If the VM doesn't automatically detect it, select the folder next to the Empty field.



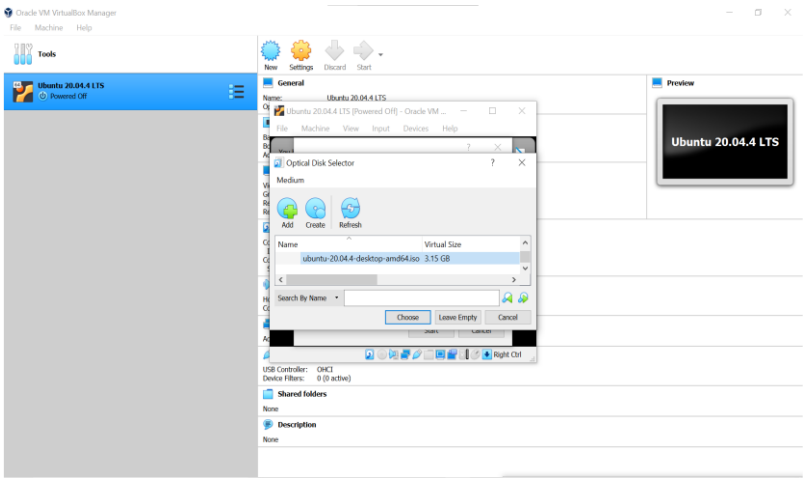
Step-12: Select Add in the window that pops up.



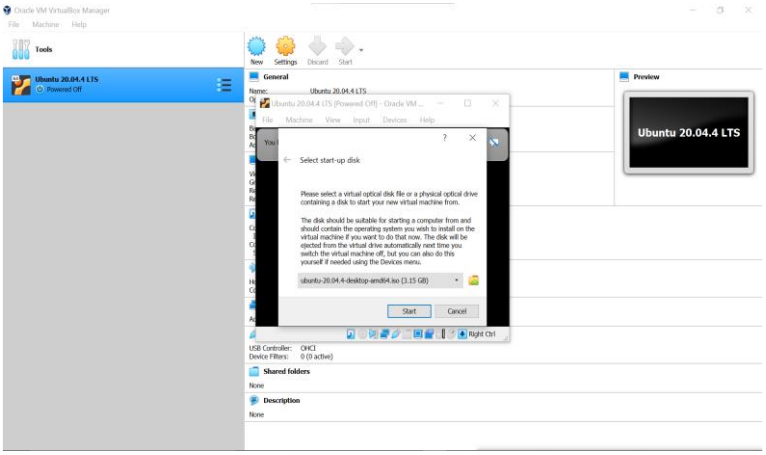
Step-13: Choose your Ubuntu disk image and select Open.



Step-14: - Select Choose

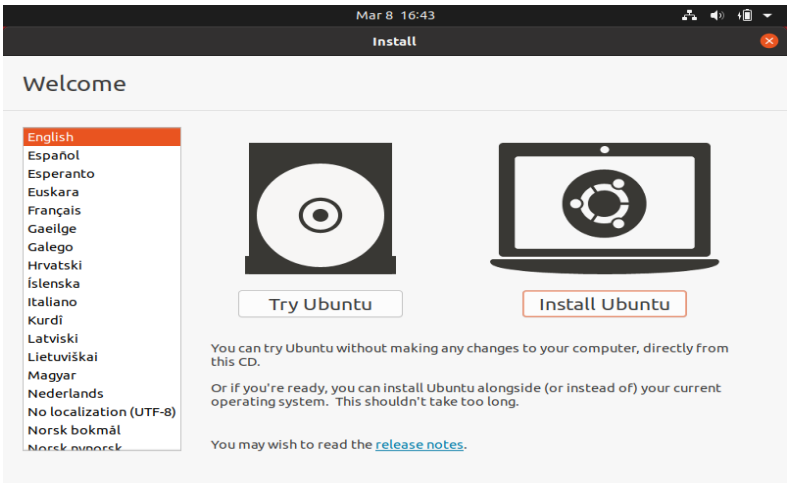


Step-15: Select Start.

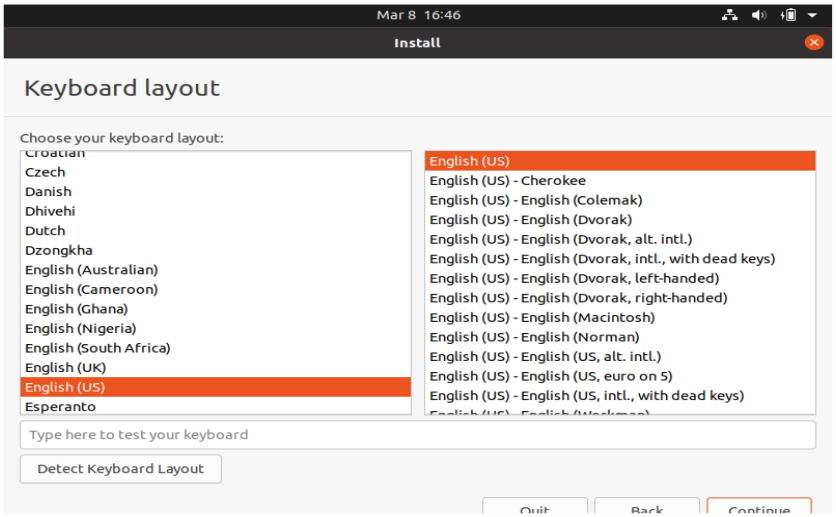


Step-16: Your VM will now boot into a live version of Ubuntu. Choose your language and select Install Ubuntu

u.



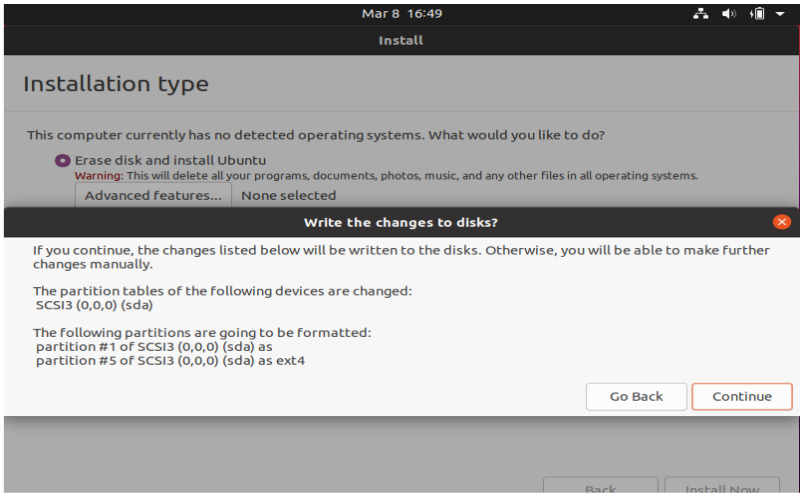
Step-17: Choose your keyboard layout and select Continue.



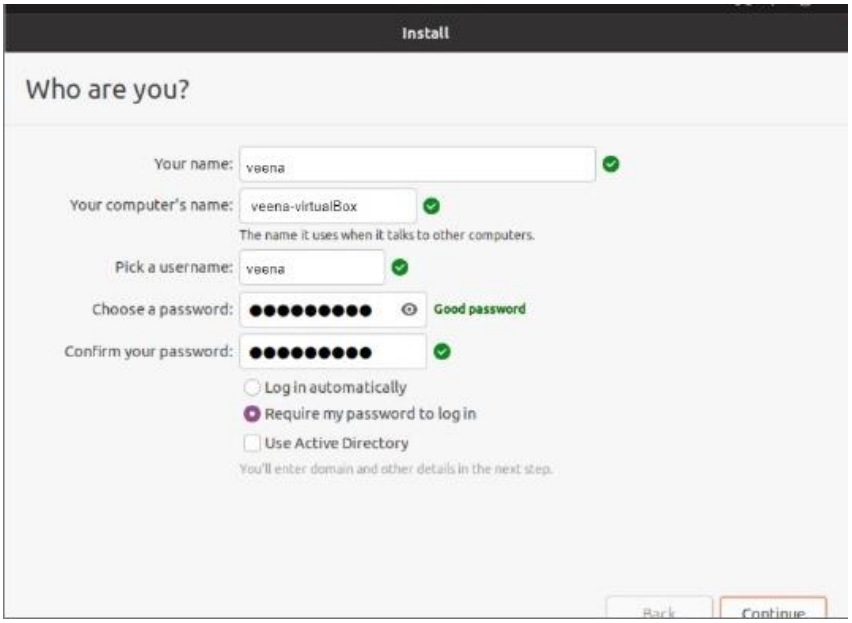
Step-18: Choose Normal installation or Minimal installation, then select Continue.

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

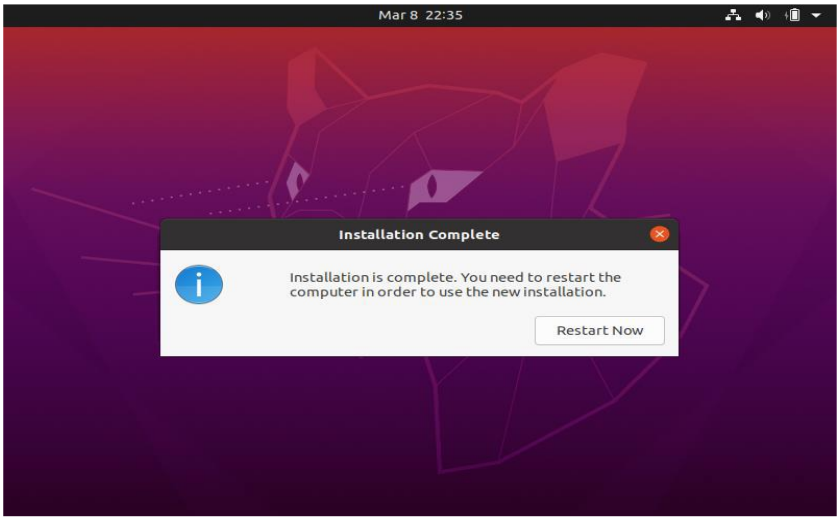
Note: This step will not erase your computer's physical hard drive; it only applies to the virtual machine.



Step-20: - Choose your time zone on the map, then select Continue.
Step-21: - Set up your user account and select Continue.

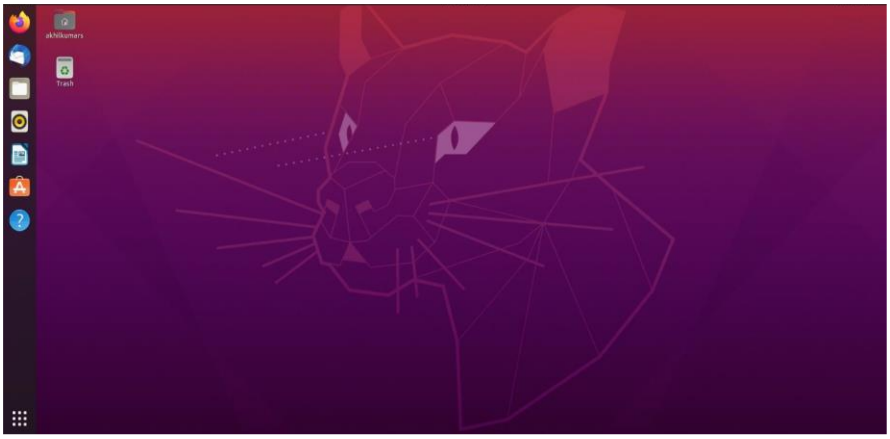


Step-22: - Select Restart Now.



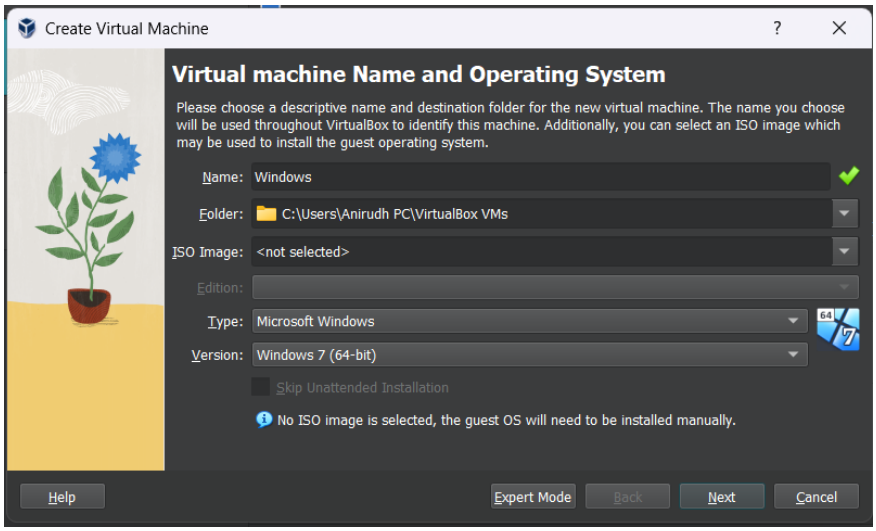
Step-23: - After restarting your VM and booting into Ubuntu, you may notice that the desktop doesn't scale correctly if you choose to view it in full-screen mode. You can fix this problem by selecting the VBox_Gas icon to install VirtualBox Guest Additions.

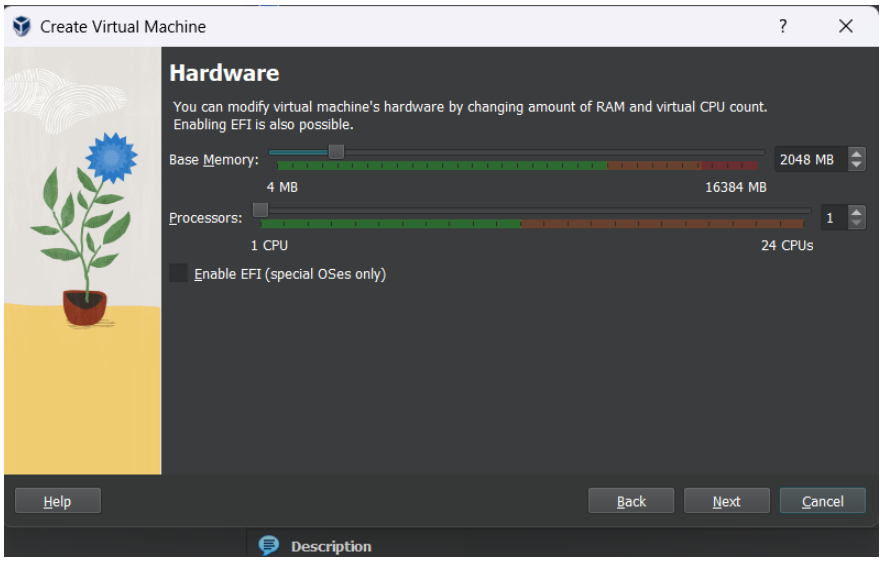
Output:

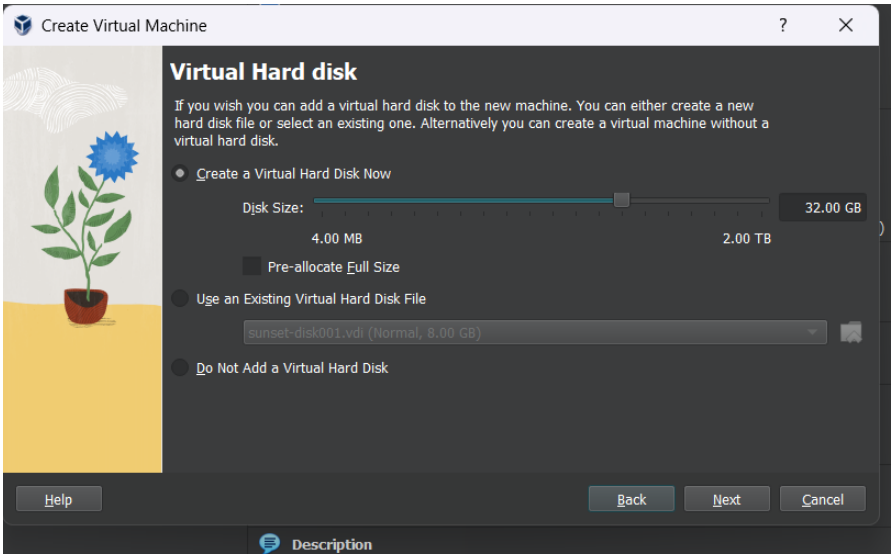


Windows:

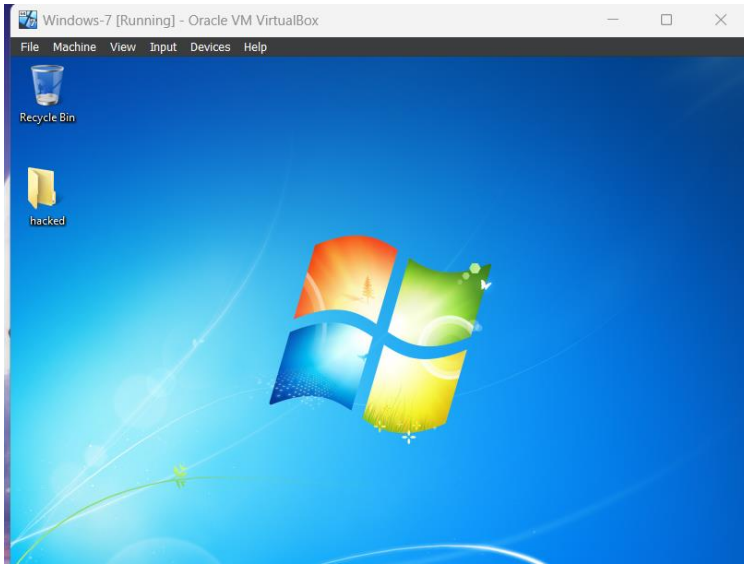
Similarly, Follow the same steps above to Build Windows Virtual Machine.







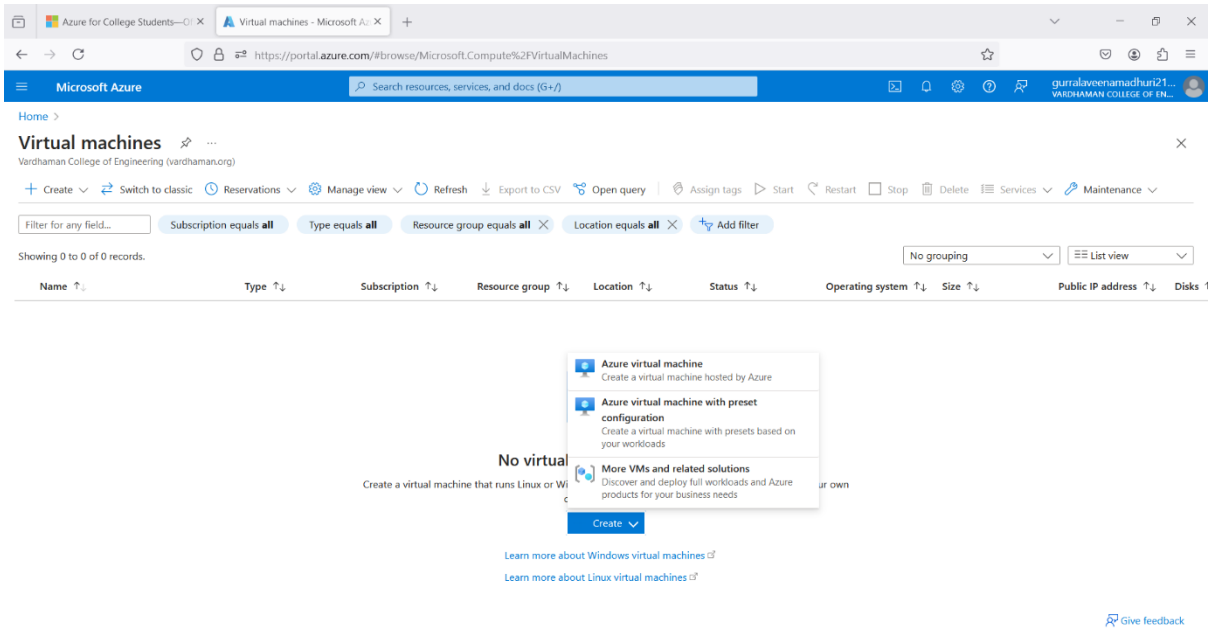
Output:



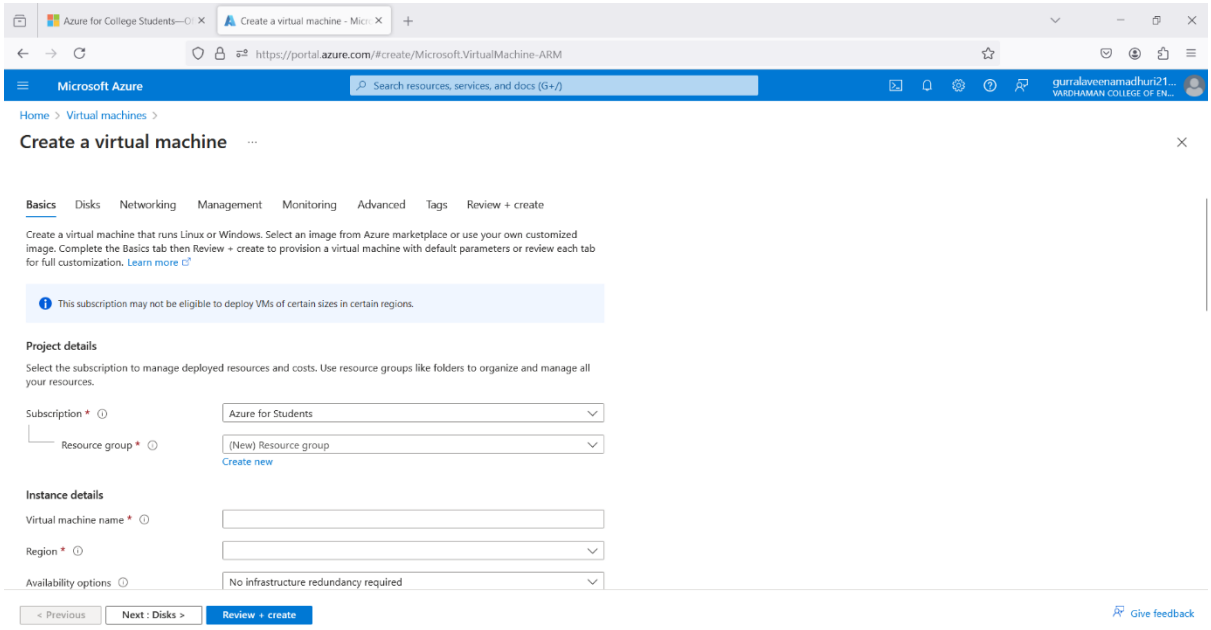
Q2) Create a Windows Virtual Machine in Microsoft Azure

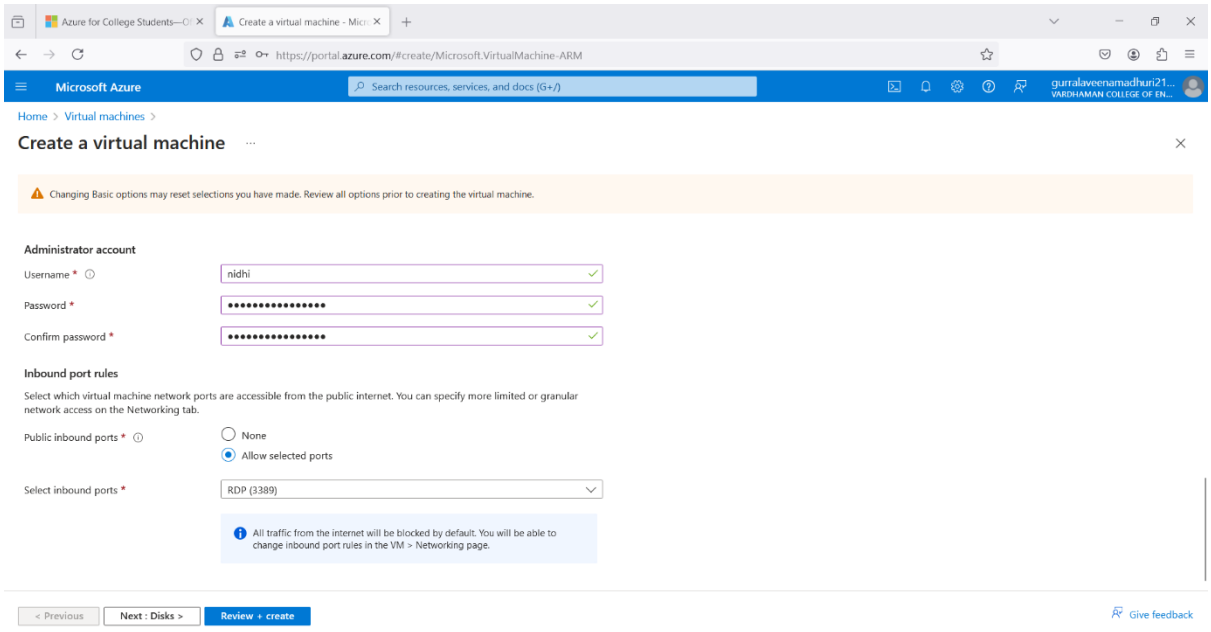
Step-1: Sign in to your Microsoft Azure account.

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

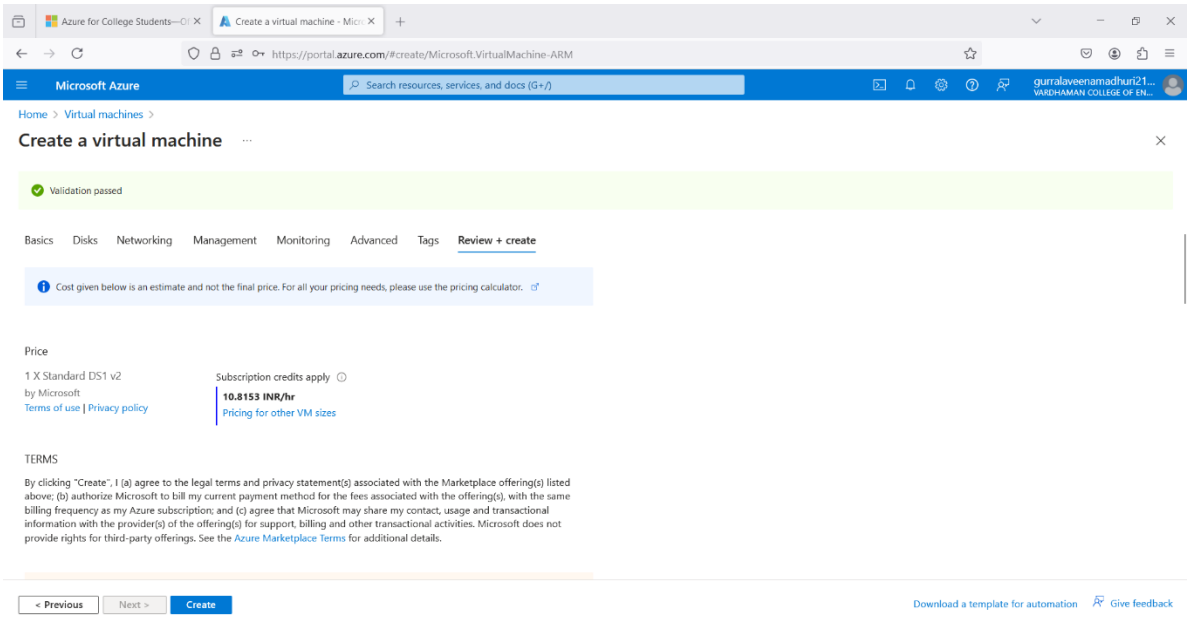


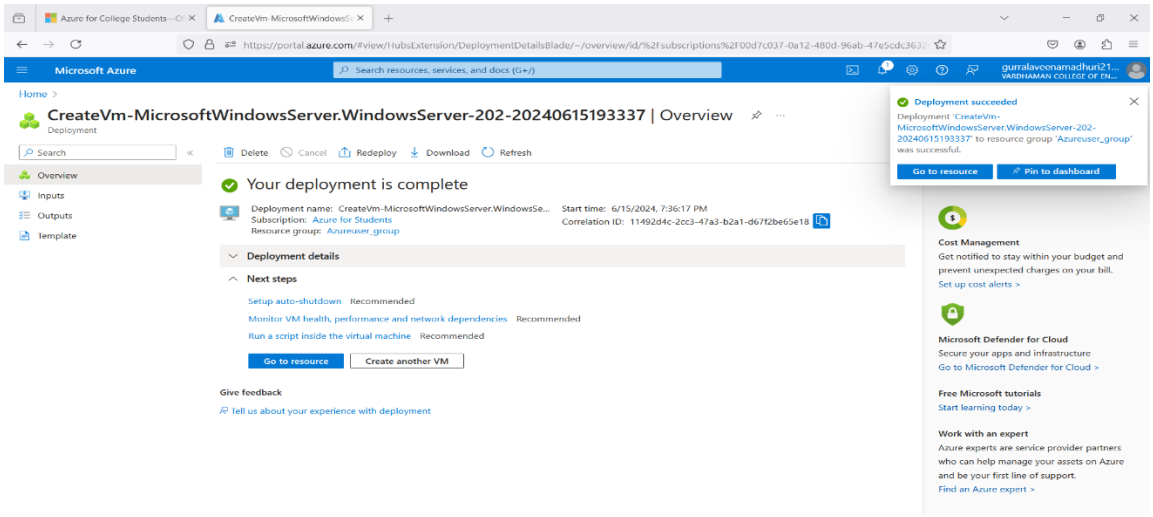
Step-3: Fill the details in that window by creating a “Resource Group”, Zone: Asia, Image: window, Select the disk storage and so on. After that click on “Create + Review”. And Finally click on “Create”



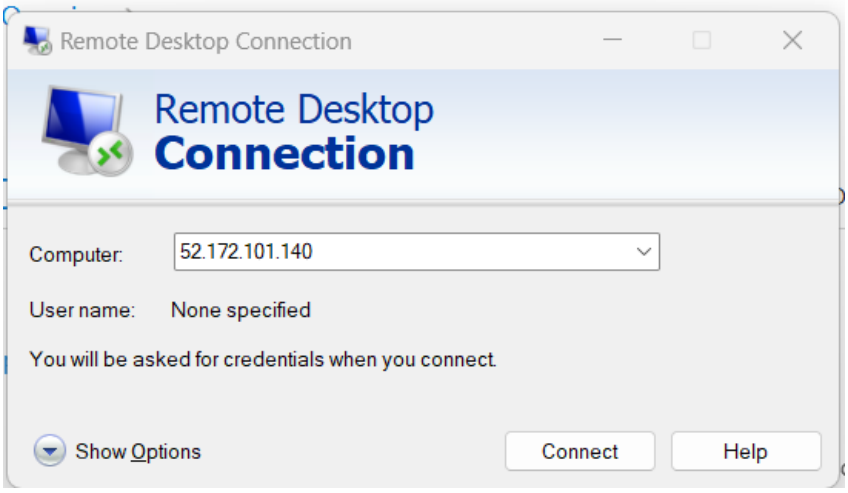


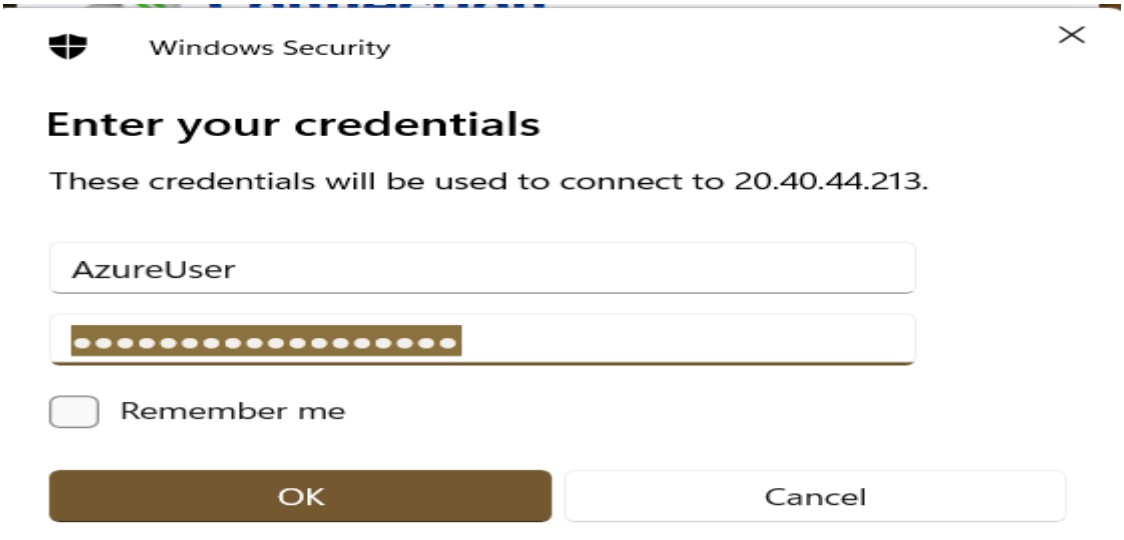
Step-4: After Deployment is over, Go to the remote desktop connection.





Step-5: Firstly, copy the public IP Address of that created virtual machine.





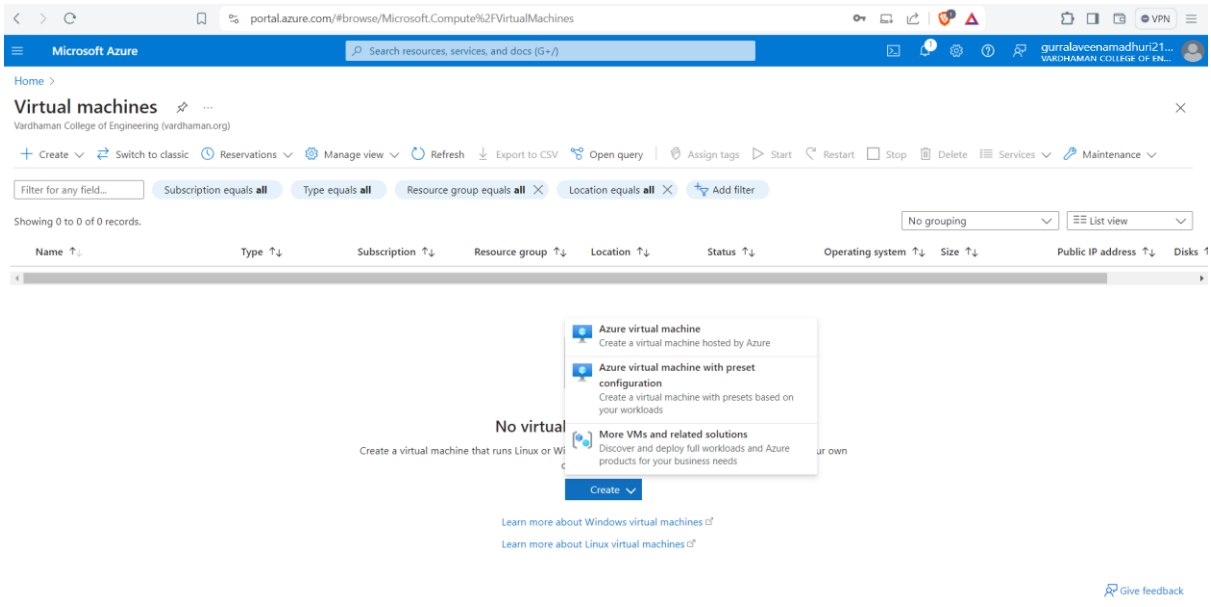
Step-6: By using that copied IP Address open the window virtual machine through remote desktop connection.

Output:

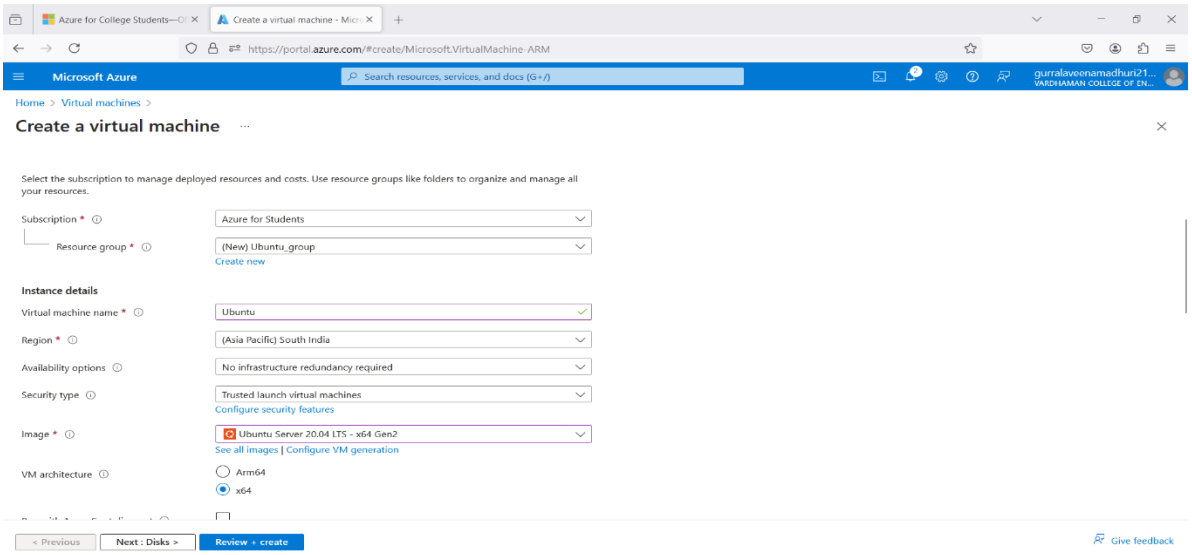
Q3) Create an Ubuntu Virtual Machine in Microsoft Azure

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 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 finally click on "Create".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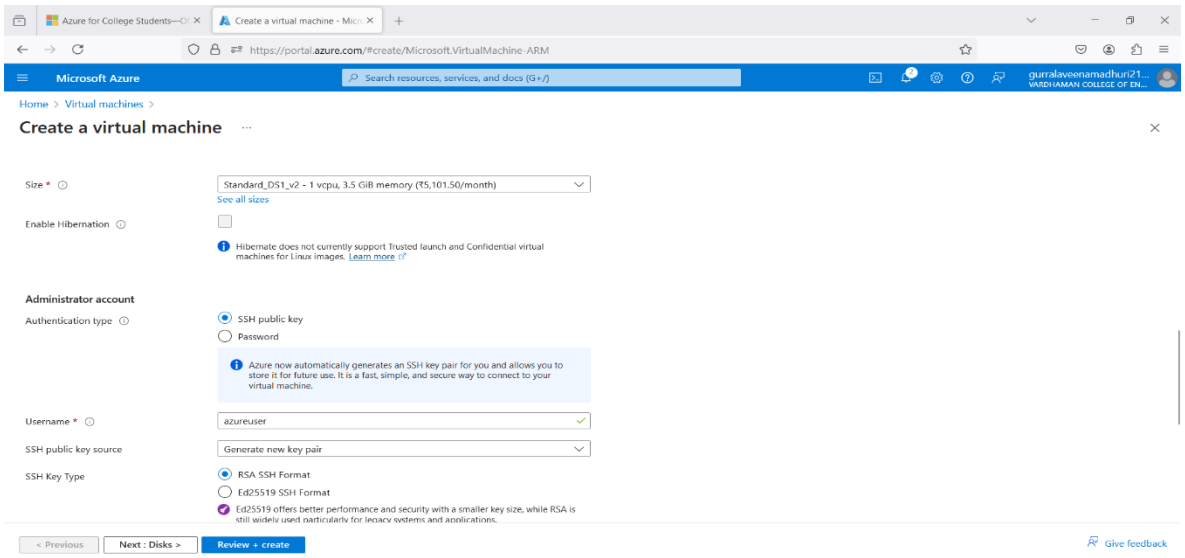
Home > Virtual machines >
Create a virtual machine
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
Subscription *
Azure for Students
Resource group *
(New) Ubuntu_group
Create new
Instance details
Virtual machine name *
Ubuntu
Region *
(Asia Pacific) South India
Availability options
No infrastructure redundancy required
Security type
Trusted launch virtual machines
Configure security features
Image *
Ubuntu Server 20.04 LTS - x64 Gen2
See all images | Configure VM generation
VM architecture
Arm64
x64
< Previous
Next : Disks >
Review + create
Give feedback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Search resources, services, and docs (G+/)
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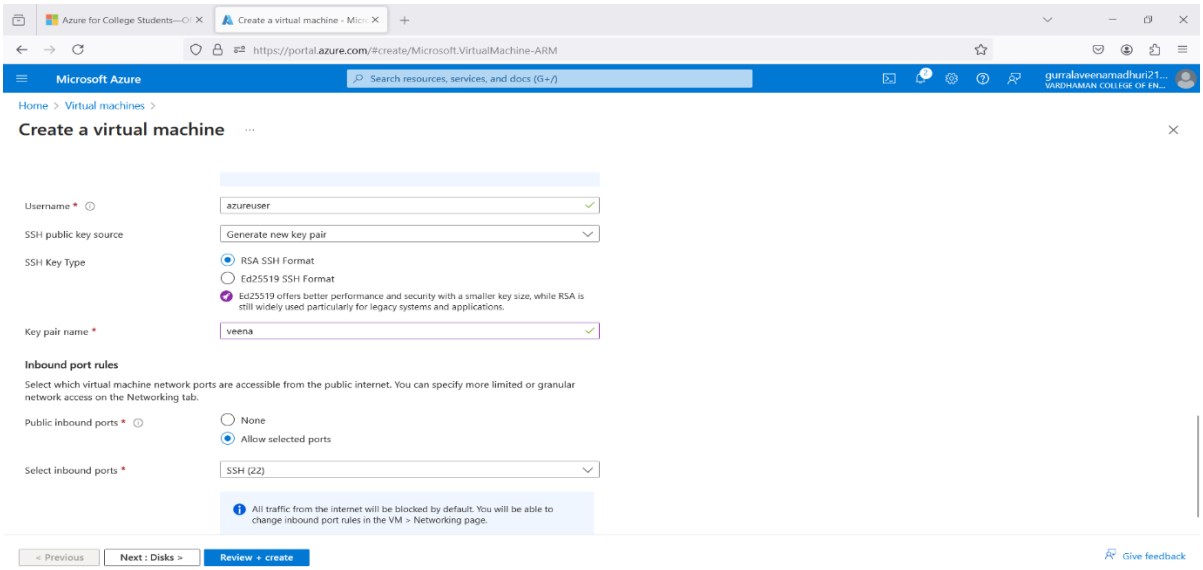
Home > Virtual machines >
Create a virtual machine
Size *
Standard_DS1_v2 - 1 vcpu, 3.5 GiB memory (₹5,101.50/month)
See all sizes
Enable Hibernation
Hibernate does not currently support Trusted launch and Confidential virtual machines for Linux images. Learn more
Administrator account
Authentication type
SSH public key
Password
Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.
Username *
azureuser
SSH public key source
Generate new key pair
SSH Key Type
RSA SSH Format
Ed25519 SSH Format
Ed25519 offers better performance and security with a smaller key size, while RSA is still widely used particularly for legacy systems and applications.
< Previous
Next : Disks >
Review + create
Give feedback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Microsoft Azure
Search resources, services, and docs (G+/)
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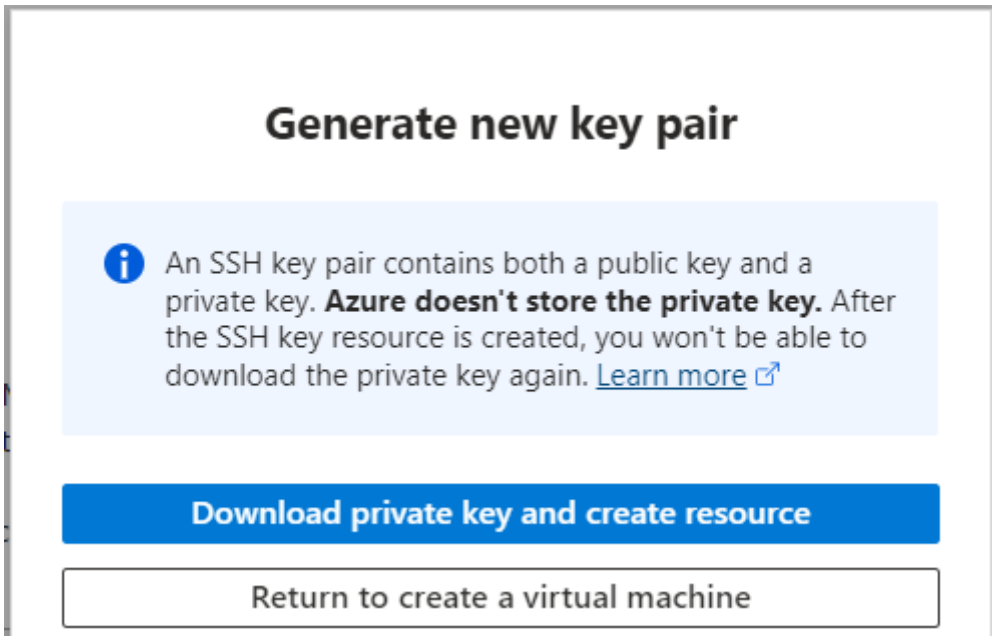
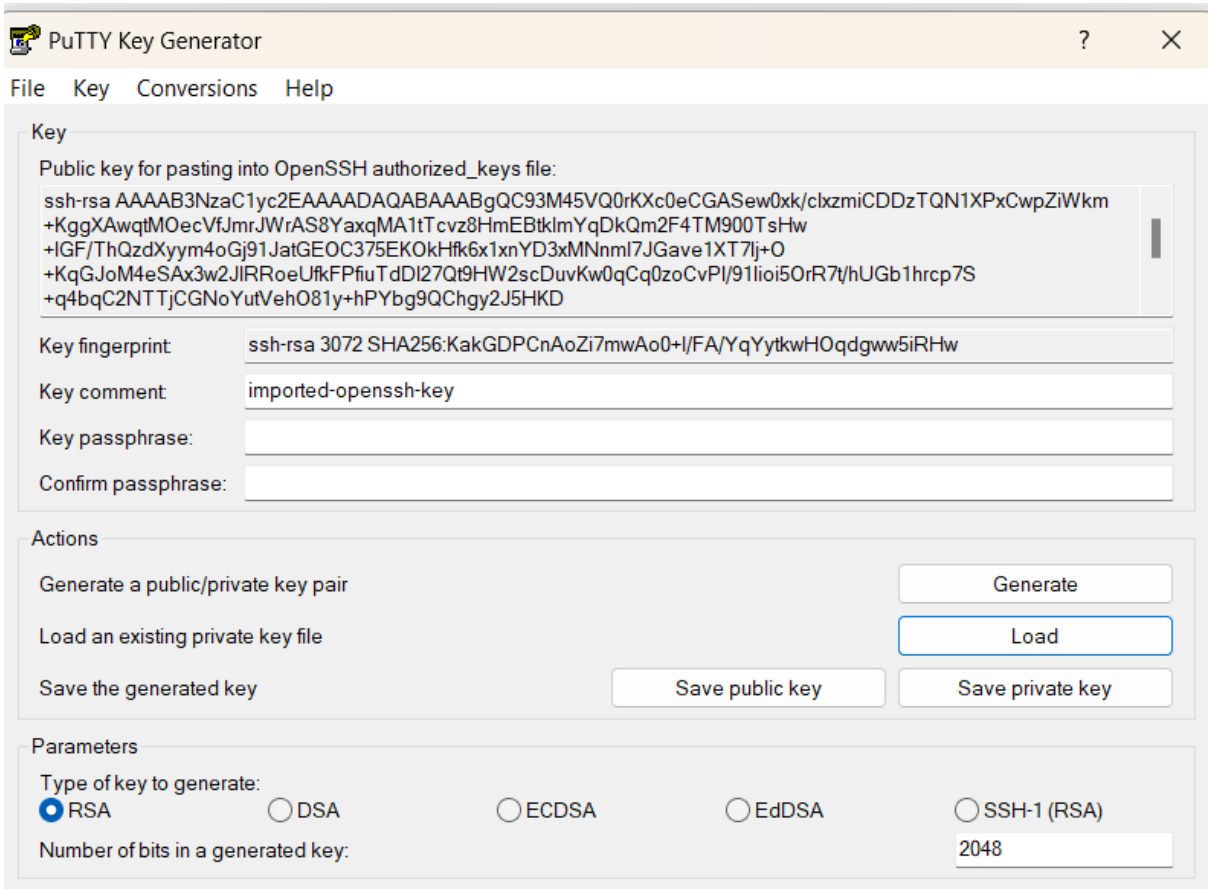
Home > Virtual machines >
Create a virtual machine
Username *
azureuser
SSH public key source
Generate new key pair
SSH Key Type
RSA SSH Format
Ed25519 SSH Format
Ed25519 offers better performance and security with a smaller key size, while RSA is still widely used particularly for legacy systems and applications.
Key pair name *
veena
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 *
SSH (22)
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-4: After Deployment is over, Go to the remote desktop connection.

