

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

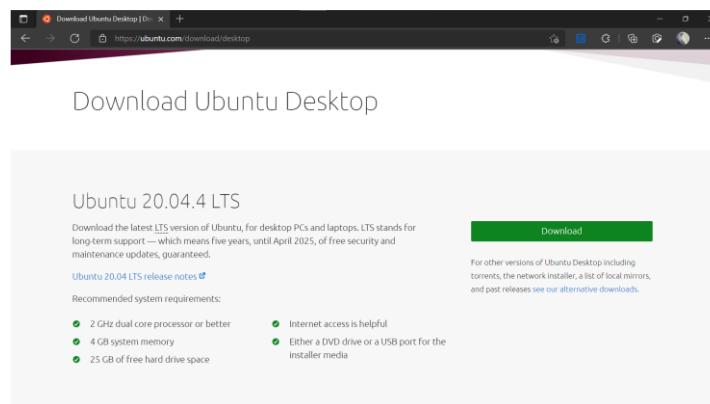
## Ubuntu:

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



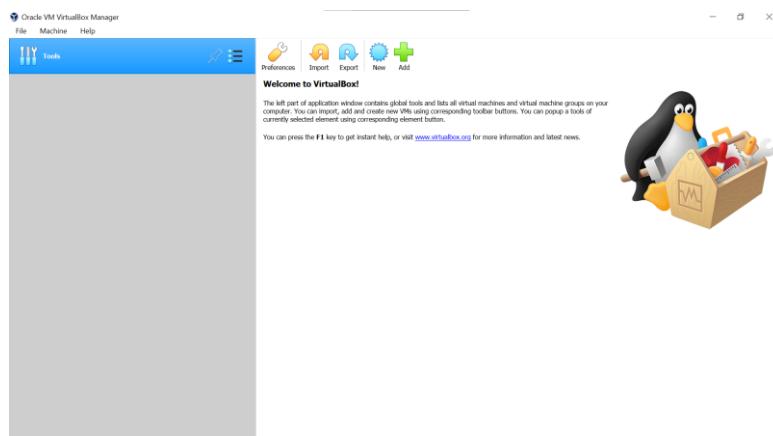
<https://www.virtualbox.org/wiki/Downloads>

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

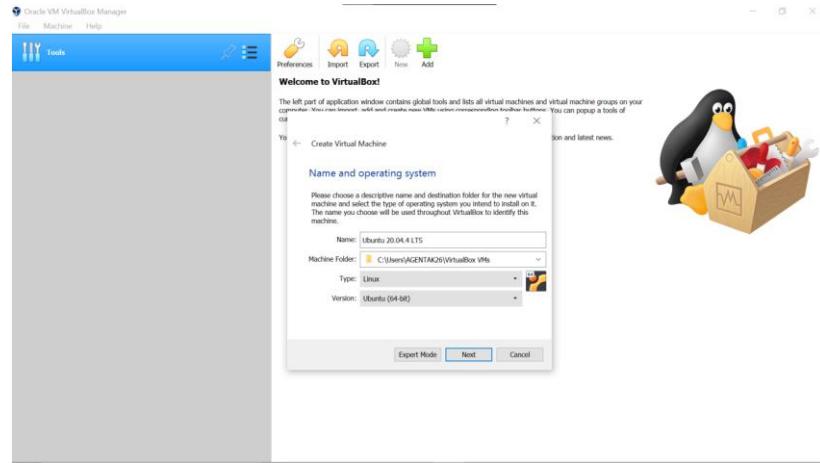


Note: The current version of Ubuntu only works on 64-bit machines.

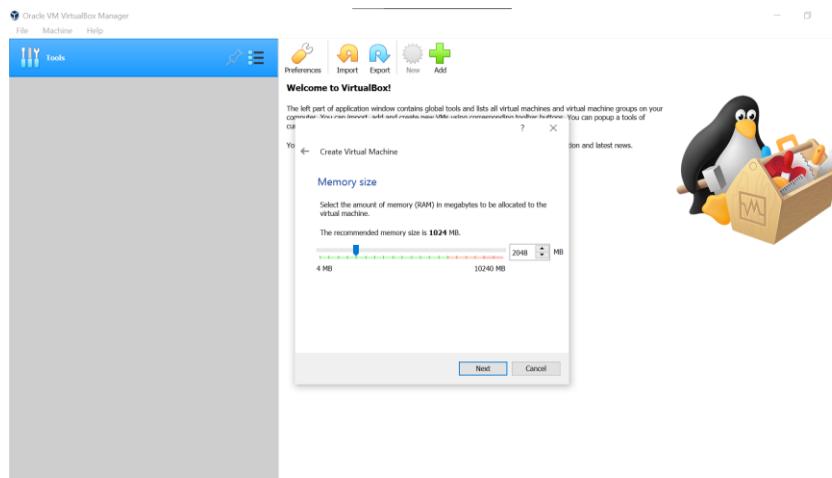
**Step-3:** Open VirtualBox and select New in the top taskbar.



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

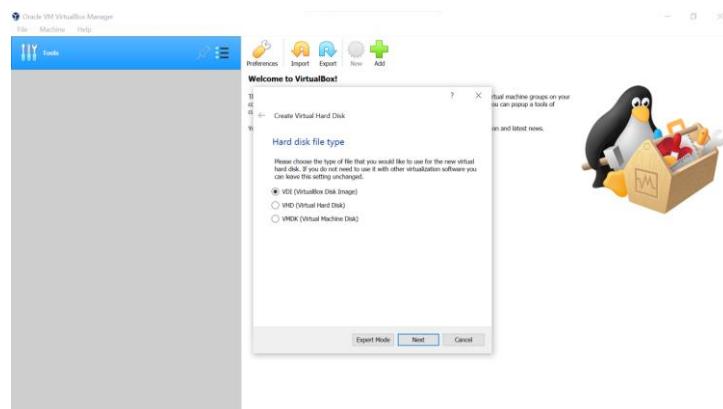


**Step-5:** Choose how much RAM you want to assign to the virtual machine and select Next. The recommended minimum is 1024 MB.



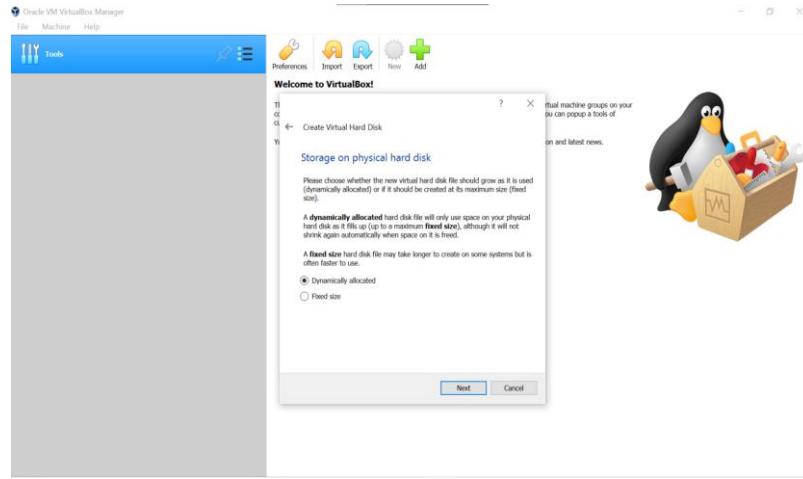
**Step-6:** Choose Create a virtual hard disk now and select Create.

**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.

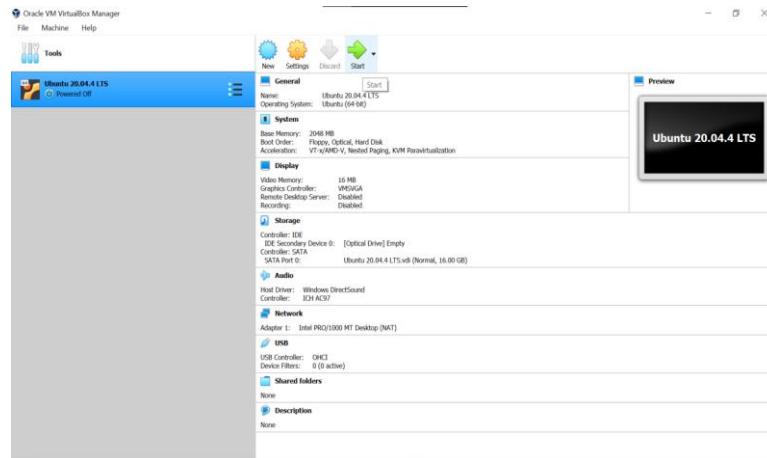


Tip: A fixed size disk performs better because the virtual machine doesn't have to increase the file size as you install software.

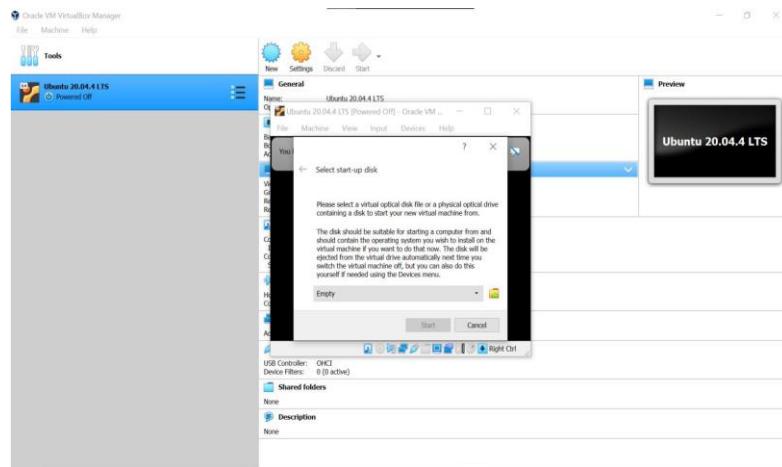
**Step-9:** Choose how much space you wish to set aside for Ubuntu and select Create.

**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.

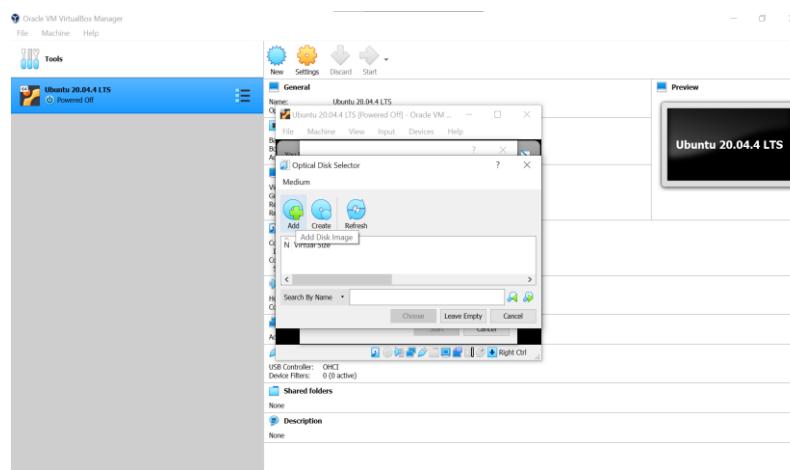
**Step-10:** The name of your virtual machine will now appear on the left side of the VirtualBox manager. Select Start in the toolbar to launch your VM.



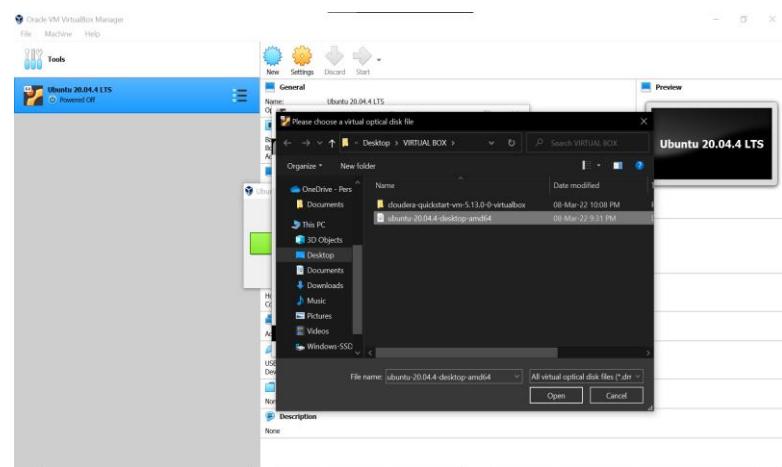
**Step-11:** This is the point where you need to choose the Ubuntu ISO file you downloaded earlier. If the VM doesn't automatically detect it, select the folder next to the Empty field.



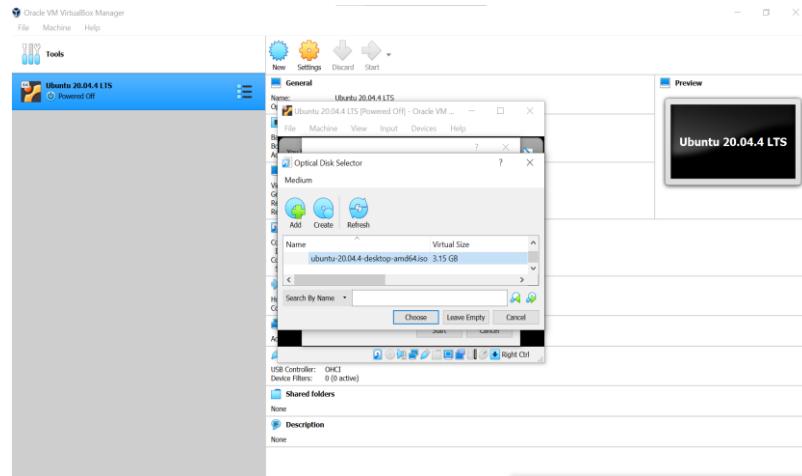
**Step-12:** Select Add in the window that pops up.