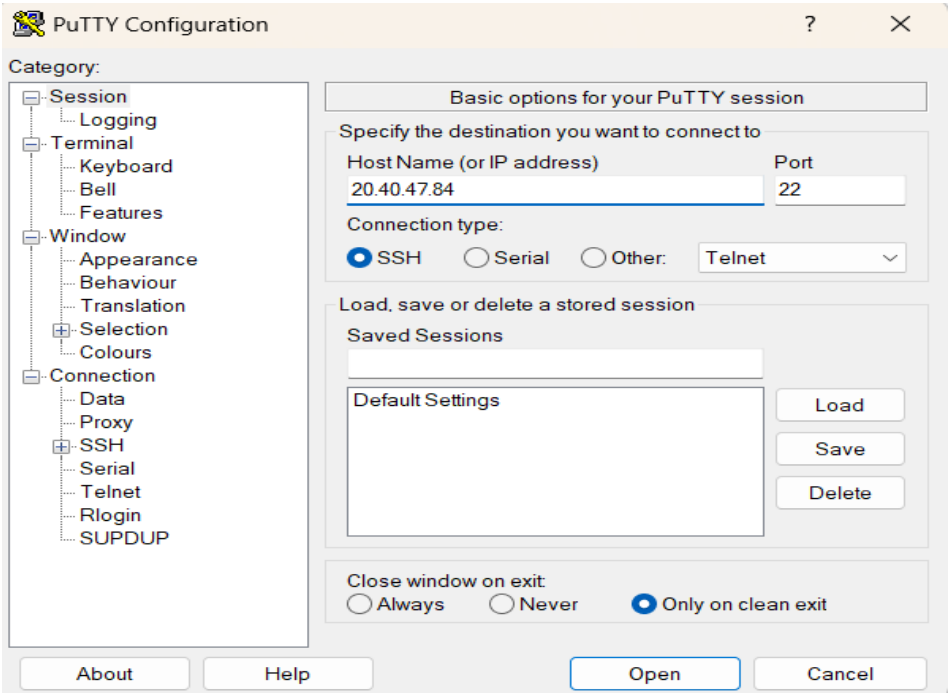


Step-5: Firstly, copy the public IP Address of that created virtual machine.

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

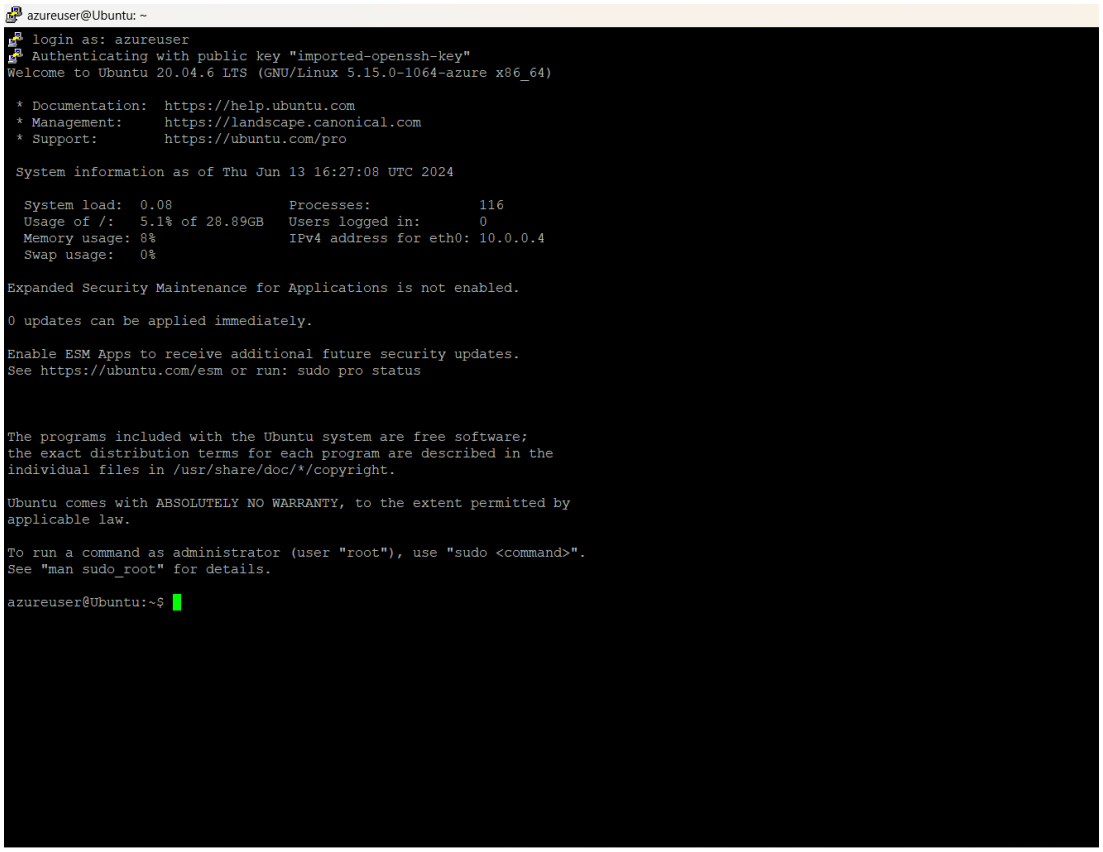


Step-7: In putty, put the Copied IP Adress into it, and then go to ssh->auth->credentials and the put the generated private key.



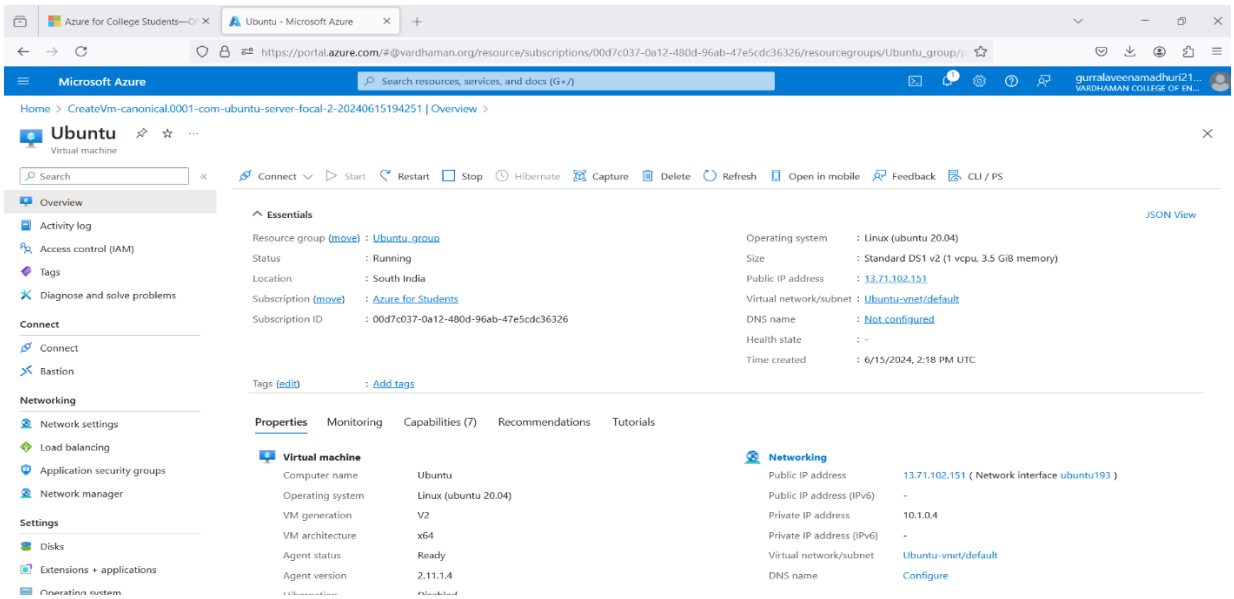
Step-8: A login page will be opened in that type your username and you will be into the ubuntu.

Output:



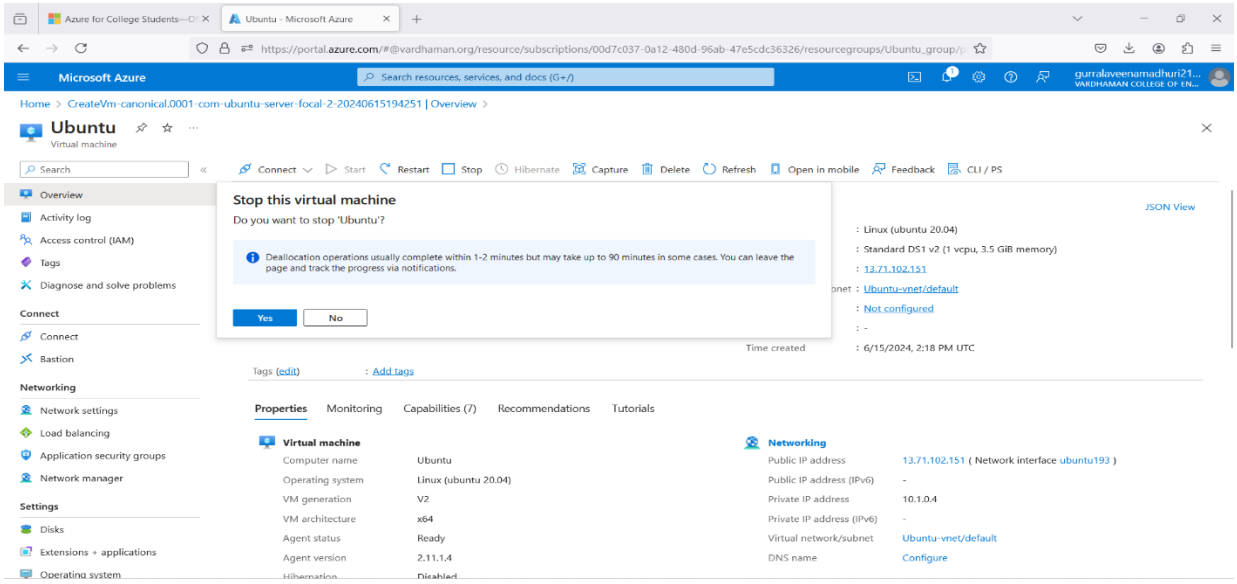
Q4) Create a Virtual machine and do scale up in Azure.

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

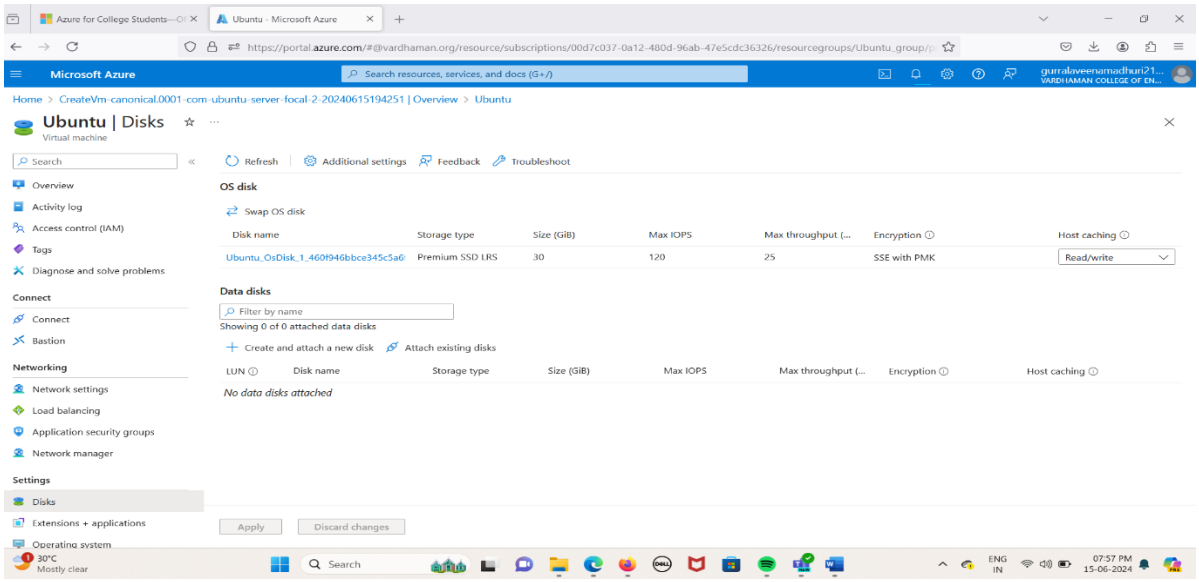


Step-2: After deployment of VM stop VM for scaling**.**

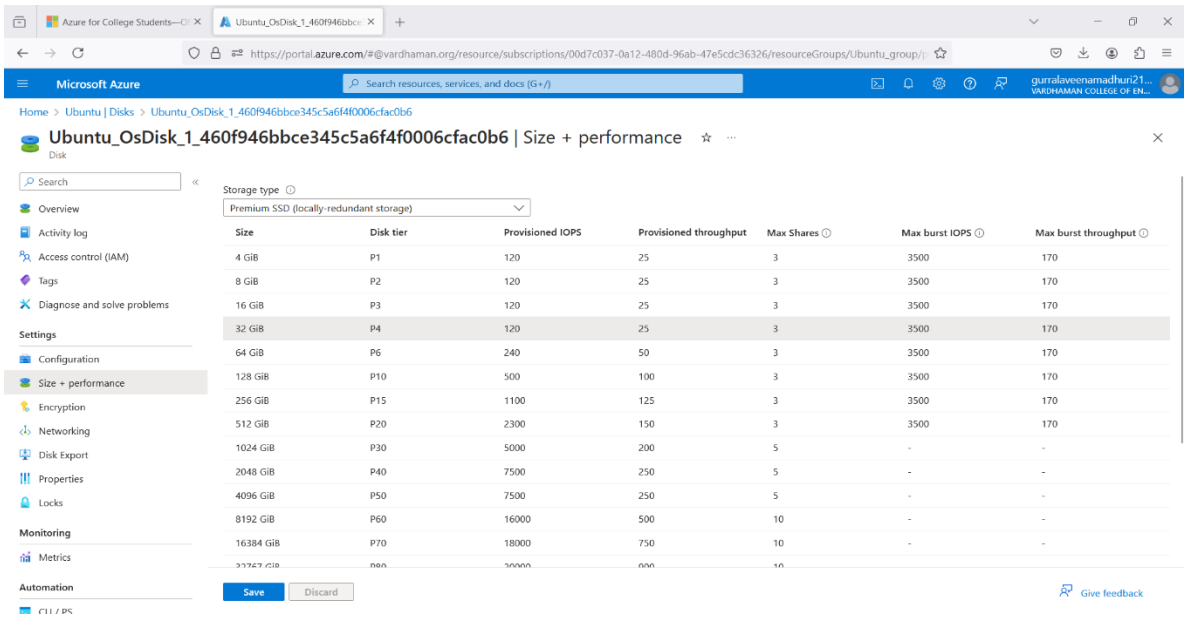
Step-3: On the left side there will be settings and click on disks.



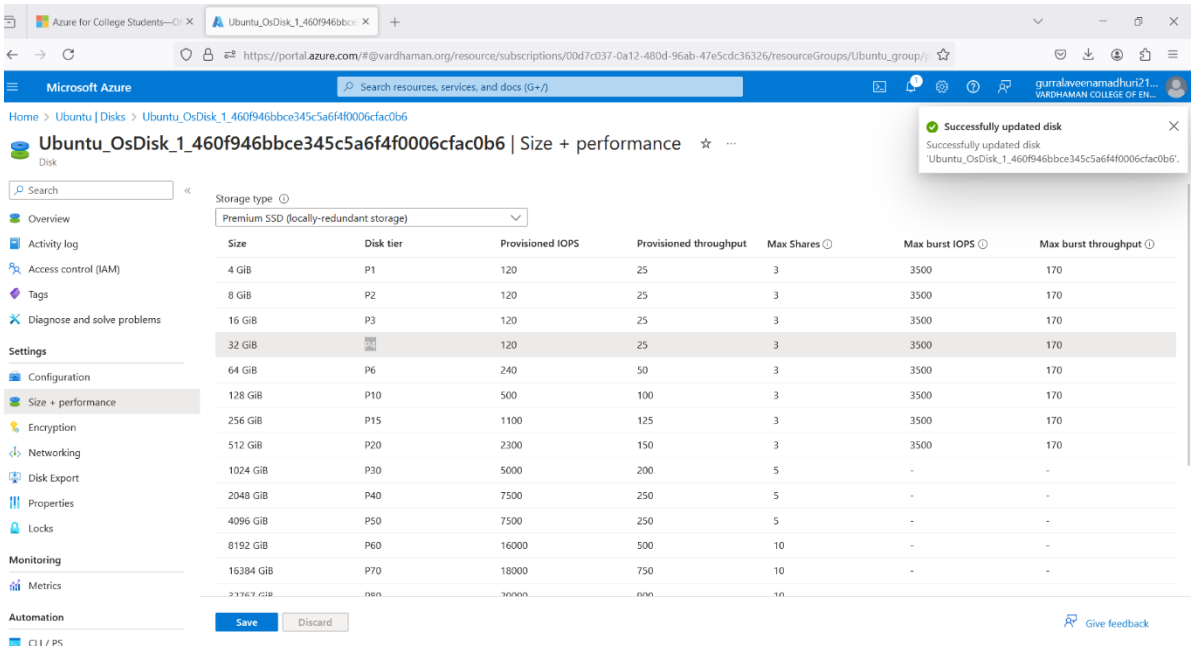
Step-4: click on disk name and select your preferred size, save it.



Step-5: On the left side there will be select + performance and click on size.

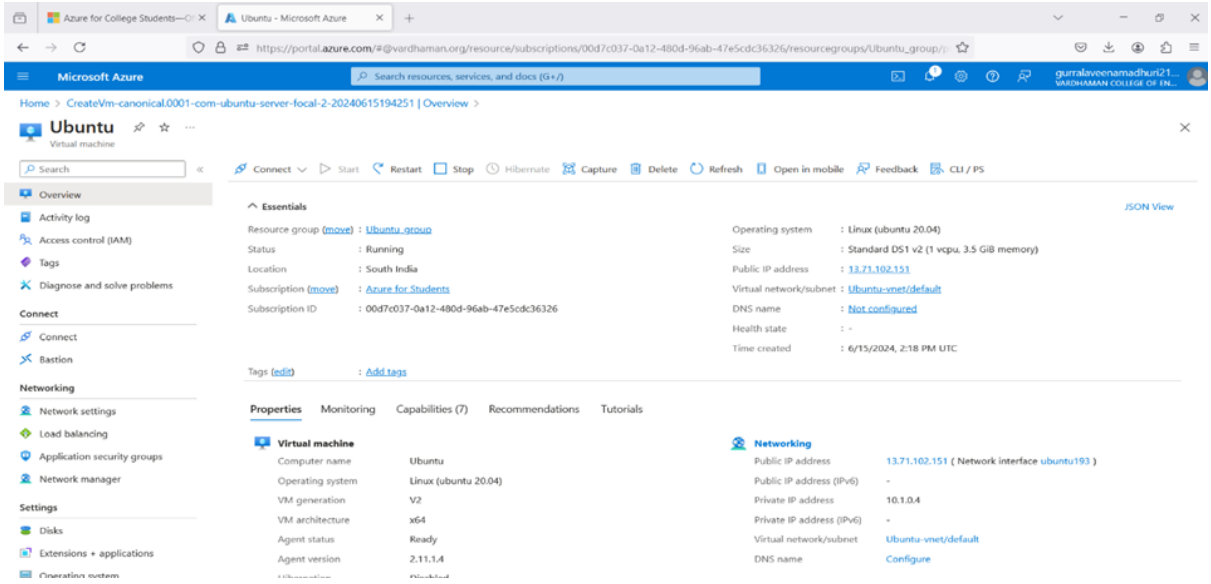


Step-6: click on disk name and select your preferred ram size, save it.

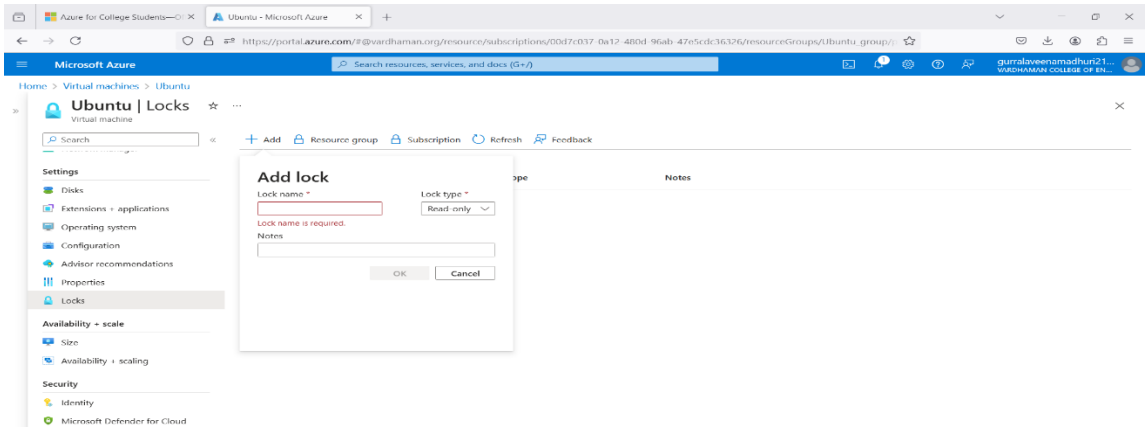


Q5) Create a Virtual machine and do lock for VM in AZURE.

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

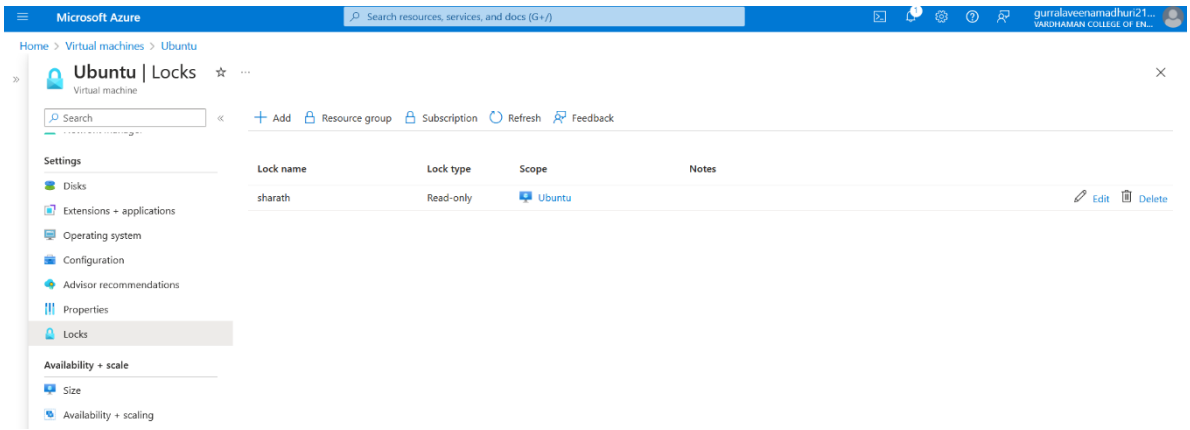


Step-2: On the left side there will be settings and click on locks, give lock name and select lock type.

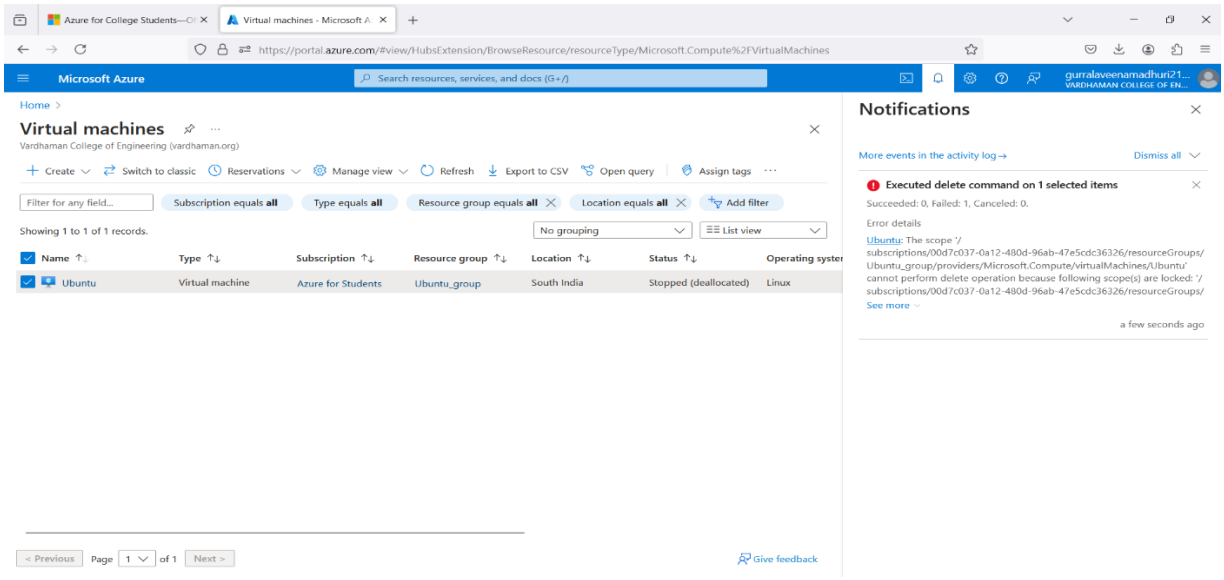


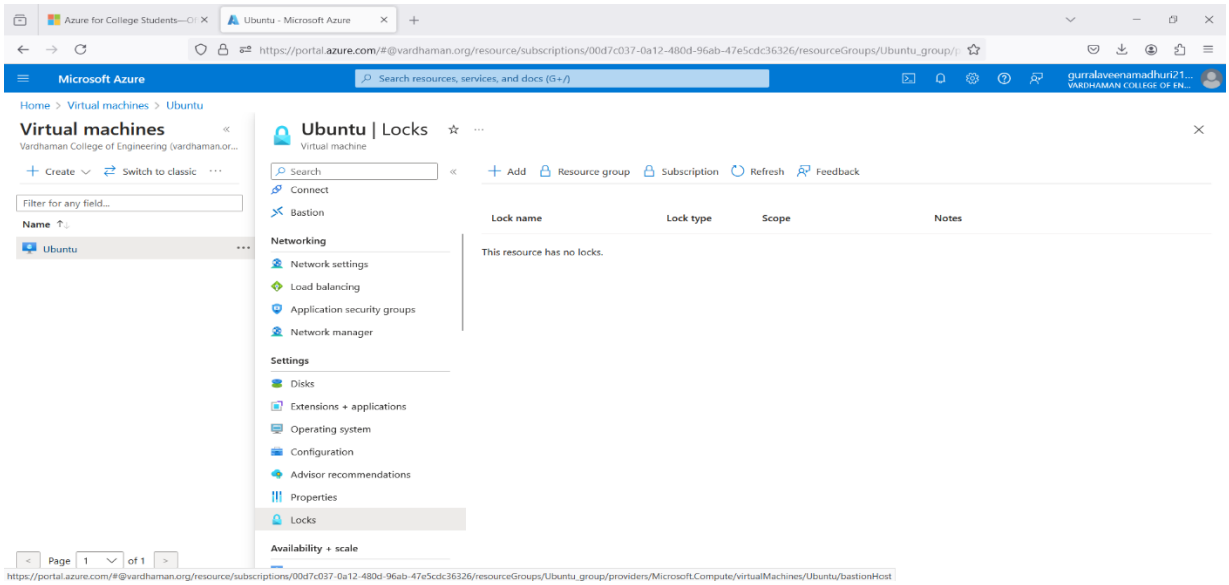
Step-3: click on ok.

Similarly, you can do for Resource group and subscriptions.



Note: After creating the lock, you need to delete it for deleting VM.

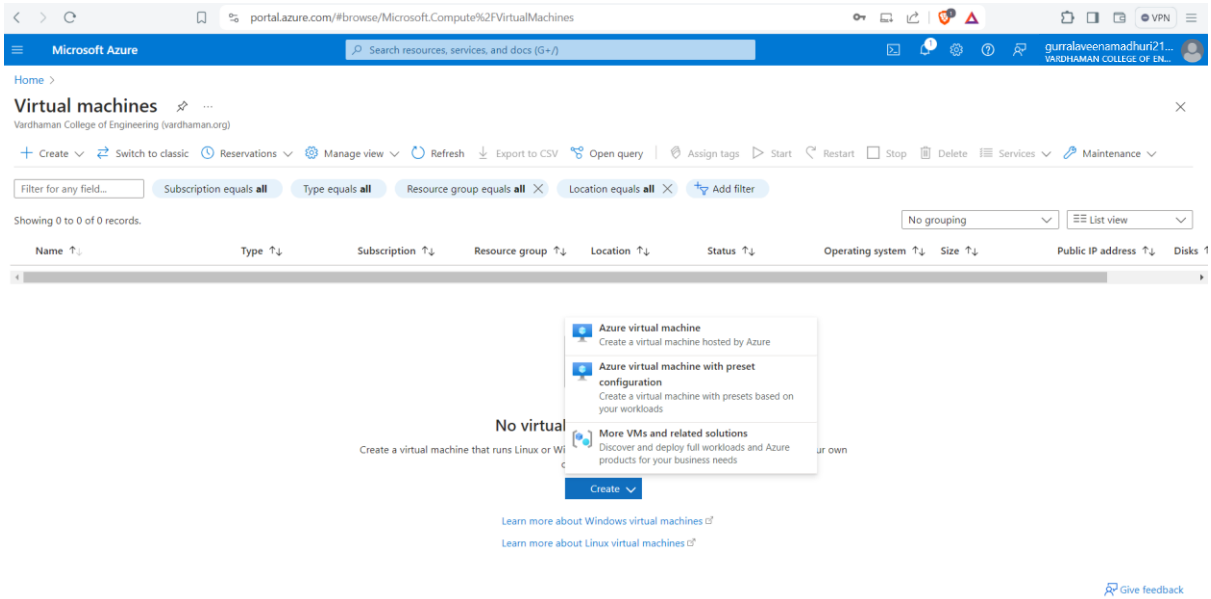




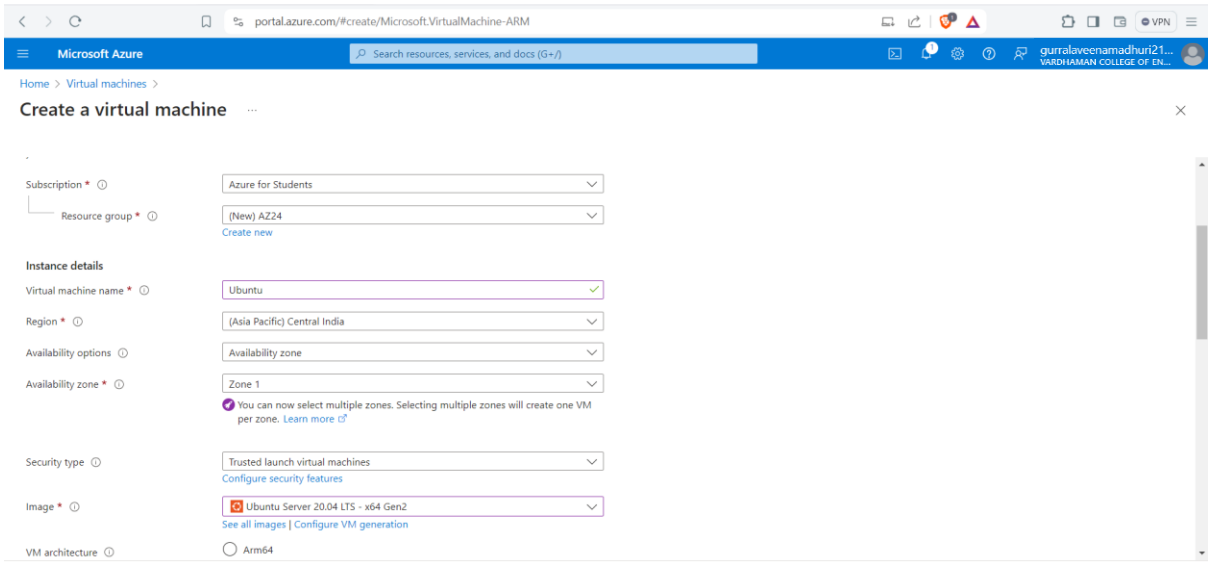
Q6) Create Ubuntu VM and run a python program in it.

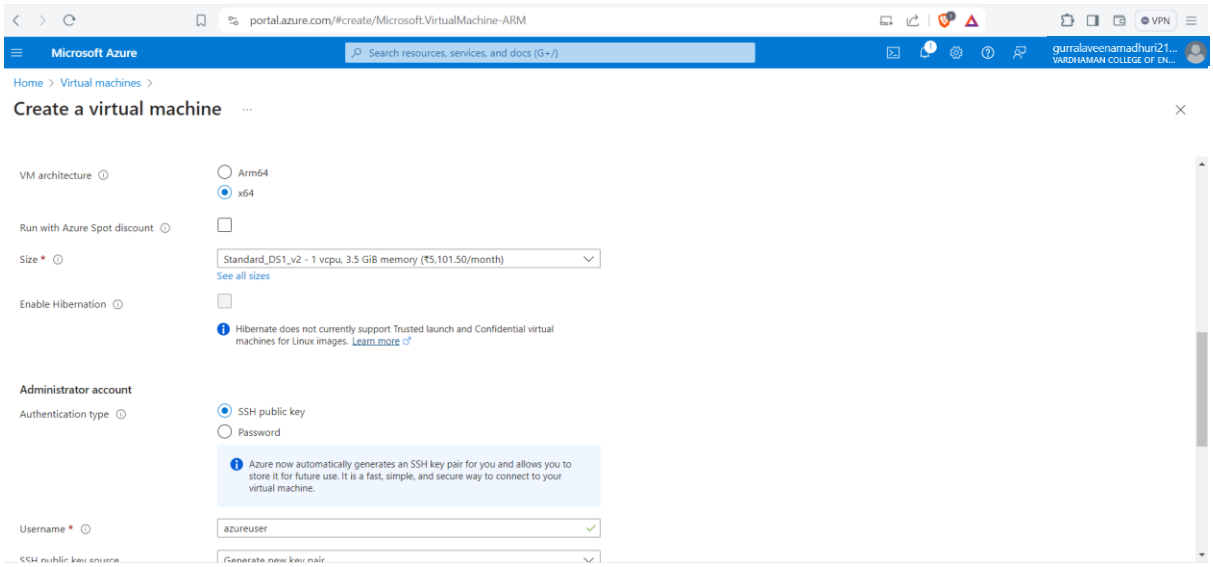
Step-1: Sign in to your Microsoft Azure account.

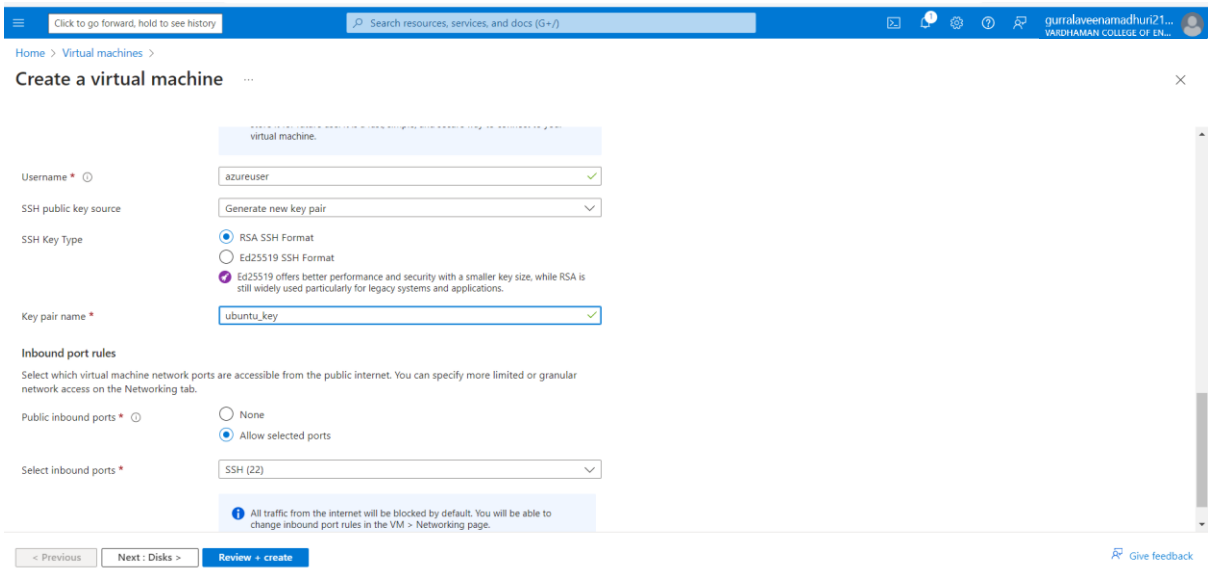
Step-2: Go To Virtual machine, and click on "Create" to create a window virtual machine.



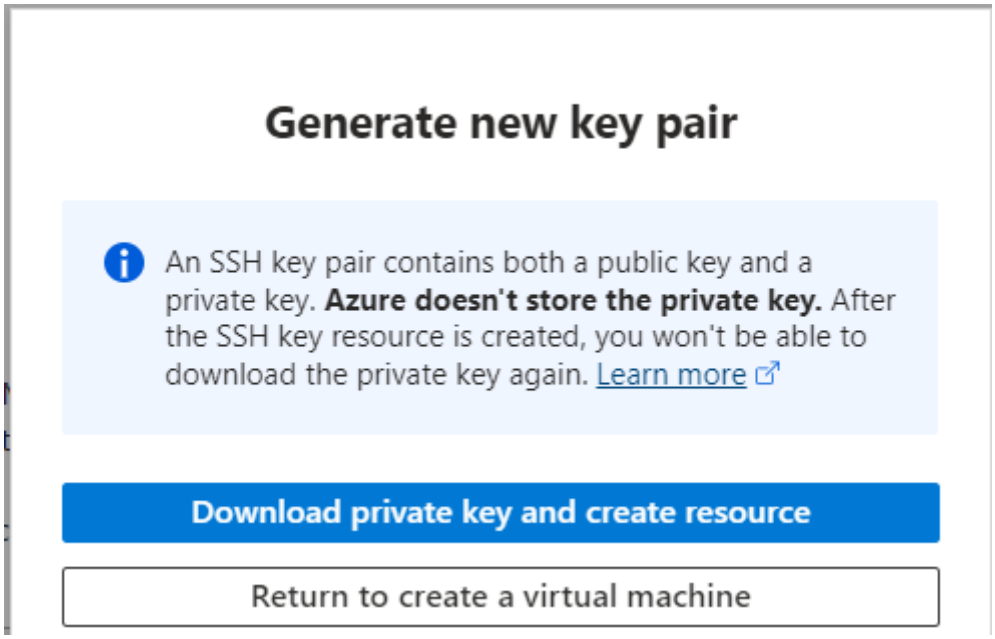
Step-3: Fill the details in that ubuntu by creating a "Resource Group", Zone: Asia, Image: ubuntu, select "SSH", Select the disk storage and so on. After that click on "Create + Review". And finally click on "Create".


portal.azure.com/#create/Microsoft.VirtualMachine-ARM
Microsoft Azure
Search resources, services, and docs (G+/)
Home > Virtual machines >
Create a virtual machine
Subscription * Azure for Students
Resource group * (New) AZ24
Create new
Instance details
Virtual machine name * Ubuntu
Region * (Asia Pacific) Central India
Availability options Availability zone
Availability zone * Zone 1
You can now select multiple zones. Selecting multiple zones will create one VM per zone. Learn more
Security type Trusted launch virtual machines
Configure security features
Image * Ubuntu Server 20.04 LTS - x64 Gen2
See all images | Configure VM generation
VM architecture Arm64

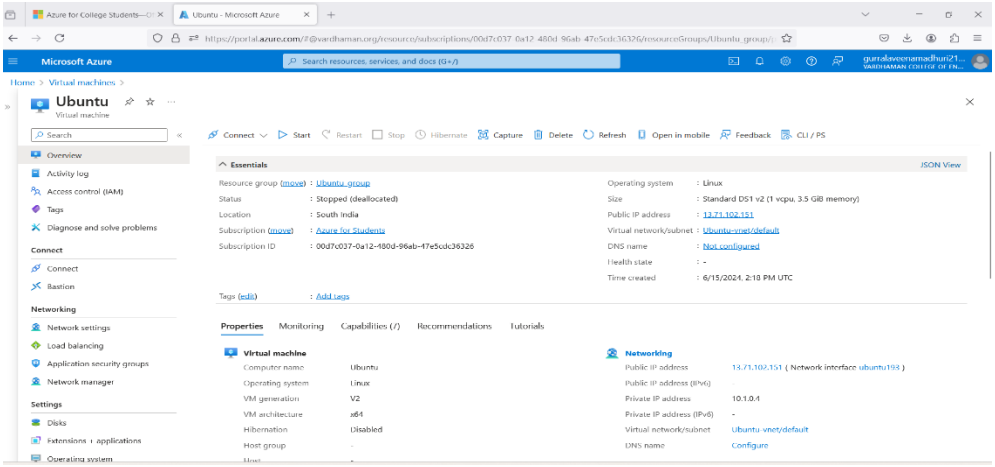

portal.azure.com/#create/Microsoft.VirtualMachine-ARM
Microsoft Azure
Search resources, services, and docs (G+/)
Home > Virtual machines >
Create a virtual machine
VM architecture Arm64
x64
Run with Azure Spot discount
Size * Standard_DS1_v2 - 1 vcpu, 3.5 GiB memory (₹5,101.50/month)
See all sizes
Enable Hibernation
Hibernate does not currently support Trusted launch and Confidential virtual machines for Linux images. Learn more
Administrator account
Authentication type SSH public key
Password
Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.
Username * azureuser


Click to go forward, hold to see history
Search resources, services, and docs (G+/)
Home > Virtual machines >
Create a virtual machine
virtual machine.
Username * azureuser
SSH public key source Generate new key pair
SSH Key Type
RSA SSH Format
Ed25519 SSH Format
Ed25519 offers better performance and security with a smaller key size, while RSA is still widely used particularly for legacy systems and applications.
Key pair name * ubuntu_key
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 * SSH (22)
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

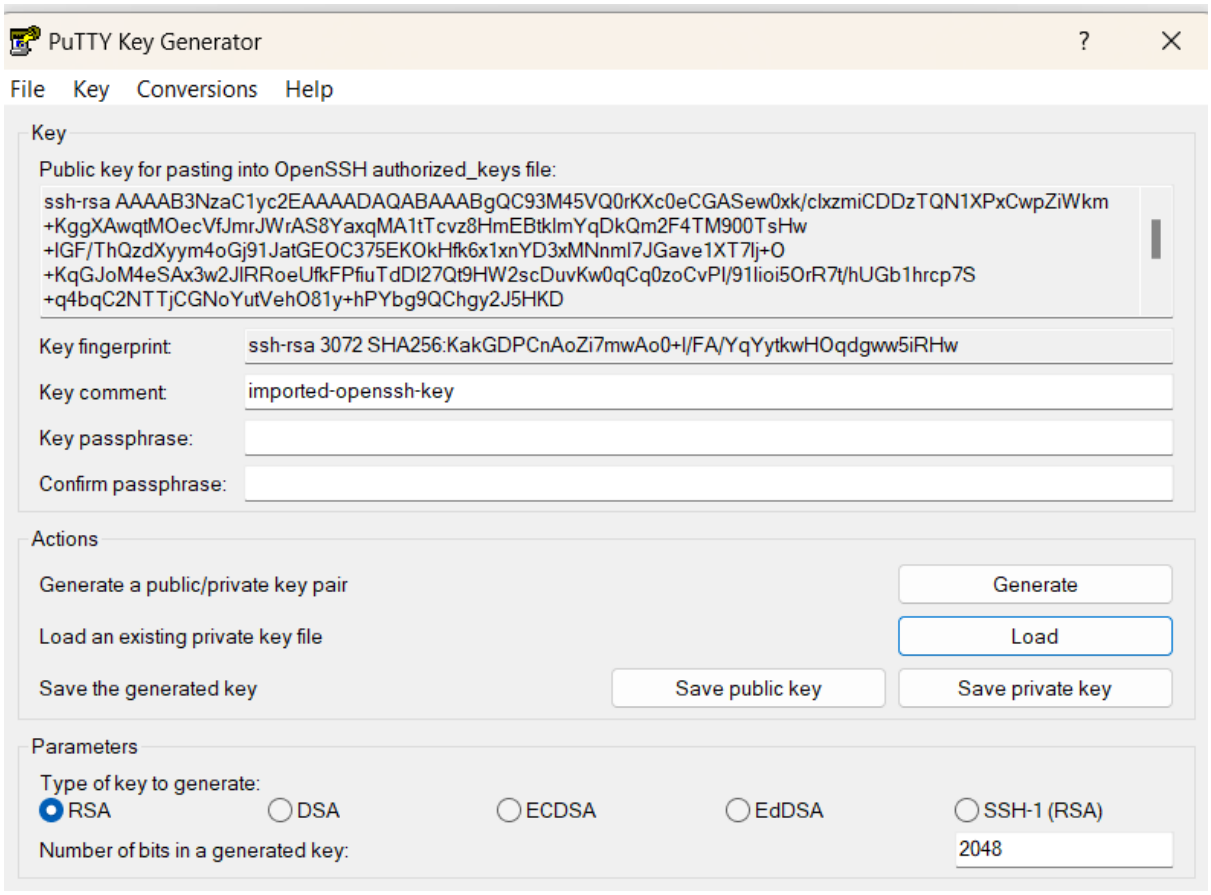
Step-4: After Deployment is over, Go to the remote desktop connection.

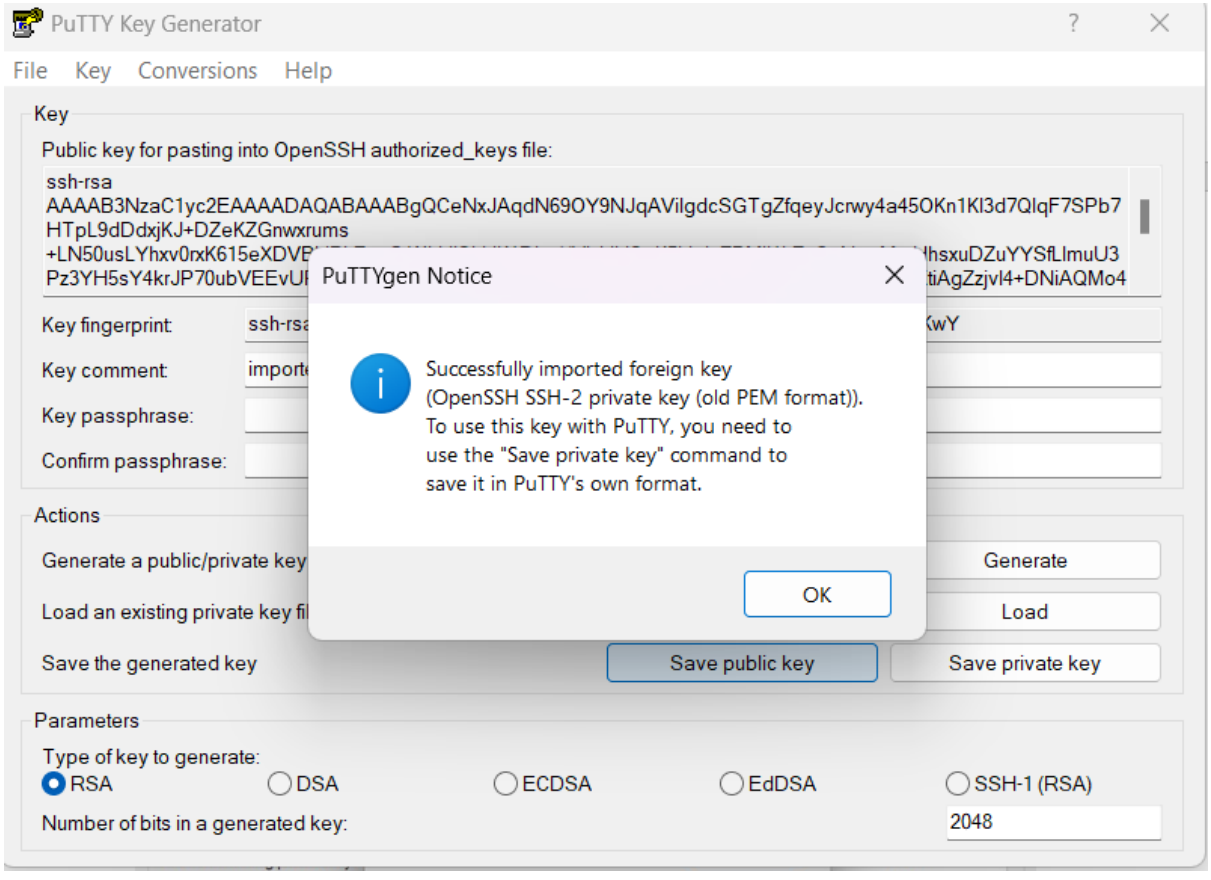


Step-5: Firstly, copy the public IP Address of that created virtual machine.

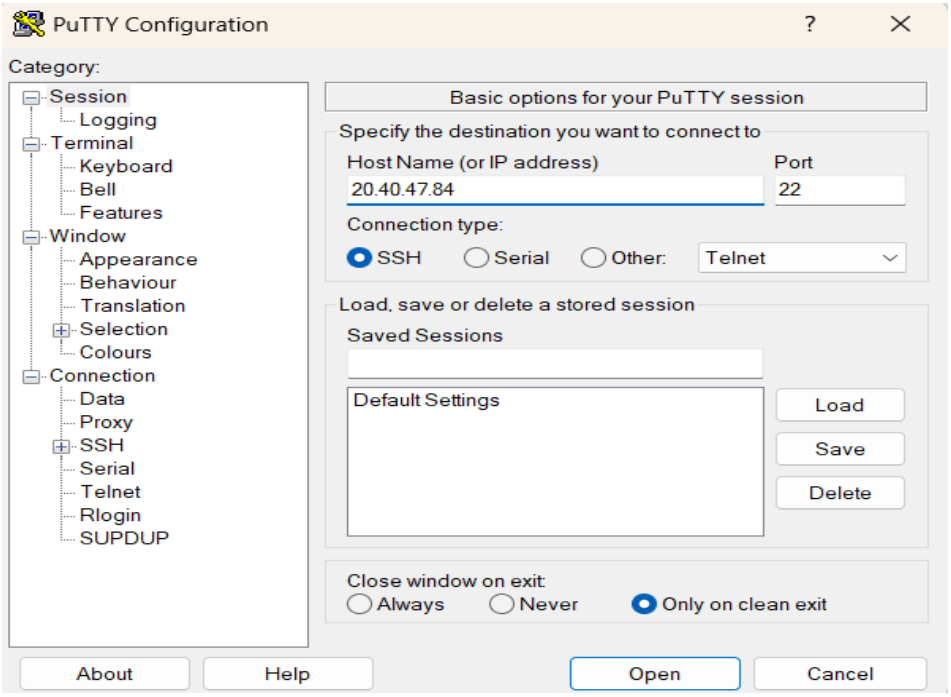


Step-6: Go to putty gen and click on load the key generator that you have downloaded.


PuTTY Key Generator
File Key Conversions Help
Key
Public key for pasting into OpenSSH authorized_keys file:
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQC93M45VQ0rKXc0eCGASew0xk/clxzmiCDDzTQN1XPxCwpZiWkm
+KggXAwqtMOecVfJmrJWrAS8YaxqMA1tTcvz8HmEBtklmYqDkQm2F4TM900TsHw
+IGF/ThQzdXyym4oGj91JatGEOC375EKOkHfk6x1xnYD3xMNnml7JGave1XT7lj+O
+KqGJoM4eSAx3w2JlRRoeUfkFPfiuTdDl27Qt9HW2scDuvKw0qCq0zoCvPl/91lioi5OrR7t/hUGb1hrcp7S
+q4bqC2NTTjCGNoYutVehO81y+hPYbg9QChgy2J5HKD
Key fingerprint: ssh-rsa 3072 SHA256:KakGDPCnAoZi7mwAo0+l/FA/YqYytkwHOqdgww5iRHw
Key comment: imported-openssh-key
Key passphrase:
Confirm passphrase:
Actions
Generate a public/private key pair
Generate
Load an existing private key file
Load
Save the generated key
Save public key
Save private key
Parameters
Type of key to generate:
RSA
DSA
ECDSA
EdDSA
SSH-1 (RSA)
Number of bits in a generated key:
2048

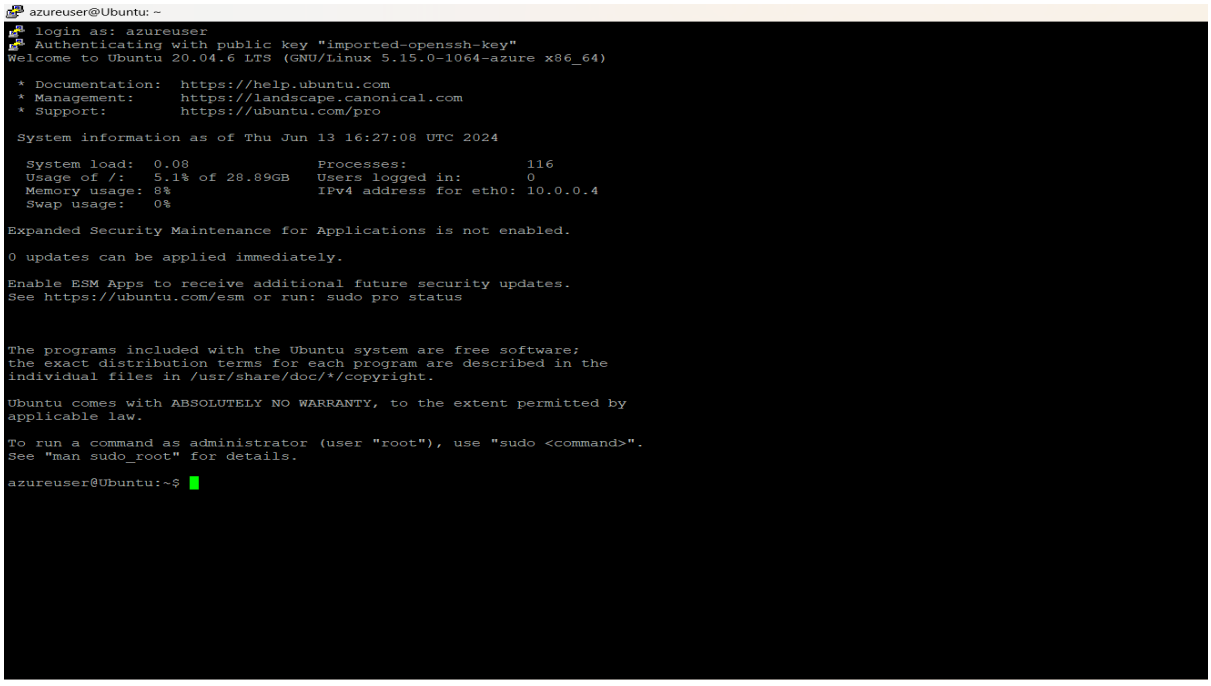

PuTTY Key Generator
File Key Conversions Help
Key
Public key for pasting into OpenSSH authorized_keys file:
ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABgQCeNxJAqdN69OY9NJqAVilgdcSGTgZfqeyJcrwy4a45OKn1Kl3d7QlqF7SPb7
HTpL9dDdxjKJ+DZeKZGnwxrums
Key fingerprint:
Key comment:
Key passphrase:
Confirm passphrase:
Actions
Generate a public/private key
Generate
Load an existing private key fi
Load
Save the generated key
Save public key
Save private key
Parameters
Type of key to generate:
RSA
DSA
ECDSA
EdDSA
SSH-1 (RSA)
Number of bits in a generated key:
2048
PuTTYgen Notice
Successfully imported foreign key
(OpenSSH SSH-2 private key (old PEM format)).
To use this key with PuTTY, you need to
use the "Save private key" command to
save it in PuTTY's own format.
OK

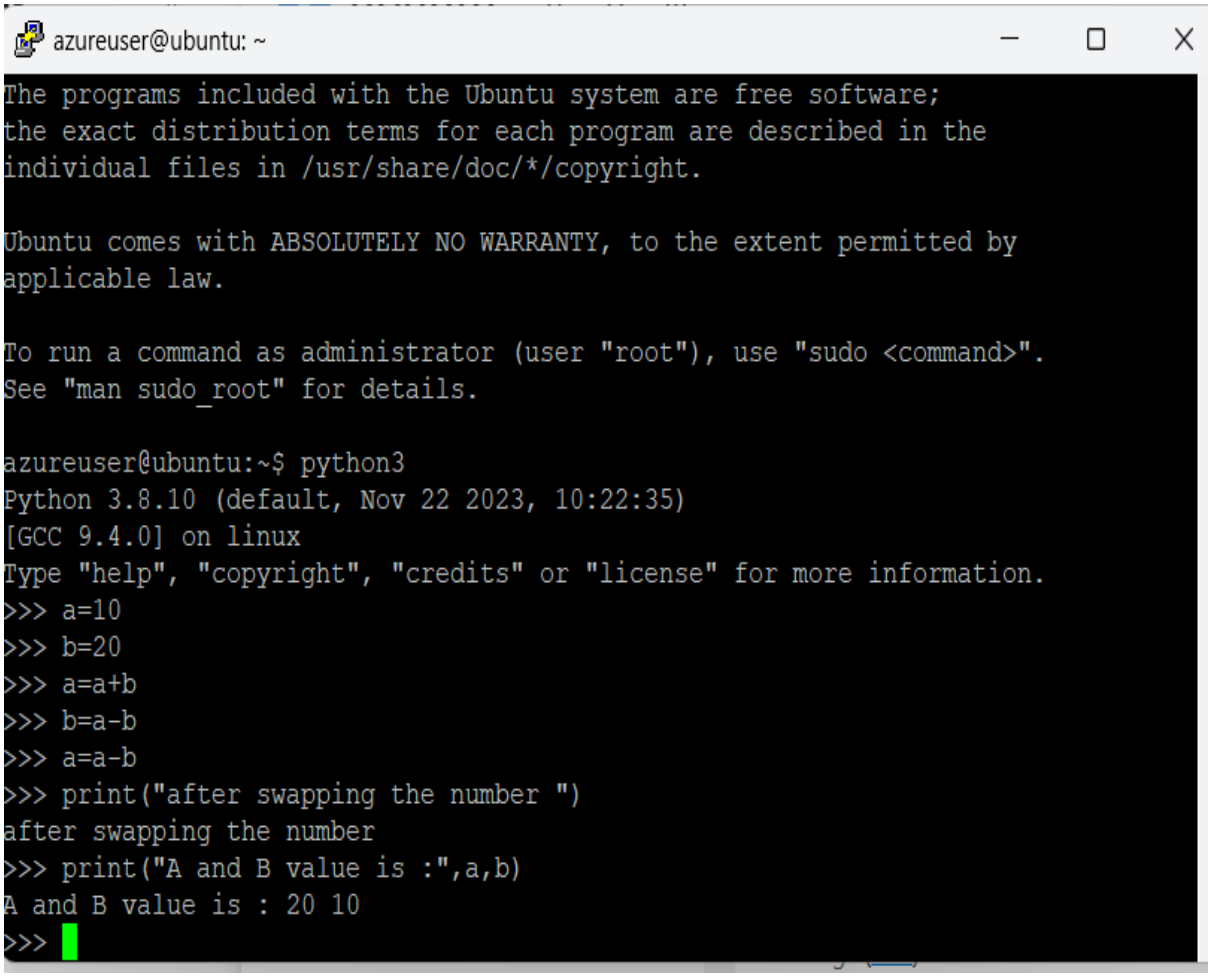
Step-7: In putty, put the Copied IP Adress into it, and then go to ssh->auth->credentials and the put the generated private key.



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

Step-9: Login with your username and type python3, write your python program and execute it.

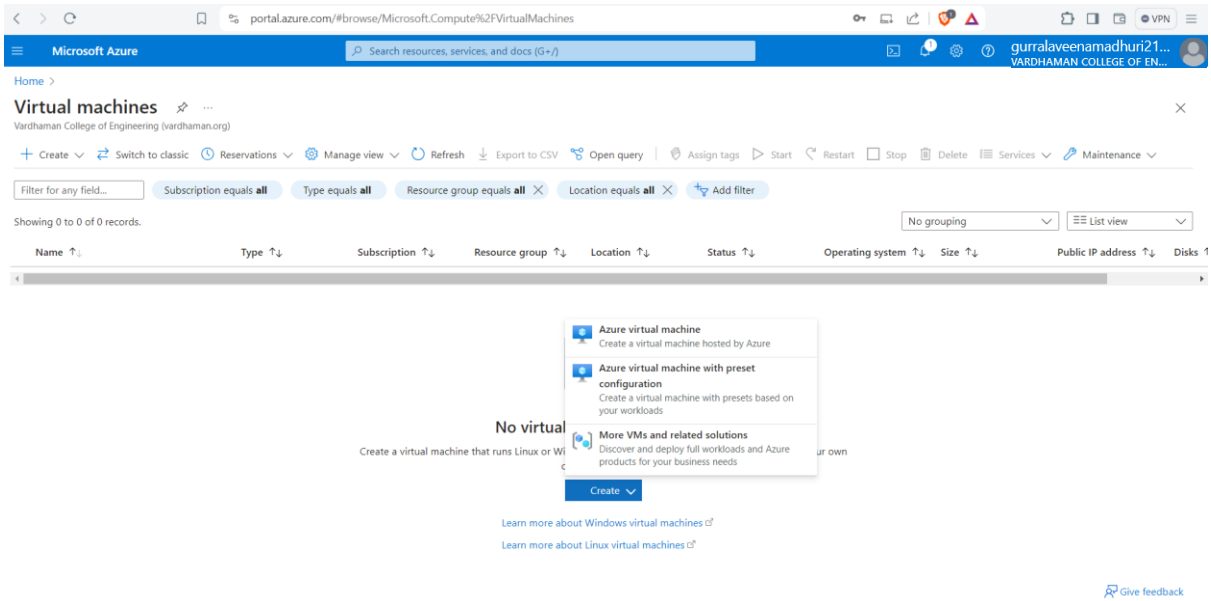




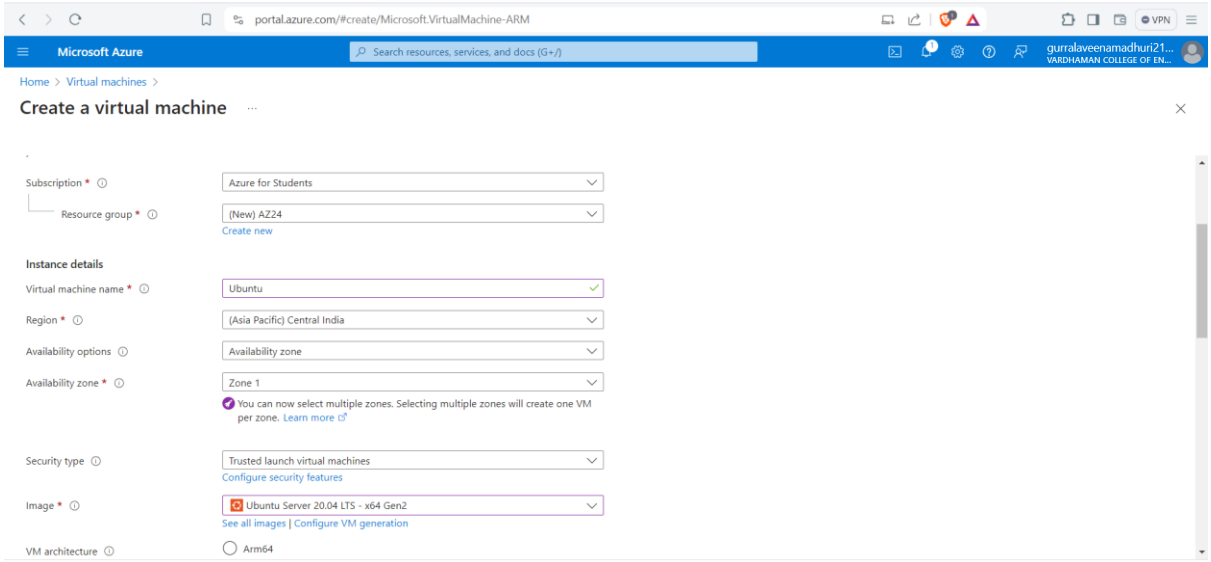
Q7) Create a Ubuntu VM and transfer files using WinScp.

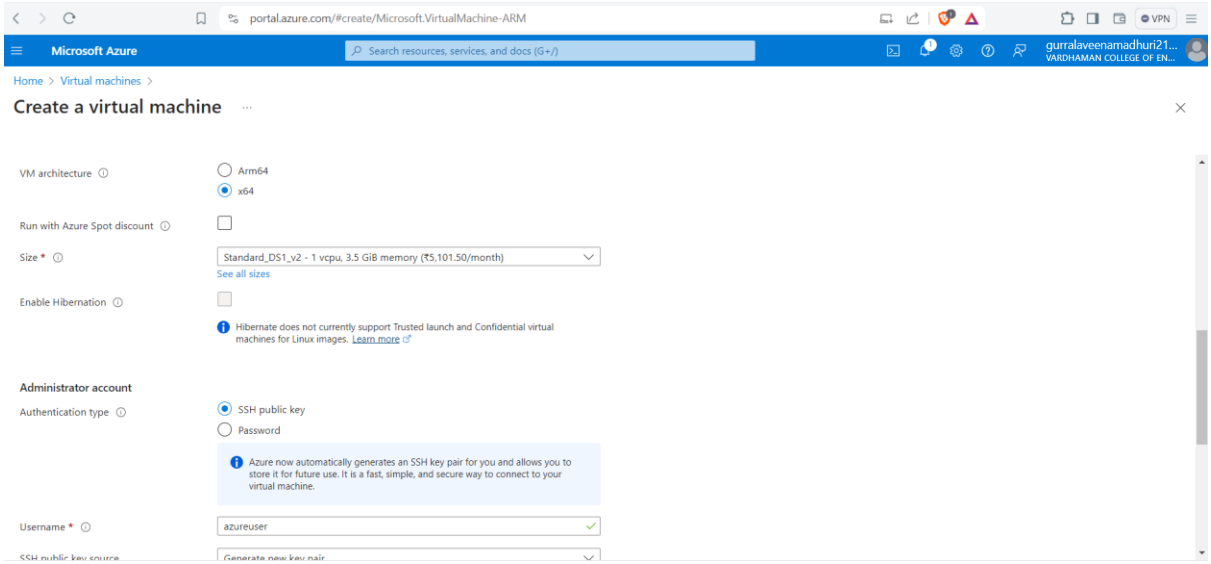
Step-1: Sign in to your Microsoft Azure account.

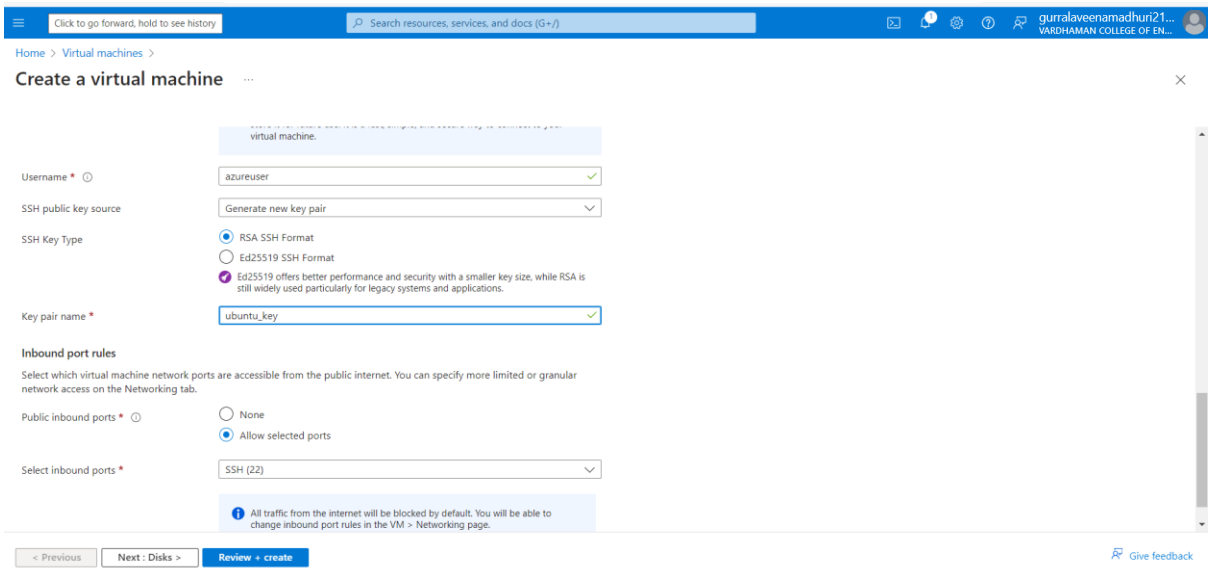
Step-2: Go To Virtual machine, and click on “Create” to create a window virtual machine.



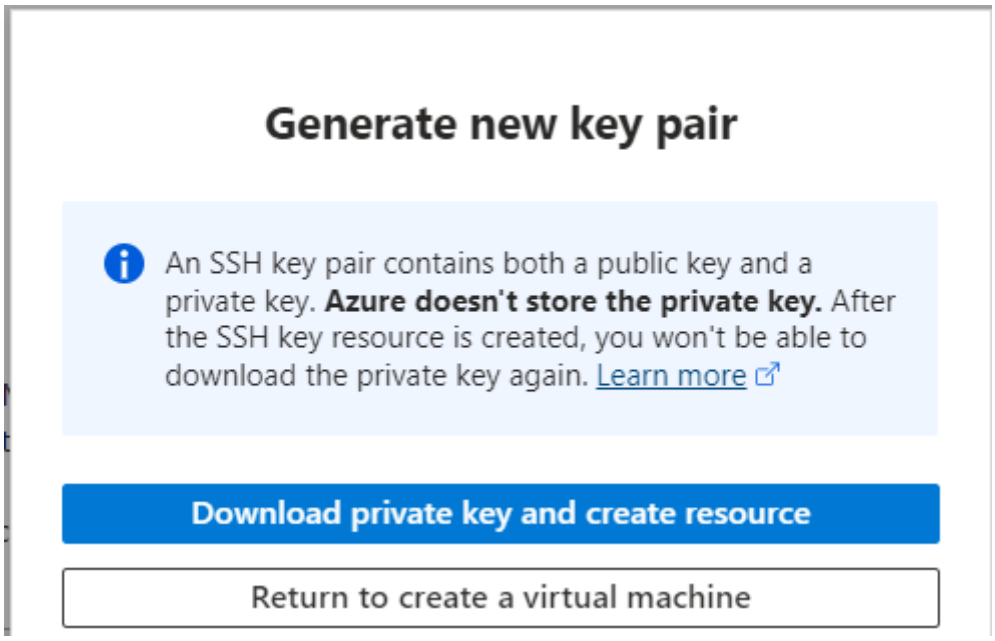
Step-3: Fill the details in that ubuntu by creating a “Resource Group”, Zone: Asia, Image: ubuntu, select “SSH”, Select the disk storage and so on. After that click on “Create + Review”. And finally click on “Create”.



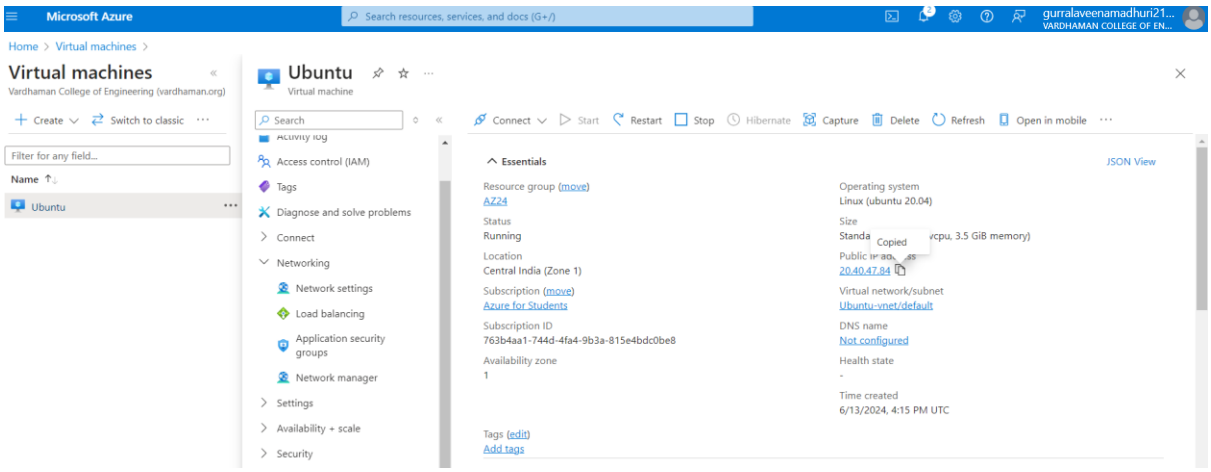




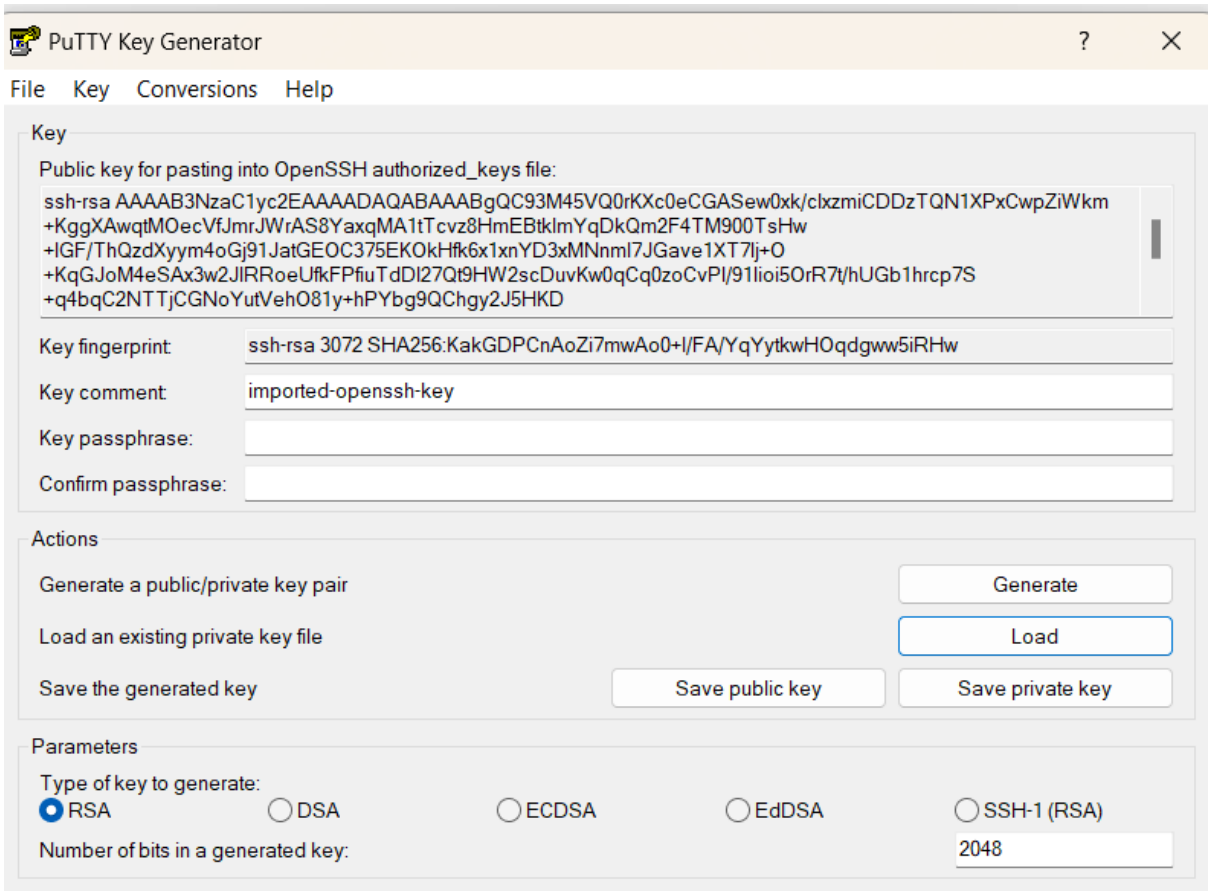
Step-4: After Deployment is over, Go to the remote desktop connection.

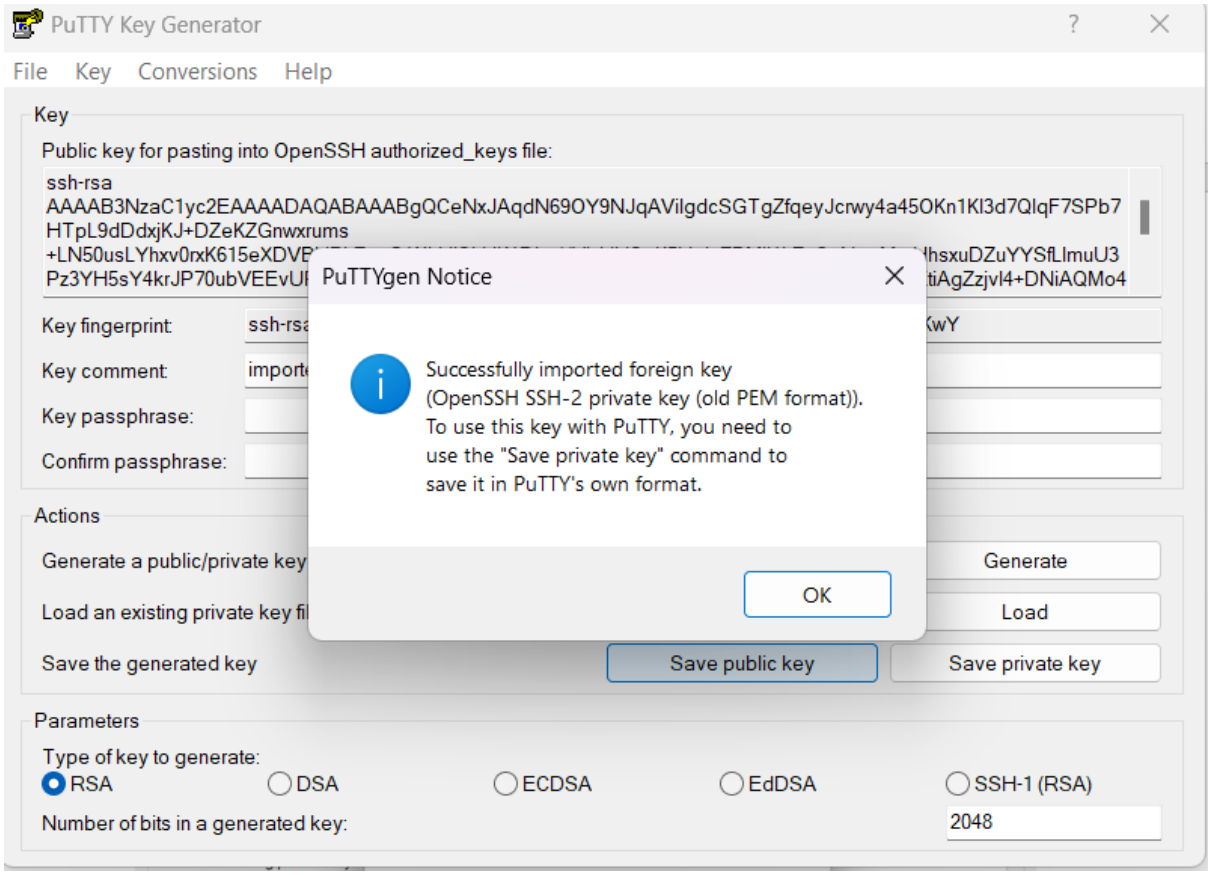


Step-5: Firstly, copy the public IP Address of that created virtual machine.