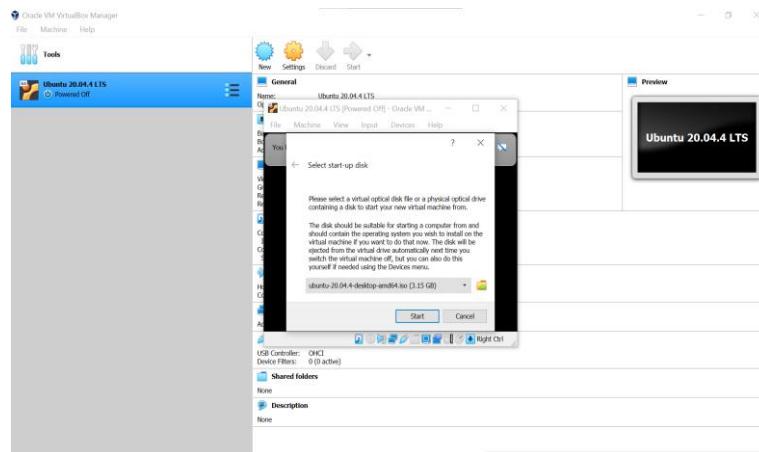
**Step-13:** Choose your Ubuntu disk image and select Open.



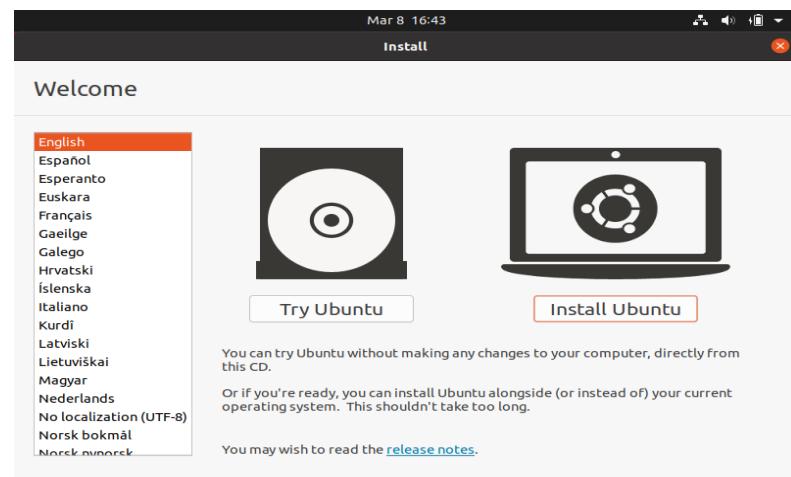
**Step-14:** - Select Choose



### Step-15: Select Start.

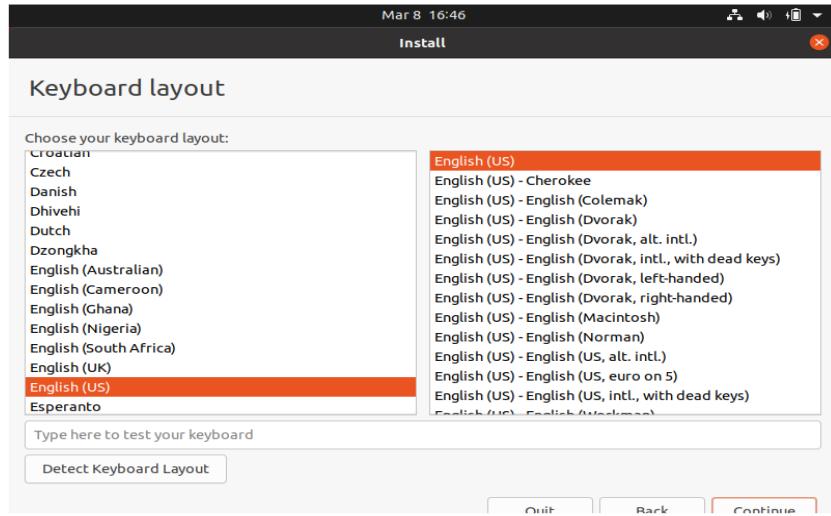


### Step-16: Your VM will now boot into a live version of Ubuntu. Choose your language and select Install Ubuntu



u.

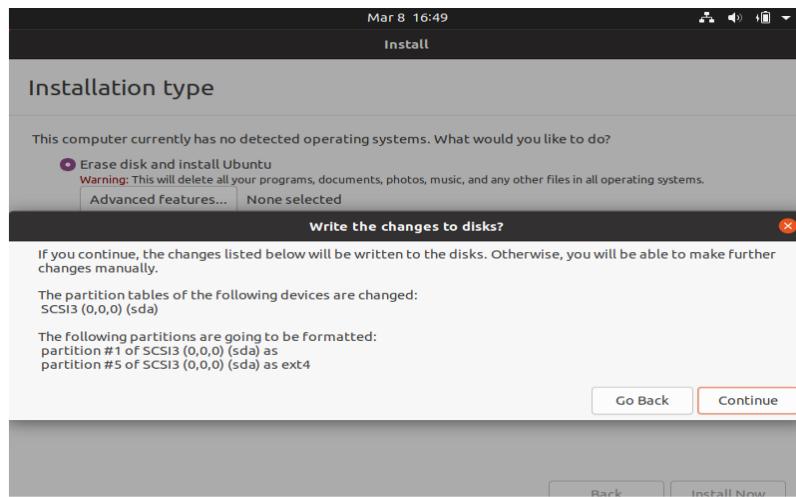
**Step-17:** Choose your keyboard layout and select Continue.



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

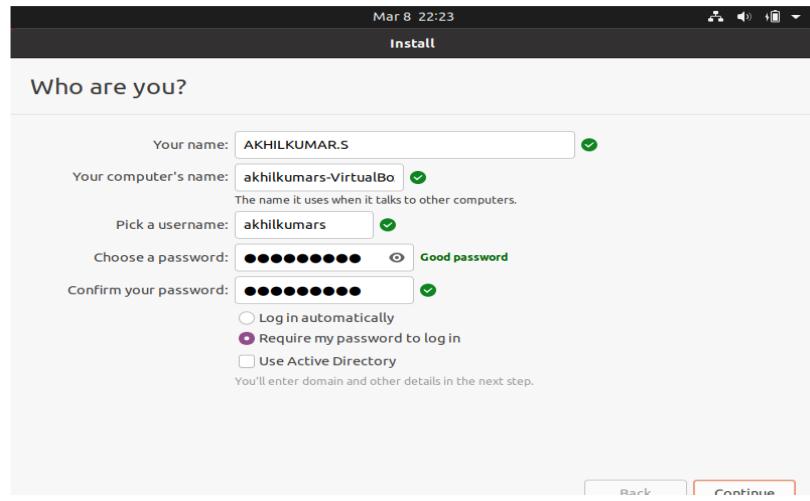
**Step-19:** Choose Erase disk and install Ubuntu and select Install Now, then select Continue to ignore the warning.

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

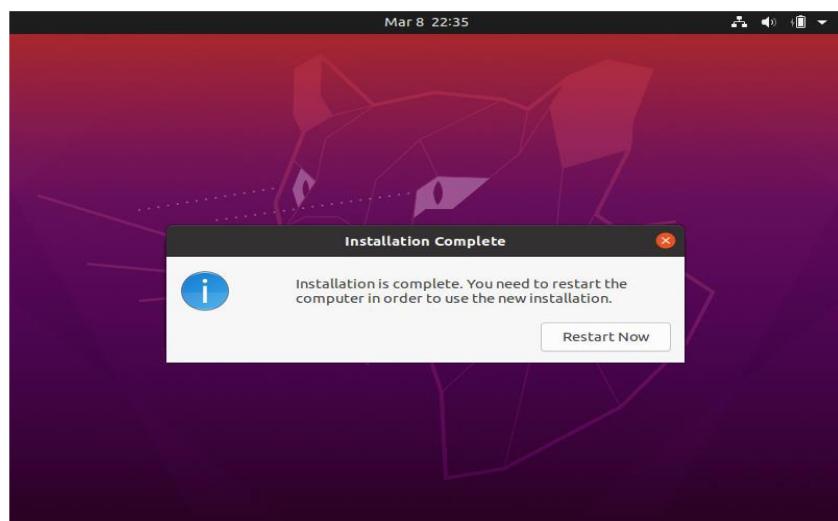


**Step-20:** - Choose your time zone on the map, then select Continue.

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

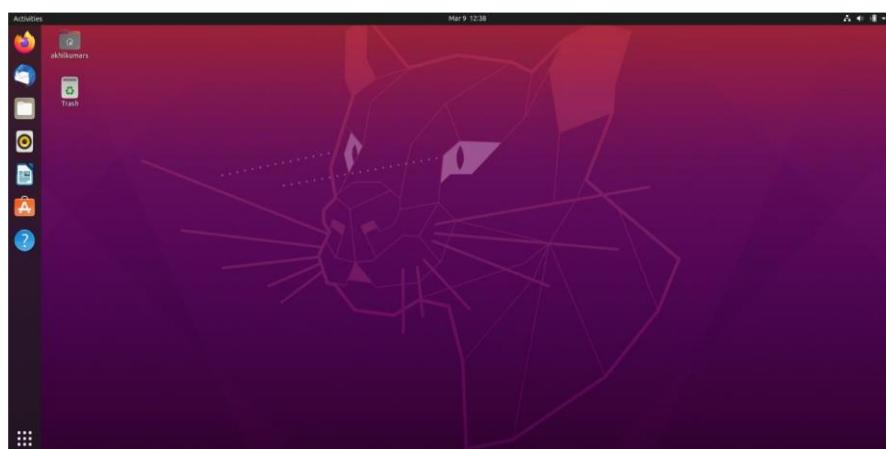


**Step-22:** - Select Restart Now.



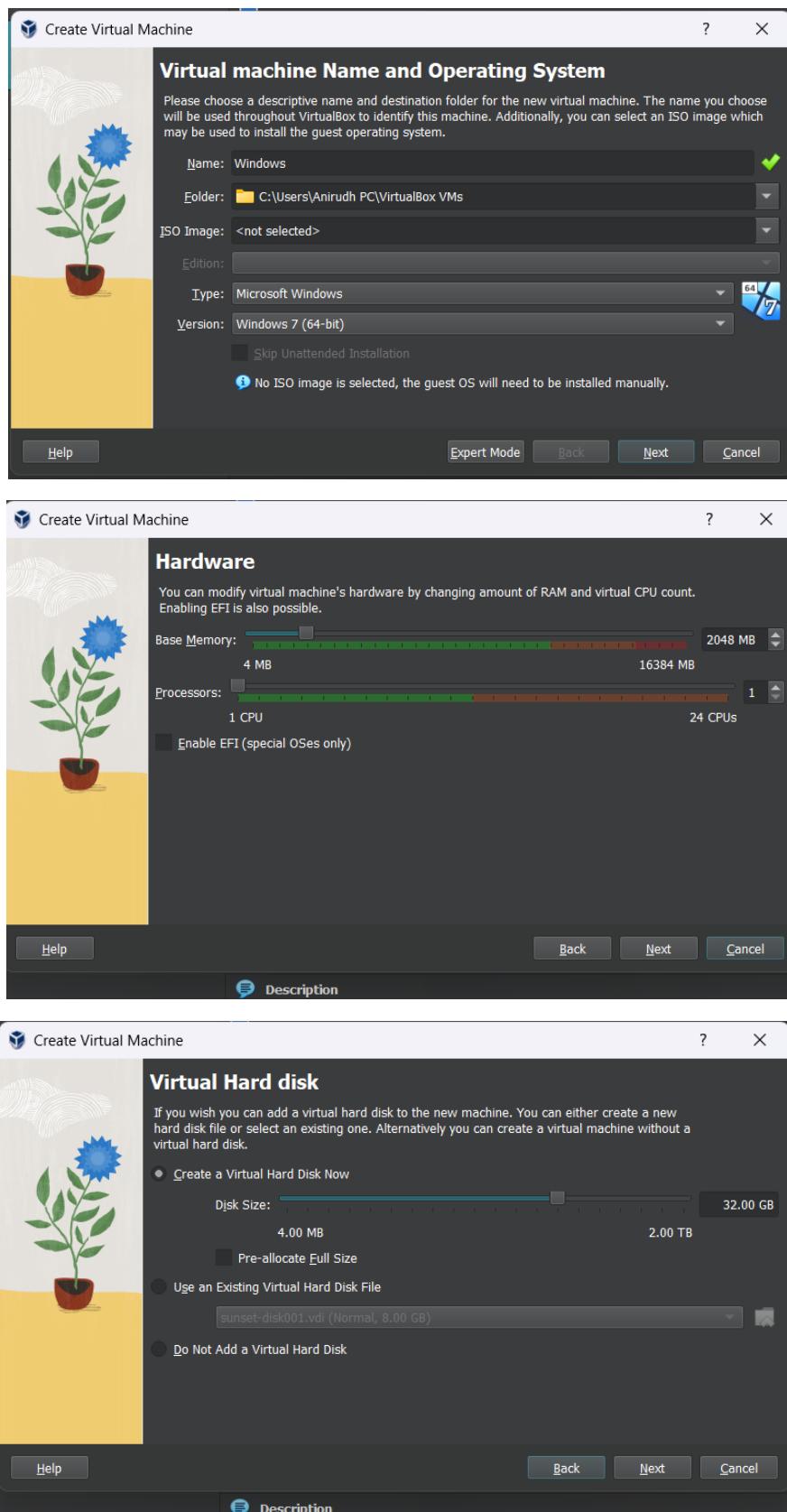
**Step-23:** - After restarting your VM and booting into Ubuntu, you may notice that the desktop doesn't scale correctly if you choose to view it in full-screen mode. You can fix this problem by selecting the VBox\_Gas icon to install VirtualBox Guest Additions.

**Output:**

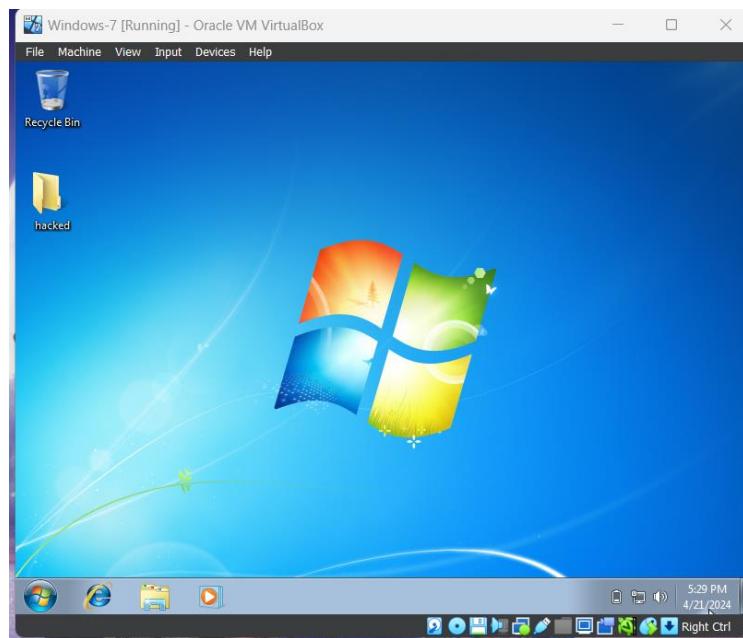


## Windows:

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



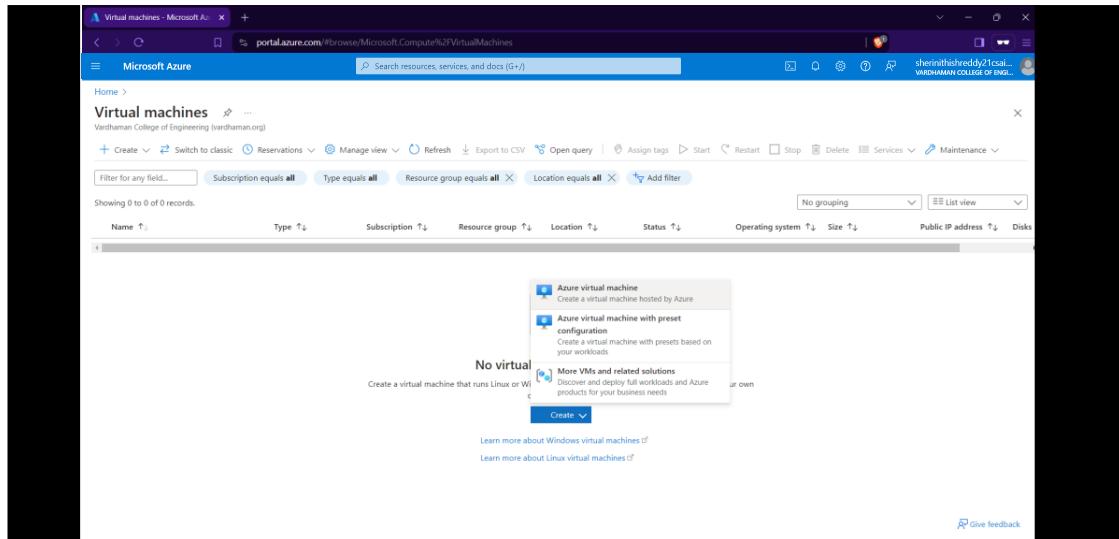
## **Output:**



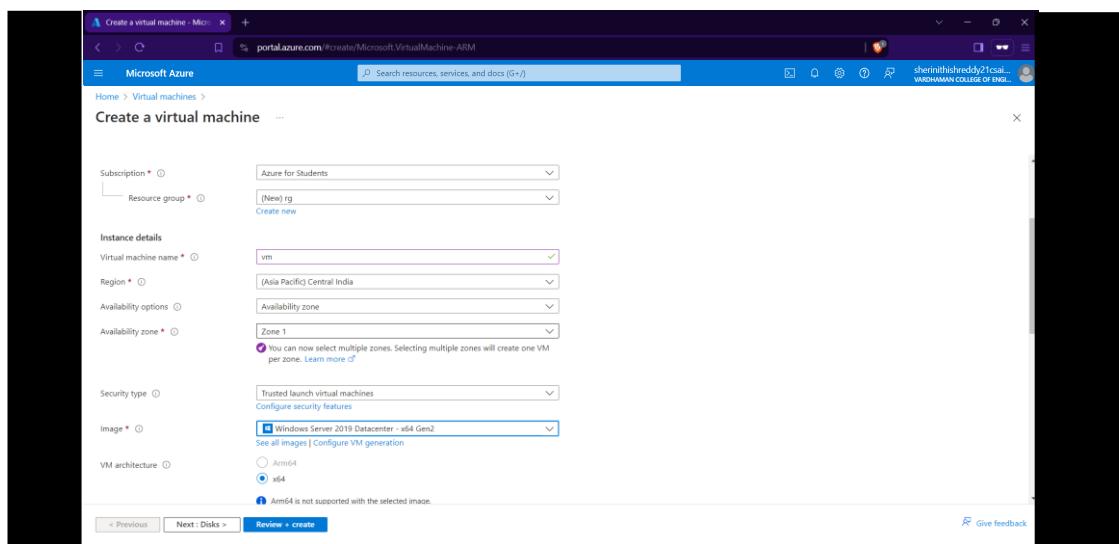
## Q2) Create a Windows Virtual Machine in Microsoft Azure

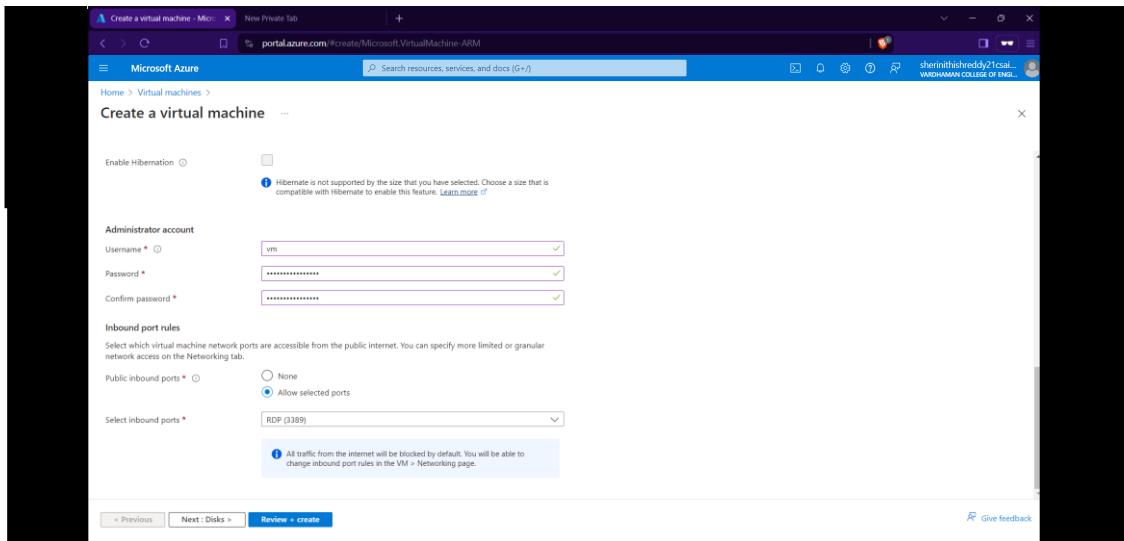
**Step-1:** Sign in to your Microsoft Azure account.

**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:** Firstly, copy the public IP Address of that created virtual machine.

Property	Value
Computer name	vm
Operating system	Windows
VM generation	V2
VM architecture	x64
Agent status	Not Ready
Agent version	Unknown
Scheduler	Disabled

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

Property	Value
Resource group (move)	rg
Status	Running
Location	Central India (Zone 1)
Subscription (move)	Azure for Students
Subscription ID	0e8fa421-bf62-4ff4-ab63-bb983feaaa4c
Availability zone	1

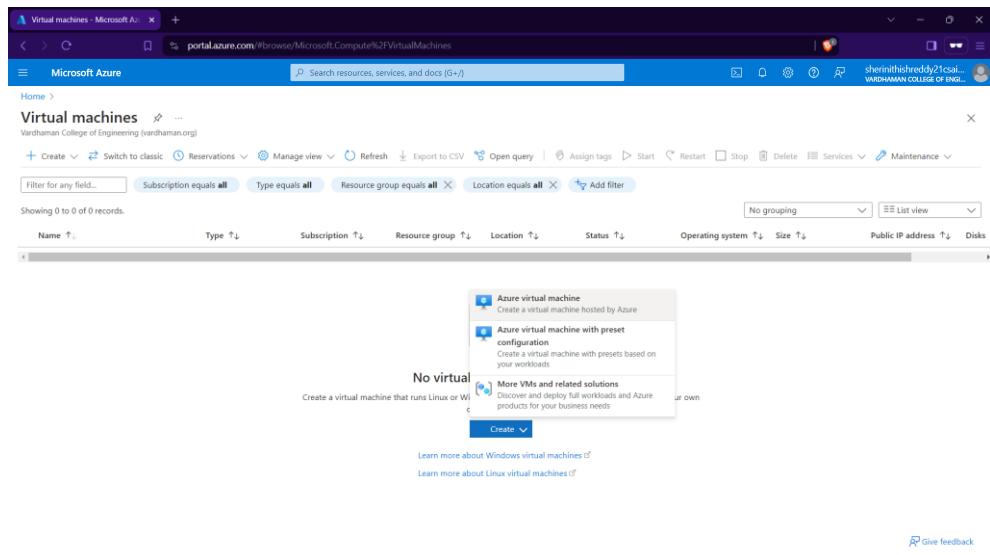
**Output:**



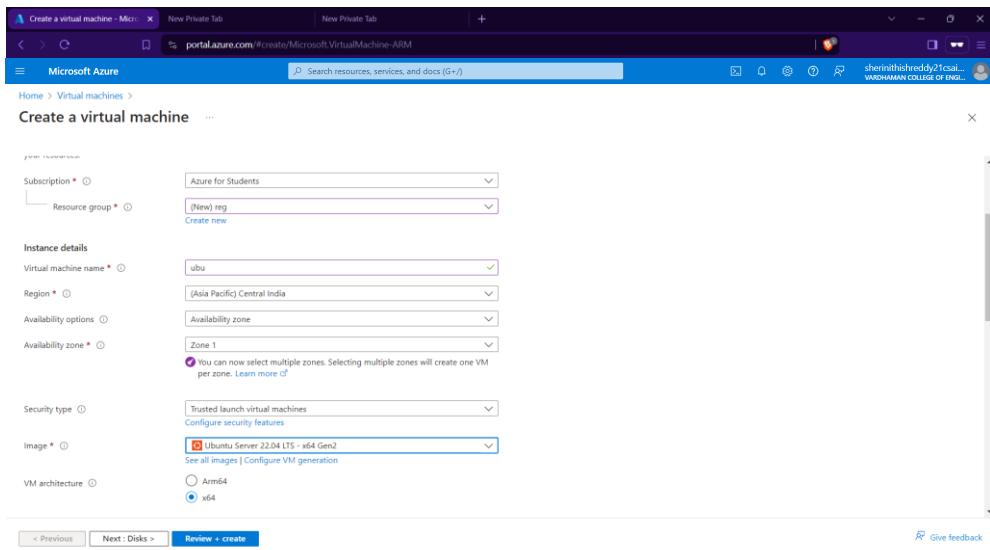
### Q3) Create a Ubuntu Virtual Machine in Microsoft Azure

**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 click on “Create” then download key and open resource group.



Administrator account

Authentication type  SSH public key  Password

**Info** 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 \*

SSH public key source

Key pair name \*

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 \*  Allow selected ports  None

< Previous

Save As

New folder

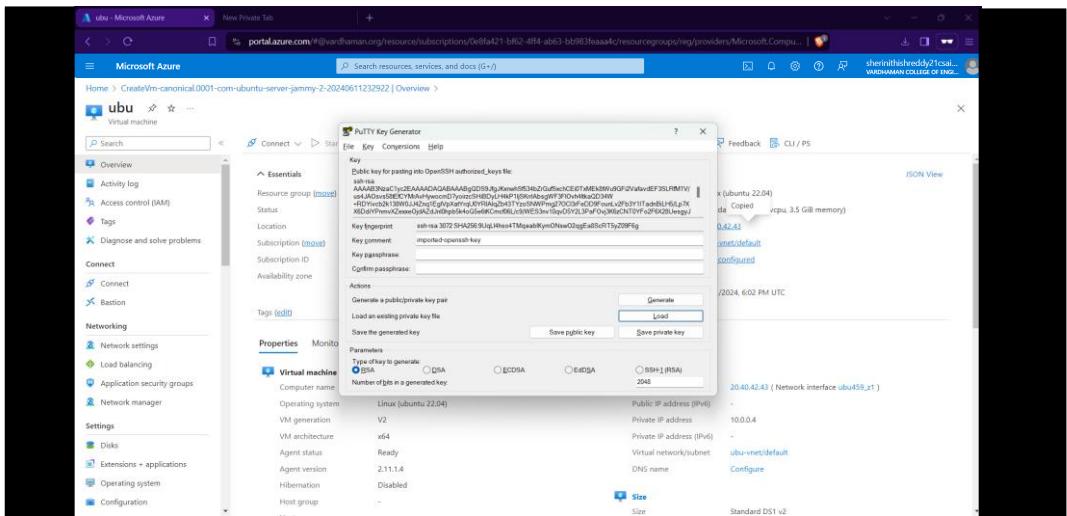
Name	Date modified	Type	Size
A long time ago	14-06-2023 20:18	File folder	
templates	14-06-2023 20:18	File folder	
utilities	14-06-2023 20:18	File folder	
lrb	14-06-2023 20:18	File folder	
objects	14-06-2023 20:18	File folder	
Settings	14-06-2023 20:18	File folder	
screenshots	14-06-2023 20:42	File folder	
project	15-06-2023 08:02	File folder	
src	27-07-2023 10:47	File folder	
Earlier this year	13-03-2024 08:54	File folder	
Windows Input Experience	13-03-2024 08:54	File folder	
Last month	30-05-2024 09:00	File folder	
May	30-05-2024 09:00	File folder	
Last week	04-06-2024 11:58	File folder	
anil work chrome downloads	04-06-2024 11:58	File folder	