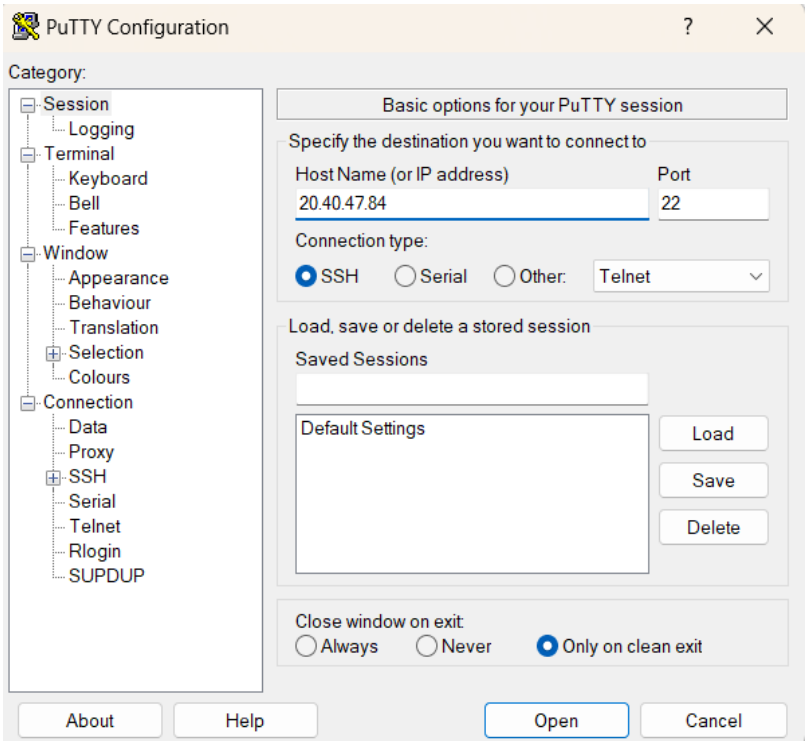


Step-6: Go to putty gen and click on load the key generator that you have downloaded.



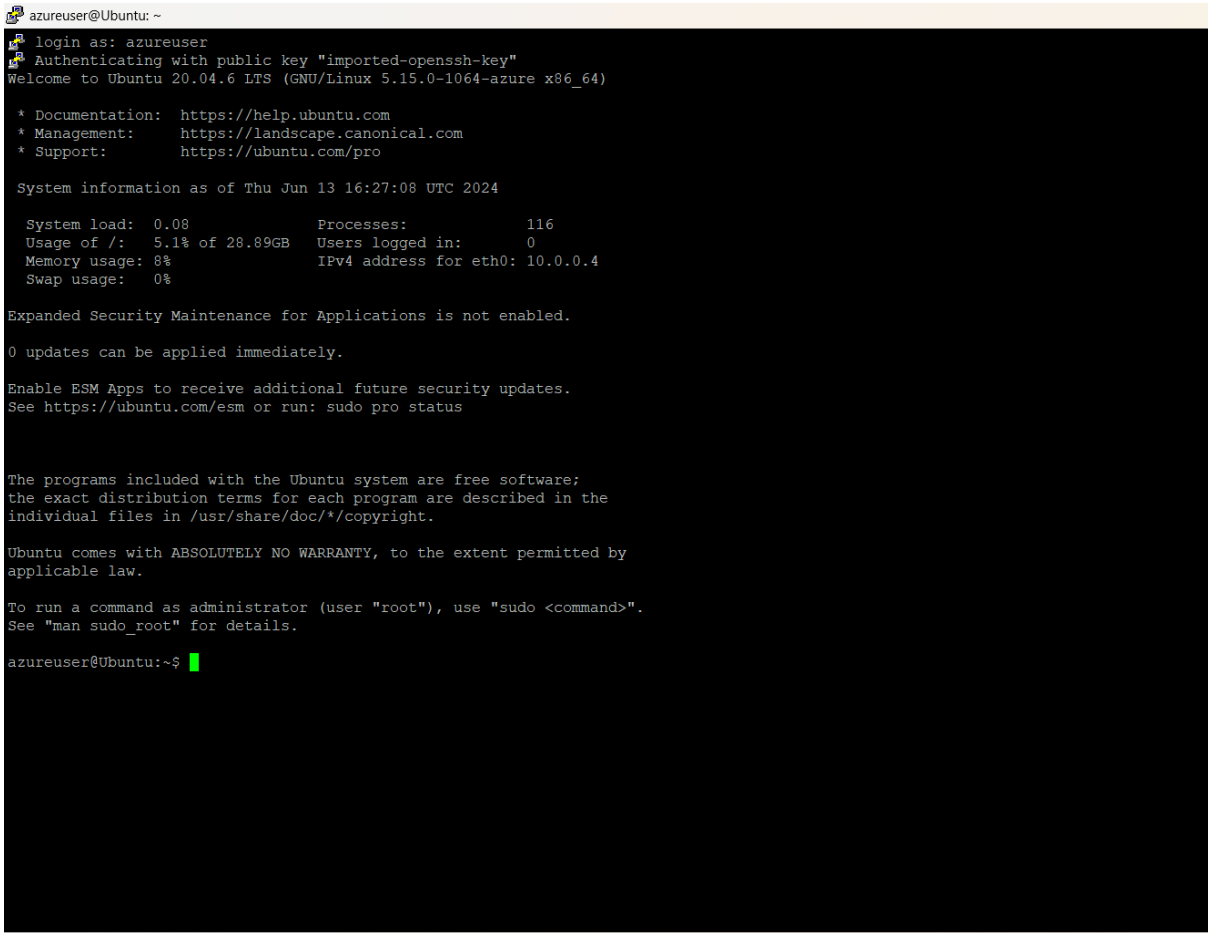


Step-7: In putty, put the Copied IP Adress into it, and then go to ssh->auth->credentials and the put the generated private key.



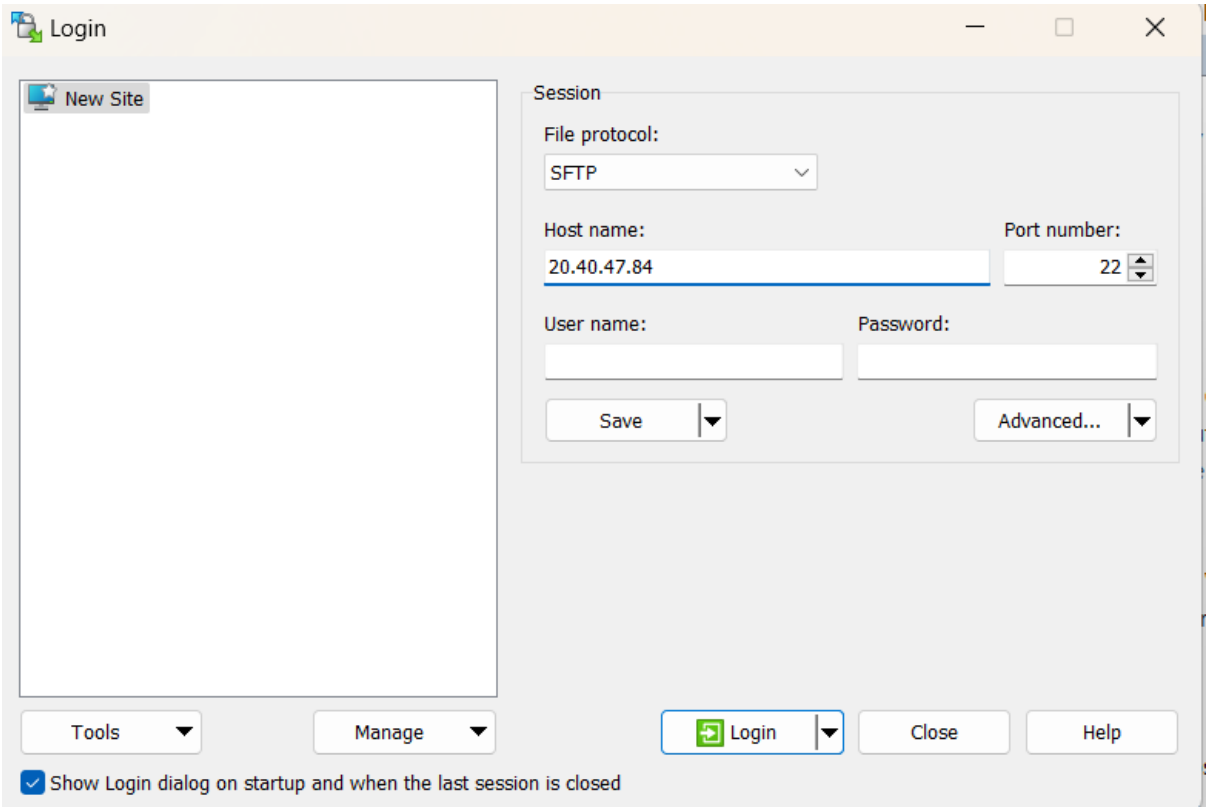
Step-8: A login page will be opened in that type your username and you will be into the ubuntu.

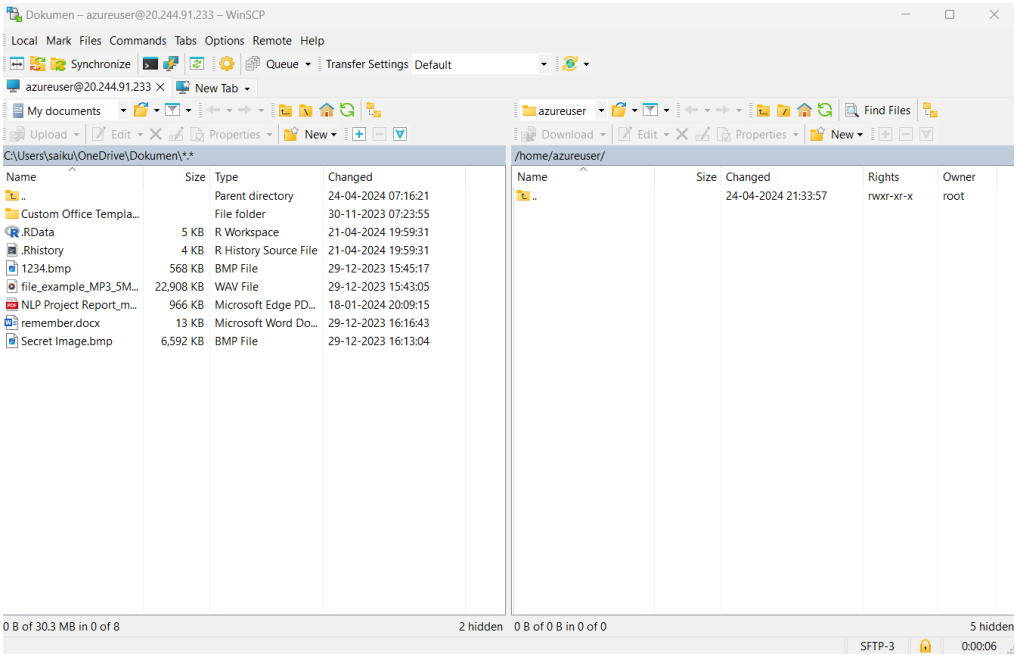
Step-9: Login into your ubuntu VM using PUTTY and type ls command as you can see nothing.



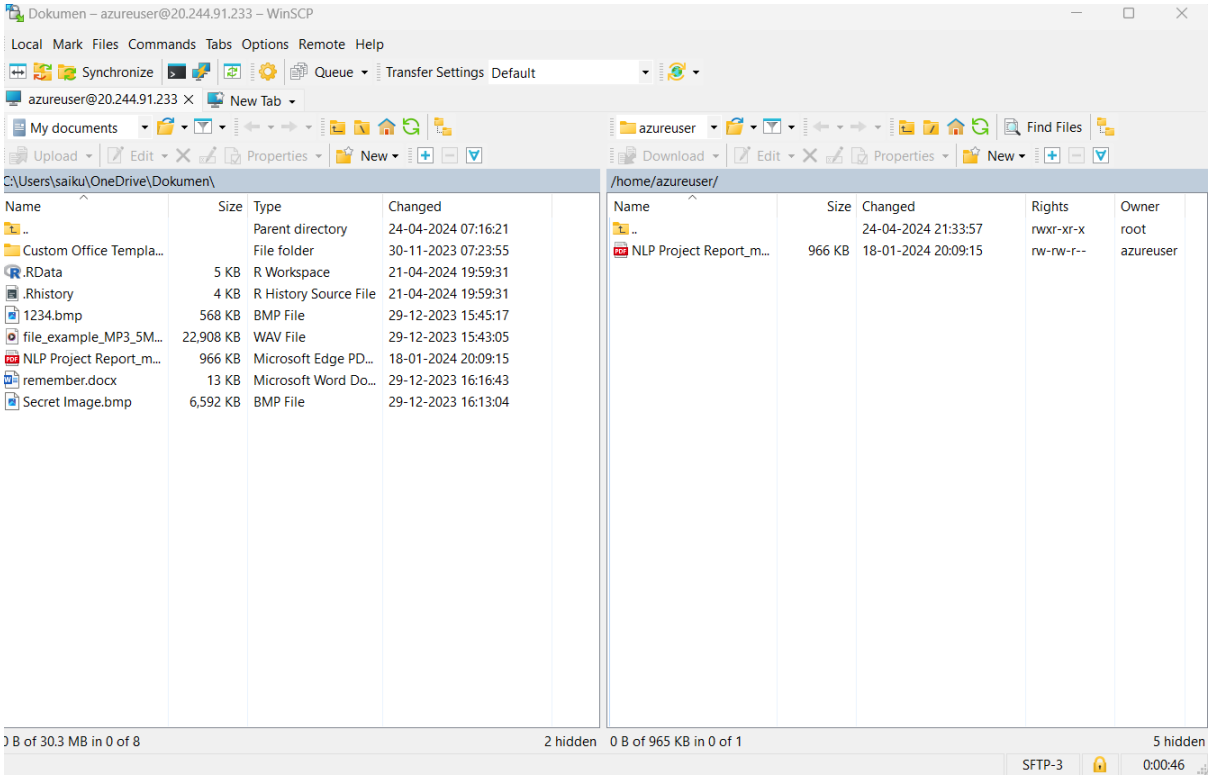
Step-10: Open WinScp at right bottom you can see Advanced option->SSH->Authentication->In that drag private key file and click on ok.

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

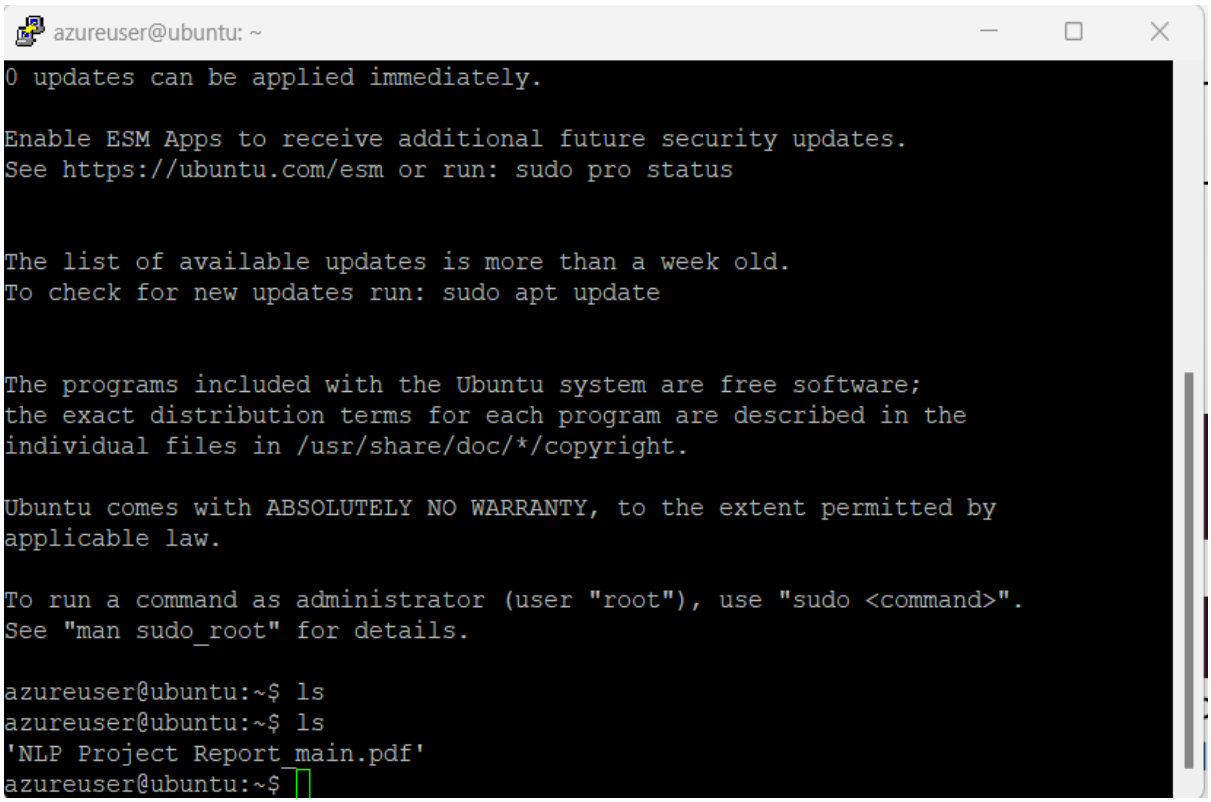




Now, you can drag your files from your desktop to ubuntu VM in WinScp.



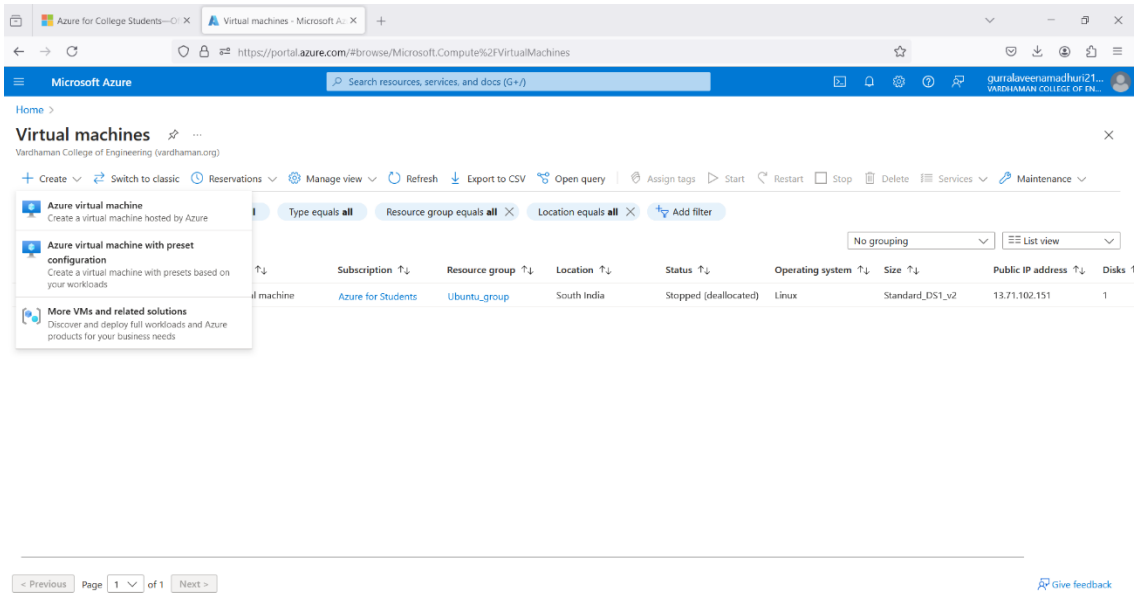
Step-11: Now again type ls command as you can see file inside ubuntu VM.



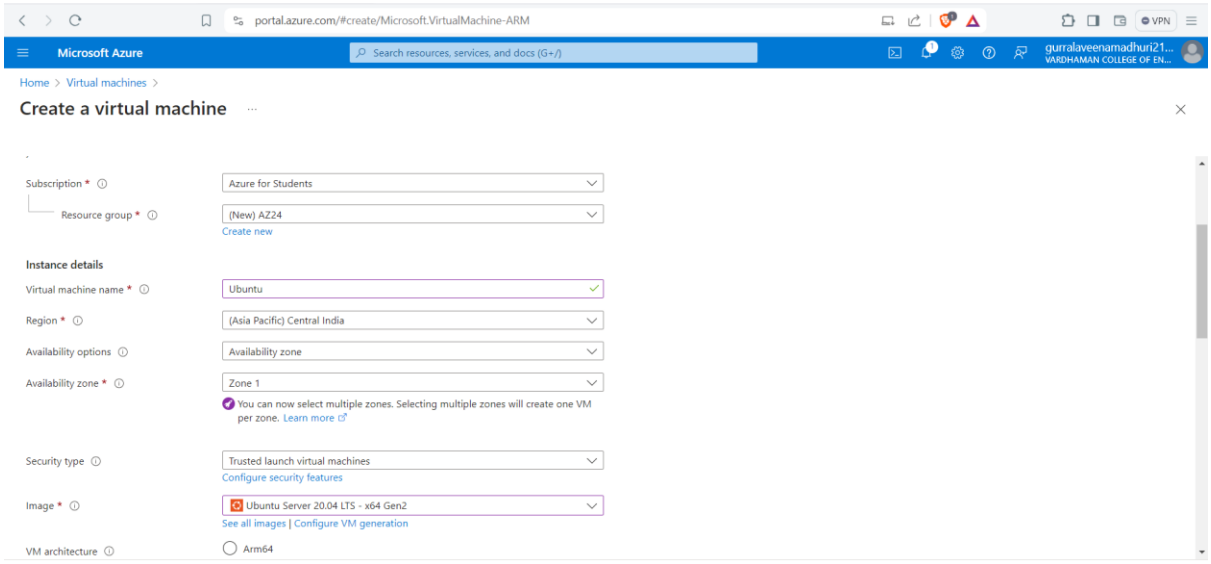
Q8) How to make Linux server as web server in AZURE.

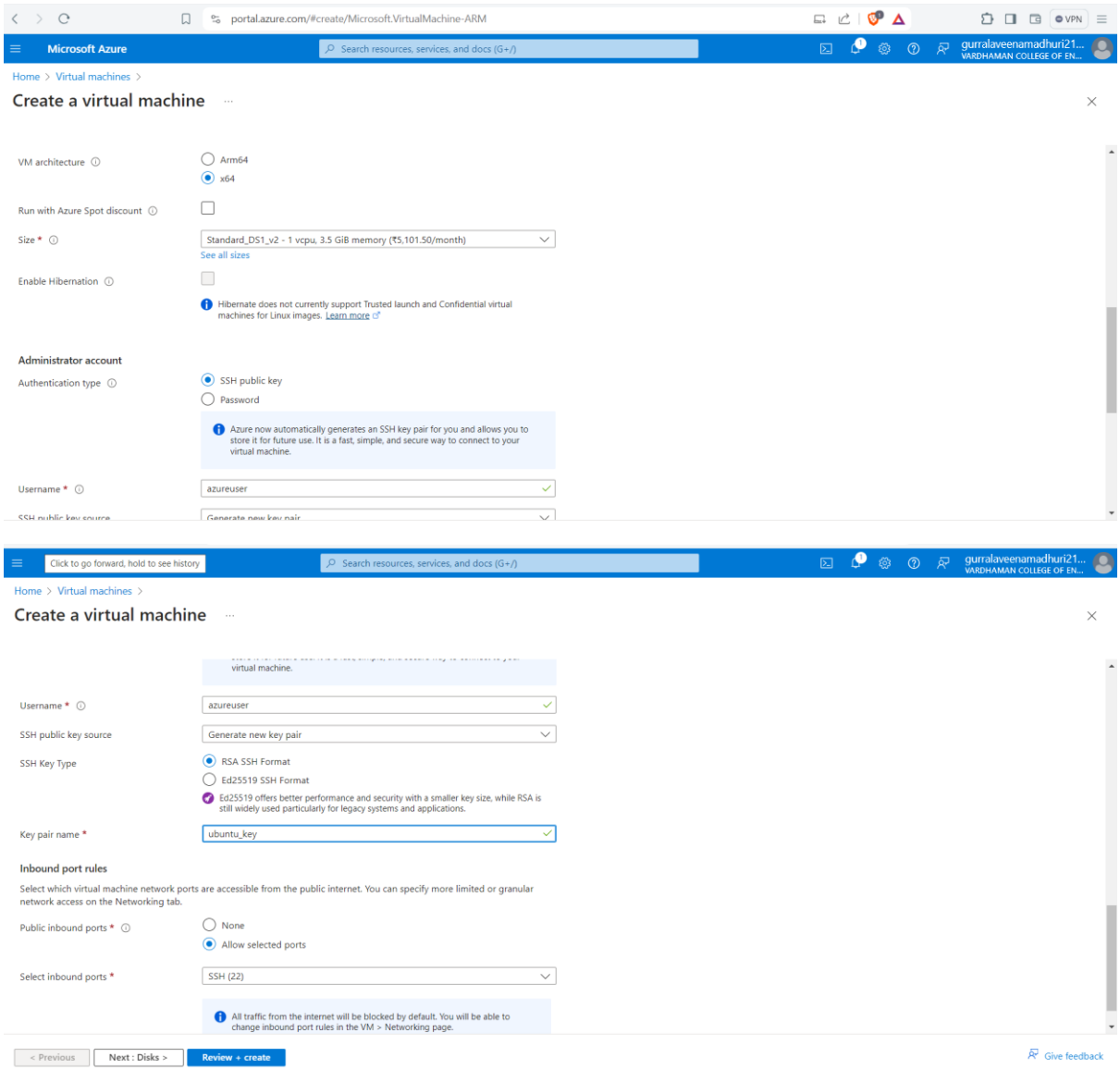
Step-1: Sign in to your Microsoft Azure account.

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

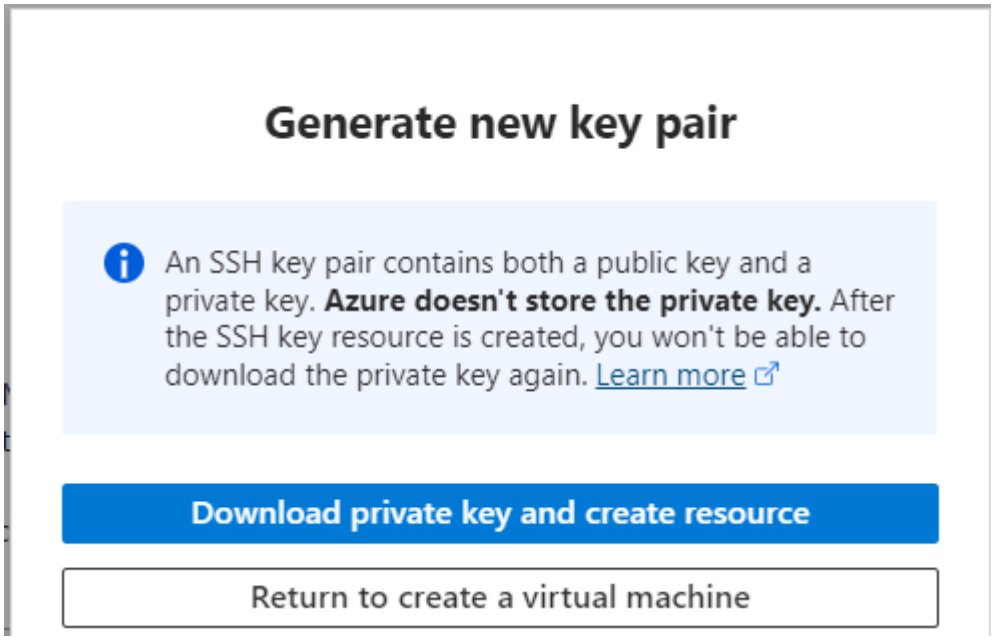


Step-3: Fill the details in that ubuntu by creating a "Resource Group", Zone: Asia, Image: ubuntu, select "SSH", Select the disk storage and so on. After that click on "Create + Review". And finally click on "Create".



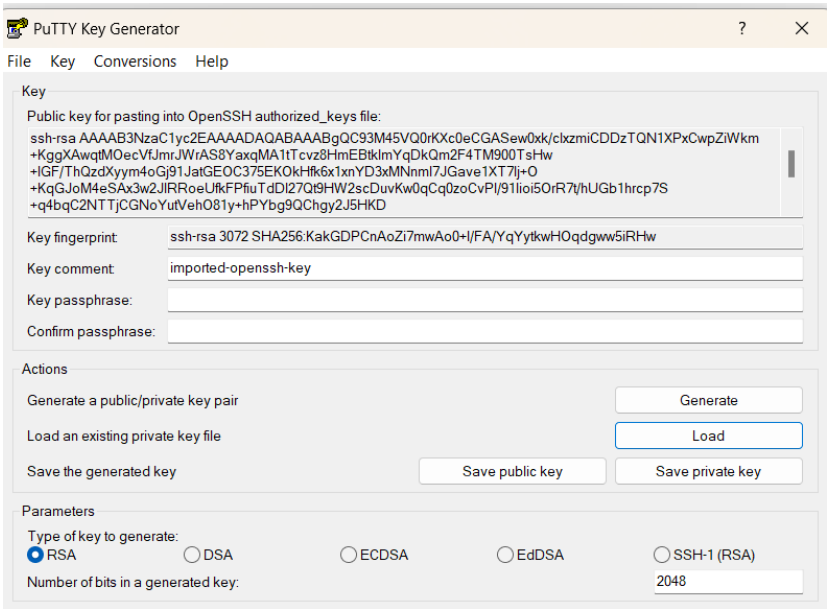


Step-4: After Deployment is over, Go to the remote desktop connection.

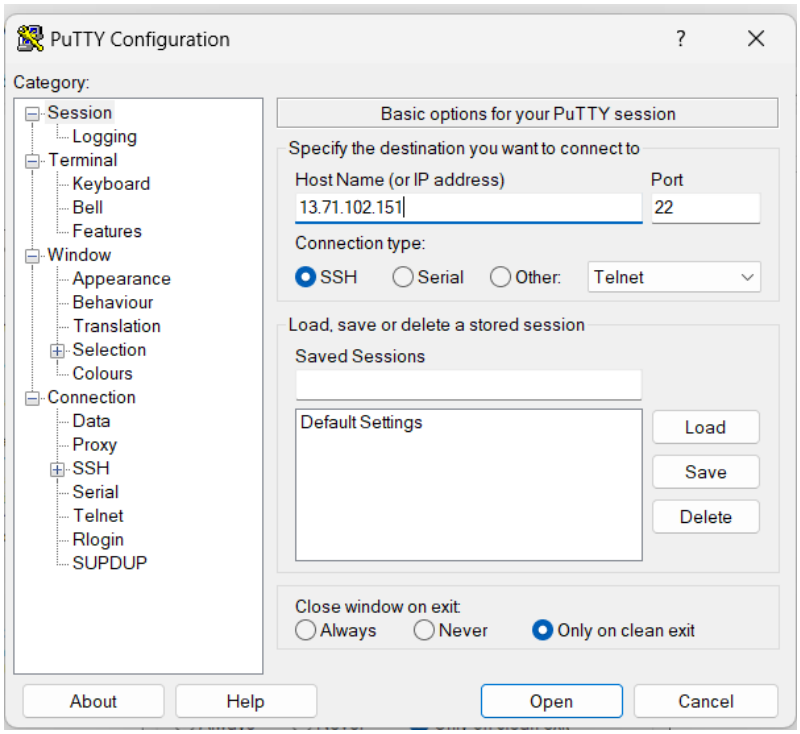


Step-5: Firstly, copy the public IP Address of that created virtual machine.

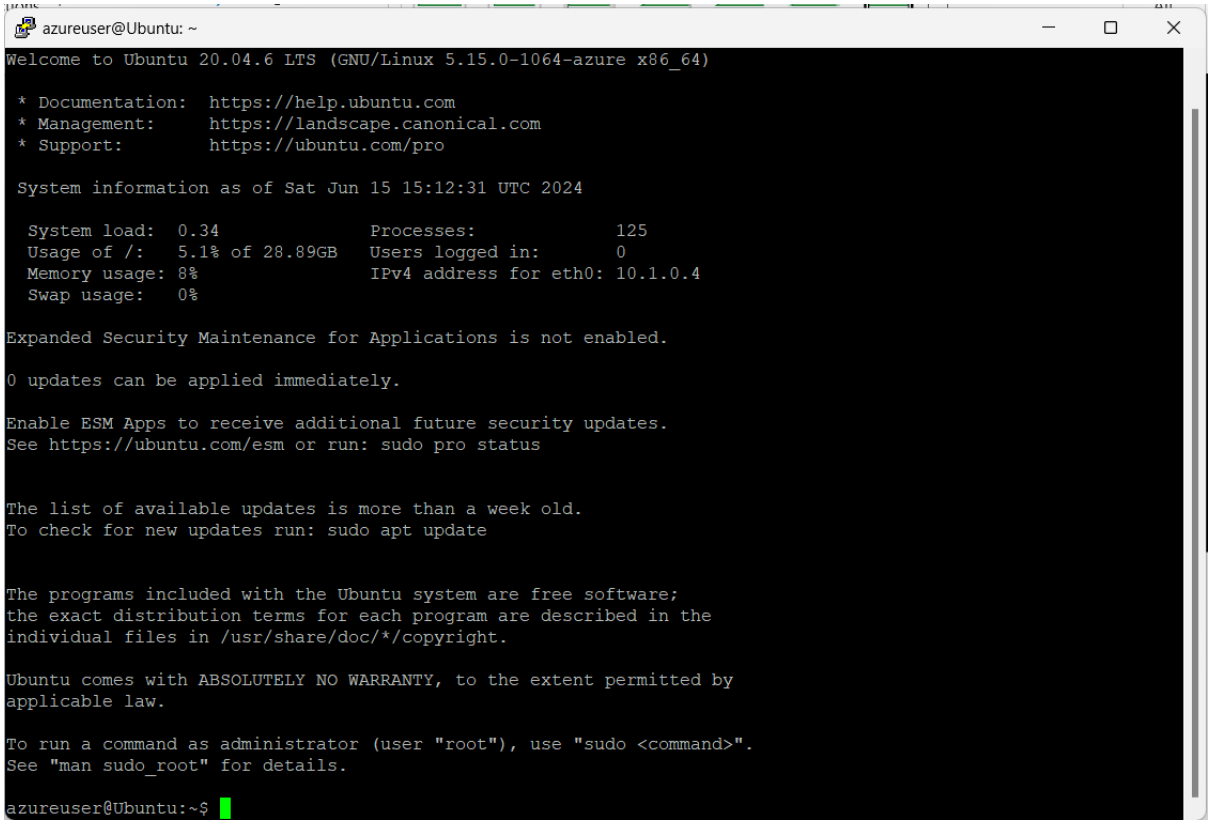
Step-6: Go to putty gen and click on load the key generator that you have downloaded.



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

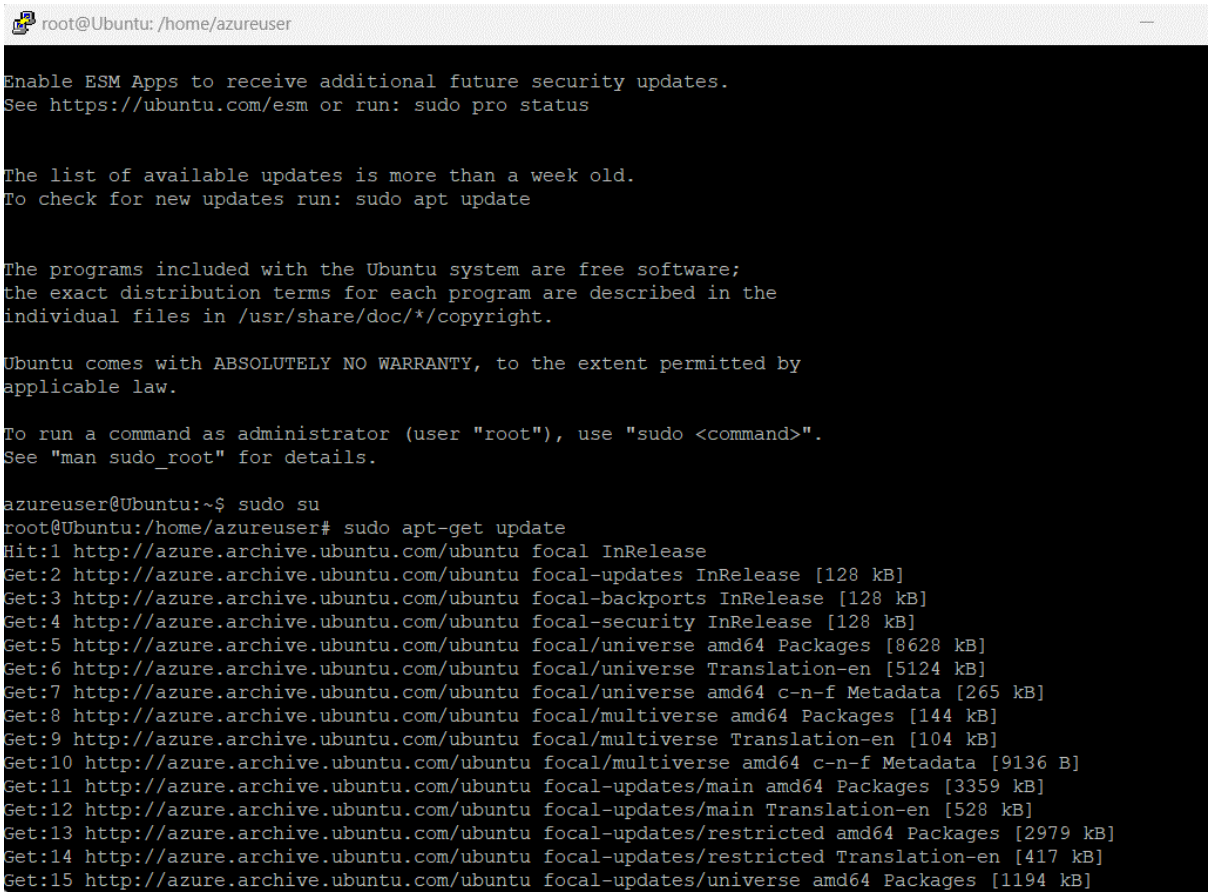
$sudo su

$sudo apt-get update

After typing the two commands, 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-10: To remove following information and keep new information in that page type the following command and refresh the browser page.

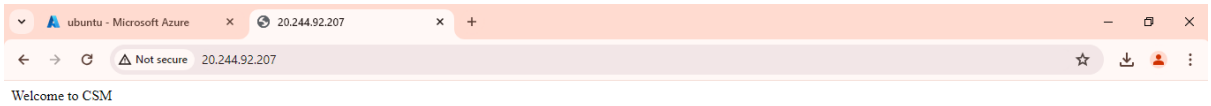
$cd /var/www/html

$rm index.nginx-debian.html

$echo “Welcome to CSM “>index.html

root@Ubuntu: /var/www/html

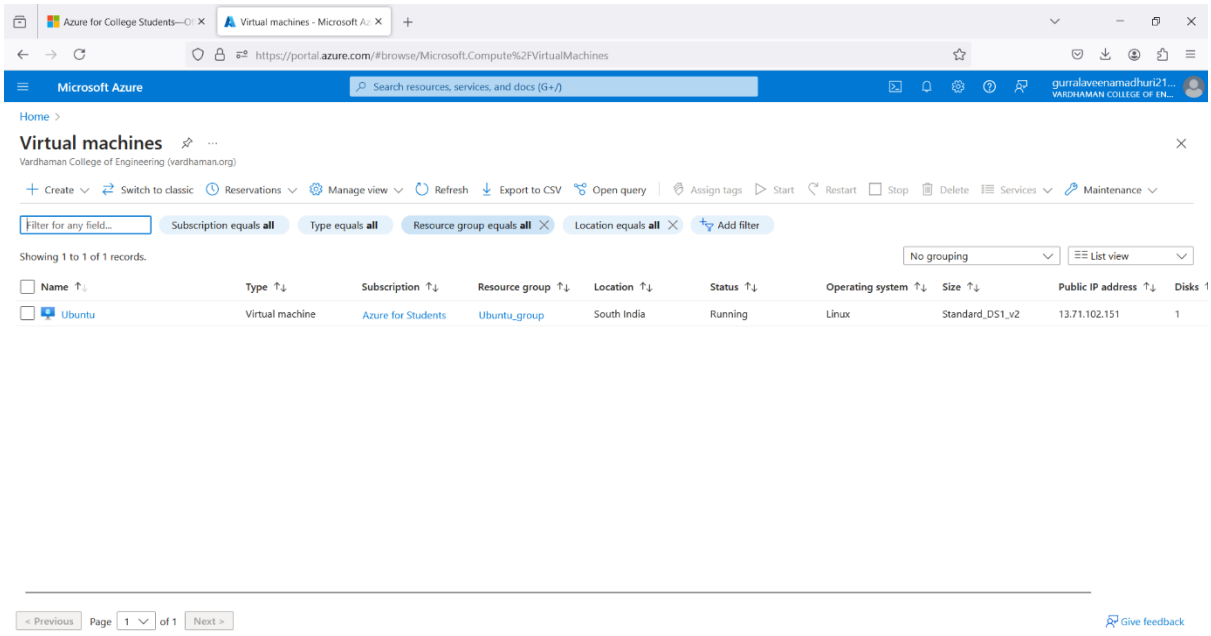
```
Selecting previously unselected package nginx-core.
Preparing to unpack .../15-nginx-core_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking nginx-core (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package nginx.
Preparing to unpack .../16-nginx_1.18.0-0ubuntu1.4_all.deb ...
Unpacking nginx (1.18.0-0ubuntu1.4) ...
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.s
Setting up libjbig0: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@Ubuntu:/home/azureuser# cd/var/www/html
bash: cd/var/www/html: No such file or directory
root@Ubuntu:/home/azureuser# cd /var/www/html
root@Ubuntu:/var/www/html# rm index.nginx-debian.html
root@Ubuntu:/var/www/html# echo "Welcome to CSM">index.html
```



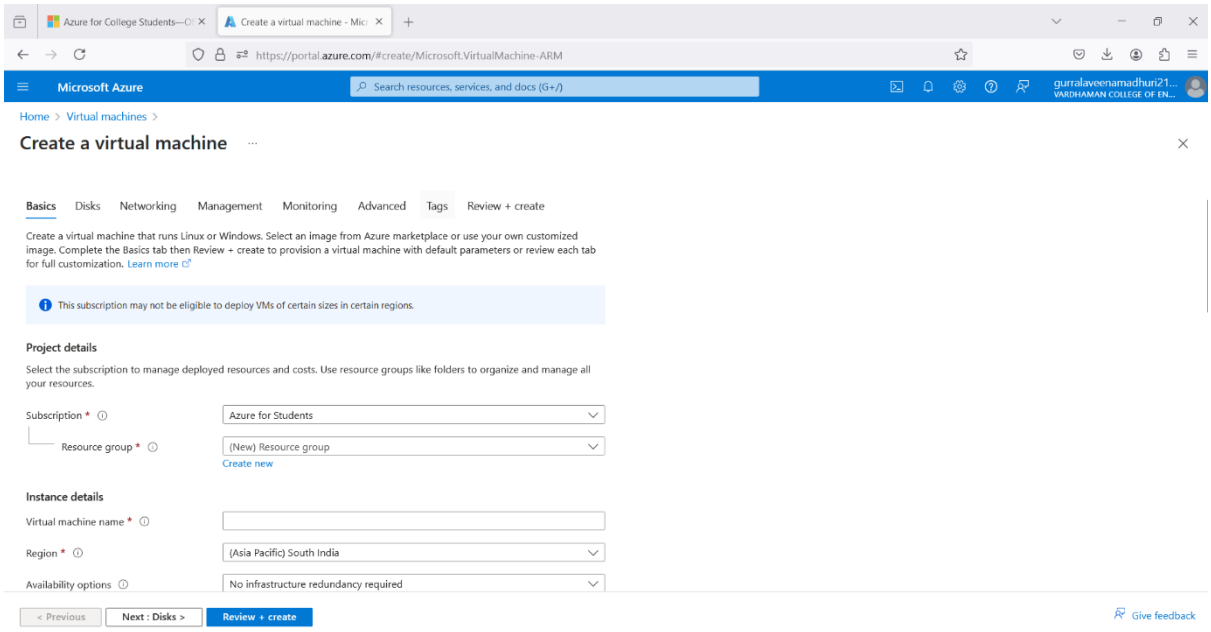
Q9) Setup and configure AZURE web server for windows server (IIS).