File name:   
Save as type:

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

^ Essentials		JS
Resource group	(move) : <a href="#">reg</a>	
Status	: Running	Operating system : Linux (ubuntu 22.04)
Location	: Central India (Zone 1)	Size : Standard DS1 v2 (1 vcpu, 3.5 GiB memory)
Subscription	(move) : <a href="#">Azure for Students</a>	Public IP address : <a href="#">20.40.42.43</a>
Subscription ID	: 0e8fa421-bf62-4ff4-ab63-bb983feaaa4c	Virtual network/subnet : <a href="#">ubu-vnet/default</a>
Availability zone	: 1	DNS name : <a href="#">Not configured</a>
		Health state : -
		Time created : 6/11/2024, 6:02 PM UTC

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

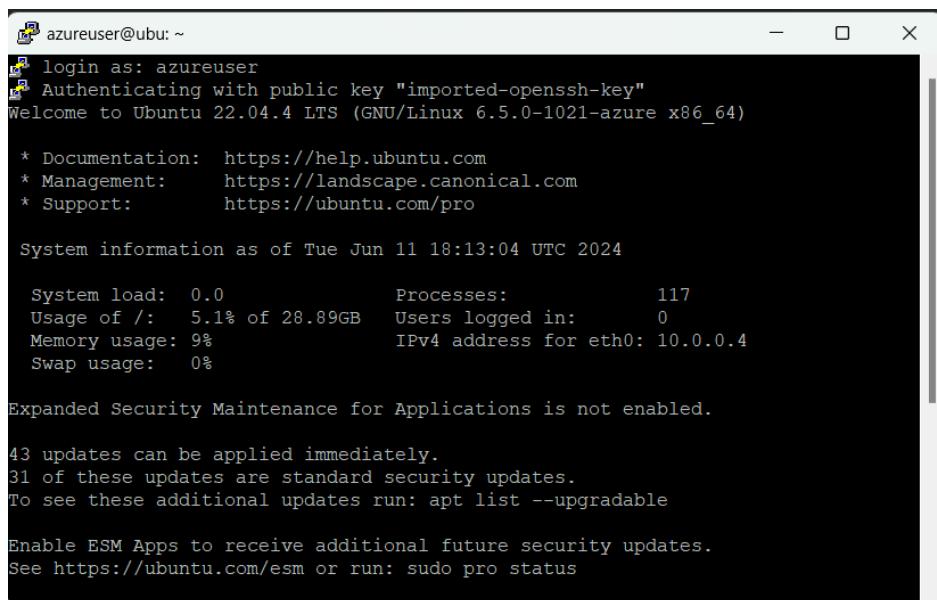


**Step-7:** In putty, put the Copied IP Address into it, and then go to ssh->auth->credentials And the put the generated private key.

**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:



```
azureuser@ubu: ~
login as: azureuser
Authenticating with public key "imported-openssh-key"
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 6.5.0-1021-azure x86_64)

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

System information as of Tue Jun 11 18:13:04 UTC 2024

System load: 0.0          Processes:           117
Usage of /: 5.1% of 28.89GB  Users logged in: 0
Memory usage: 9%          IPv4 address for eth0: 10.0.0.4
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

43 updates can be applied immediately.
31 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

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

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

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

The screenshot shows the Azure portal interface for a virtual machine named 'vm'. The left sidebar includes options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Connect, Bastion, Windows Admin Center, Networking, Network settings, Load balancing, Application security groups, Network manager, Settings, Disks, Extensions + applications, and Operating system. The main pane displays the 'Essentials' section with details such as Resource group (NetworkWatchedRG), Status (Running), Location (Central India (Zone 1)), Subscription (Azure for Students), Subscription ID (0ef8fa421-bf62-4f84-ab63-bb983fea4c), Availability zone (1), Operating system (Windows), Size (Standard D51 v2 (1 vcpu, 3.5 GB memory)), Public IP address (20.40.42.41), Virtual network/subnet (vm-natv/default), DNS name (Not configured), Health state (Not Ready), and Time created (6/11/2024, 6:16 PM UTC). A 'Tags (edit)' section shows 'Add tags'. Below this is a 'Properties' section with fields for Computer name (vm), Operating system (Windows), VM generation (V2), VM architecture (x64), Agent status (Not Ready), Agent version (Unknown), and Hibernation (Disabled). The 'Networking' section shows a single network interface with IP addresses 20.40.42.41 (IPv4) and 10.0.0.4 (IPv6), and a DNS name of Configure.

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

A confirmation dialog box is displayed, asking 'Do you want to stop 'vm'?'. It includes a note: 'Deallocation operations usually complete within 1-2 minutes but may take up to 90 minutes in some cases. You can leave the page and track the progress via notifications.' At the bottom are 'Yes' and 'No' buttons.

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

The screenshot shows the 'Disks' blade for the 'vm' virtual machine. The left sidebar includes Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Connect, Bastion, Windows Admin Center, Networking, Network settings, Load balancing, Application security groups, Network manager, Settings, Disks, Extensions + applications, and Operating system. The main pane shows the 'OS disk' section with a table for 'vm\_OsDisk\_1'. The table columns are Disk name, Storage type, Size (GB), Max IOPS, Max throughput (MBps), Encryption, and Host caching. The disk details are: Disk name (vm\_OsDisk\_1\_3def9c9a4b485ba0da37), Storage type (Premium SSD LRS), Size (GB) (127), Max IOPS (500), Max throughput (MBps) (100), Encryption (SSE with PMK), and Host caching (Read/write). Below this is a 'Data disks' section with a table showing 'No data disks attached'. Buttons for 'Create and attach a new disk' and 'Attach existing disks' are available.

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

The screenshot shows the Microsoft Azure Storage blade for a disk named 'vm\_OsDisk\_1\_3deaf9c9af4b485ba0da377bfed24392'. The left sidebar has 'Size + performance' selected under 'Configuration'. The main area shows a table of storage types and their properties. A row for '128 GB' is selected, showing P10 tier, 500 Provisioned IOPS, 100 Provisioned throughput, 3 Max Shares, 3500 Max burst IOPS, and 170 Max burst throughput. Buttons at the bottom are 'Save' and 'Discard'.

**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.**

The screenshot shows the Microsoft Azure Virtual Machine blade for a virtual machine named 'vm'. The left sidebar has 'Size' selected under 'Availability + scale'. The main area shows a table of VM sizes. A tooltip says 'Successfully resized virtual machine 'vm' to size 'Standard\_D2s\_v3''. The table includes columns for VM Size, Type, vCPUs, RAM (GB), Data disks, Max IOPS, and Local storage (GB). The 'D2s\_v3' row is highlighted. A note at the bottom states: 'Prices presented are estimates in INR that include only Azure infrastructure costs and any discounts for the subscription and location. The prices don't include any applicable software costs. Final charges will appear in your local currency in cost analysis and billing views.' Buttons at the bottom are 'Resize' and 'Give feedback'.

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

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

vm - Microsoft Azure | New Private Tab | + | portal.azure.com | @vardhaman.org/resource/subscriptions/0e8fa421-bf62-4ff4-ab63-bb983feaaa4c/resourcegroups/NetworkWatcherRG/providers/... | sherinthreddy21csai... VARDHAMAN COLLEGE OF ENGI...

Microsoft Azure

Home > CreateVm-MicrosoftWindowsServer-201-20240611234518 | Overview >

vm | Virtual machine

Search | Network manager

Connect ▾ Start ▾ Stop ▾ Hibernate Capture Delete Refresh Open in mobile Feedback CLI / PS

Essentials

Resource group (move) : NetworkWatcherRG  
Status : Stopped (deallocated)  
Location : Central India (Zone 1)  
Subscription (move) : Azure for Students  
Subscription ID : 0e8fa421-bf62-4ff4-ab63-bb983feaaa4c  
Availability zone : 1  
Tags (edit) : Add tags

Operating system : Windows  
Size : Standard D2s v3 (2 vcpus, 8 GB memory)  
Public IP address : 20.40.42.43  
Virtual network/subnet : vm-vnet/default  
DNS name : Not configured  
Health state : -  
Time created : 6/11/2024, 6:16 PM UTC

Properties Monitoring Capabilities (8) Recommendations Tutorials

Virtual machine

Computer name : vm  
Operating system : Windows  
VM generation : V2  
VM architecture : x64  
Hibernation : Disabled  
Host group : -  
Host : -  
Proximity placement group : -

Networking

Public IP address : 20.40.42.43 ( Network interface vm266\_21 )  
Public IP address (IPv6) : -  
Private IP address : 10.0.0.4  
Private IP address (IPv6) : -  
Virtual network/subnet : vm-vnet/default  
DNS name : Configure

Size

Size : Standard D2s v3

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

vm - Microsoft Azure | New Private Tab | + | portal.azure.com | @vardhaman.org/resource/subscriptions/0e8fa421-bf62-4ff4-ab63-bb983feaaa4c/resourcegroups/NetworkWatcherRG/providers/... | sherinthreddy21csai... VARDHAMAN COLLEGE OF ENGI...

Microsoft Azure

Home > CreateVm-MicrosoftWindowsServer-201-20240611234518 | Overview > vm

vm | Locks

Search | Network manager

Add Resource group Subscription Refresh Feedback

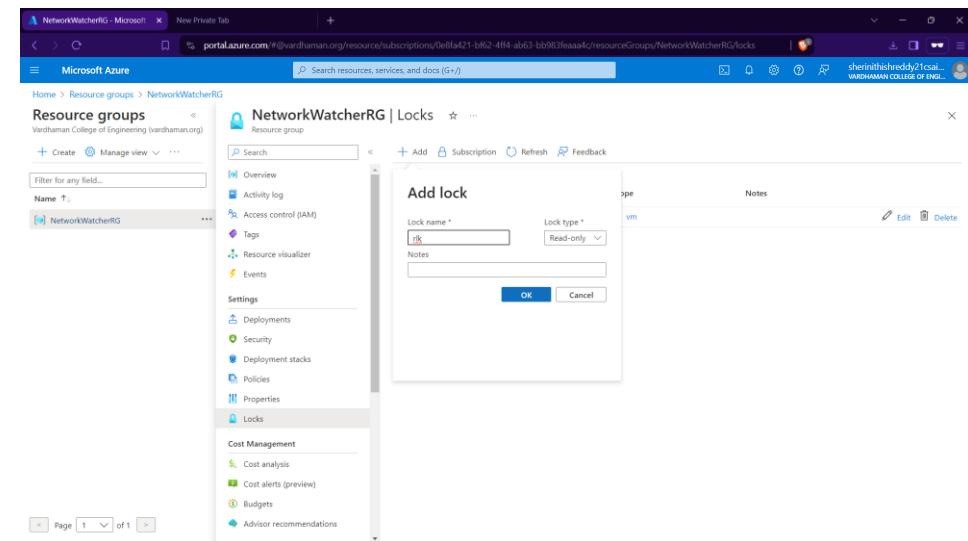
Settings Disks Extensions + applications Operating system Configuration Advisor recommendations Properties Locks Availability + scale Size Availability + scaling Security Identity Microsoft Defender for Cloud Backup + disaster recovery Backup Disaster recovery

Add lock

Lock name \* lk Lock type \* Read-only Notes OK Cancel

Step-3: click on ok.

Similarly, you can do for Resource group and subscriptions.

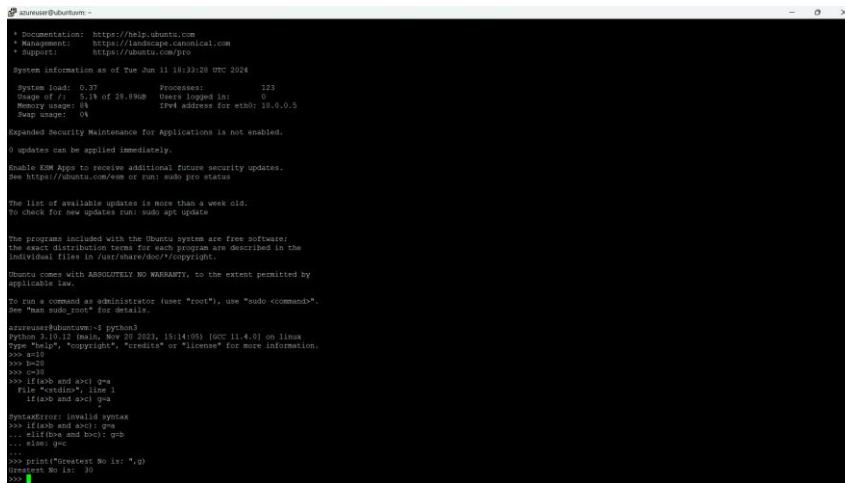


Lock name	Lock type	Scope	Notes	Actions
lk	Read-only	vm		<a href="#">Edit</a> <a href="#">Delete</a>
rlk	Read-only	NetworkWatcherRG		<a href="#">Edit</a> <a href="#">Delete</a>

## 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.