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”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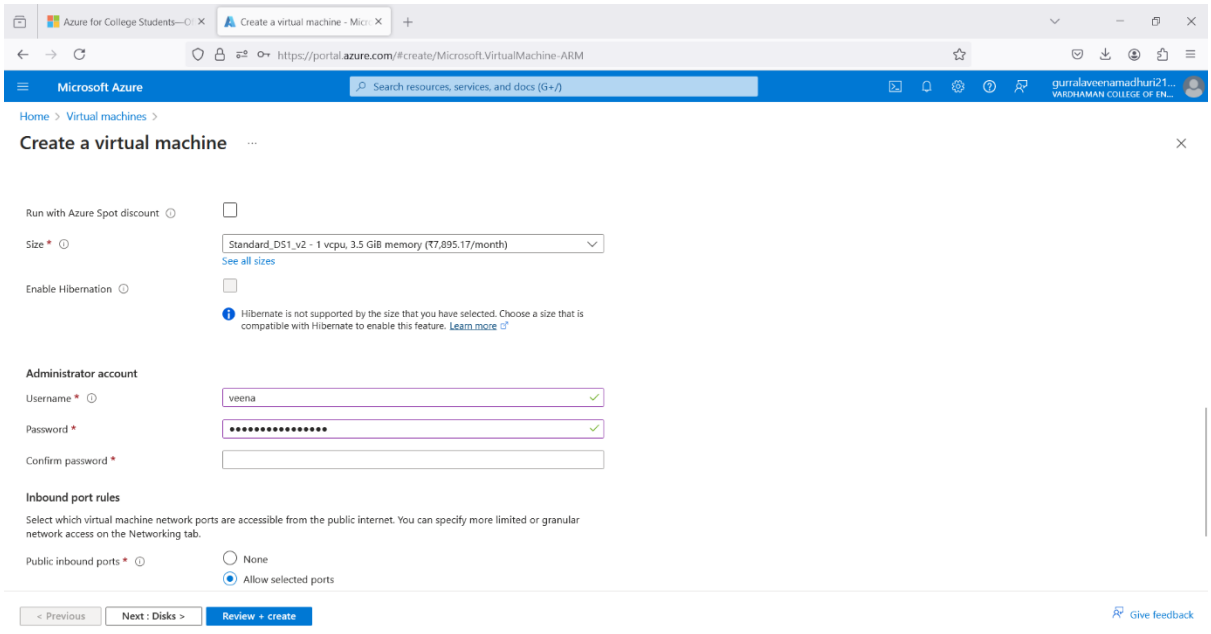
Basics Disks Networking Management Monitoring Advanced Tags Review + create
Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. Learn more
This subscription may not be eligible to deploy VMs of certain sizes in certain regions.
Project details
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
Subscription * Azure for Students
Resource group * (New) Resource group
Create new
Instance details
Virtual machine name *
Region * (Asia Pacific) South India
Availability options No infrastructure redundancy required
< Previous
Next : Disks >
Review + create
Give feedback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gurralaveenamadhuri21...
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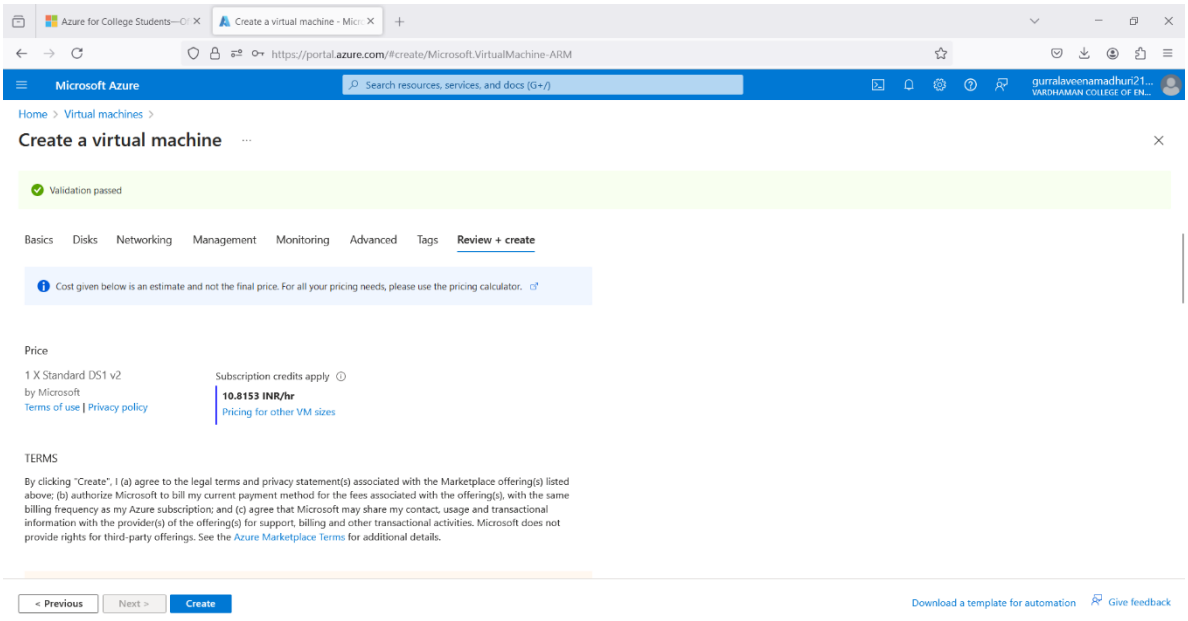
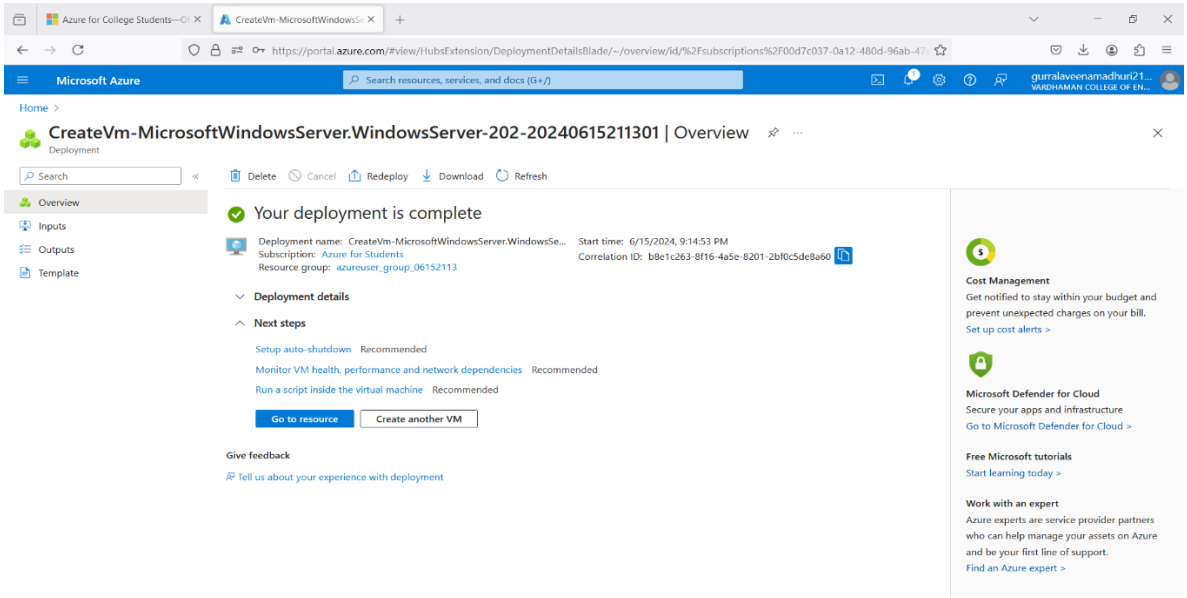
Home > Virtual machines >
Create a virtual machine
Run with Azure Spot discount
Size * Standard_DS1_v2 - 1 vcpu, 3.5 GiB memory (₹7,895.17/month)
See all sizes
Enable Hibernation
Hibernate is not supported by the size that you have selected. Choose a size that is compatible with Hibernate to enable this feature. Learn more
Administrator account
Username * veena
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
< Previous
Next : Disks >
Review + create
Give feedback

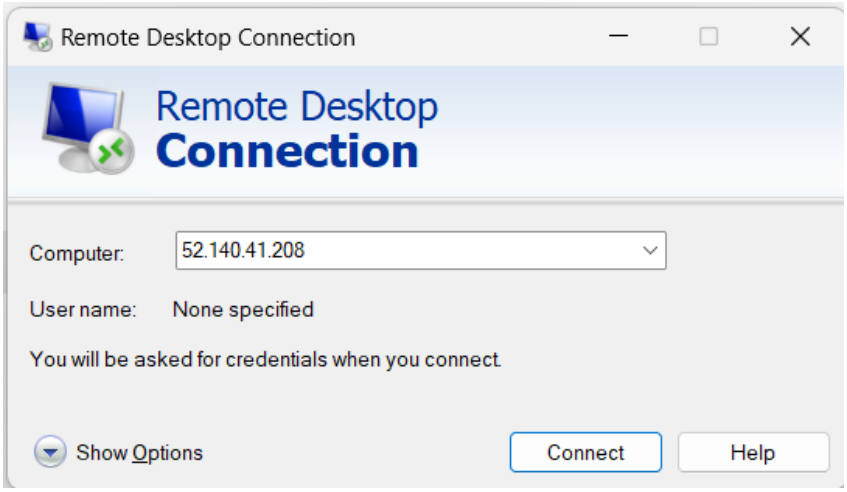


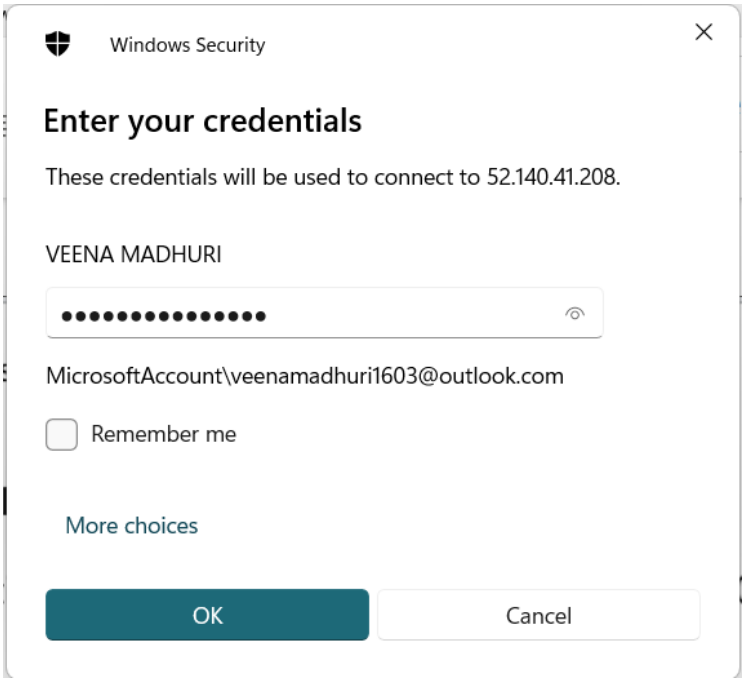
Step-4: After Deployment is over, Go to the remote desktop connection.

Step-5: Firstly, copy the public IP Address of that created virtual machine.

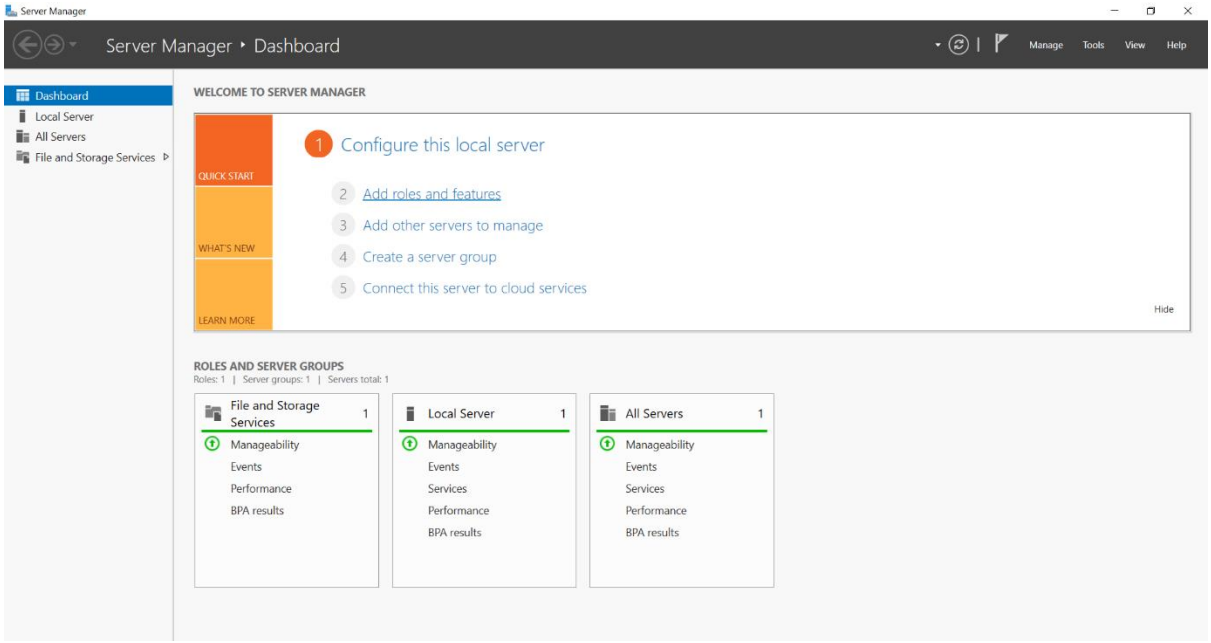


Step-6: By using that copied IP Address open the window virtual machine through remote desktop connection.

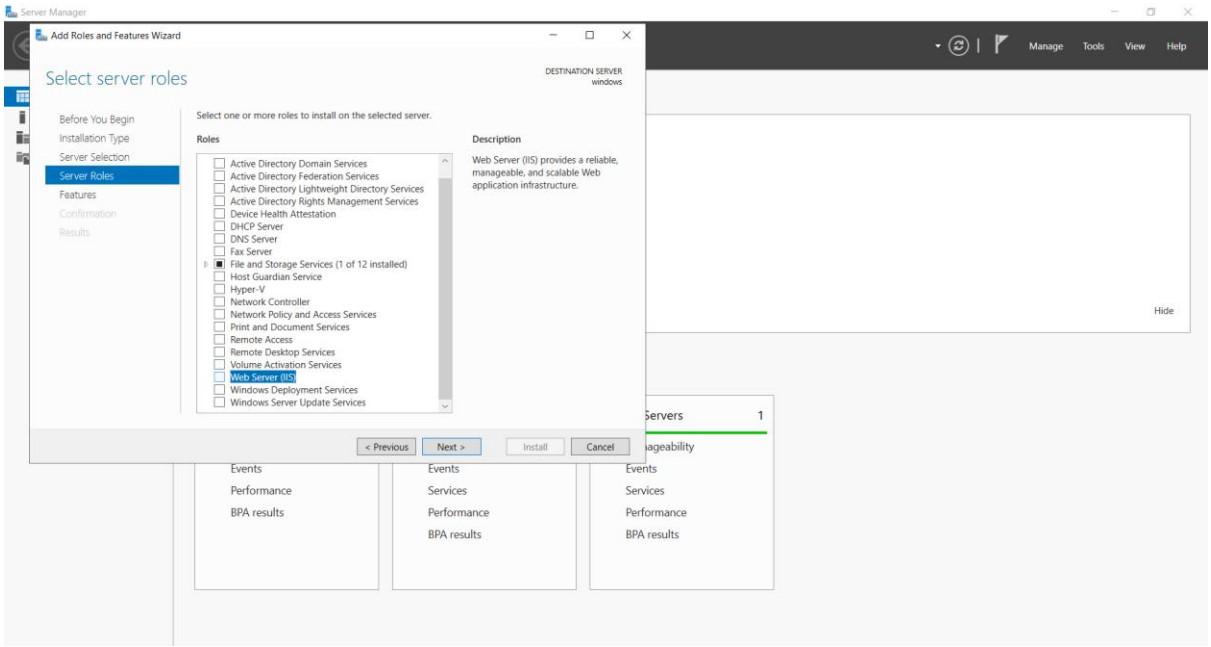


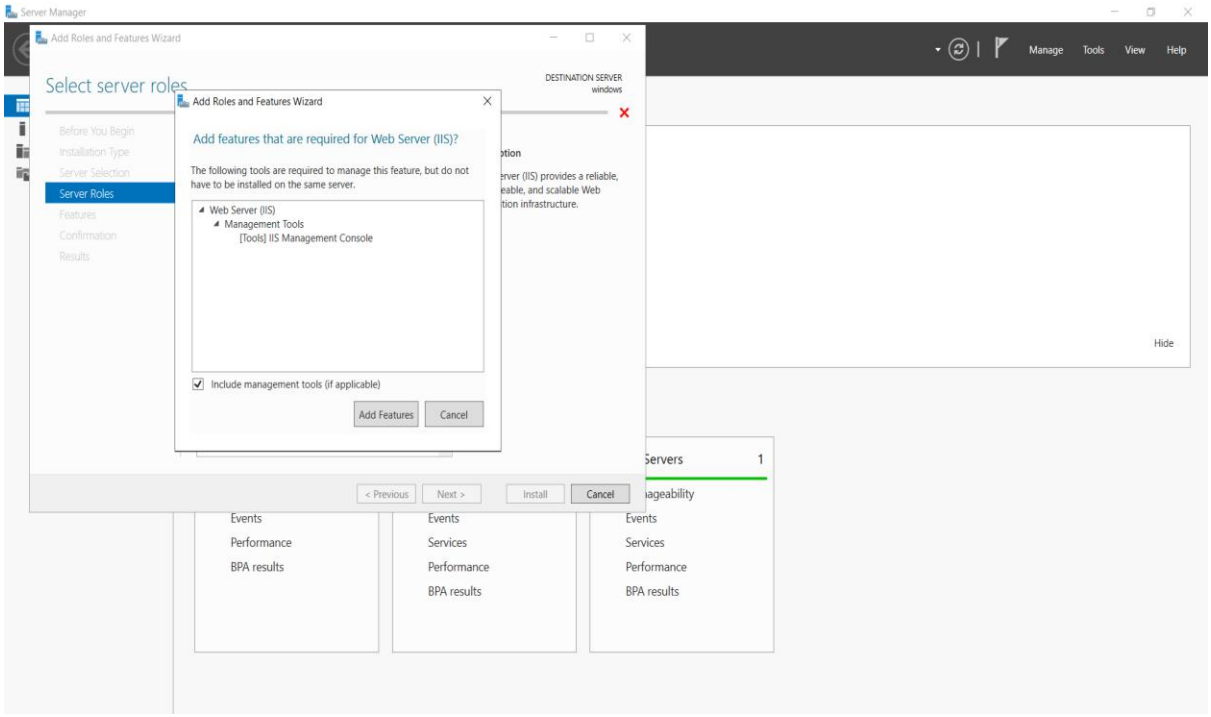


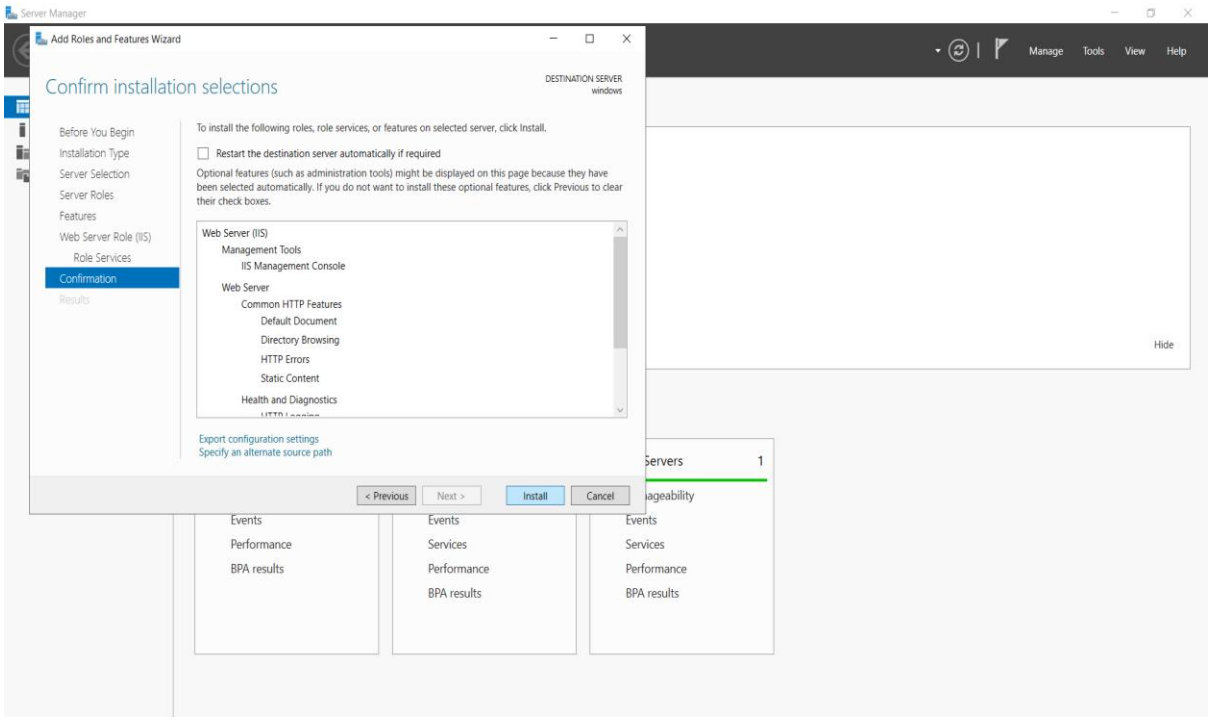
Step-7: When remote desktop will start (windows VM) you can see there will be Sever Manager will be opened and in that you can see Configure this local server, click on "Add roles and features".



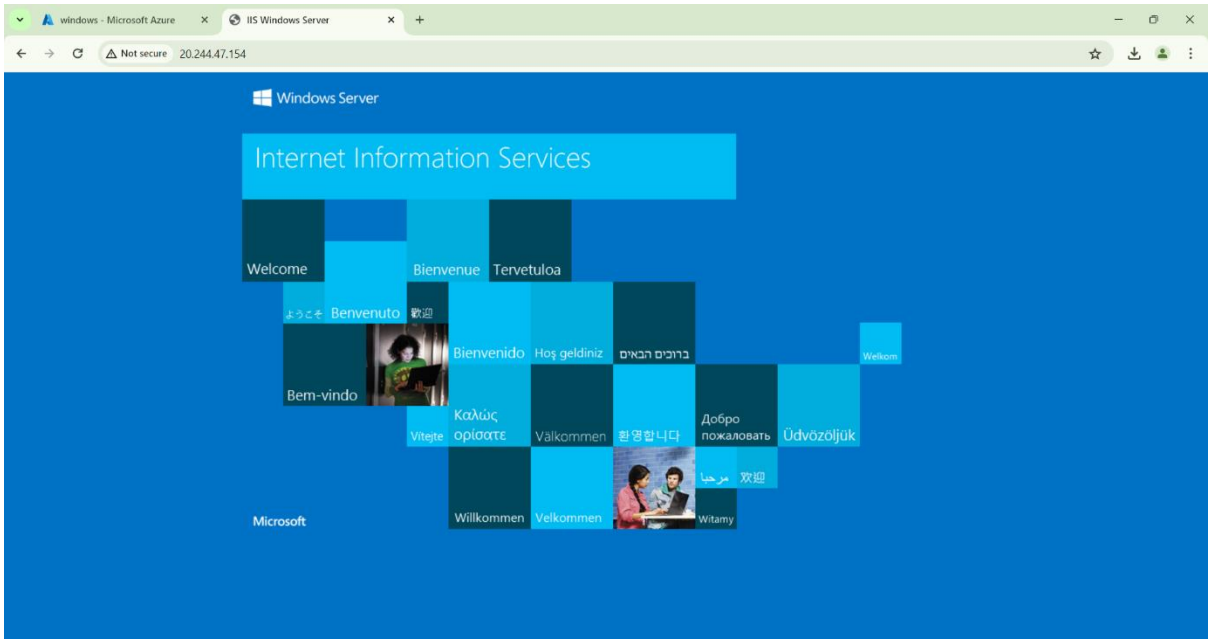
Step-8: Click on next, next and in Server Roles select Web Server (IIS) click on add feature, click on next, next till you can get install button and click on install.



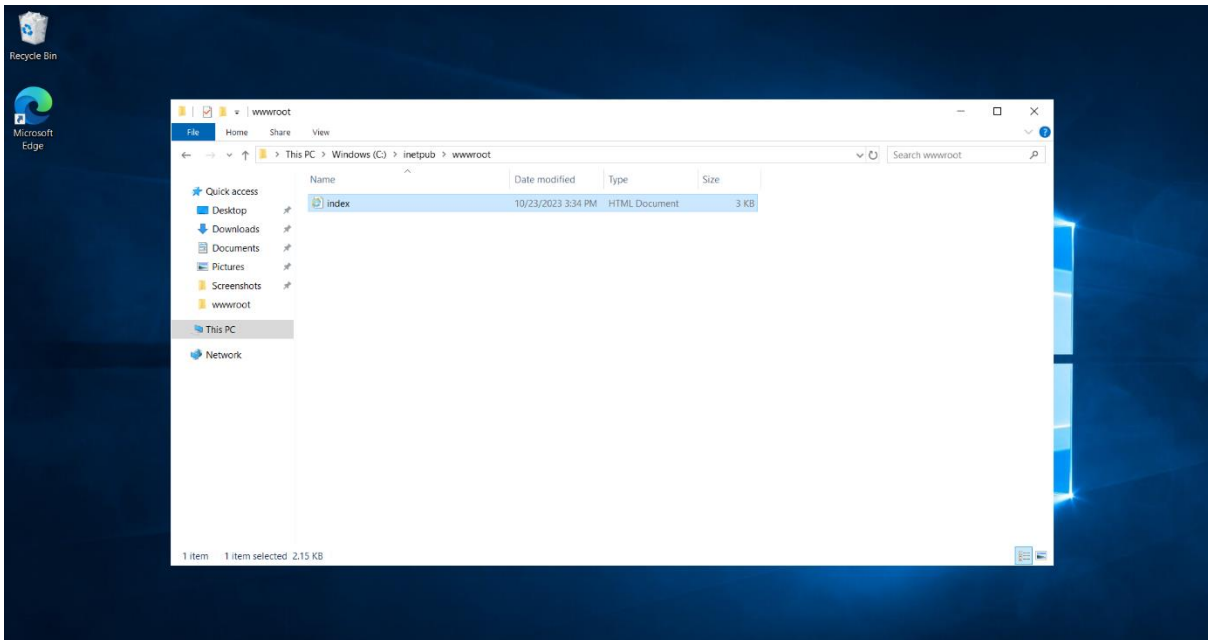




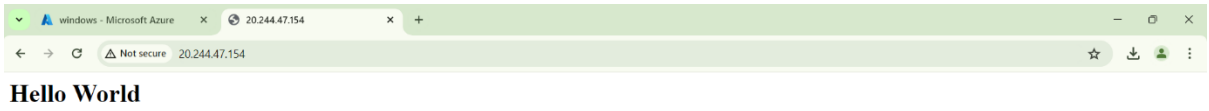
Step- 9: paste the public ip address in desktop browser and you can see.



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-10: Refresh the browser page.

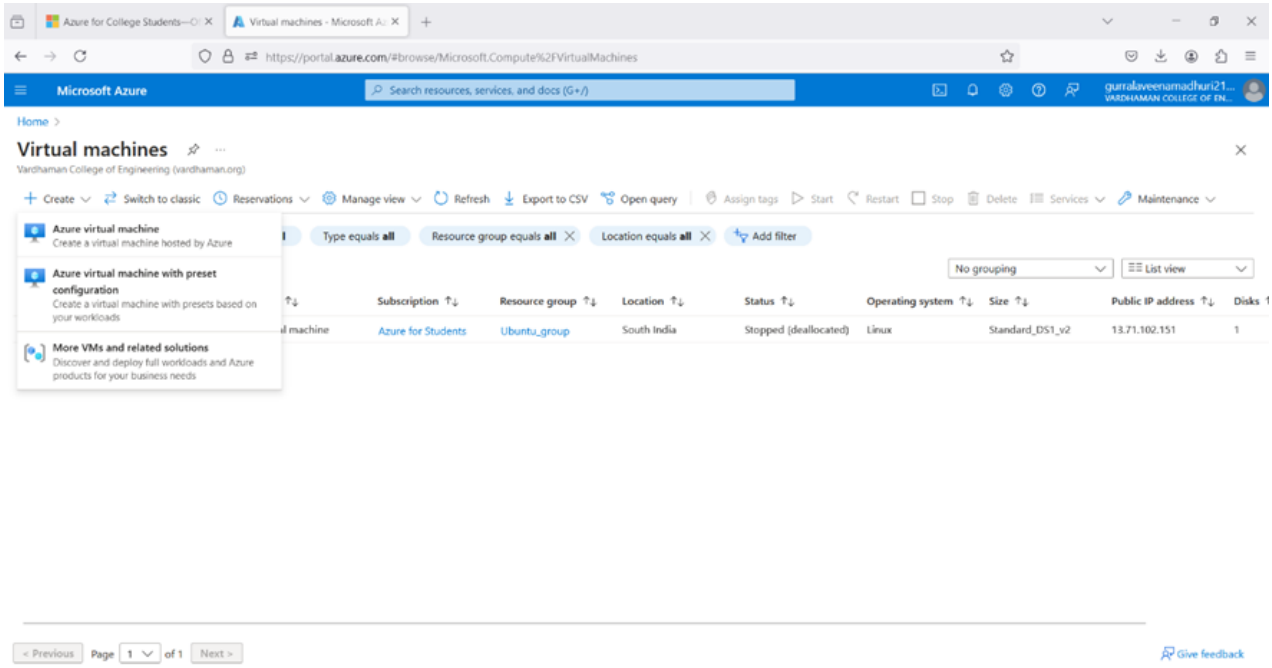


Hello World

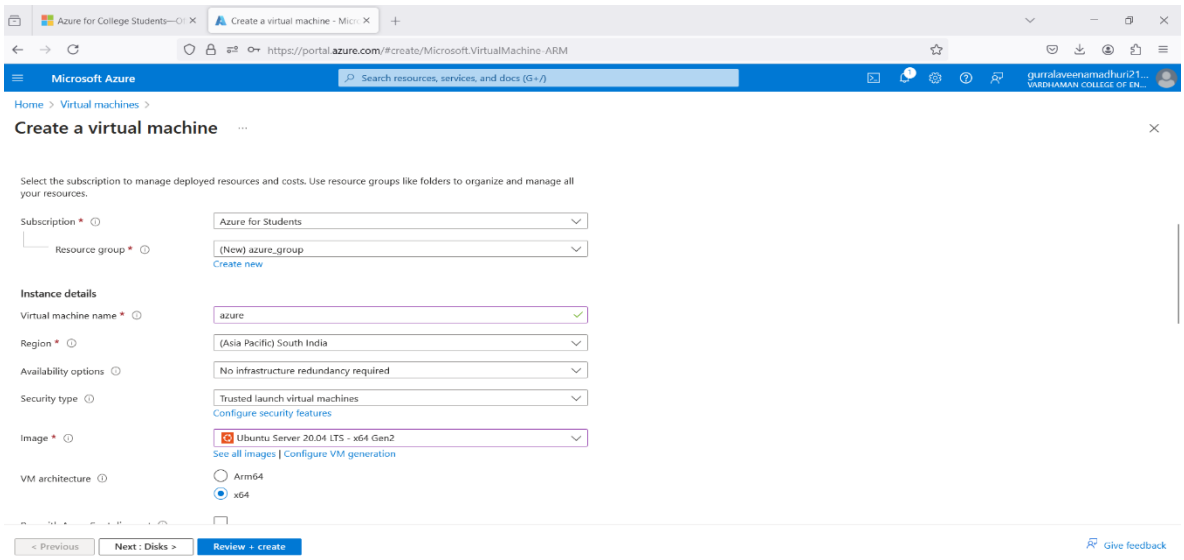
Q10) How we are adding new users, login credentials, changing owner, create authorized key files.

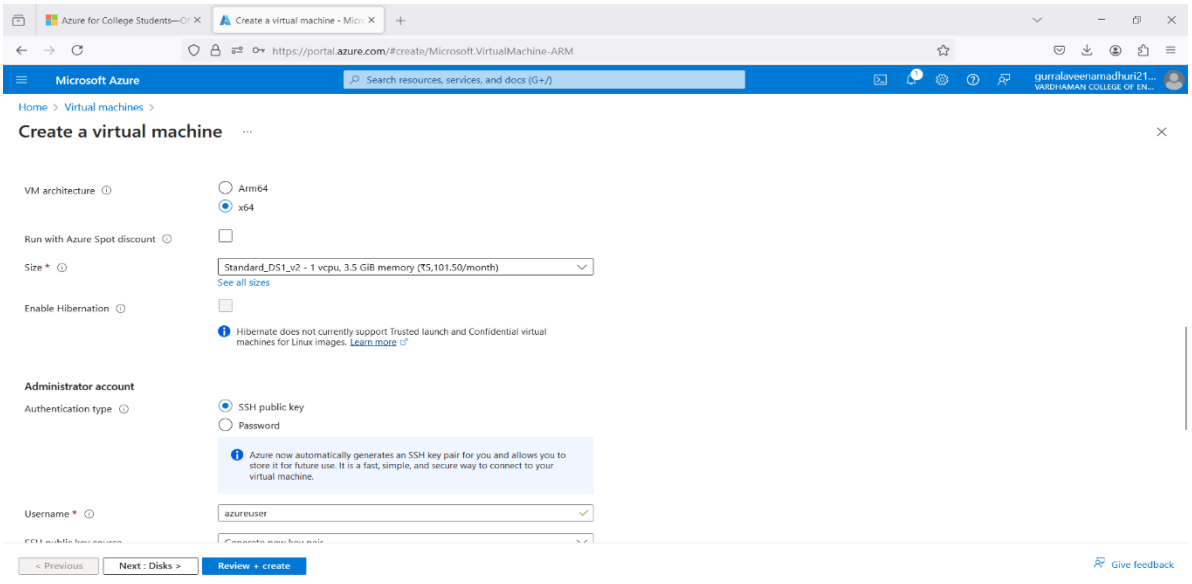
Step-1: Sign in to your Microsoft Azure account.

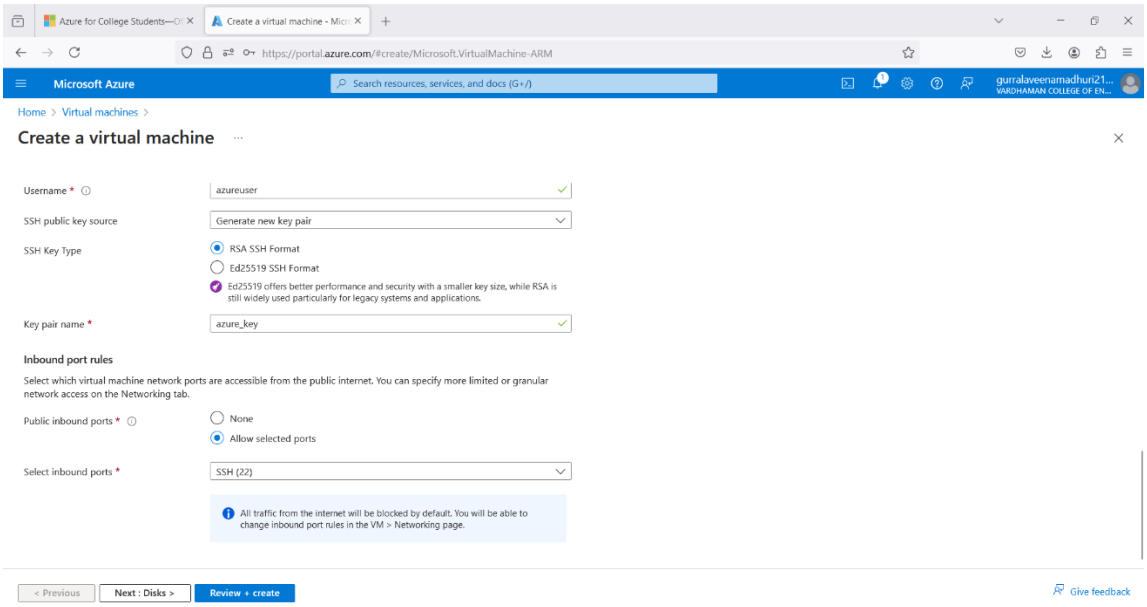
Step-2: Go To Virtual machine, and click on “Create” to create a window virtual machine.



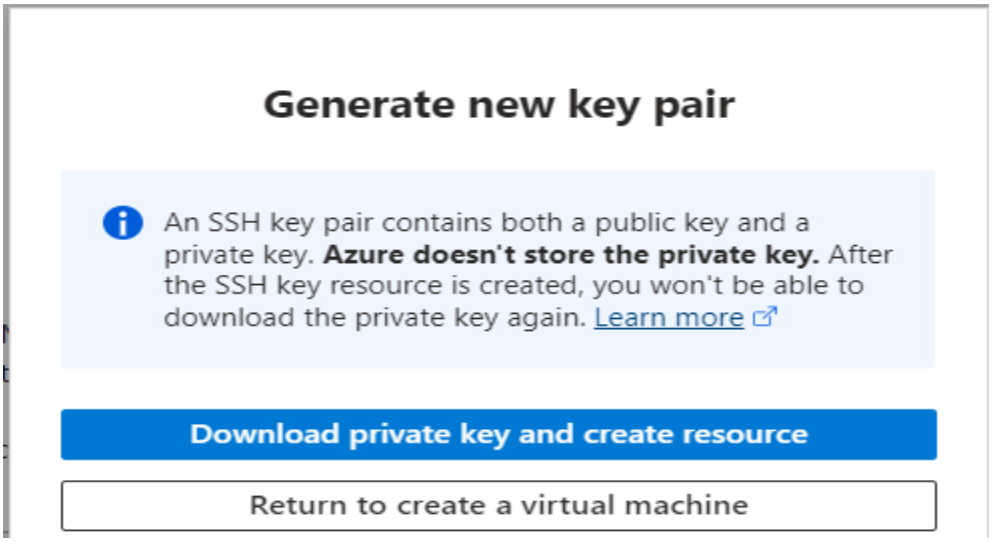
Step-3: Fill the details in that ubuntu by creating a “Resource Group”, Zone: Asia, Image: ubuntu, select “SSH”, Select the disk storage and so on. After that click on “Create + Review”. And finally click on “Create”.