```
anvesh@ubutnu: ~
Documentation: https://help.ubuntu.com
Management: https://landscape.canonical.com
Support: https://ubuntu.com/po
System information as of Tue Jun 11 18:33:28 UTC 2024
System load: 0.37 Processes: 123
Usage by user: 0.1GB of 28.89GB CPU usage: 0% IPv4 address for eth0: 19.0.0.5
Memory usage: 8.0GB 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.

anvesh@ubutnu:~$ python3
Python 3.11.2 (main, Nov 20 2023, 15:14:00) [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):
...     print("a is greatest")
... else:
...     print("b is greatest")
... if(a>b and a>c) gpa
SyntaxError: invalid syntax
>>> if(a>b and a>c): gpa
... else: gpa
...     print("gpa is: ", gpa)
... print("Greatest No is: ", g)
Greatest No is: 30
>>>
```

## 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.**

The screenshot shows the Azure portal interface for a virtual machine named 'ubuntuvm'. The 'Essentials' section displays basic information: Resource group (NetworkWatcherRG), Status (Running), Location (Central India (Zone 1)), Subscription (Azure for Students), Subscription ID (0e8fa421-bf62-4ff4-ab63-bb983feaaa4c), Availability zone (1), Operating system (Linux (Ubuntu 22.04)), Size (Standard\_B1s), Public IP address (20.40.41.52), Virtual network/subnet (vm-vnet/default), DNS name (Not configured), Health state (Normal), and Time created (6/11/2024, 6:31 PM UTC). The 'Properties' tab is selected, showing detailed settings for the virtual machine and networking.

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

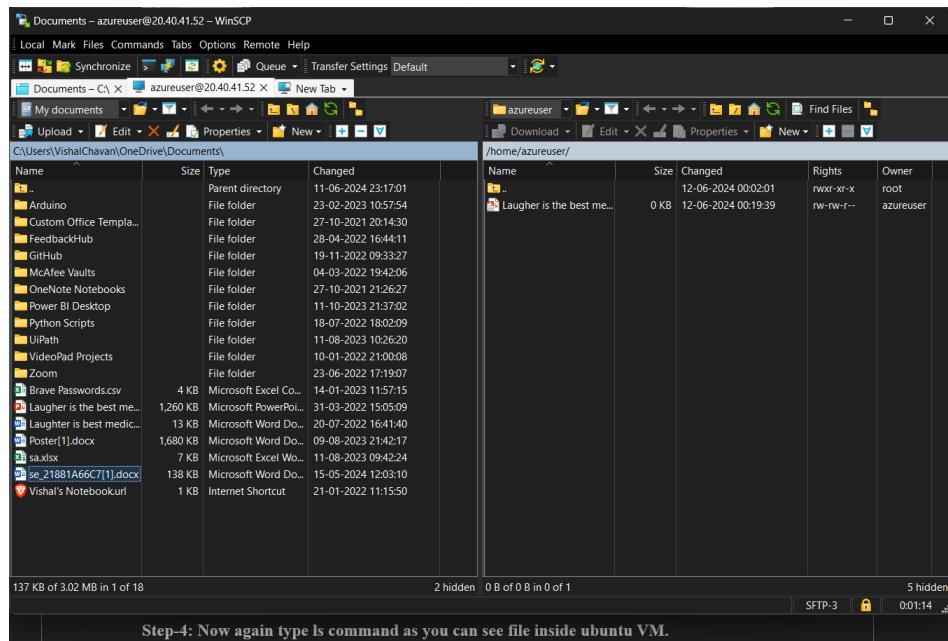
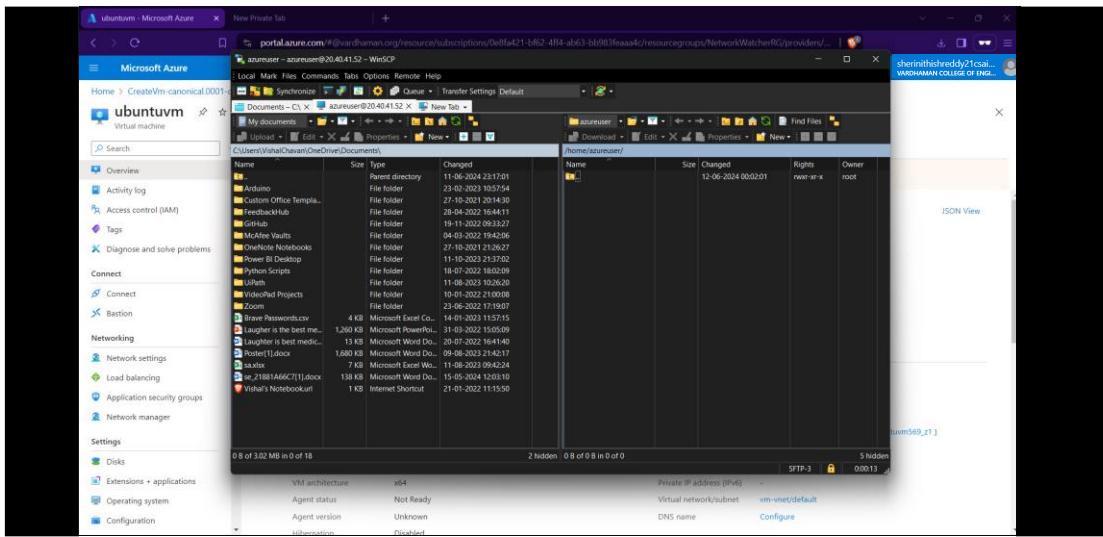
```
azurereader@ubuntuvm: ~
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

azurereader@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
>>>
[1]+  Stopped                  python3
azurereader@ubuntuvm:~$ ls
azurereader@ubuntuvm:~$
```

**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.**

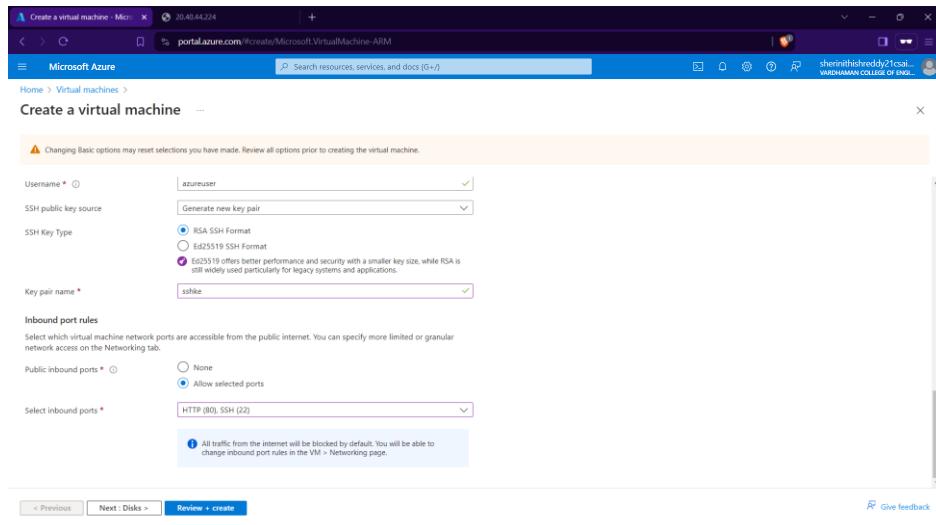


Step-4: Now again type ls command as you can see file inside ubuntu VM.

```
azuruser@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
>>>
[1]+  Stopped                  python3
azuruser@ubuntuvm:~$ ls
azuruser@ubuntuvm:~$ ls
azuruser@ubuntuvm:~$ ls
'Laugher is the best medicine.pptx.filepart'
azuruser@ubuntuvm:~$
```

## **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.**



**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@ub: /var/www/html]
Setting up libgd3:amd64 (2.3.0-2ubuntu2) ...
Setting up libnginx-mod-http-image-filter (1.18.0-6ubuntu14.4) ...
Setting up nginx-core (1.18.0-6ubuntu14.4) ...
  * Upgrading binary nginx [ OK ]
Setting up nginx (1.18.0-6ubuntu14.4) ...
Processing triggers for ufw (0.36.1-4ubuntu0.1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.7) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

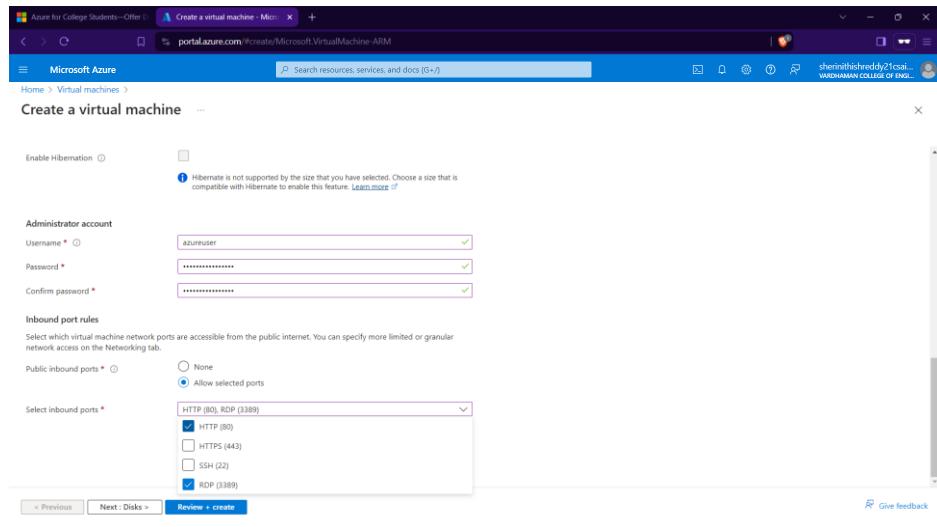
No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ub:/home/azureuser# cd /var/www/html
root@ub:/var/www/html# rm index.nginx-debian.html
root@ub:/var/www/html# echo "WelcomeNithish!" > index.html
root@ub:/var/www/html#
```



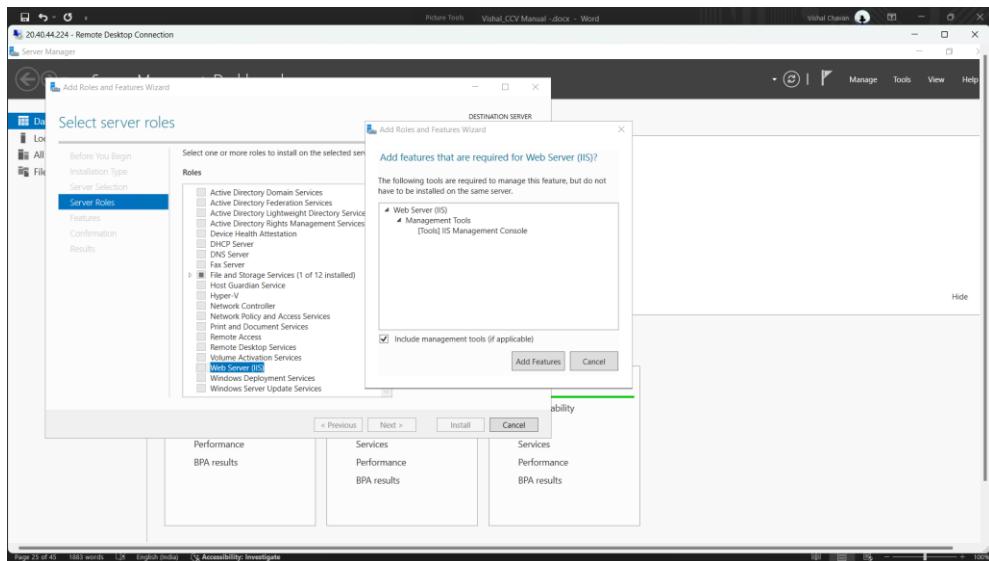
## **Q9) Setup and configure AZURE web server for windows server(IIS).**

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

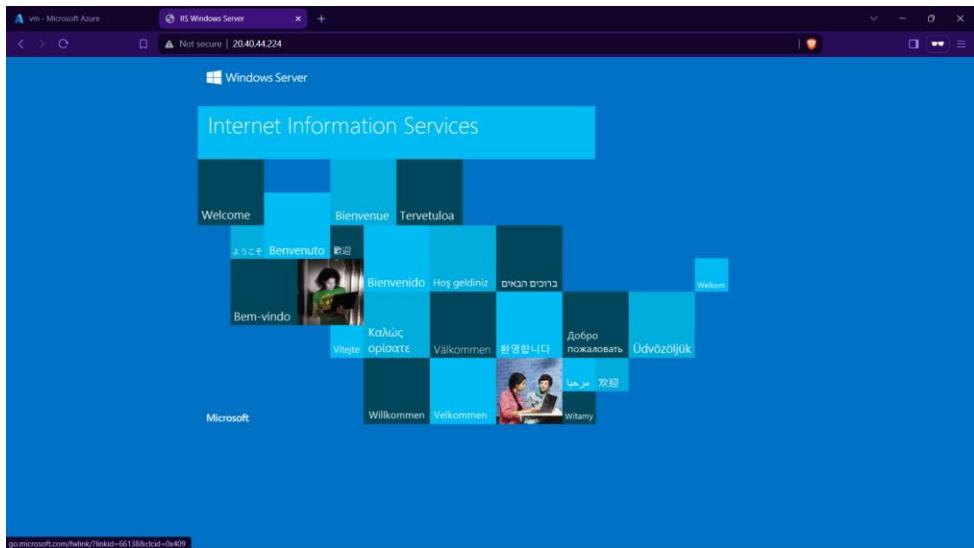


**Step-2: When remote desktop will start(windows vm) you can see there will be Sever Manager will be opened and in that you can see Configure this local server , Click on “Add roles and features”.**

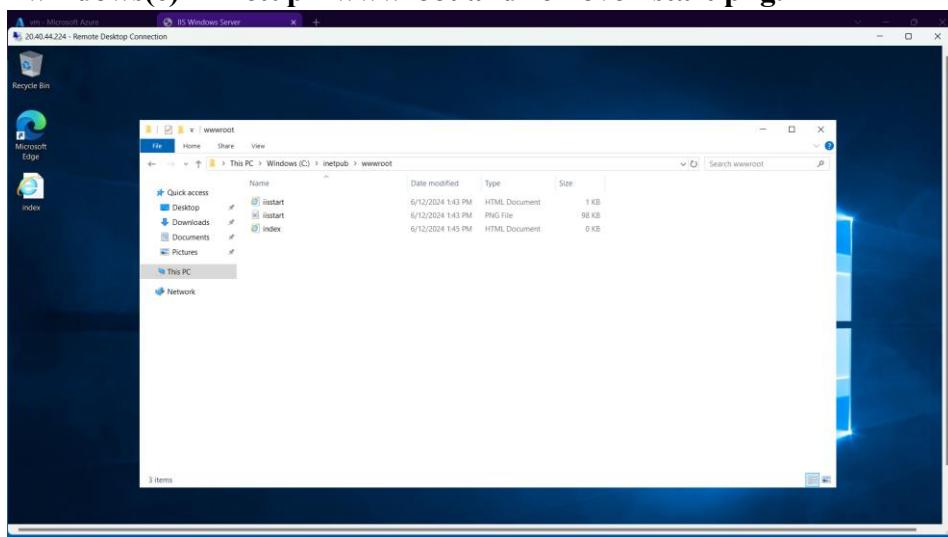
**Step-3: Click on next, next and in Server Roles select Web Server(IIS) click on add feature ,click on next, next till you can get install button and click on install .**



**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.

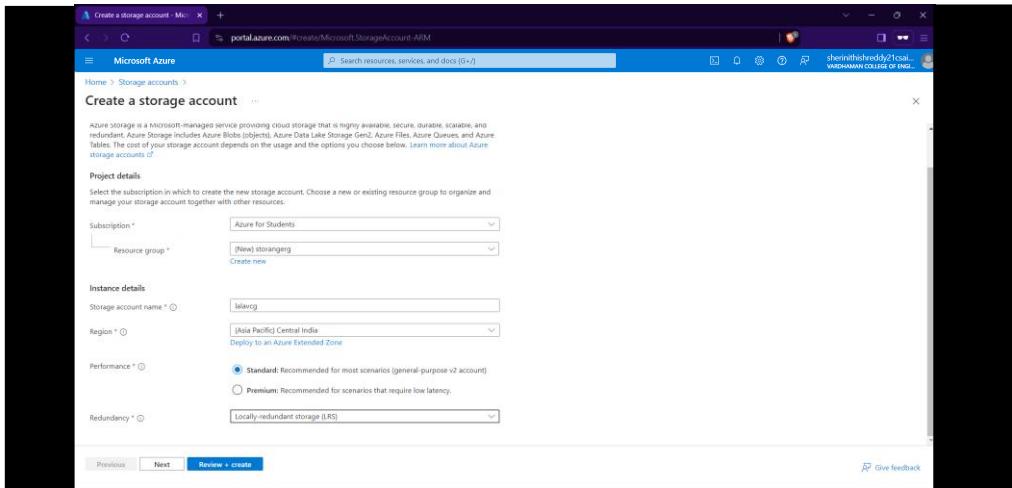


Step-5: Refresh the browser page.

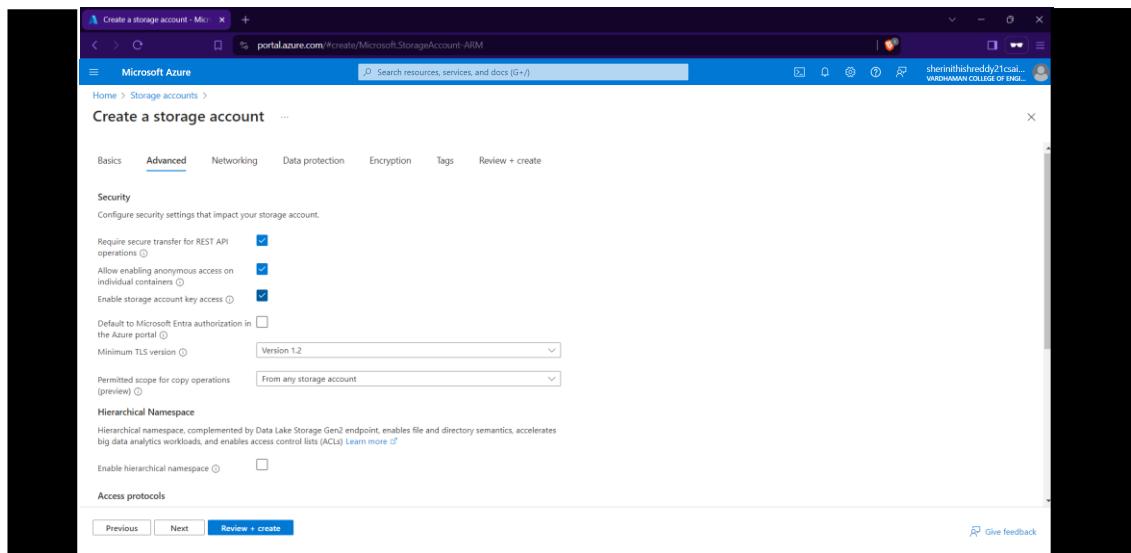


## **Q10) Create Azure Storage Account, Container – Upload and Delete Objects(blob) in it.**

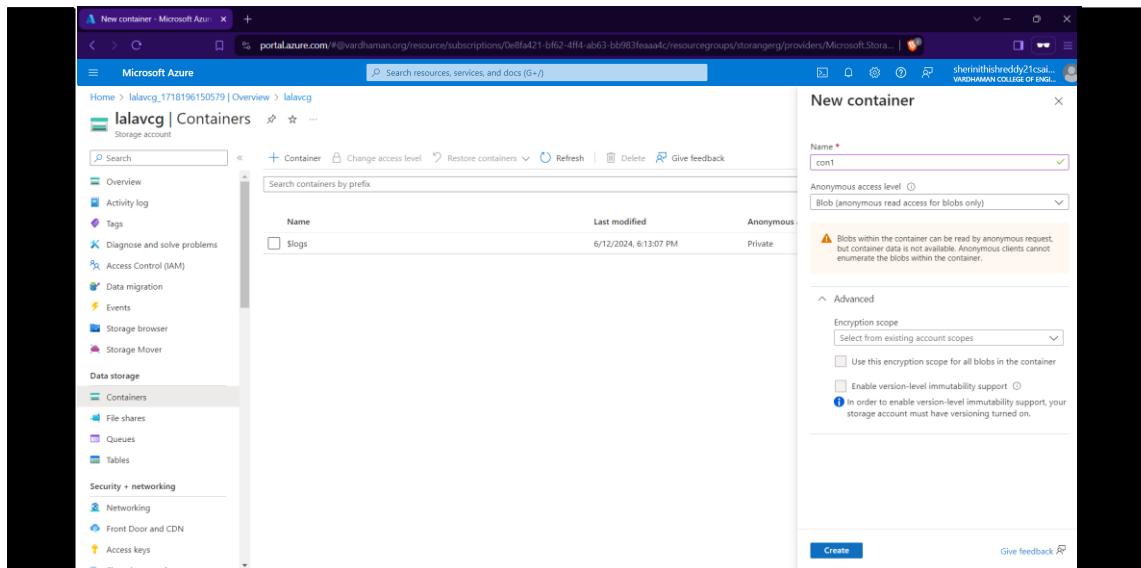
**Step-1:** Click On Storage Account and Create one and select redundancy as GRS/LRS.



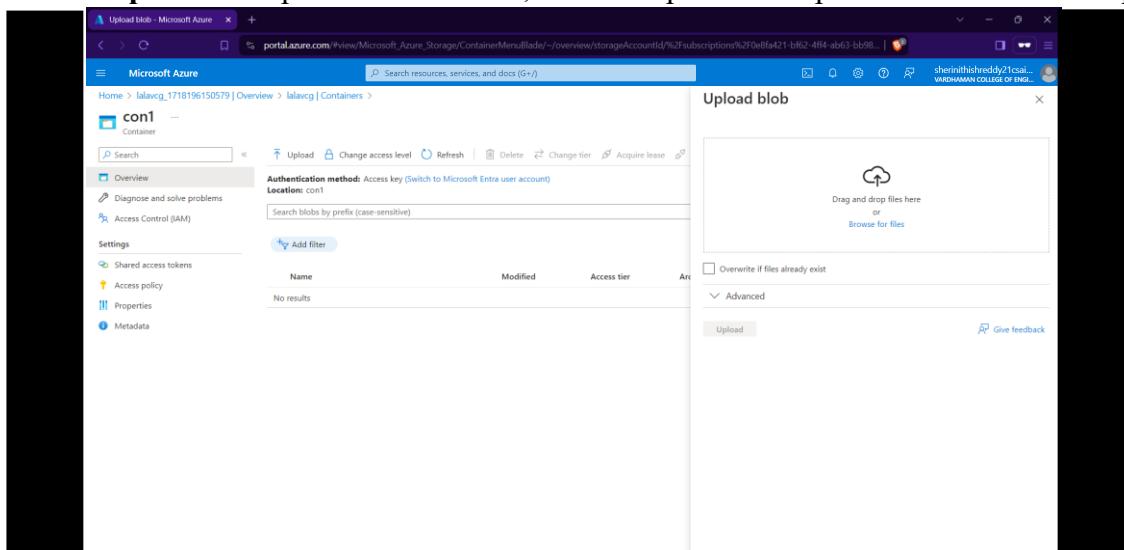
**Step-2:** Go to advance and Allow enabling anonymous access on individual containers.



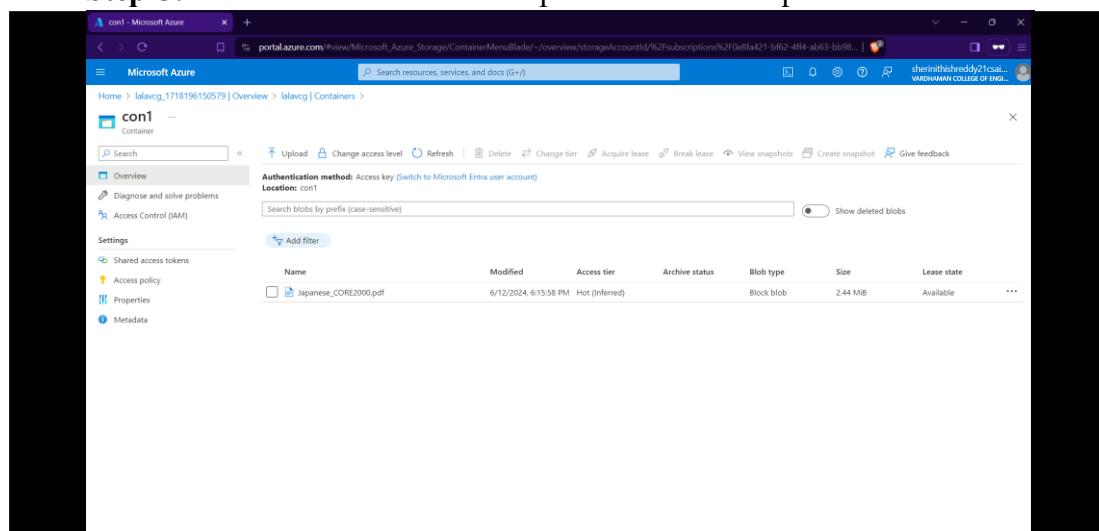
**Step-3:** After deployment Click on go to resource group and on Left Click on Containers and Create it with anonymous access level as blob(anonymous read access to blob only)

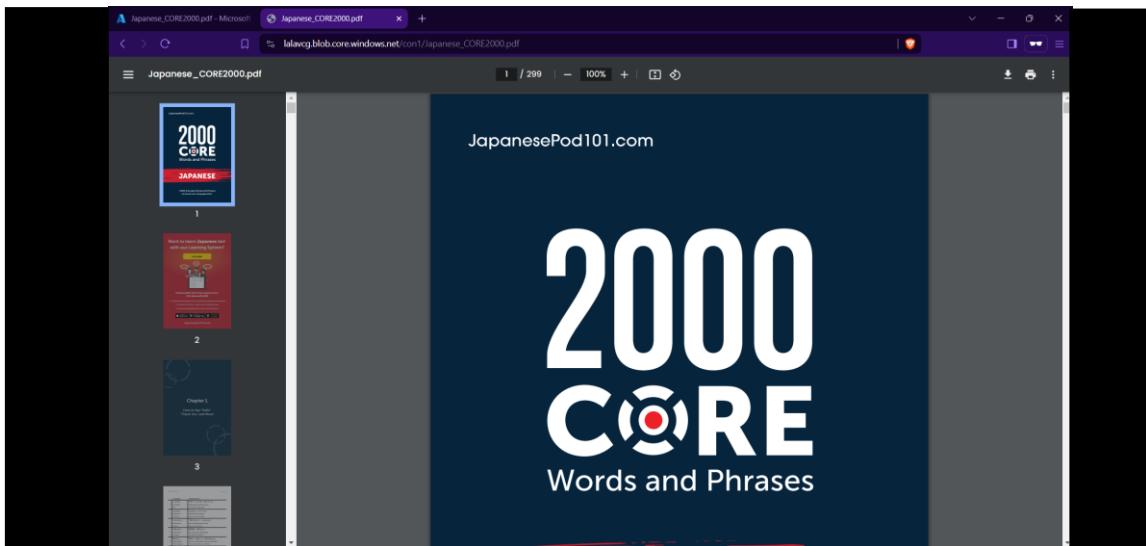


**Step-4:** Then open new container , click on upload and upload a file from desktop.



**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.

The image consists of two screenshots. The top screenshot shows the 'Change access level' dialog in the Microsoft Azure portal for a blob named 'Japanese\_CORE2000.pdf'. The access level is set to 'Private (no anonymous access)'. The bottom screenshot shows a Microsoft Edge browser window displaying a 404 error message: 'The specified resource does not exist. RequestId:a55e9efb-981b-3dc6-bca47c000000 Time:2024-06-12T12:47:52.961581Z'.