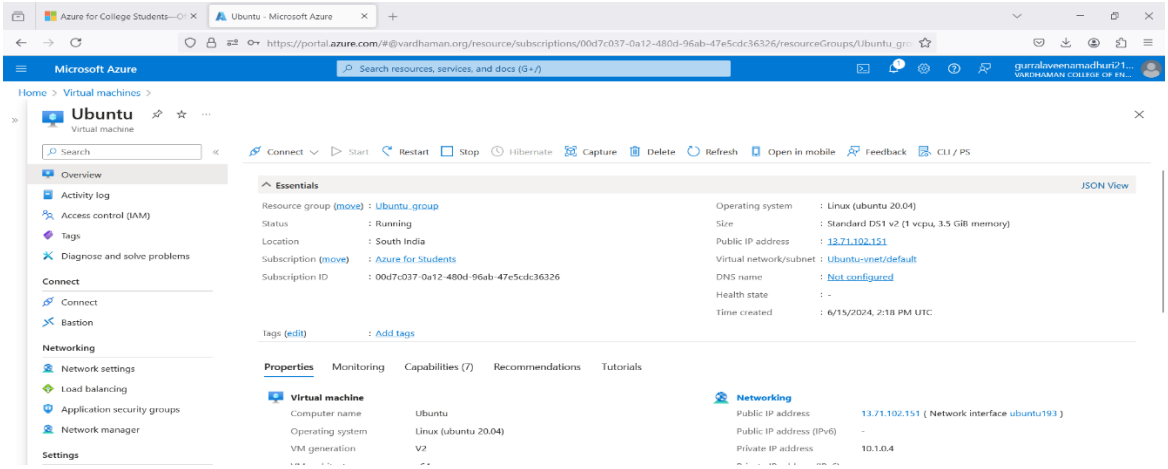




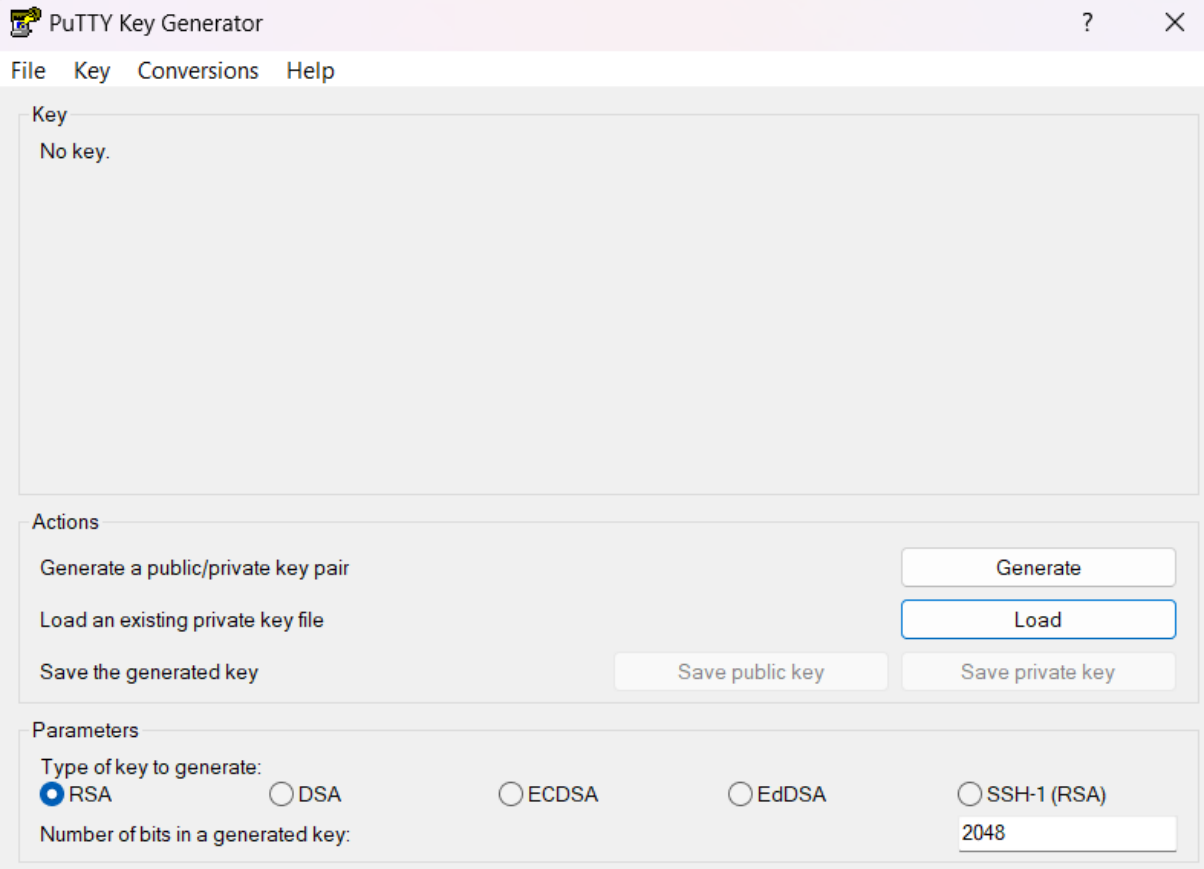
Step-4: After Deployment is over, Go to the remote desktop connection.

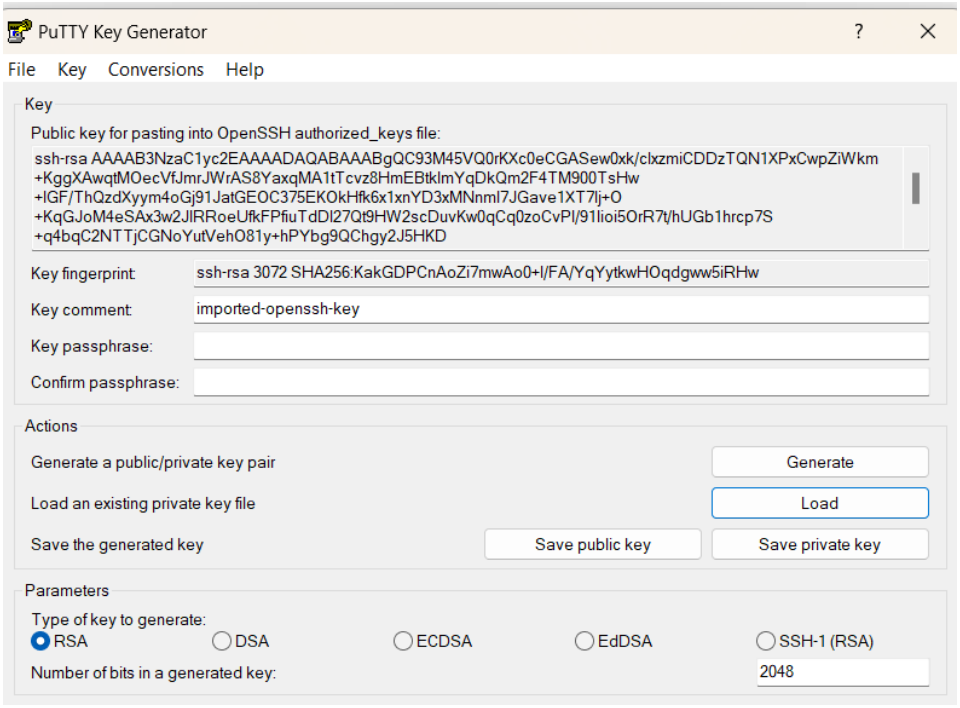


Step-5: Firstly, copy the public IP Address of that created virtual machine.

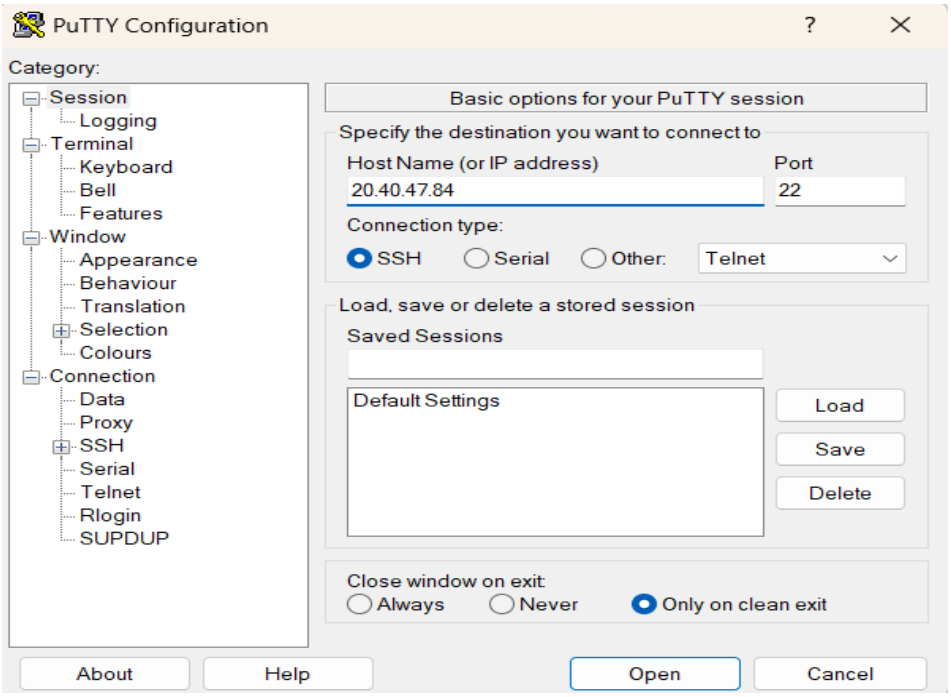


Step-6: Go to putty gen and click on load the key generator that you have downloaded.





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

To add new user in Linux server:

$sudo useradd -m veena

To set new password:

$sudo password veena

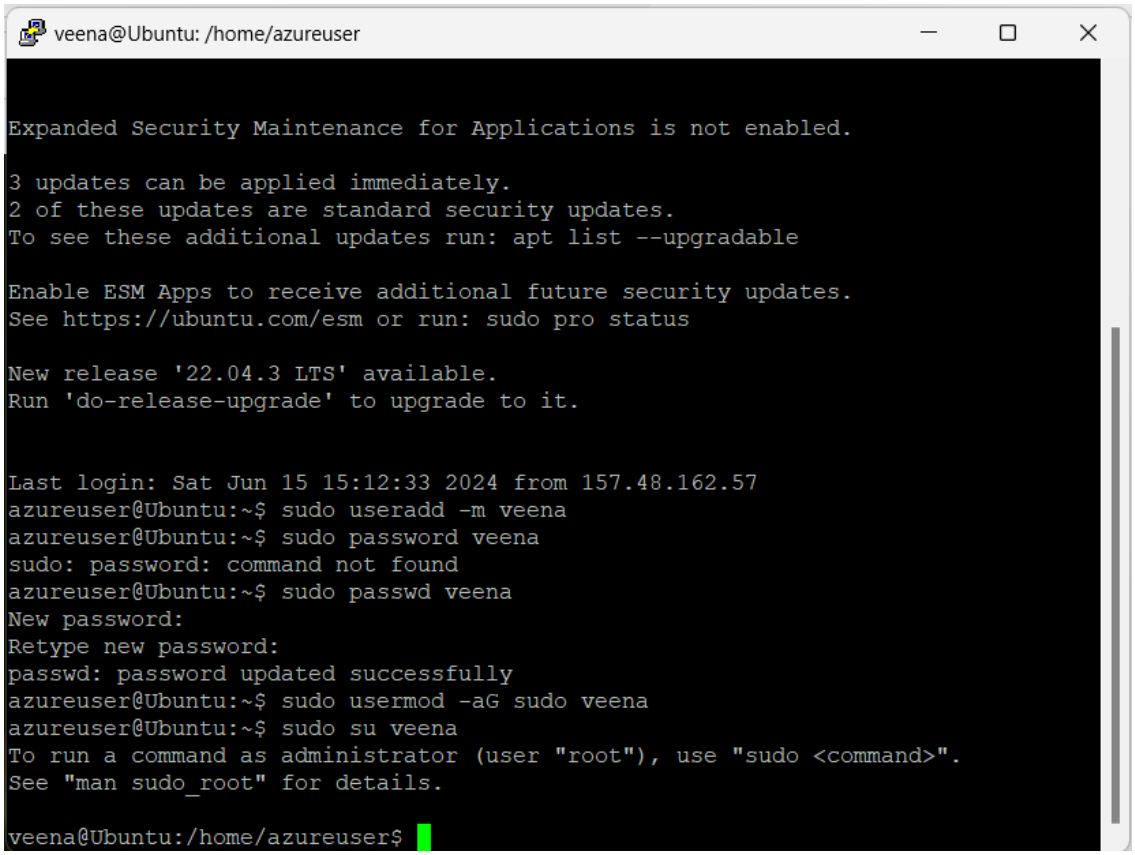
Enter new password and Retype password.

To modify login credentials:

$sudo usermod -aG sudo veena

To switch the user:

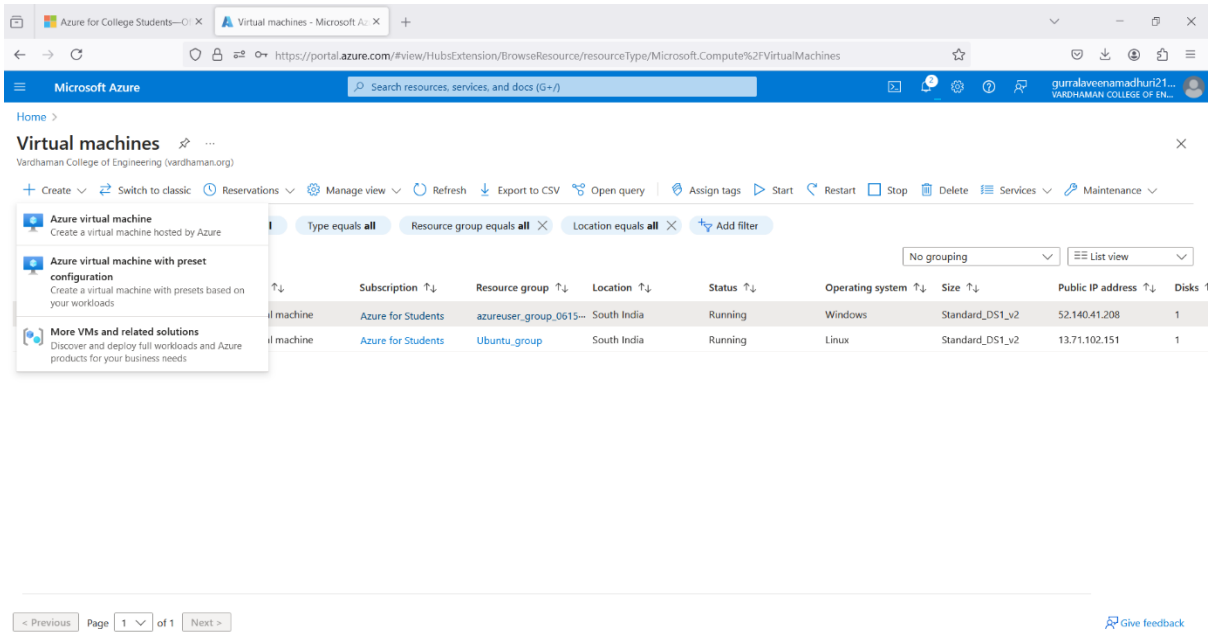
$sudo su veena



Q11) Create a Windows VM and transfer files from desktop to remote desktop VM.

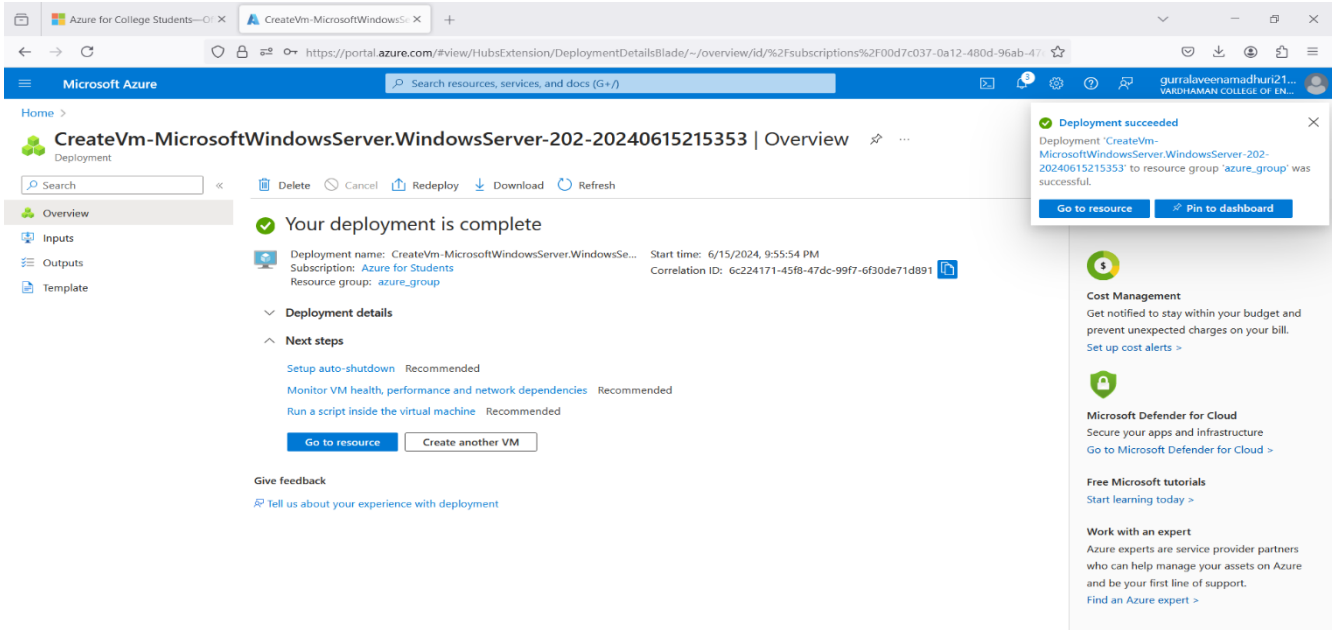
Step-1: Sign in to your Microsoft Azure account.

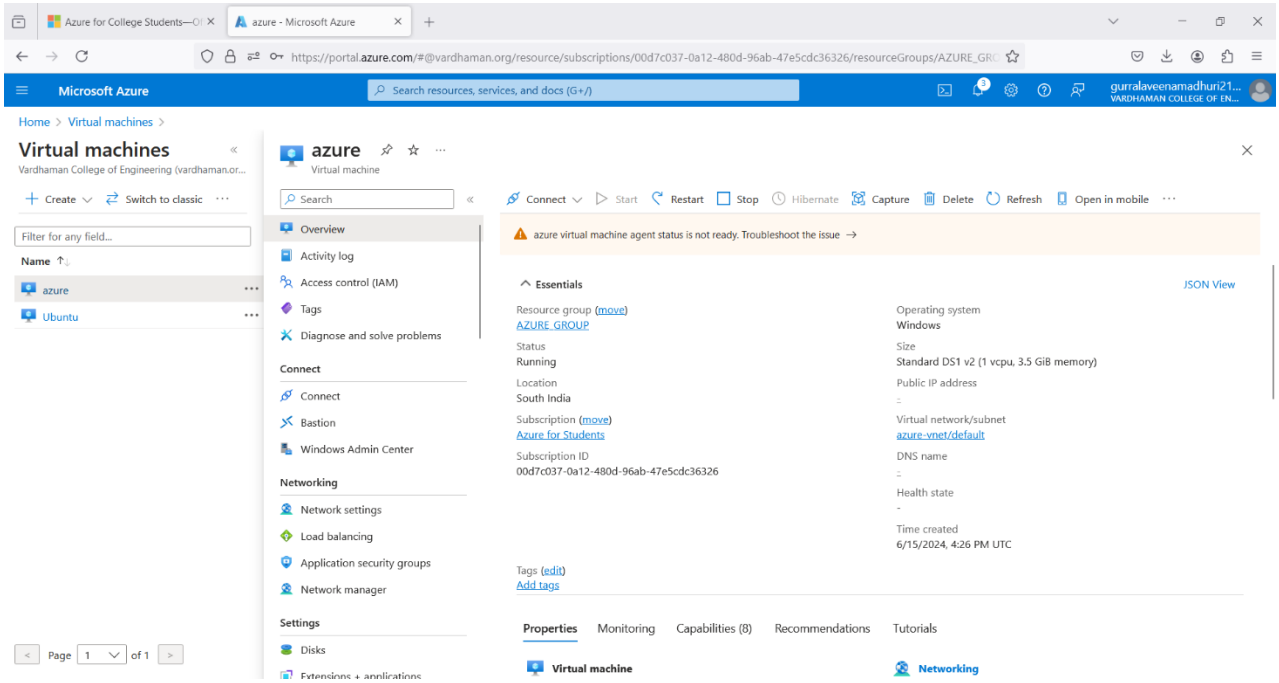
Step-2: Go To Virtual machine, and click on “Create” to create a window virtual machine.



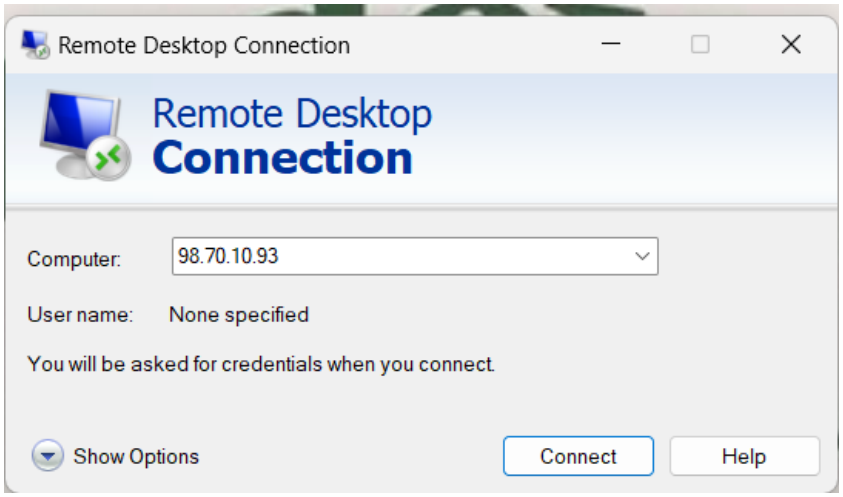
Step-3: Fill the details in that window by creating a “Resource Group”, Zone: Asia, Image: window, Select the disk storage and so on. After that click on “Create + Review”. And finally click on “Create”

Step-4: After Deployment is over, Go to the remote desktop connection.

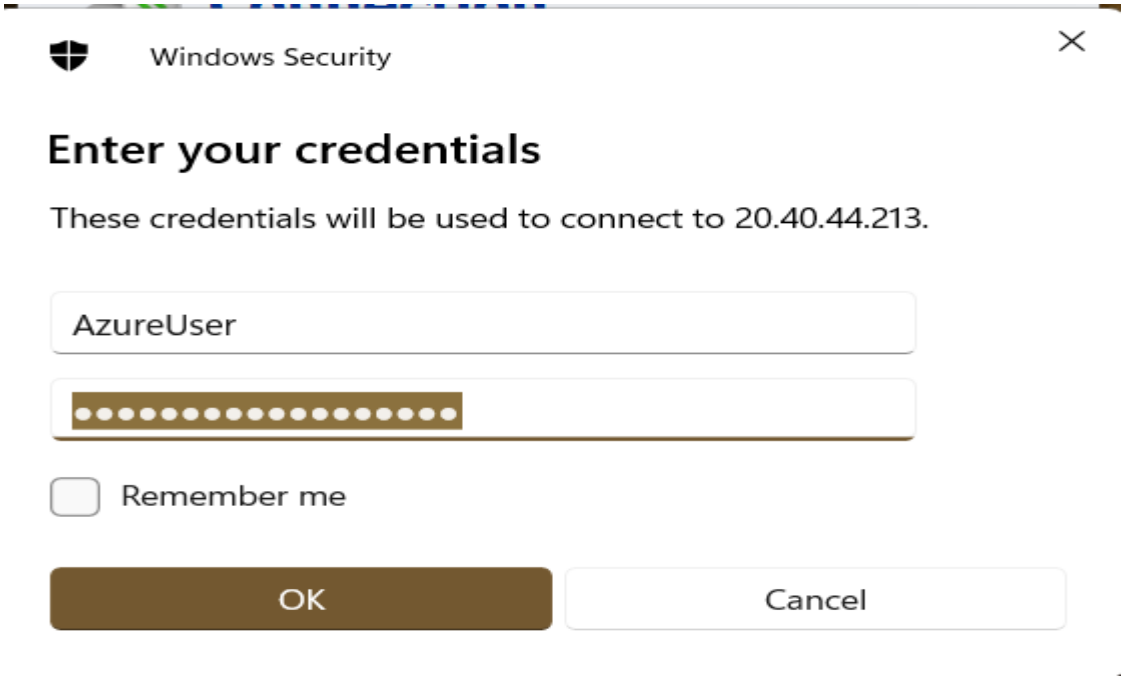




Step-5: Firstly, copy the public IP Address of that created virtual machine.

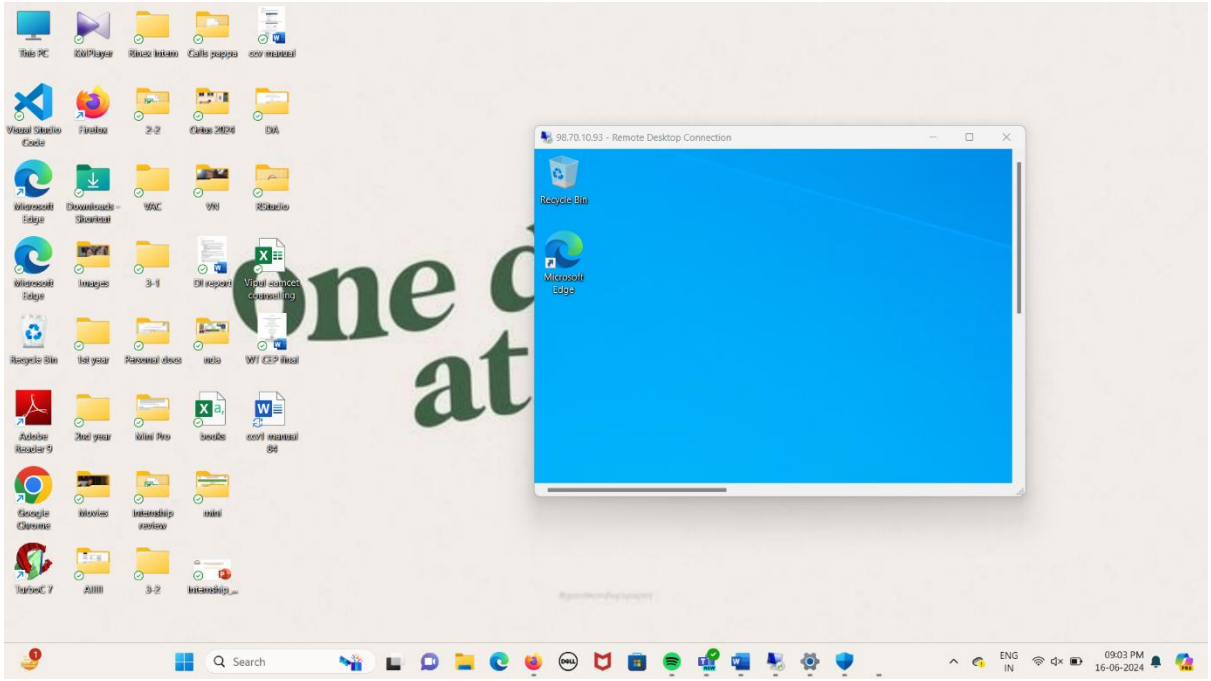


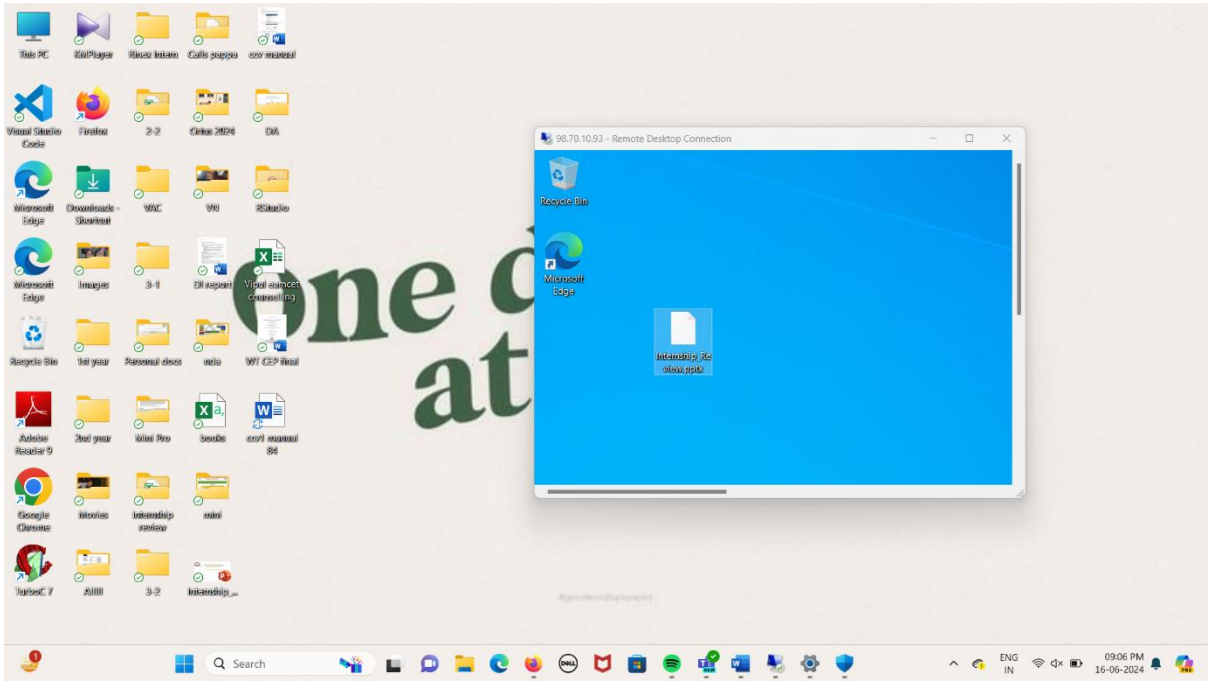
Step-6: By using that copied IP Address open the window virtual machine through remote desktop connection.



Step-7: Minimize the Remote desktop and copy file from desktop.

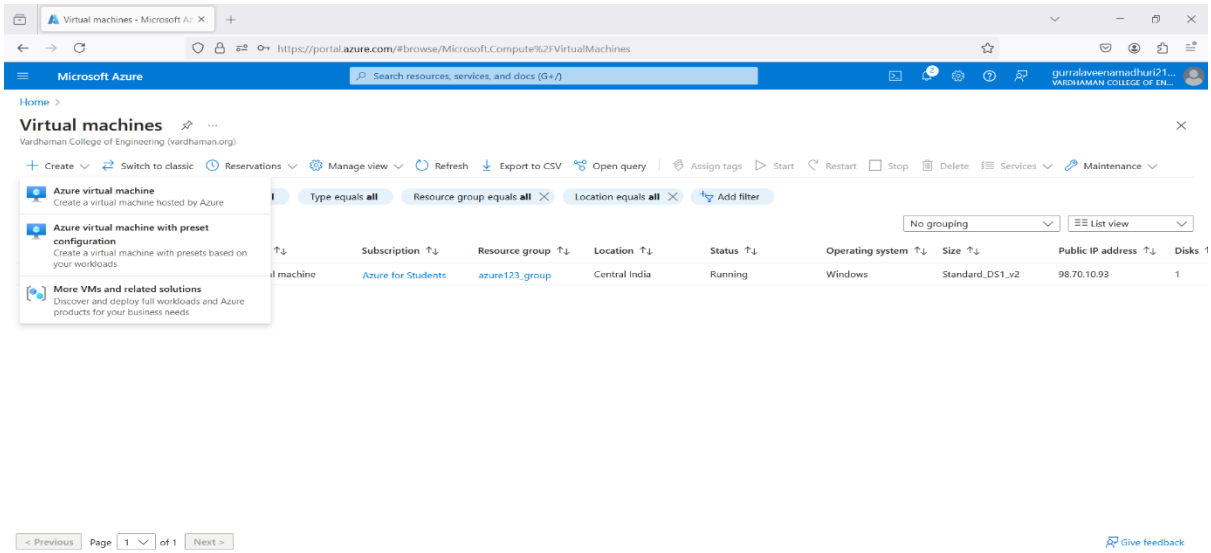
Right click in remote desktop and click on paste.





12Q) How to attach and detach data disks to Windows server in azure data center

Steps:-1) Create a Virtual name with VM name as "UbuntU" with username &password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Virtual machines
Vardhaman College of Engineering (vardhaman.org)
Create
Switch to classic
Reservations
Manage view
Refresh
Export to CSV
Open query
Assign tags
Start
Restart
Stop
Delete
Services
Maintenance
Azure virtual machine
Create a virtual machine hosted by Azure
Azure virtual machine with preset configuration
Create a virtual machine with presets based on your workloads
More VMs and related solutions
Discover and deploy full workloads and Azure products for your business needs
Type equals all
Resource group equals all
Location equals all
Add filter
No grouping
List view
Subscription
Resource group
Location
Status
Operating system
Size
Public IP address
Azure for Students
azure123_group
Central India
Running
Windows
Standard_DS1_v2
98.70.10.93
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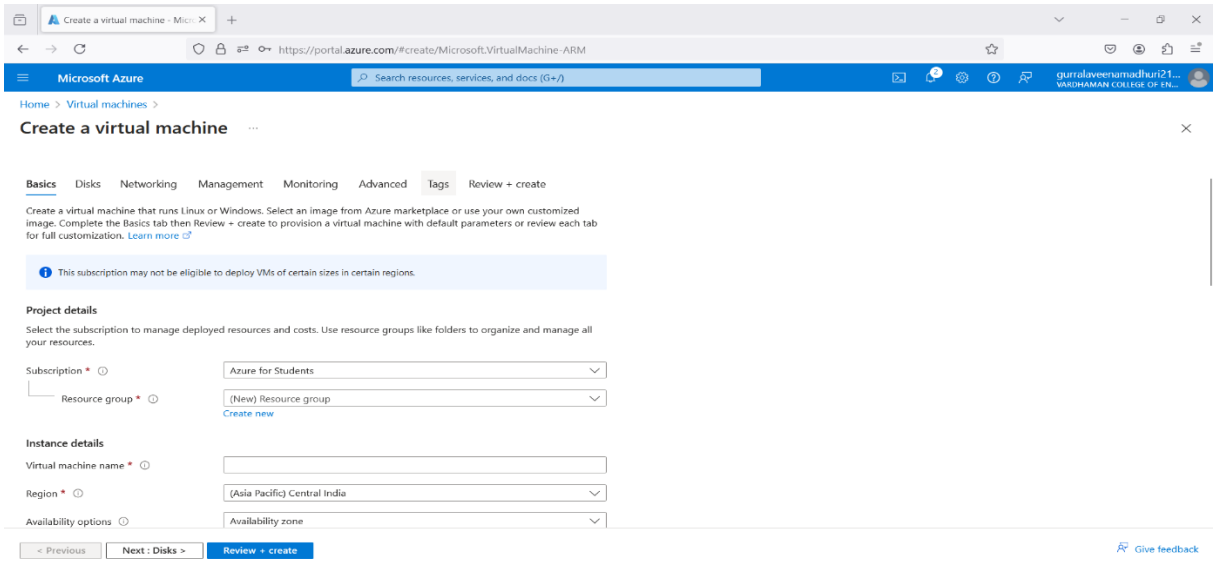
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Management
Monitoring
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Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
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(New) Resource group
Create new
Instance details
Virtual machine name *
Region *
(Asia Pacific) Central India
Availability options
Availability zone
< Previous
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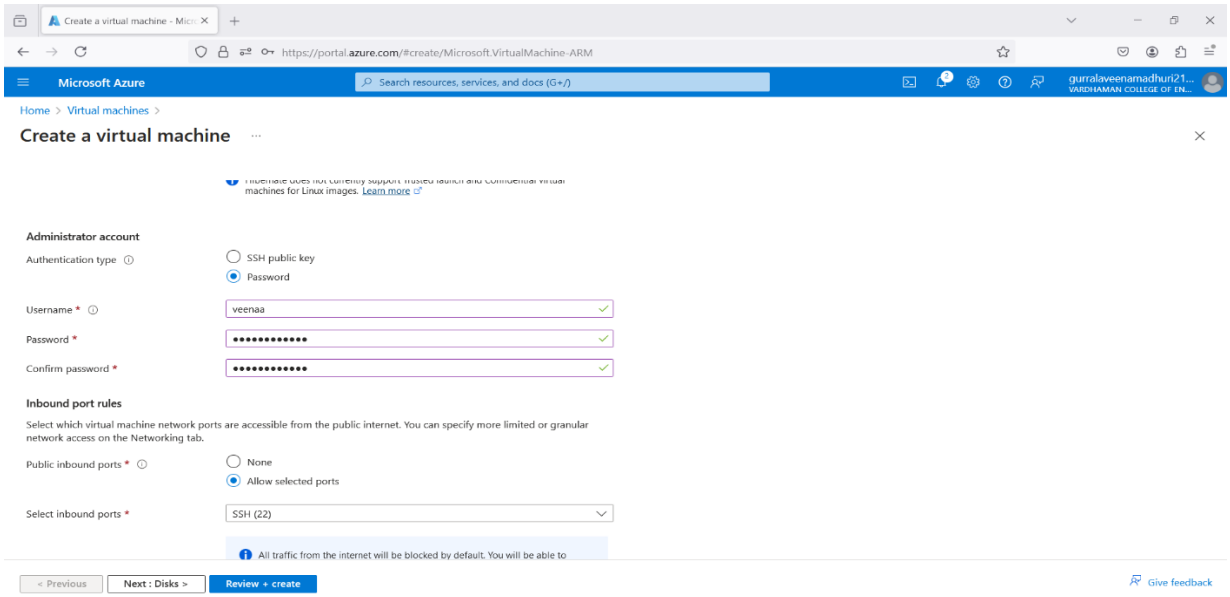
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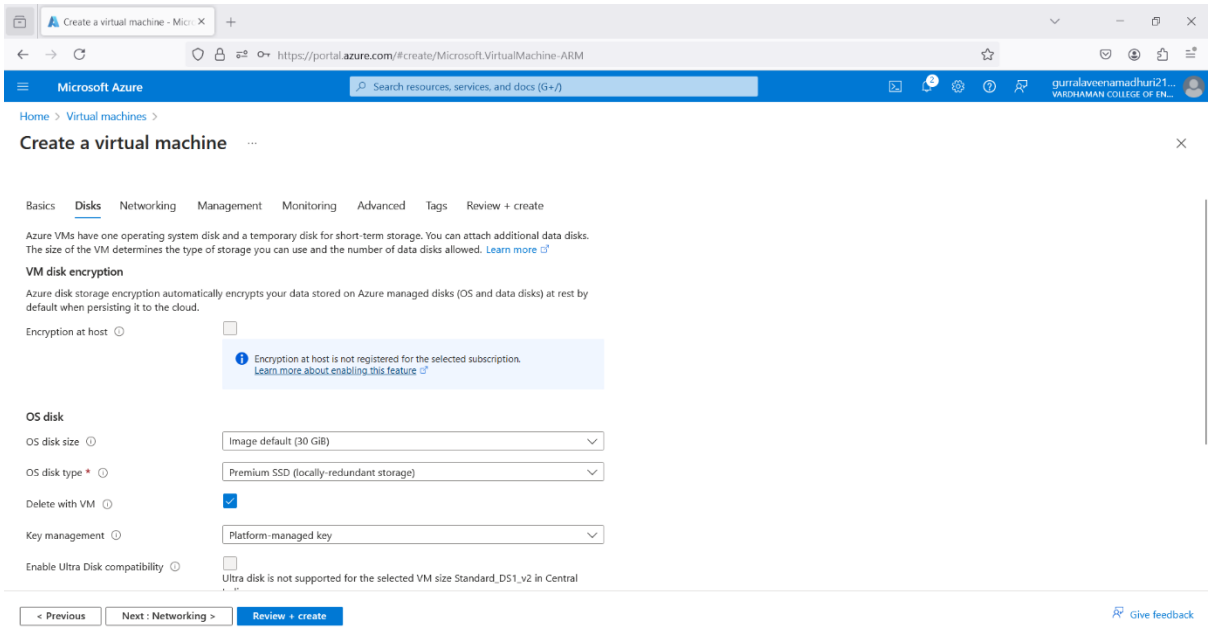
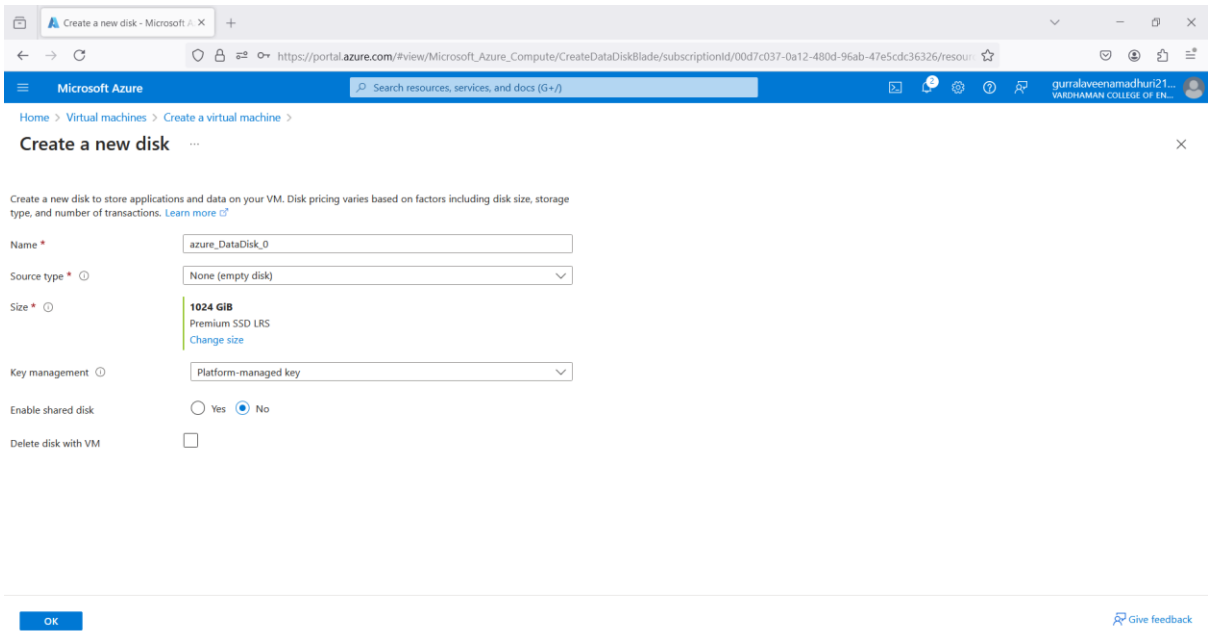
machines for Linux images. Learn more
Administrator account
Authentication type
SSH public key
Password
Username *
veenaa
Password *
Confirm password *
Inbound port rules
Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.
Public inbound ports *
None
Allow selected ports
Select inbound ports *
SSH (22)
All traffic from the internet will be blocked by default. You will be able to
< Previous
Next : Disks >
Review + create
Give feedback