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

The image consists of three vertically stacked screenshots from the Microsoft Azure portal, illustrating the steps to delete a blob container and its associated storage account.

**Screenshot 1: Deleting Blob(s)**

This screenshot shows the "Delete blob(s)" confirmation dialog. It asks if you want to delete selected blobs. It includes a note about skipped blobs in leased state, a checkbox for "Also delete blob snapshots", and buttons for "OK" and "Cancel".

Blob type	Size	Lease state
Block blob	2.44 MB	Available

**Screenshot 2: Blob List after Deletion**

This screenshot shows the blob list for the container. A single blob named "Japanese\_CORE2000.pdf" is listed, with its status set to "Deleted". Other columns include Name, Status, Retention (days), Modified, Access tier, Archive status, and Blob type.

Name	Status	Retention (days)	Modified	Access tier	Archive status	Blob type
Japanese_CORE2000.pdf	Deleted	6	6/12/2024, 6:15:58 PM	Hot (Inferred)		Block blob

**Screenshot 3: Deleting Container(s)**

This screenshot shows the "Delete container(s)" confirmation dialog. It explains that deleted containers move to a soft-deleted state and remain recoverable for 7 days. It lists the container "con1" and includes "Delete" and "Cancel" buttons.

The screenshot shows the Microsoft Azure portal interface. On the left, a sidebar lists various services: Overview, Activity log, Tags, Diagnose and solve problems, Access Control (IAM), Data migration, Events, Storage browser, Storage Mover, Data storage (Containers, File shares, Queues, Tables), Security + networking (Networking, Front Door and CDN, Access keys), and Dev/Test environments. The main pane displays the 'lalavcg' storage account overview. The 'Properties' tab is selected, showing details like Resource group (storage), Location (centralindia), Subscription (Azure for Students), and Disk state (Available). The 'Delete' button is highlighted. A modal window titled 'Delete storage account' is open, asking for confirmation to delete the storage account and its contents. It lists dependent resources: Containers, File shares, Tables, and Queues. The 'Delete' button is visible in the modal.

The screenshot shows the Microsoft Azure portal interface. The left sidebar lists Resource groups (RG1, RG2) and other services. The main pane shows the 'RG2' resource group overview. The 'Essentials' section includes details like Subscription (Azure for Students), Deployment status (No deployments), and Location (Central India). The 'Resources' section lists six resources: cm, cm-ip, cm-msg, cm-net, cm-net, and cm008\_x1, all located in Central India. The 'Recommendations' section is also visible.

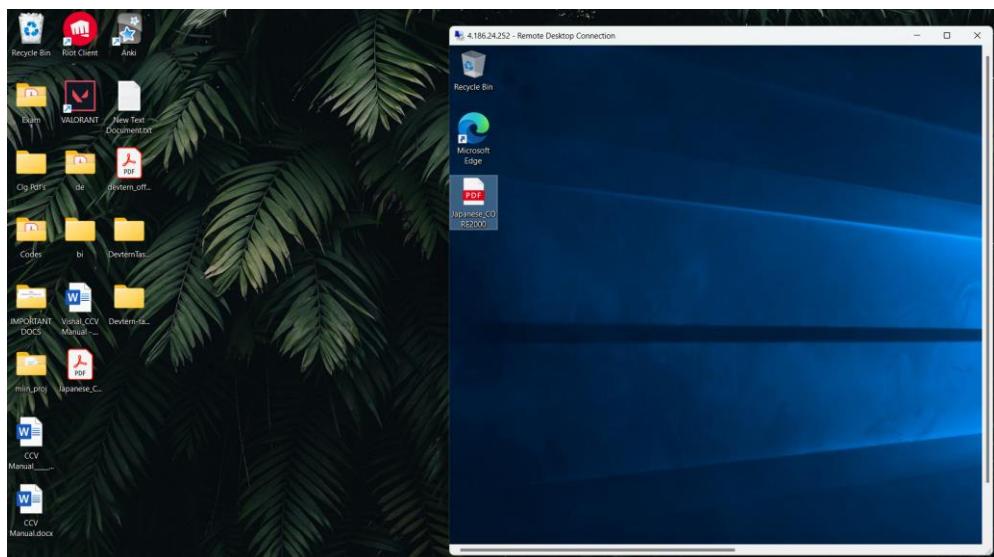
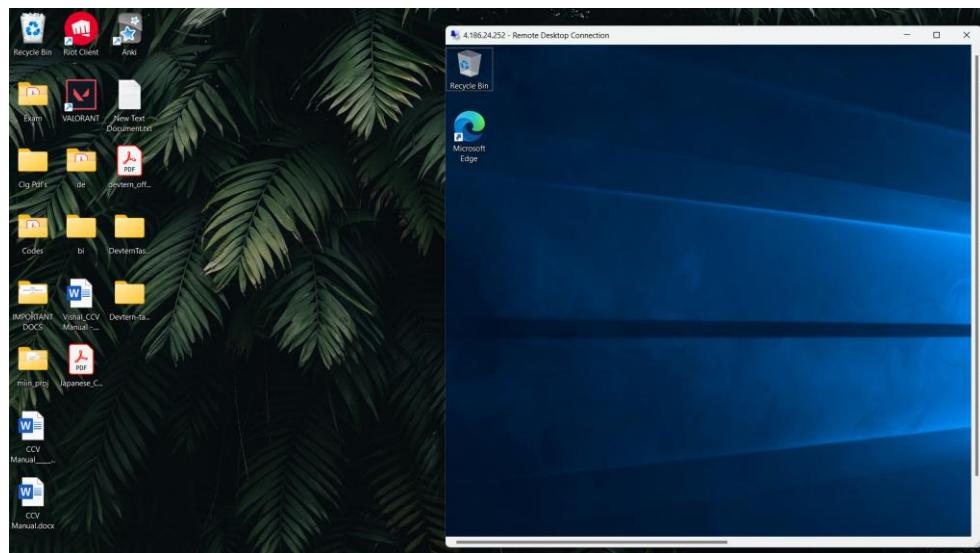
**Q11) Create a Windows VM and transfer files from desktop to remote desktop VM.**

**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.**

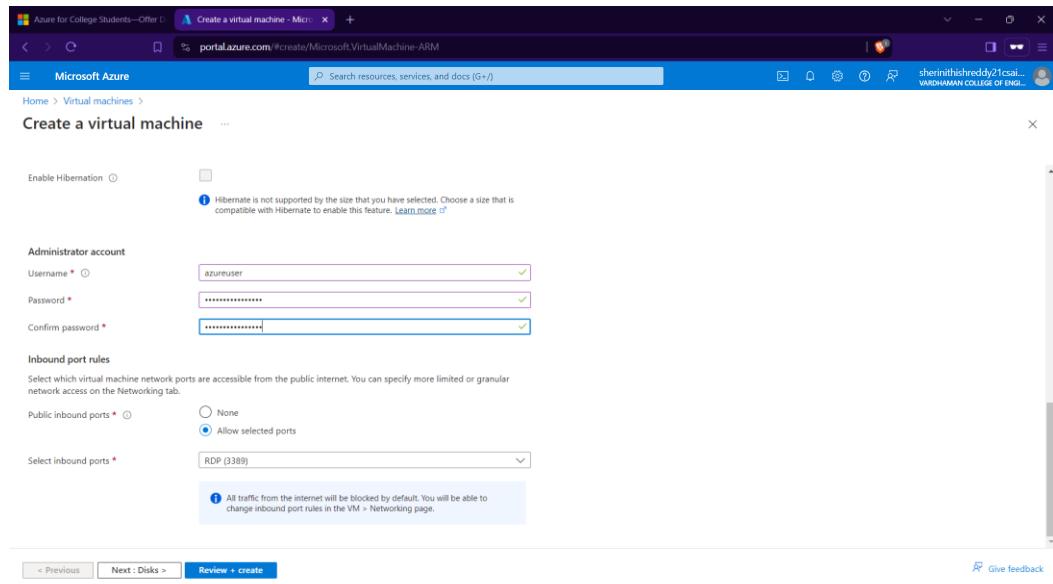
### **Step-3: Minimize the Remote desktop and copy file from desktop.**

**Right click in remote desktop and click on paste.**

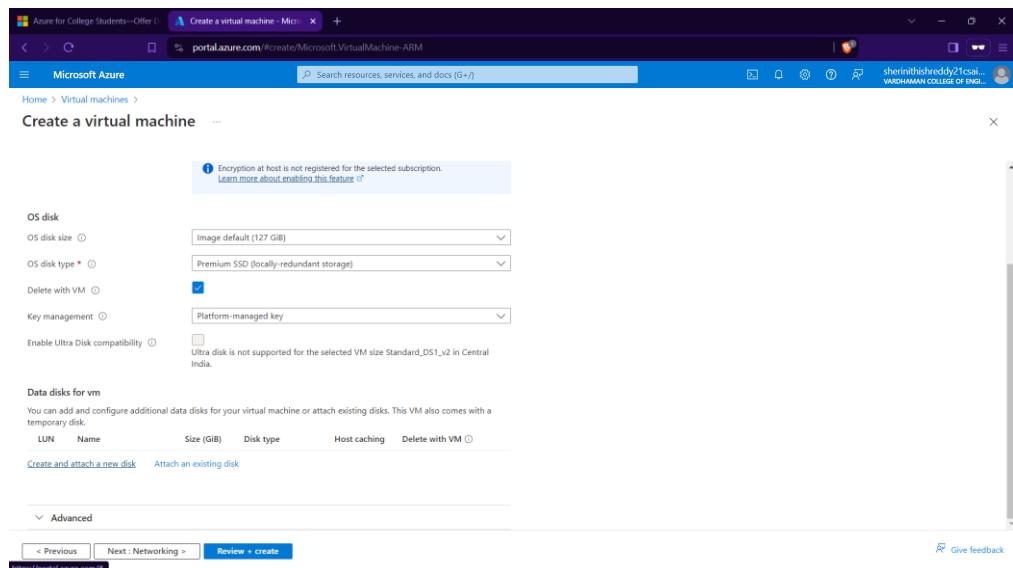


## Q12) How to attach and detach data disk to Windows Server in Azure data center

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



Step-2: Click on create and attach new disk



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

The screenshot shows the 'Disks' settings for a virtual machine named 'vm'. The 'Data disks' section lists one disk, 'vm\_DataDisk\_0', which is attached with host caching set to 'Read-only'. A warning message at the top states: 'The desired performance might not be reached due to the maximum virtual machine disk performance cap. The current virtual machine size supports up to 48 Mbps. The total for disks attached to 'vm' is 125 Mbps.'

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

The screenshot shows the 'Disks' settings for the same virtual machine 'vm'. The 'Data disks' section now displays the message 'No data disks attached'.

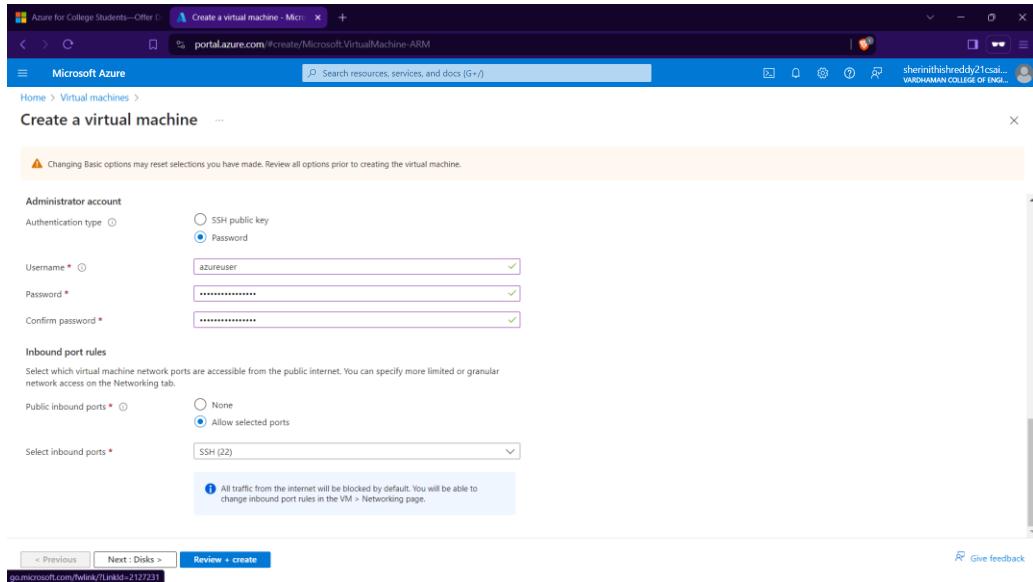
The screenshot shows the 'Disks' settings for the virtual machine 'vm'. The 'Data disks' section lists the data disk 'vm\_DataDisk\_0' again, with host caching set back to 'Read/write'.