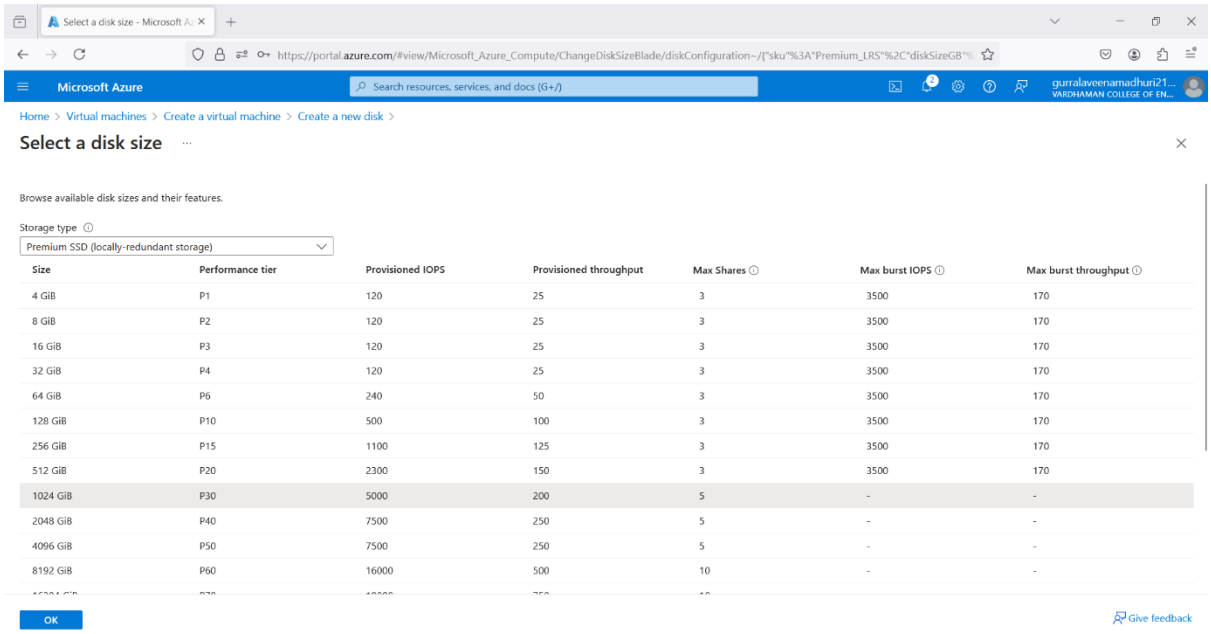
2) click on "Next:Disks>"



3) Click on "Create & attach a new disk"

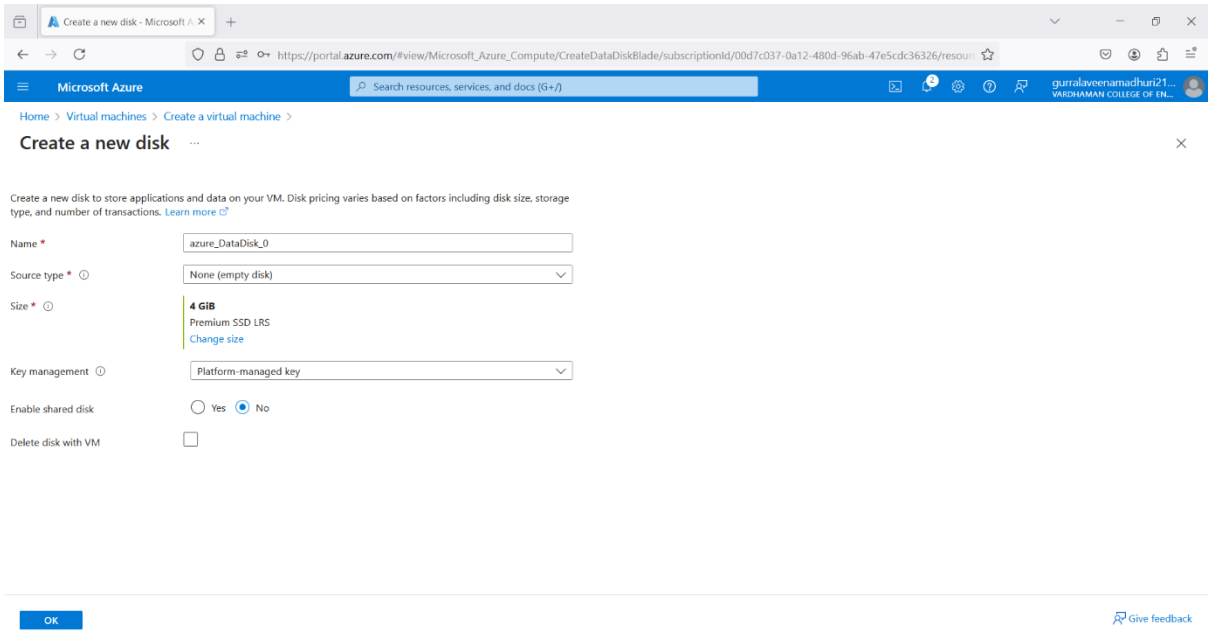


4) Click on “change size”



5) Customize data size to 4 GiB and click on OK

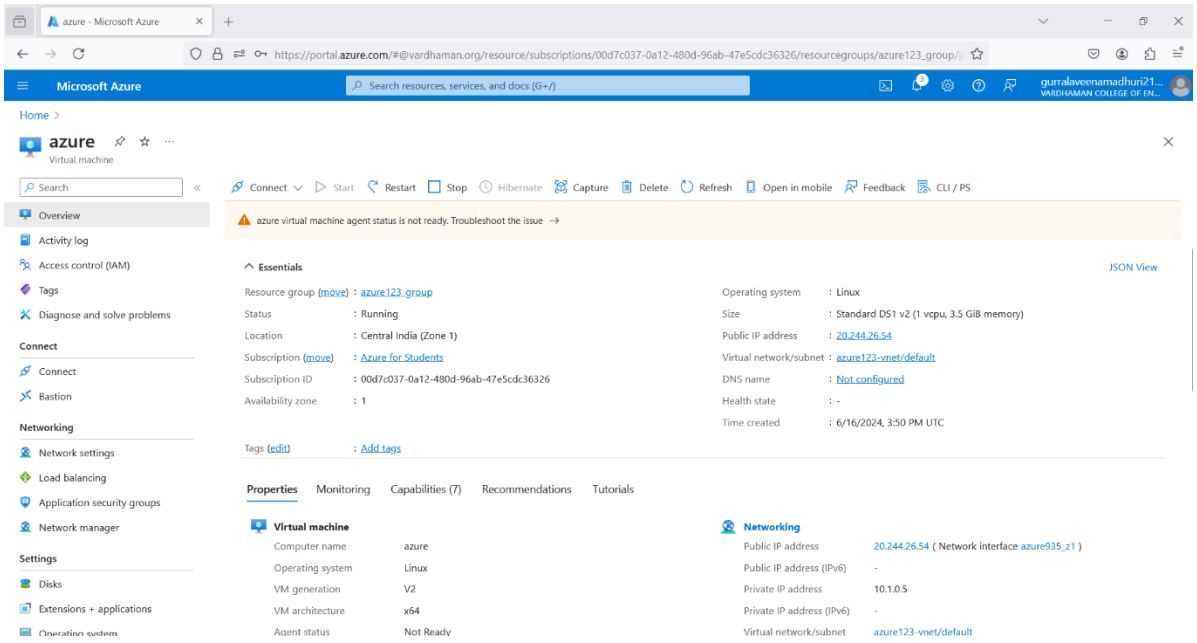
6) Enable delete with VM and click on OK



7) Click on "Review+create" & click on create

8) Click on "Go to resource group"

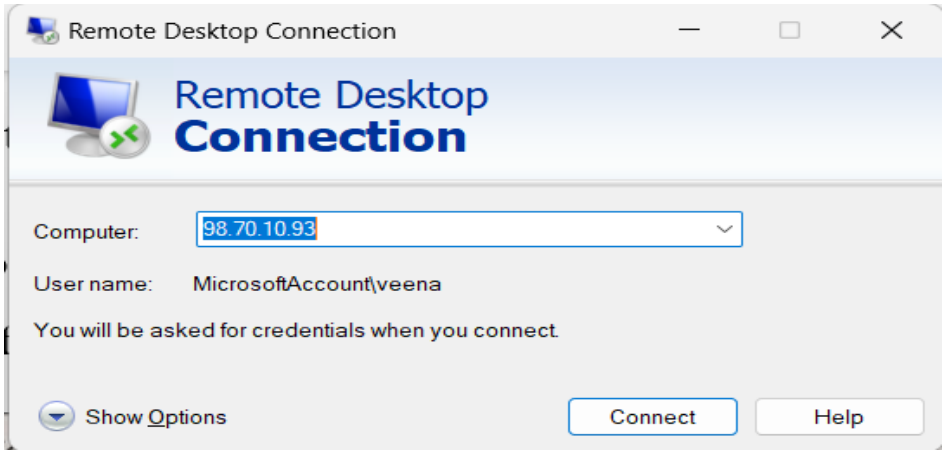
9) Copy public IP Address



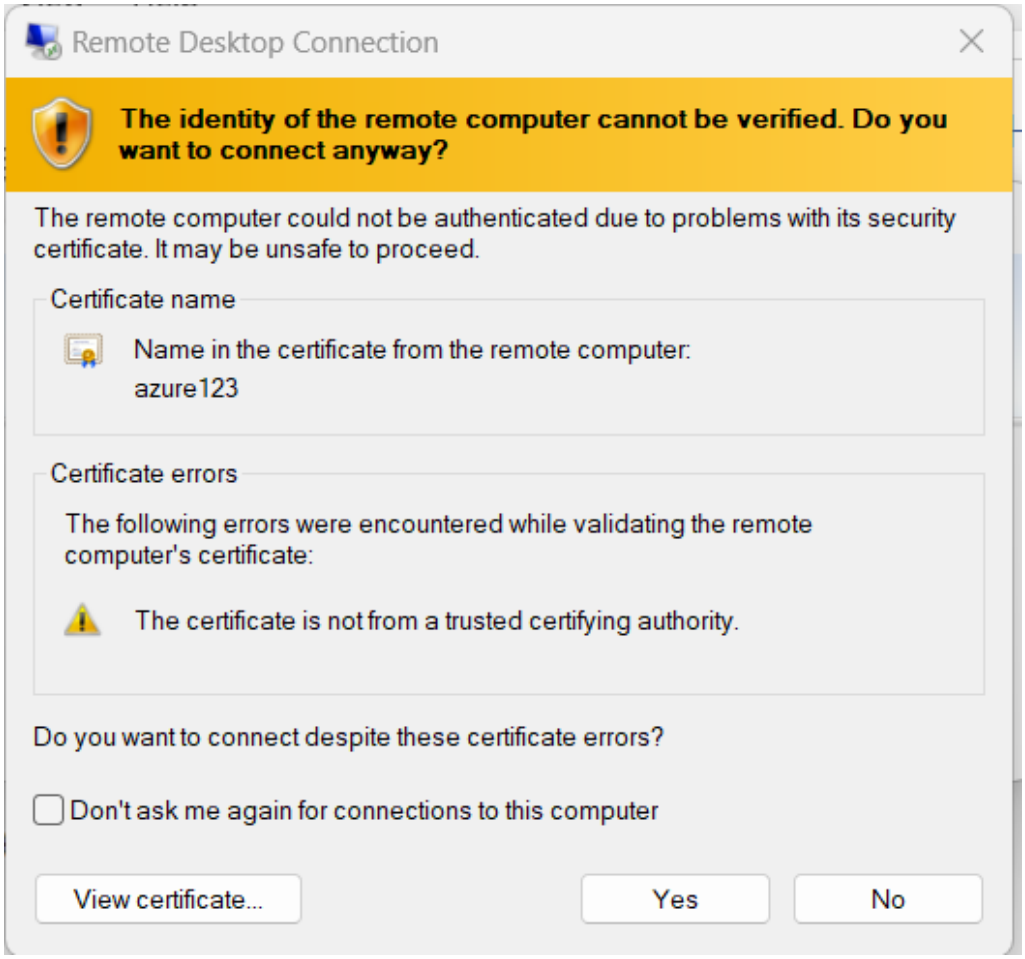
10) Open Remote Desktop Connection in your windows/system and paste the public IP Address

11) Click on “More choices”

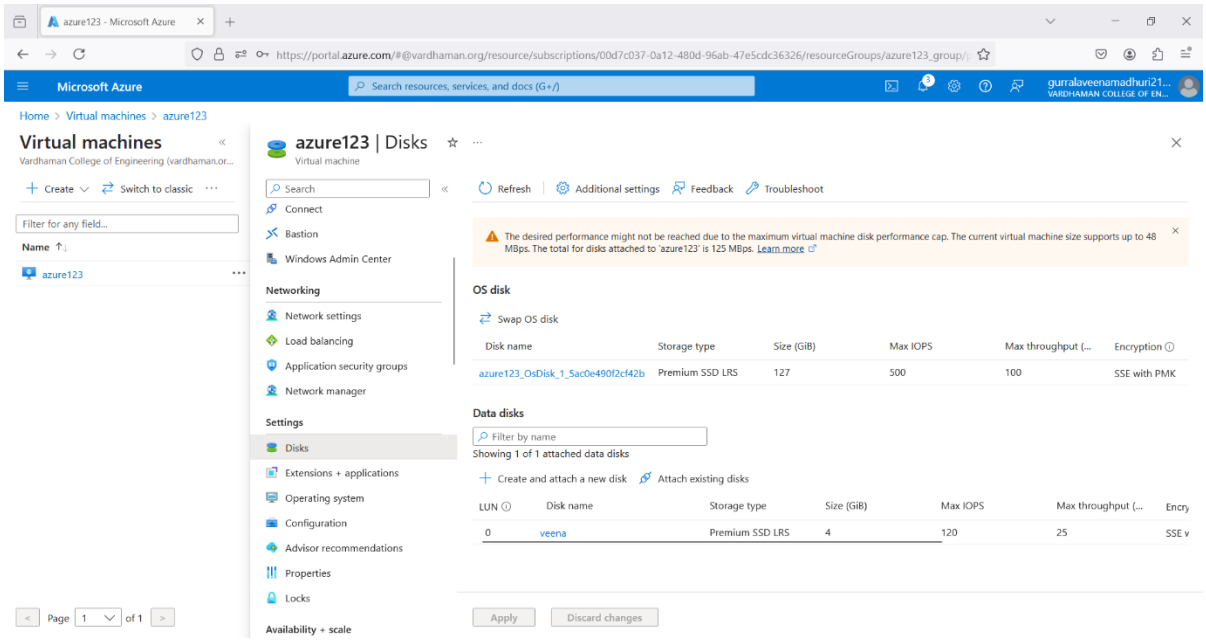
12) Click on “Use a different account”, enter the credentials and click on OK



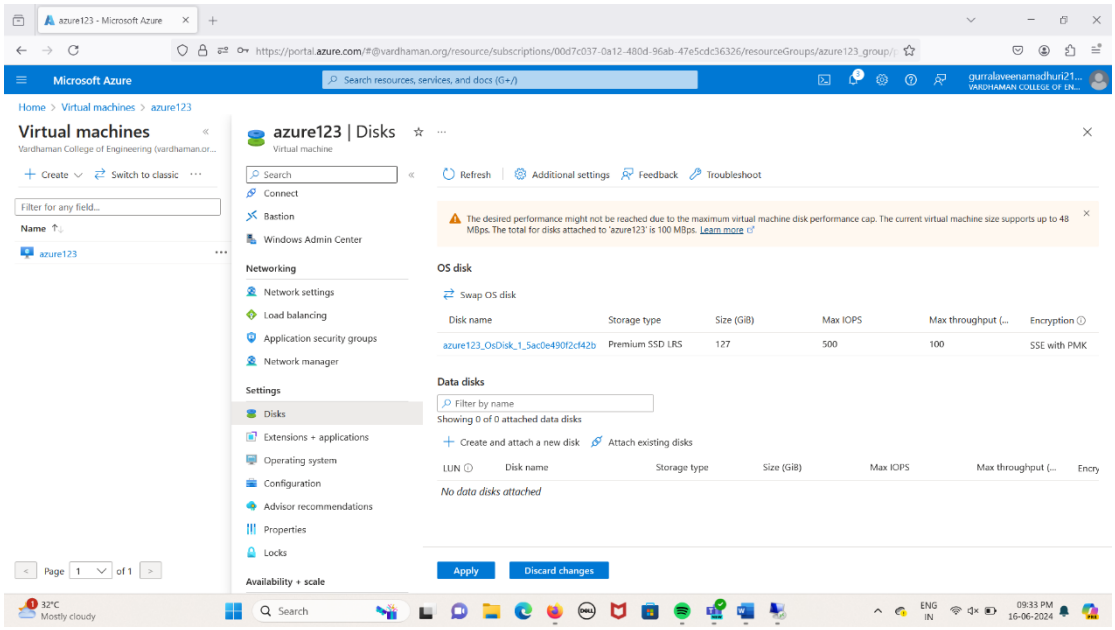
13) Click on yes and now the data disks are attached to the windows server



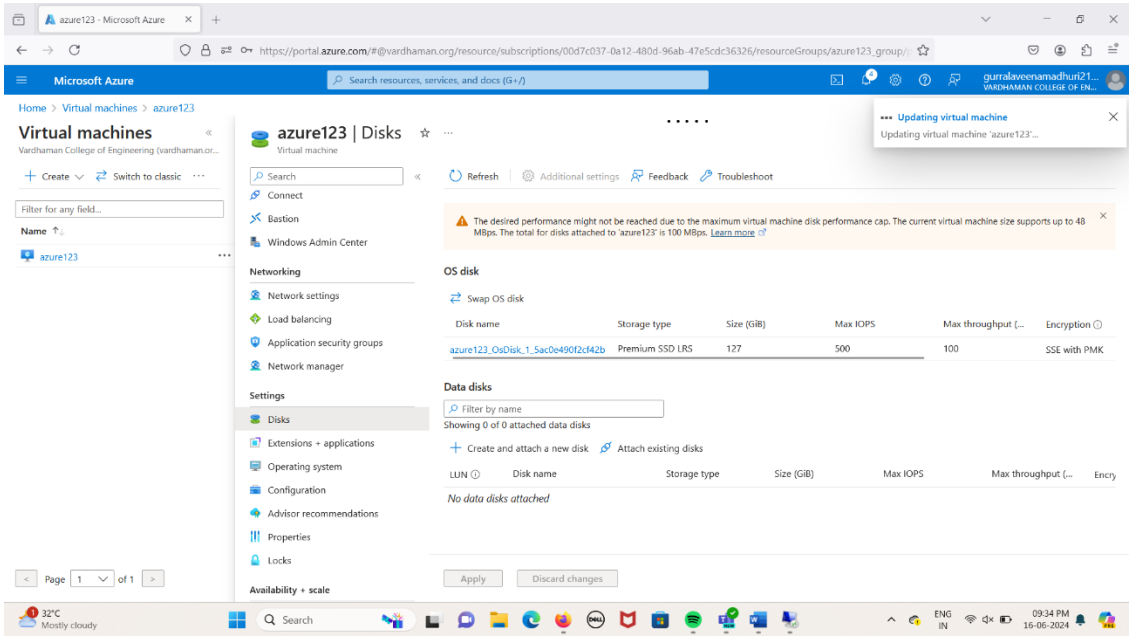
14) Click on “Disks” in your VM and you can see the attached data disks to the windows server



15) Detach the data disks from the windows server by clicking on the detach symbol



16) Click on “Apply”

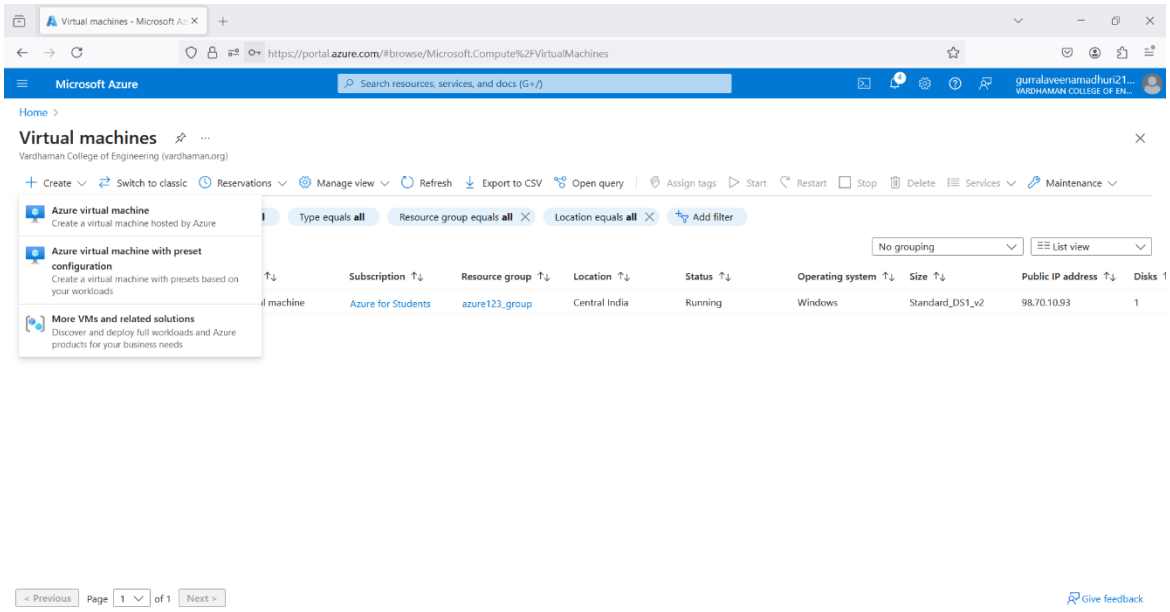


17) Now the data disks are detached from the windows server

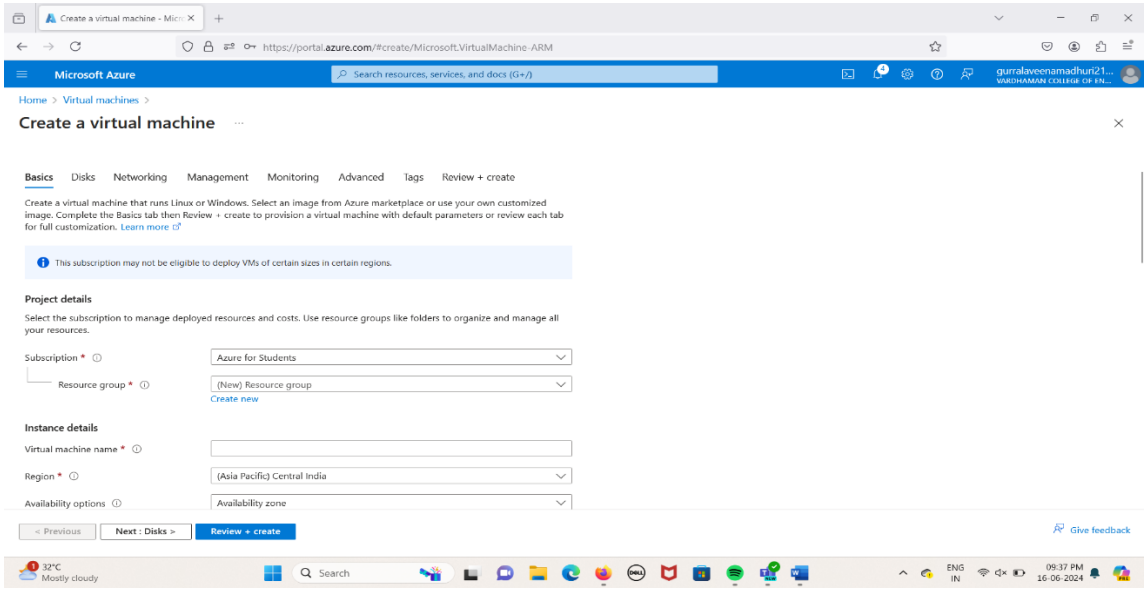
13Q) How to add data disks to linux server in azure data center

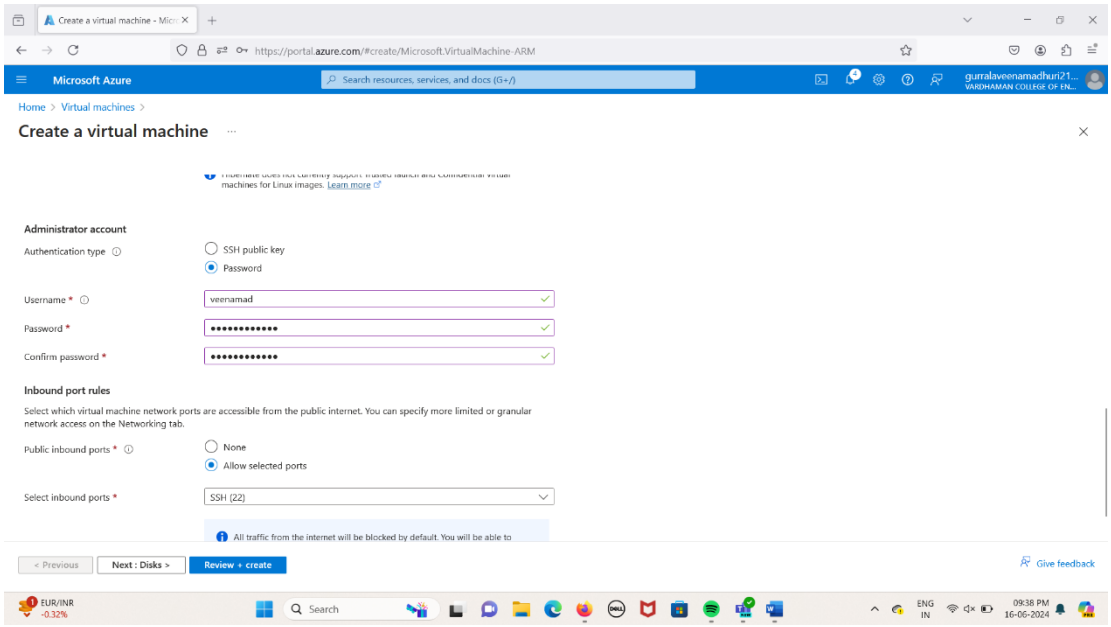
Steps:-

Step 1 : Create a Virtual Machine with username &password.



Step 2 : click on "Next:Disks>"





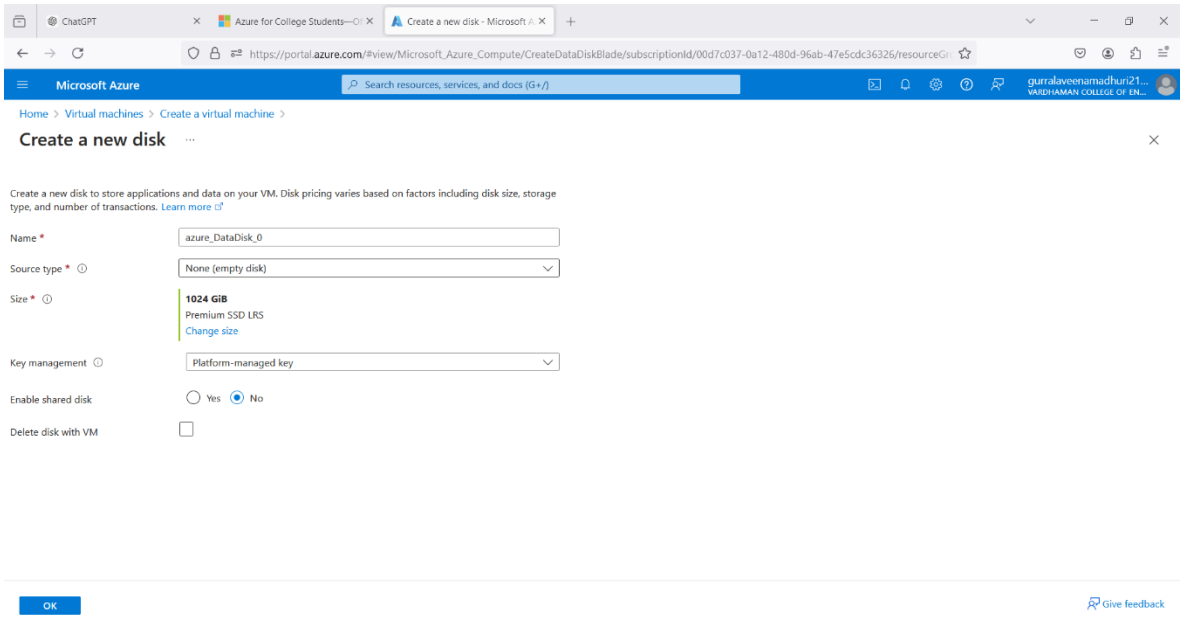
Step 3 : Select

OS disk size -------30GB

OS disk type ------Premium SSD(LRS)

enable "Delete with VM"

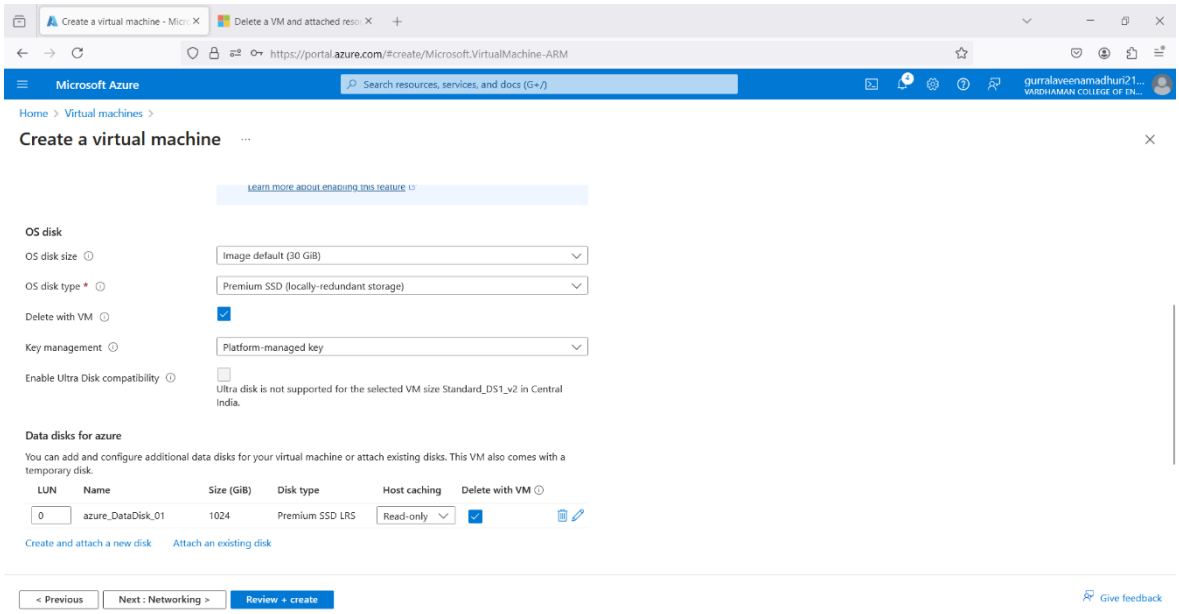
Step 4 : Click on "Create & attach a new disk"

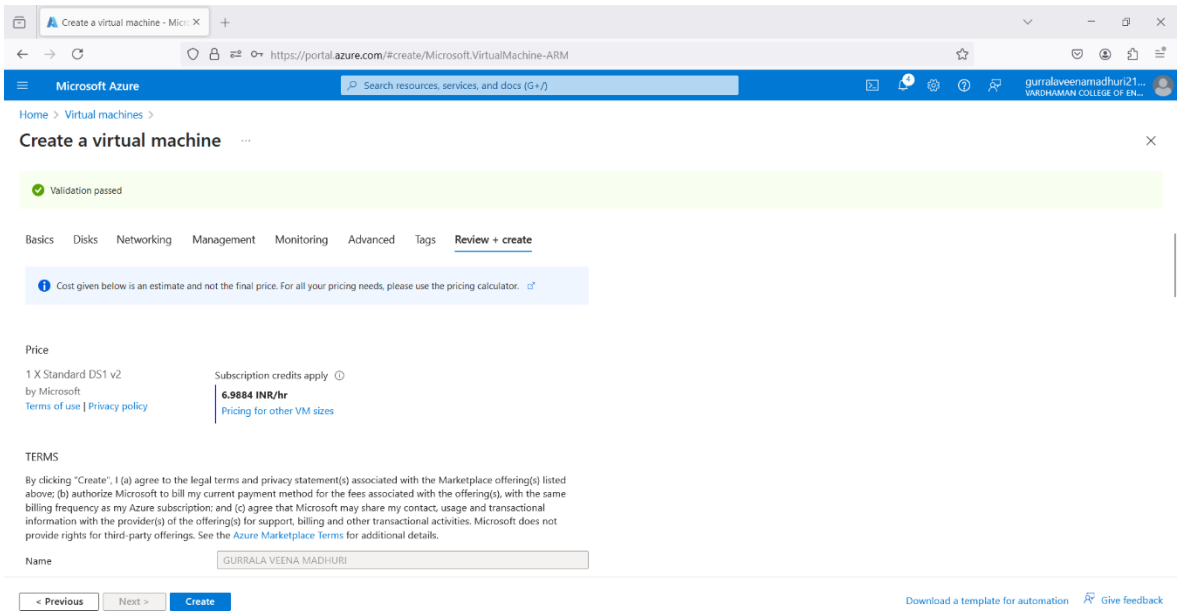


Step 5 : Select Source type -------None (empty disk), Size -------1024GB, Key manager ------ - Platform managed key, Enable shared disk -------NO and finally click on OK

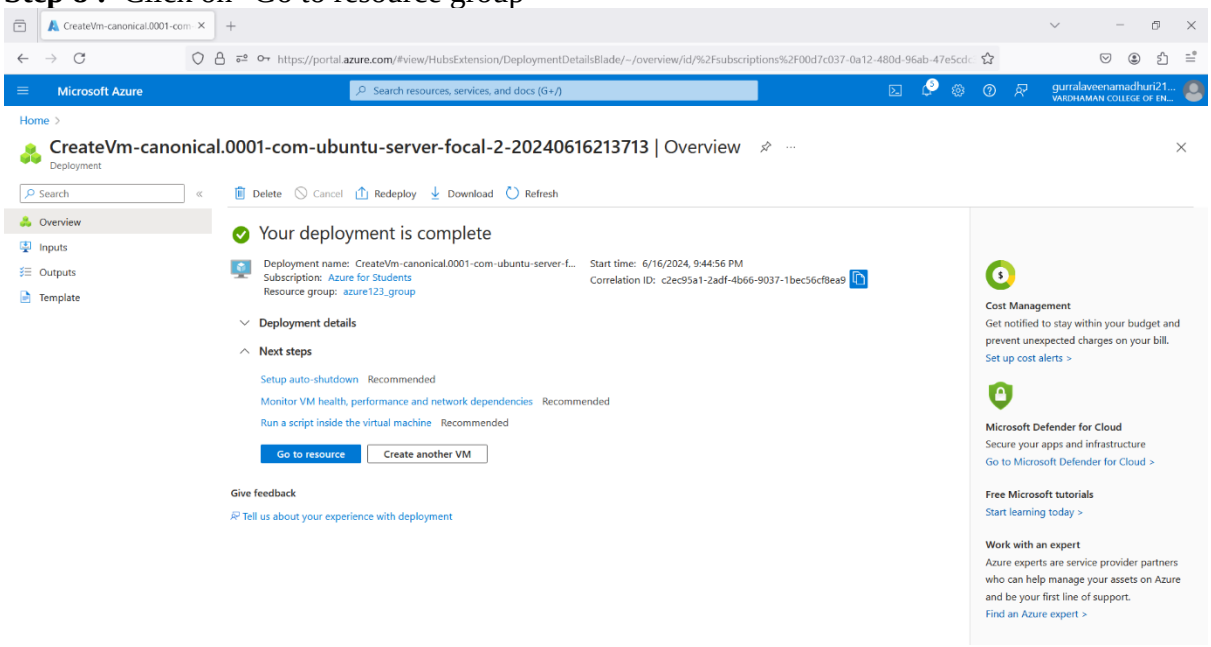
Step 6 : Select Storage type -------Premium SSD(LRS), Custom disk size (GB) ------5 click on OK

Step 7 : Click on "Review + create" & click on create



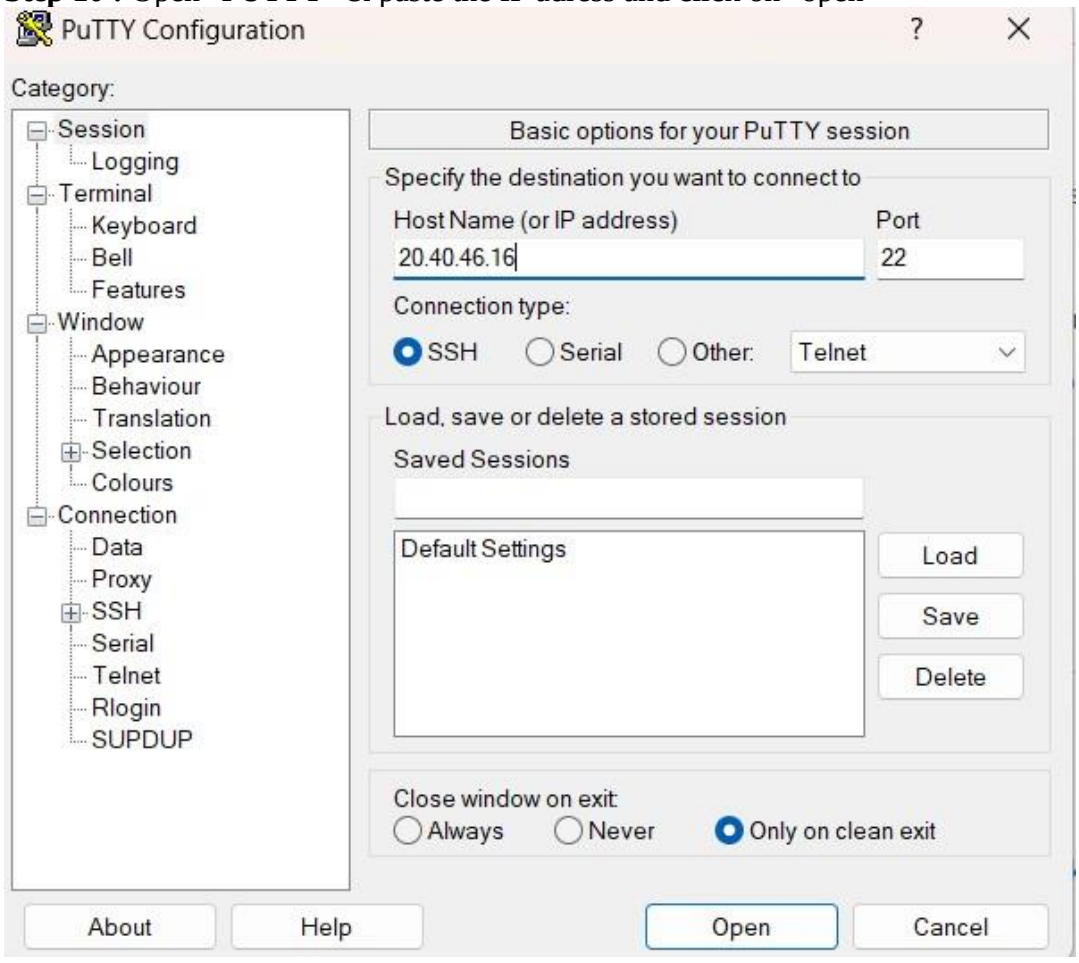


Step 8 : Click on "Go to resource group"

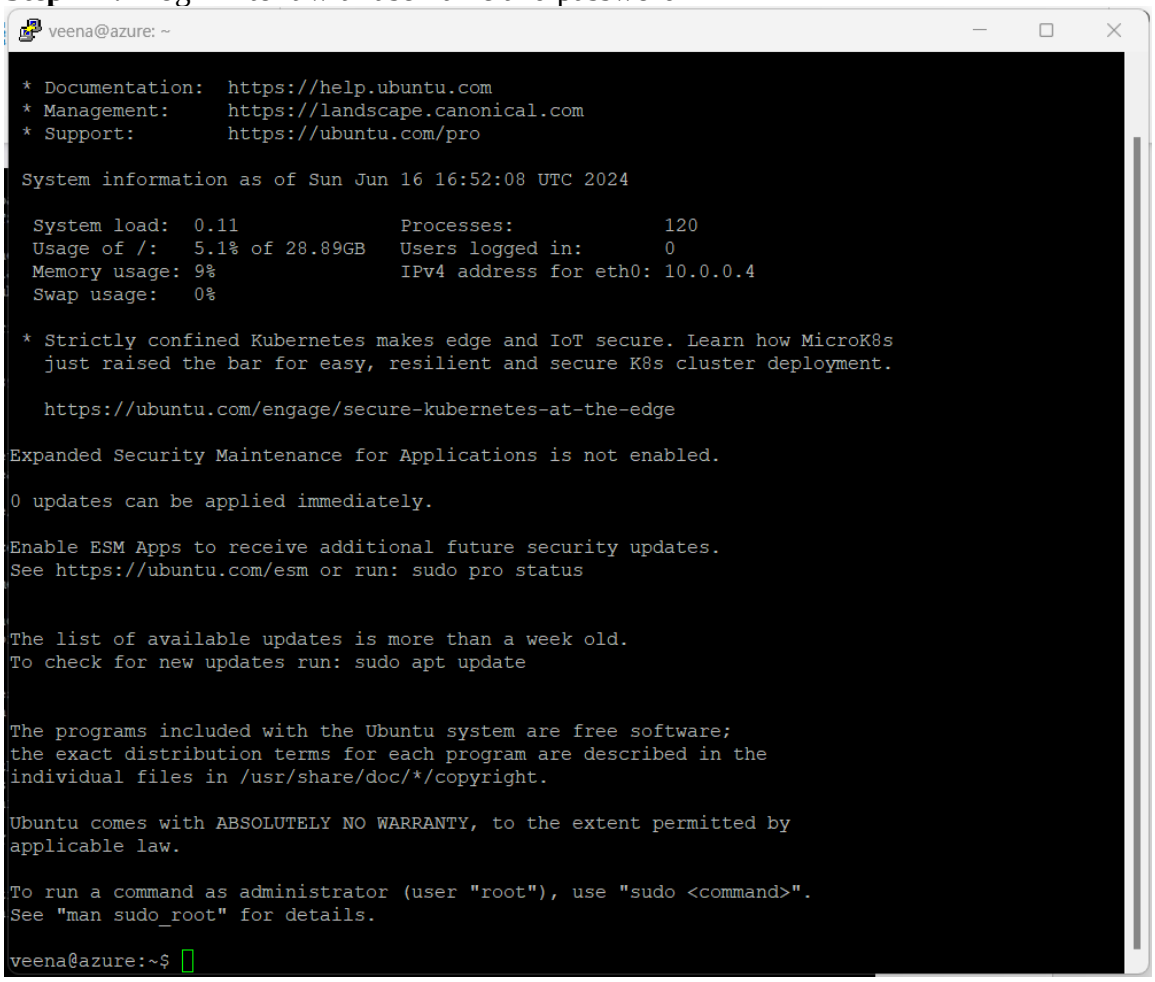


Step 9 : Copy public IP Address

Step 10 : Open "PUTTY" & paste the IP adress and click on "open"



Step 11 : Login into it with username and password



Step 12 : Type the below commands

$ df -hT

$ lsblk

$ sudo filoe -s/dev/sdc

$ sudo mkfs -t ext4 /dev/sdc

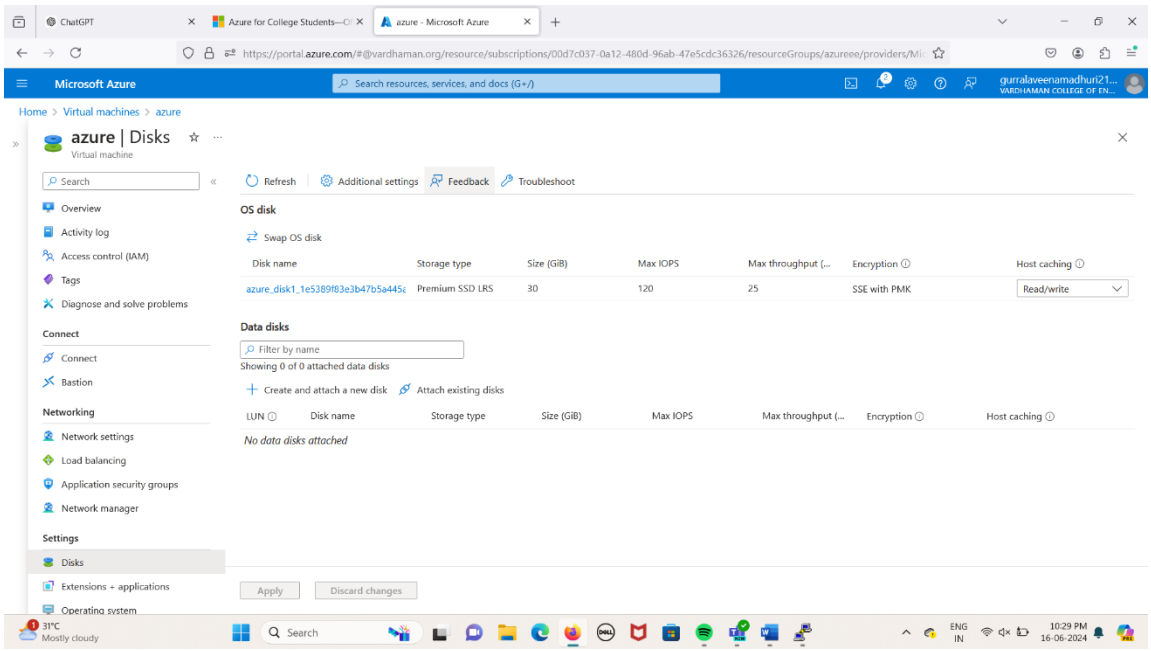
$ mkdir test

$ sudo mount /dev/sdc/ test

$ cd test

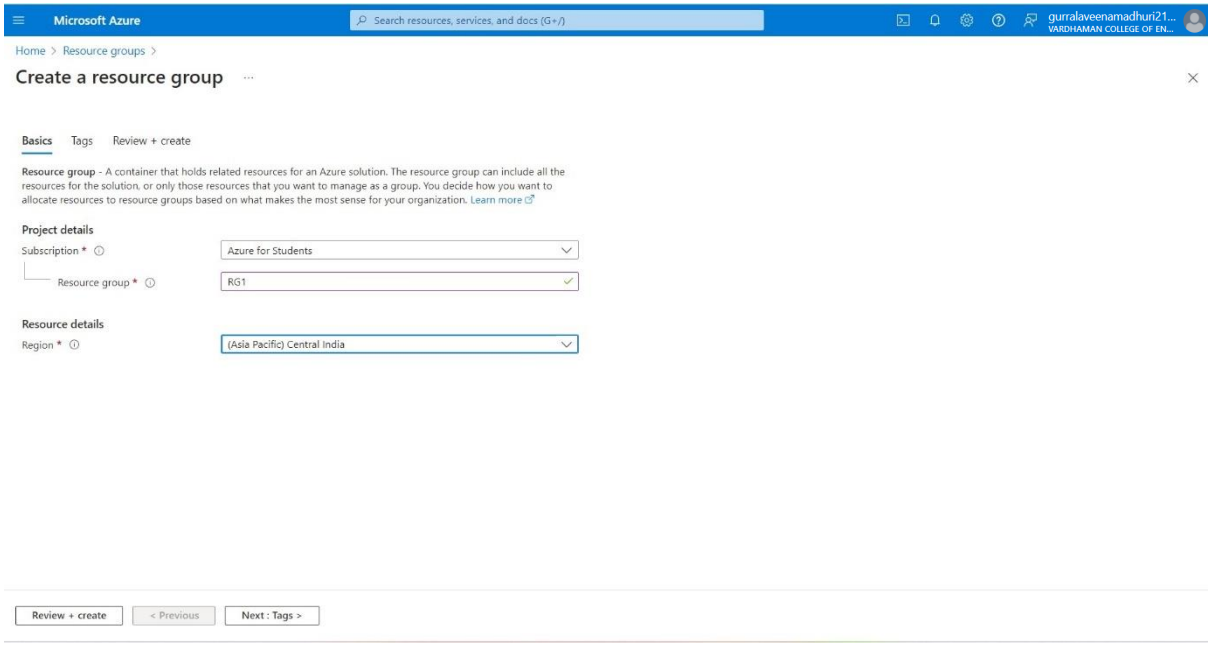
```
veena@azure: ~
tmpfs           tmpfs      1.7G     0  1.7G   0% /dev/shm
tmpfs           tmpfs      336M  988K  335M   1% /run
tmpfs           tmpfs      5.0M     0  5.0M   0% /run/lock
tmpfs           tmpfs      1.7G     0  1.7G   0% /sys/fs/cgroup
/dev/loop0      squashfs    64M   64M     0 100% /snap/core20/2318
/dev/loop1      squashfs    92M   92M     0 100% /snap/lxd/24061
/dev/loop2      squashfs    39M   39M     0 100% /snap/snapd/21759
/dev/sda15      vfat       105M  6.1M   99M   6% /boot/efi
/dev/sdb1       ext4       6.8G   28K  6.5G   1% /mnt
tmpfs           tmpfs      336M     0  336M   0% /run/user/1000
veena@azure:~$ lsblk
NAME    MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
loop0     7:0    0   64M  1 loop /snap/core20/2318
loop1     7:1    0 91.9M  1 loop /snap/lxd/24061
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    1T  0 disk
sr0      11:0    1  628K  0 rom
veena@azure:~$ sudo filoe -s/dev/sdc
sudo: filoe: command not found
veena@azure:~$ sudo file -s/dev/sdc
file: invalid option -- '/'
Usage: file [-bcCdEhikLlNnprsSvzZ0] [--apple] [--extension] [--mime-encoding]
            [--mime-type] [-e <testname>] [-F <separator>]  [-f <namefile>]
            [-m <magicfiles>] [-P <parameter=value>] <file> ...
       file -C [-m <magicfiles>]
       file [--help]
veena@azure:~$ sudo mount /dev/sdc/test
mount: /dev/sdc/test: can't find in /etc/fstab.
veena@azure:~$ cd test
-bash: cd: test: No such file or directory
veena@azure:~$ cd test
-bash: cd: test: No such file or directory
veena@azure:~$ sudo mkfs -t ext4 /dev/sdc
mke2fs 1.45.5 (07-Jan-2020)
```

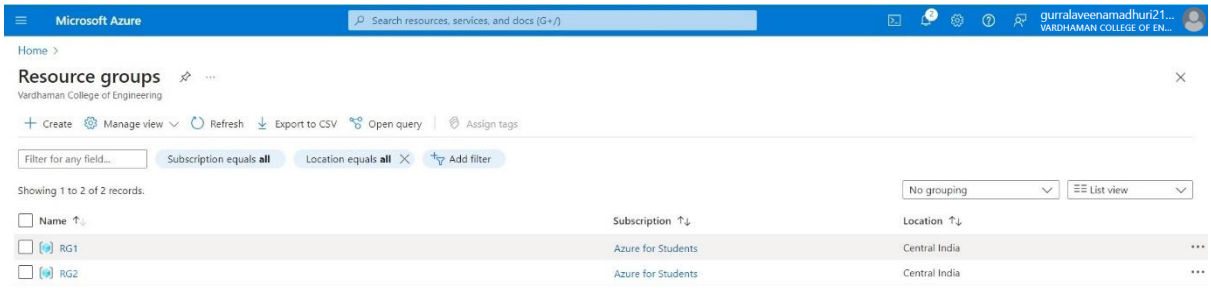
Step 13 : Click on Apply

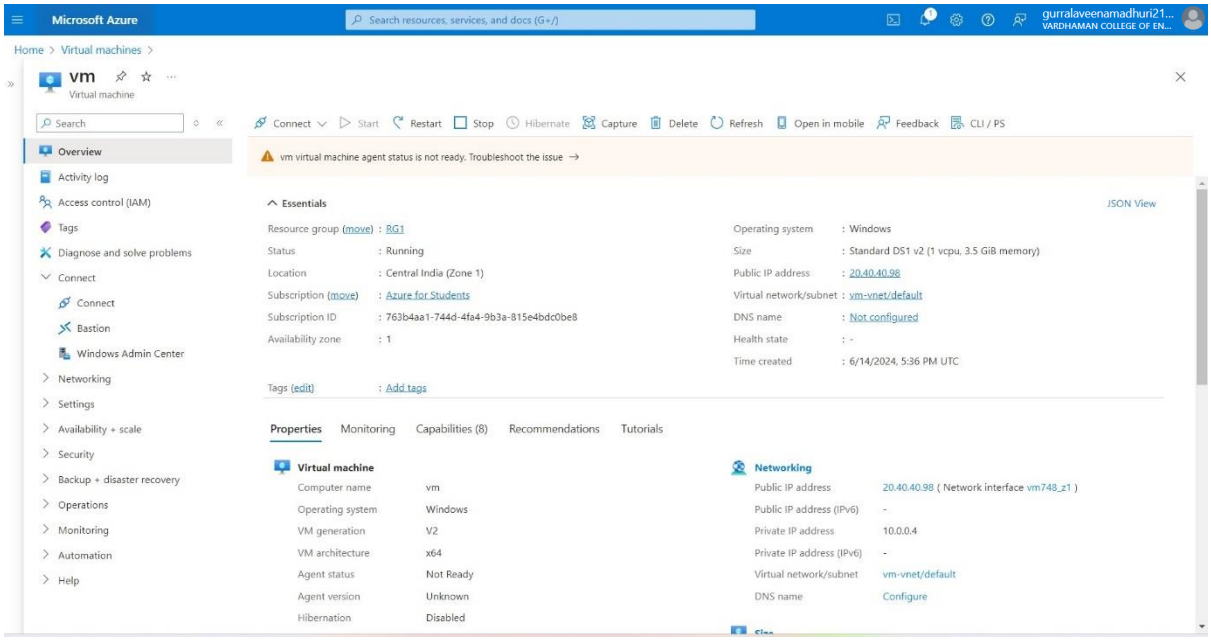


Q14) Move Server Files from one Resource Group to another.

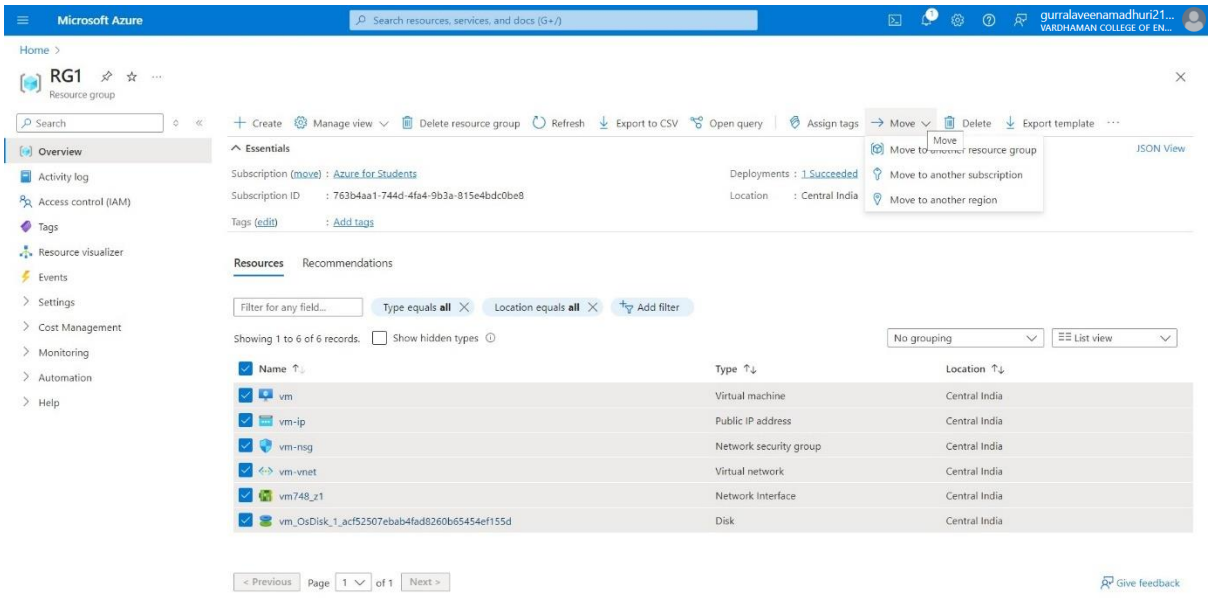
Step-1: Create ResourceGroup1, ResourceGroup2 and a Virtual machine on ResourceGroup1.



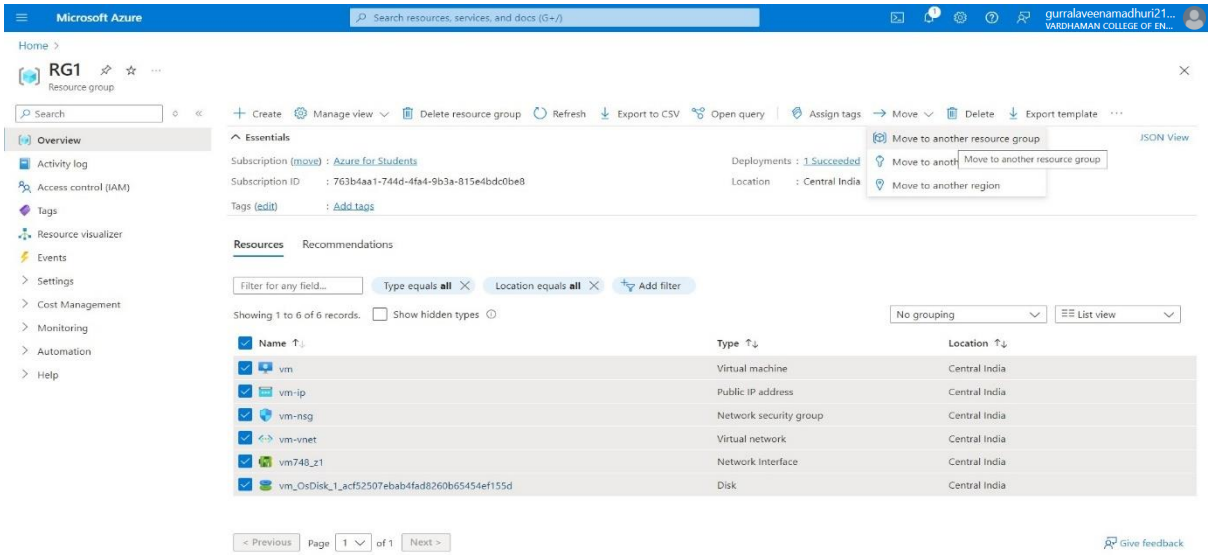




Step-2: Select all the resources from ResourceGroup1 and then click on Move->Move to another resource group.



Step-3: Select the target Resource Group as ResourceGroup2 and click on move.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Events
Settings
Cost Management
Monitoring
Automation
Help
Create
Manage view
Delete resource group
Refresh
Export to CSV
Open query
Assign tags
Move
Delete
Export template
Essentials
JSON View
Subscription (move) : Azure for Students
Subscription ID : 763b4aa1-744d-4fa4-9b3a-815e4bdc0be8
Tags (edit) : Add tags
Deployments : 1 Succeeded
Location : Central India
Move to another resource group
Move to another region
Resources
Recommendations
Filter for any field...
Type equals all
Location equals all
Add filter
Showing 1 to 6 of 6 records.
Show hidden types
No grouping
List view
Name
Type
Location
vm
Virtual machine
Central India
vm-ip
Public IP address
Central India
vm-nsg
Network security group
Central India
vm-vnet
Virtual network
Central India
vm748_z1
Network Interface
Central India
vm_OsDisk_1_acf52507ebab4fad8260b65454ef155d
Disk
Central India
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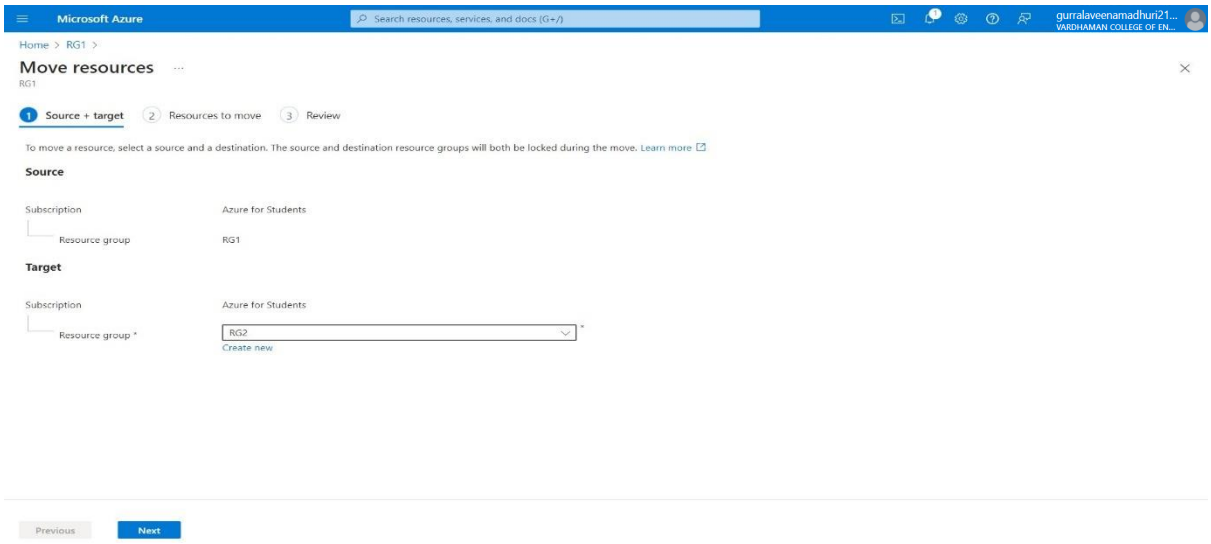
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2 Resources to move
3 Review
To move a resource, select a source and a destination. The source and destination resource groups will both be locked during the move. Learn more
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RG1
Target
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Azure for Students
Resource group *
RG2
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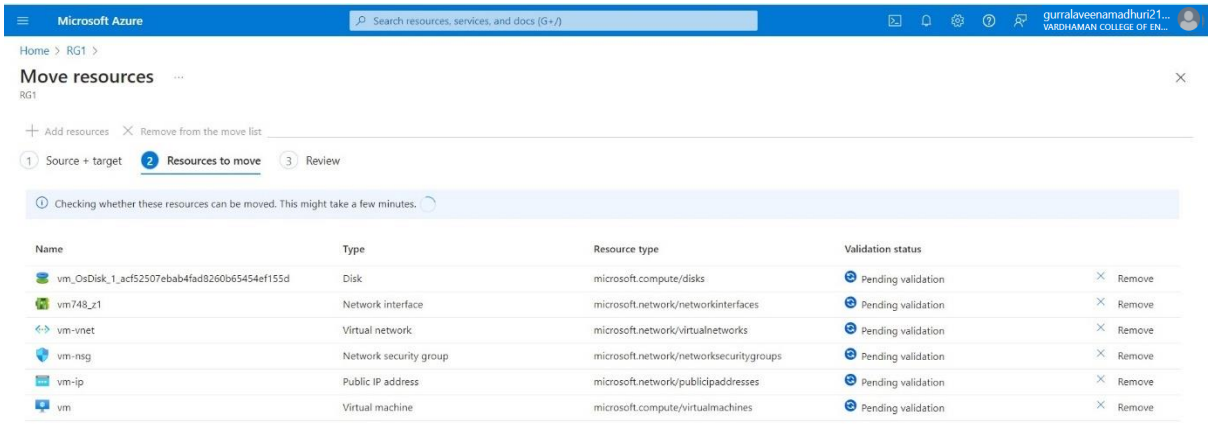
Next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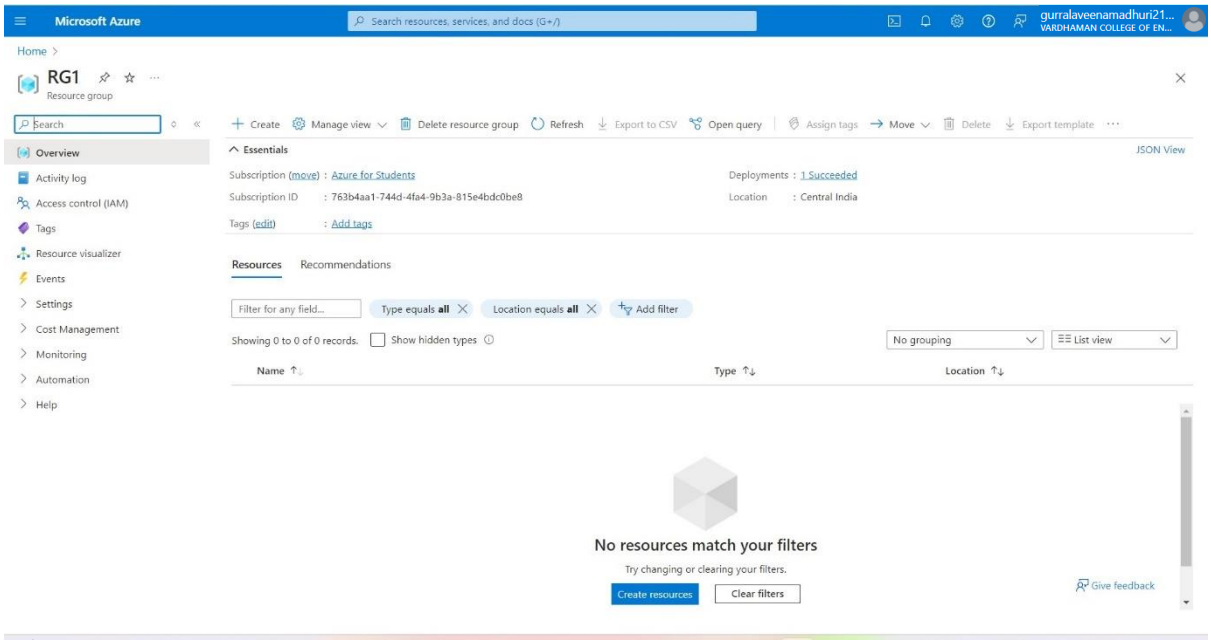
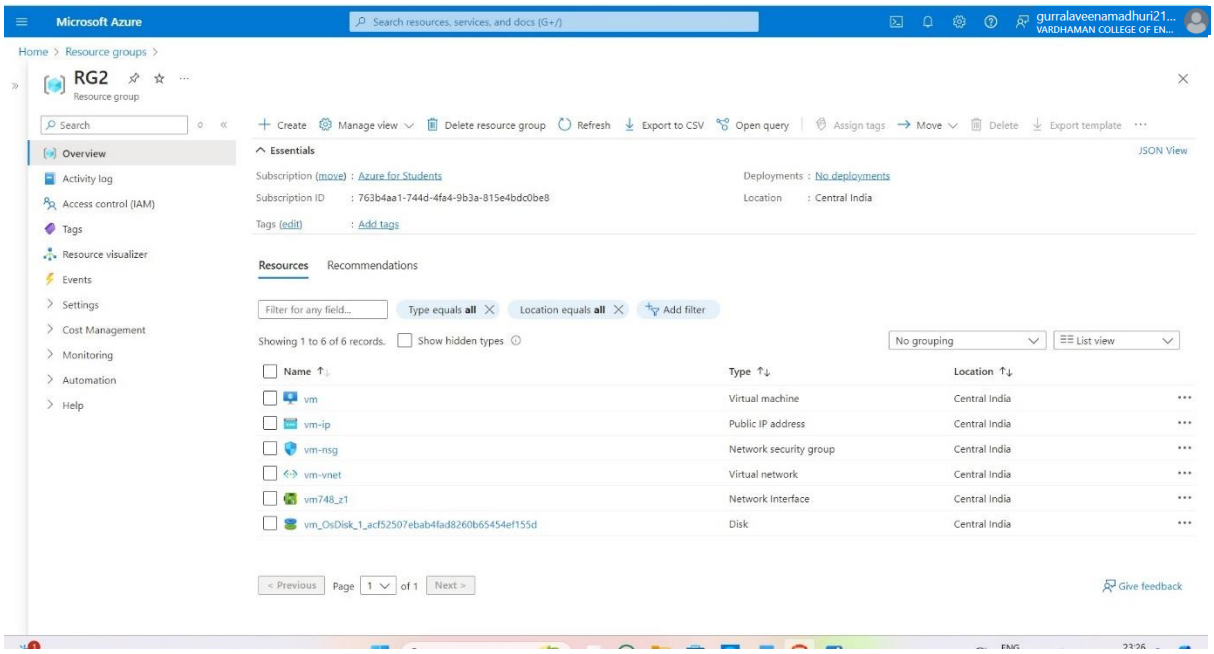
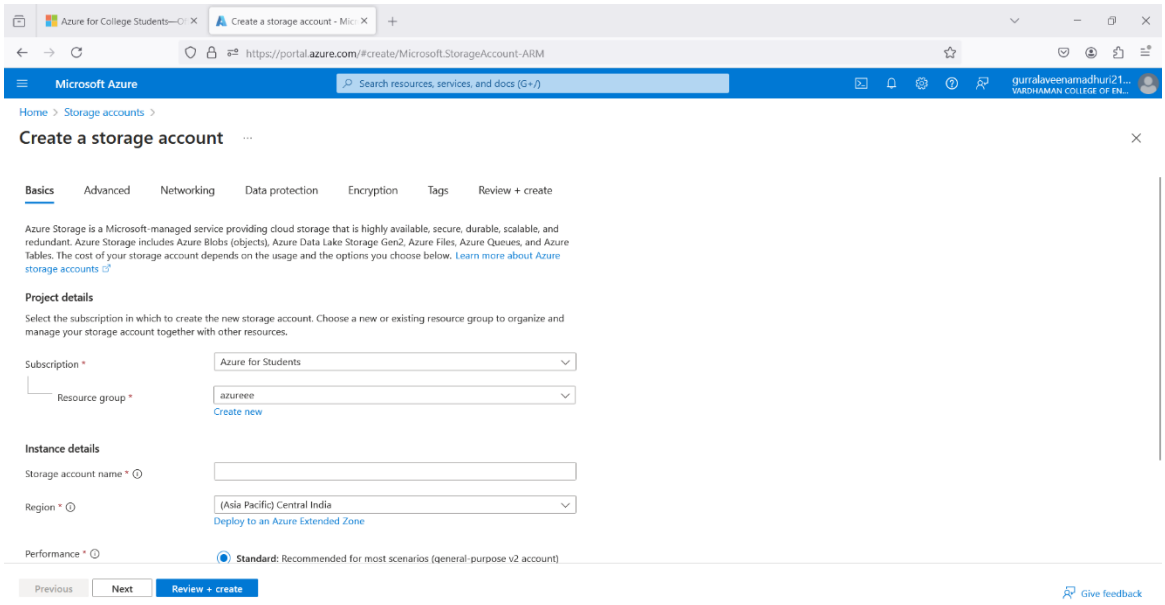
Home > RG1 >
Move resources
RG1
Add resources
Remove from the move list
1 Source + target
2 Resources to move
3 Review
Checking whether these resources can be moved. This might take a few minutes.
Name
Type
Resource type
Validation status
vm_OsDisk_1_acf52507ebab4fad8260b65454ef155d
Disk
microsoft.compute/disks
Pending validation
Remove
vm748_z1
Network interface
microsoft.network/networkinterfaces
Pending validation
Remove
vm-vnet
Virtual network
microsoft.network/virtualnetworks
Pending validation
Remove
vm-nsg
Network security group
microsoft.network/networksecuritygroups
Pending validation
Remove
vm-ip
Public IP address
microsoft.network/publicipaddresses
Pending validation
Remove
vm
Virtual machine
microsoft.compute/virtualmachines
Pending validation
Remove



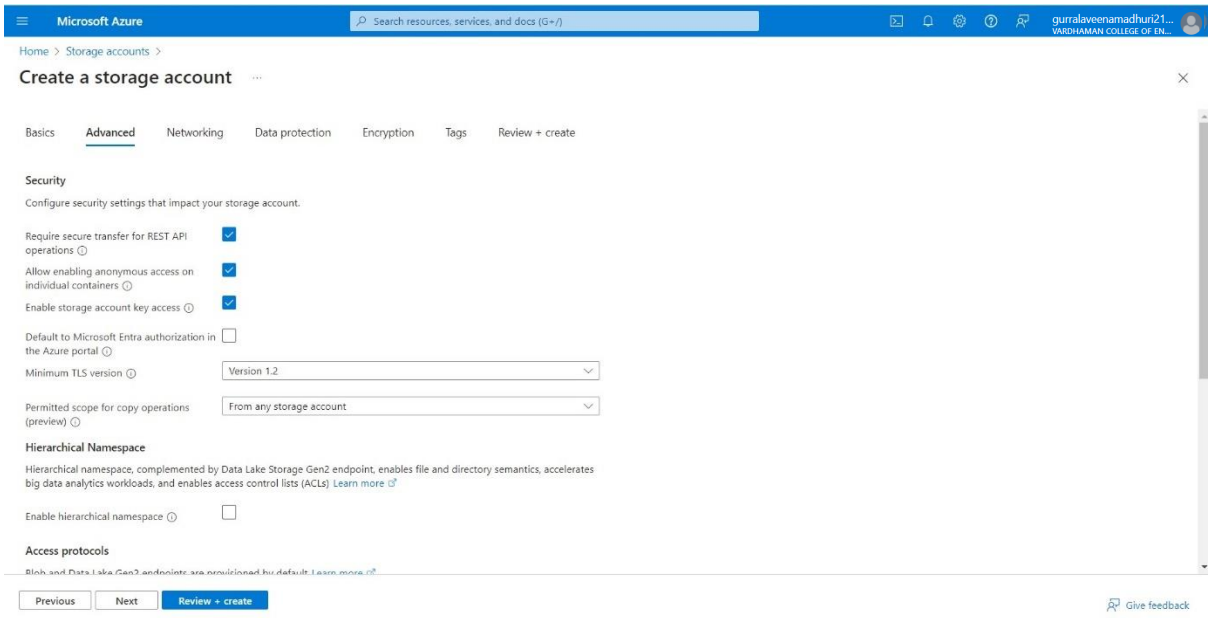


Q15) Create Azure Storage Account, Container – Upload and Delete Objects(blob) in it.

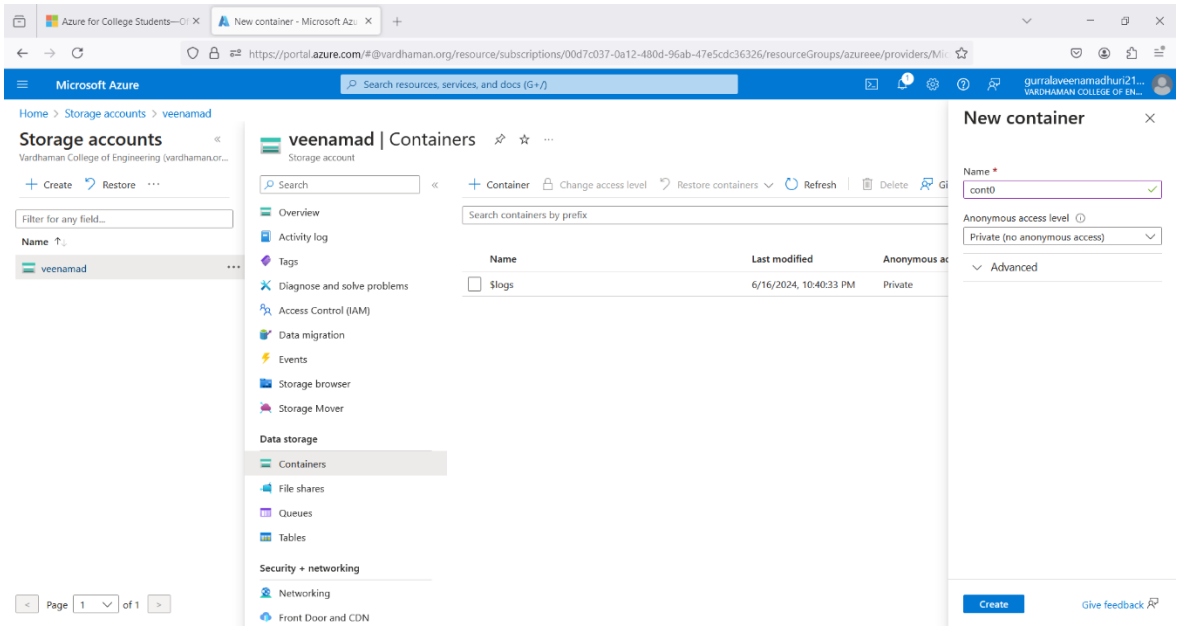
Step-1: Click On Storage Account and Create one and select redundancy as GRS/LRS.



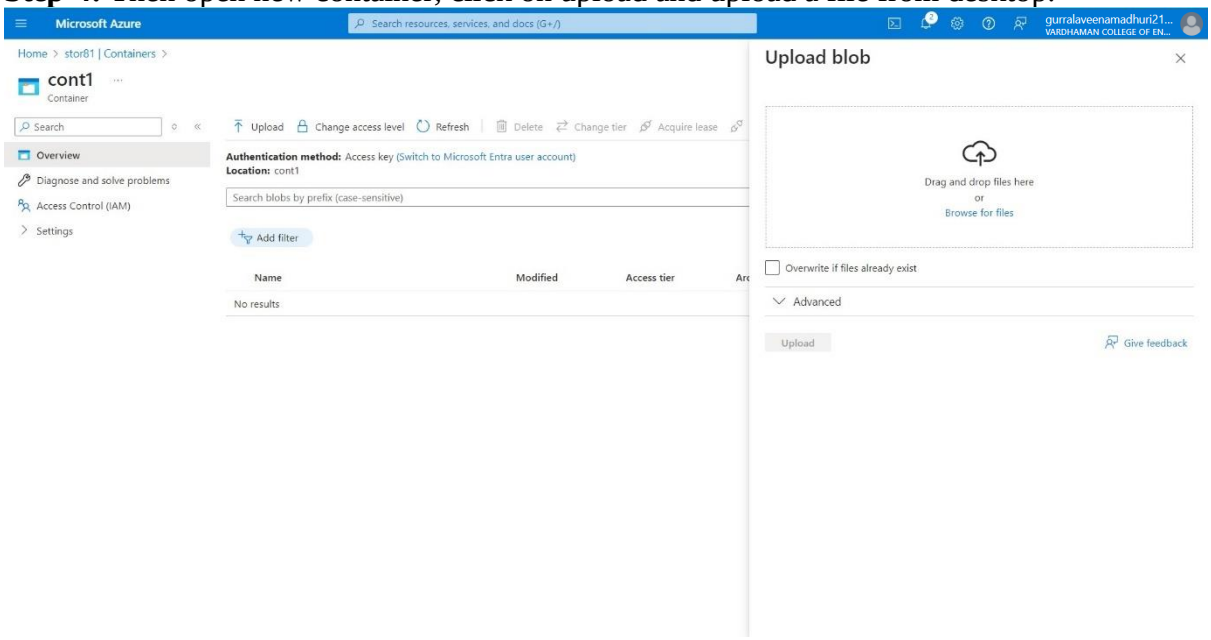
Step-2: Go to advance and Allow enabling anonymous access on individual containers.



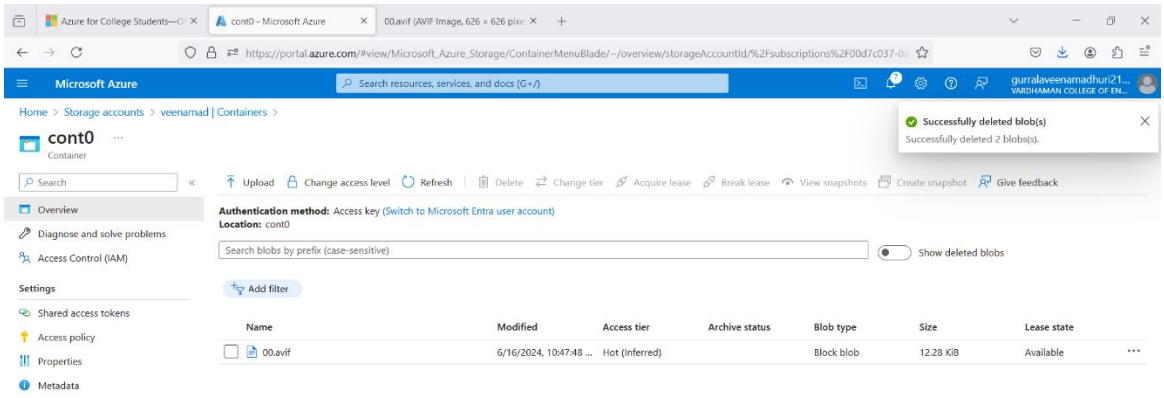
Step-3: After deployment Click on go to resource group and on Left Click on Containers and Create it with anonymous access level as blob (anonymous read access to blob only)

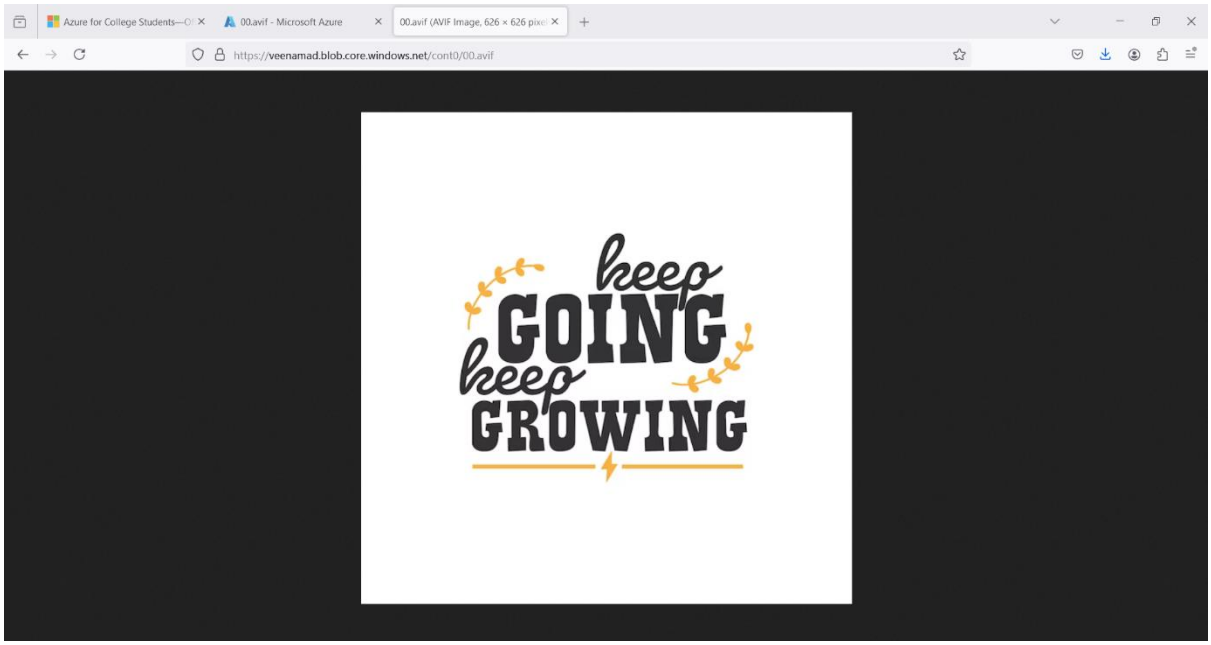


Step-4: Then open new container, click on upload and upload a file from desktop.

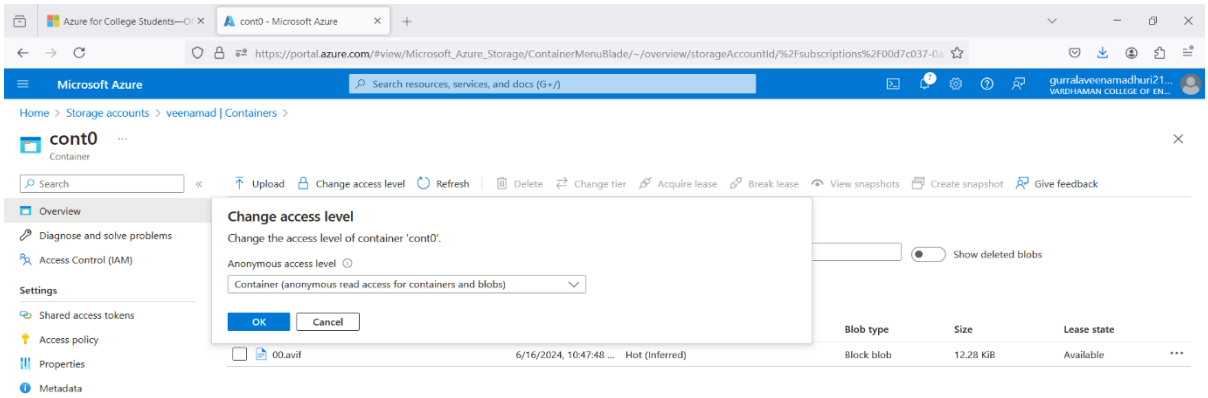


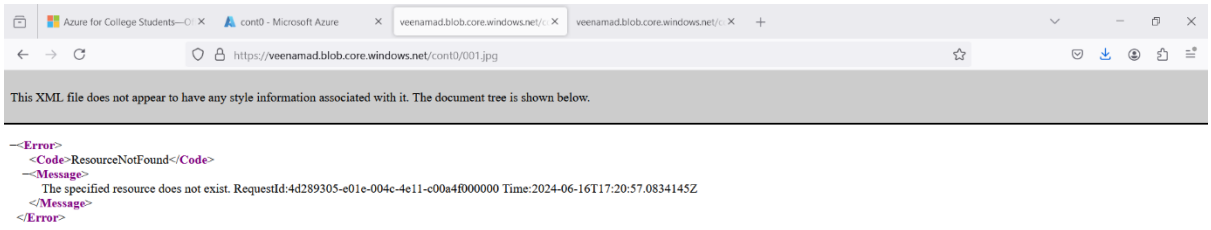
Step-5: Select the file and click on provided URL to open the file.





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.