The screenshot shows the Microsoft Azure portal interface for managing a virtual machine named 'vm'. The left sidebar contains various navigation links such as Home, CreateVm, MicrosoftWindowsServer, WindowsServer, Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Connect, Network settings, Load balancing, Application security groups, Network manager, and Settings. The main content area is titled 'vm | Disks' and displays disk settings. A warning message at the top states: 'The desired performance might not be reached due to the maximum virtual machine disk performance cap. The current virtual machine size supports up to 48 MBps. The total for disks attached to 'vm' is 100 MBps.' Below this, the 'OS disk' section shows one disk entry: 'vm\_OSDisk\_1\_dea5a1bc34e5497eaeeefdf'. The 'Data disks' section shows a table with the following columns: LUN, Disk name, Storage type, Size (GiB), Max IOPS, Max throughput (MBps), Encryption, and Host caching. There are no data disks currently attached.

LUN	Disk name	Storage type	Size (GiB)	Max IOPS	Max throughput (MBps)	Encryption	Host caching
	vm_OSDisk_1_dea5a1bc34e5497eaeeefdf	Premium SSD LRS	127	500	100	SSE with PMK	Read/write

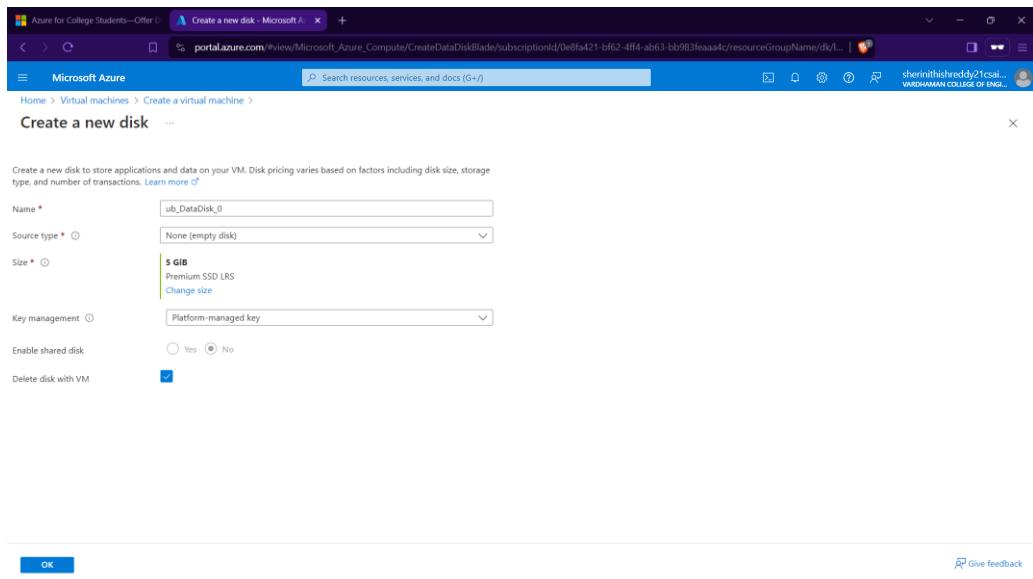
## **Q13)How to attach and detach data disk to Linux server in azure?**

**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**



**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.**

The screenshot shows the Microsoft Azure portal interface. On the left, the navigation menu includes sections like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Connect, Bastion, Networking, Network settings, Load balancing, Application security groups, Network manager, Disks, Extensions + applications, Operating system, and Configuration. The main content area displays a Virtual machine named 'ub' with status 'Running'. A 'Putty Configuration' dialog box is open, overlaid on the VM details page. The Putty dialog shows session settings for 'Host Name (or IP address)' set to '20.40.42.238' and 'Port' set to '22'. The 'Connection type' is selected as 'SSH'. The 'Default Settings' section contains options for saving sessions and exiting the window. The VM details page on the right shows the VM's IP address as '20.40.42.238' (Network interface ub751\_x1), its public IP as 'Not assigned', private IP as '10.0.0.5', and its virtual network/subnet as 'vm-vnet/default'. The VM is also associated with a DNS name 'Configure'.

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

```
$ df -hT  
$ lsblk  
$ sudo filoe -s/dev/sdc  
$ sudo mkfs -t ext4 /dev/sdc  
$ mkdir test  
$ sudo mount /dev/sdc/ test  
$ cd test  
$ df -hT
```

**OS disk**

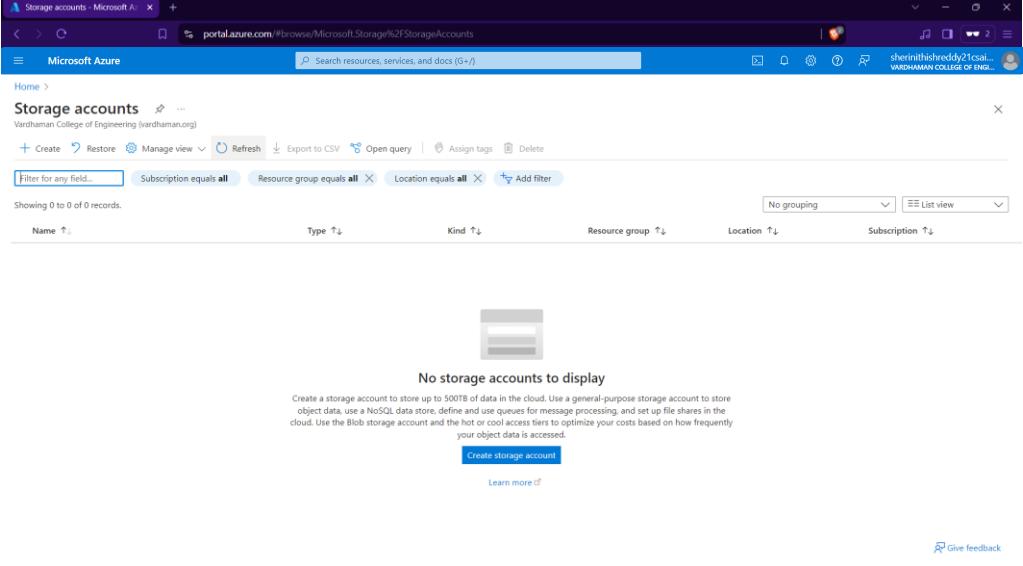
Disk name	Storage type	Size (GB)	Max IOPS	Max throughput (MB/s)	Encryption	Host caching
vm_OsDisk_1_ef364147ab14afcb4flecall	Premium SSD LRS	30	120	25	SSE with PMK	Read/write

**Data disks**

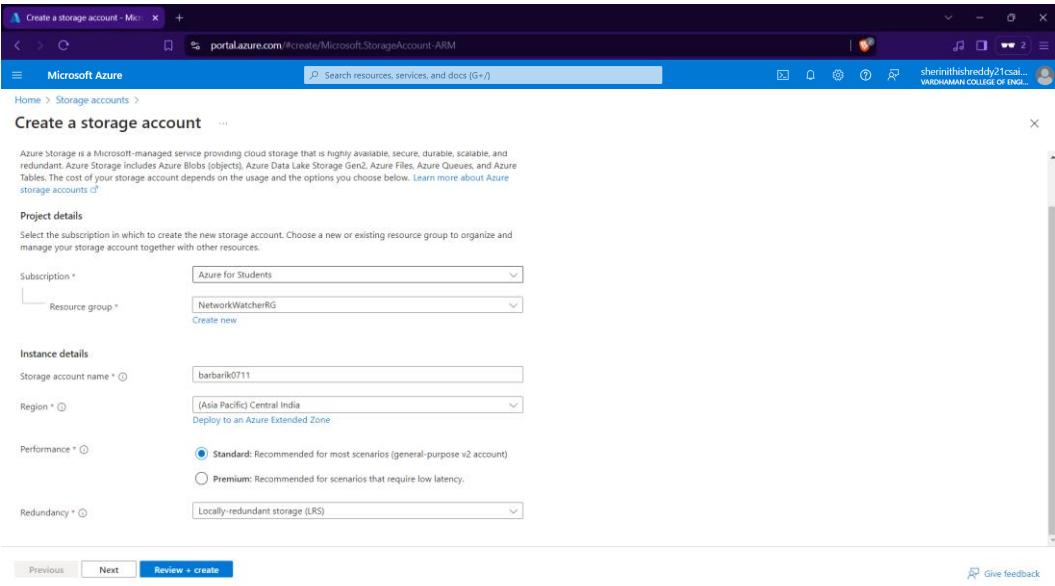
LUN	Disk name	Storage type	Size (GB)	Max IOPS	Max throughput (MB/s)	Encryption	Host caching
0	vm_DataDisk_0	Premium SSD LRS	30	120	25	SSE with PMK	Read-only

## Q14) 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.



The screenshot shows the 'Storage accounts' page in the Microsoft Azure portal. The top navigation bar includes 'Storage accounts', 'Vardhaman College of Engineering (vardhaman.org)', and user information 'sherinithreddy21csd... VARDHAMAN COLLEGE OF ENGL...'. Below the navigation is a search bar and filter options: 'Filter for any field...', 'Subscription equals all', 'Resource group equals all', 'Location equals all', and 'Add filter'. A message at the top states 'Showing 0 to 0 of 0 records.' Below this is a table header with columns: Name ↑, Type ↑, Kind ↑, Resource group ↑, Location ↑, and Subscription ↑. A large 'No storage accounts to display' message is centered, accompanied by a small icon of a server or storage unit. Below the message is a descriptive text block: 'Create a storage account to store up to 500TB of data in the cloud. Use a general-purpose storage account to store object data, use a NoSQL data store, define and use queues for message processing, and set up file shares in the cloud. Use the Blob storage account and the hot or cool access tiers to optimize your costs based on how frequently your object data is accessed.' A prominent blue 'Create storage account' button is located below the text, along with a 'Learn more' link and a 'Give feedback' button.

The screenshot shows the 'Create a storage account' wizard, Step 1: Project details. The title is 'Create a storage account' with a back arrow to 'Storage accounts'. The page has a sub-header: 'Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. Learn more about Azure storage accounts'. The 'Project details' section contains fields for 'Subscription' (set to 'Azure for Students') and 'Resource group' (set to 'NetworkWatcherRG'). Below these are sections for 'Instance details': 'Storage account name' (input field 'barbarik0711'), 'Region' (dropdown 'Region (Asia Pacific) Central India'), 'Performance' (radio buttons for 'Standard' and 'Premium' - 'Standard' is selected), and 'Redundancy' (dropdown 'Locally-redundant storage (LRS)'). At the bottom are 'Previous' and 'Next' buttons, and a 'Review + create' button.

Step-2: After deployment od 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.

Successfully updated static website settings for barbarik0711. Settings may take up to 30 seconds to take effect.

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

Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
Untitled-1						
No results						

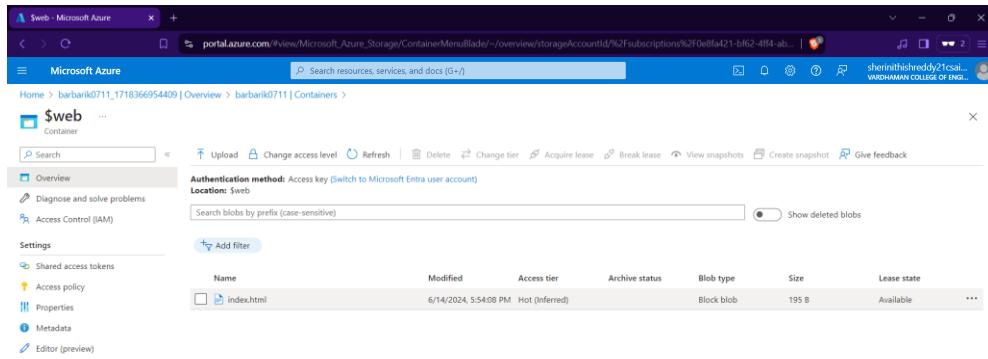
Step-5: Make a index.html file make sure to have the same name as given in static website.

```

1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>Welcome to Site!</title>
5      </head>
6      <body>
7          <h1>Heading</h1>
8          <p>This is my 1st static web host though azure.</p>
9      </body>
10     </html>

```

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



The screenshot shows the Microsoft Azure Storage Container Overview page for a container named '\$web'. The page includes a search bar, navigation links for Overview, Diagnose and solve problems, Access Control (IAM), Settings, Shared access tokens, Access policy, Properties, Metadata, and Editor (preview). At the top, there are buttons for Upload, Change access level, Refresh, Delete, Change tier, Acquire lease, Break lease, View snapshots, Create snapshot, and Give feedback. A message at the top states 'Authentication method: Access key (Switch to Microsoft Entra user account)' and 'Location: \$web'. Below this is a search bar for blobs by prefix (case-sensitive) and a toggle switch for 'Show deleted blobs'. A table lists one blob: 'index.html' with Name, Modified (6/14/2024, 5:54:08 PM), Access tier (Hot (Inferred)), Archive status, Blob type (Block blob), Size (195 B), and Lease state (Available).

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



The screenshot shows a browser window with the address bar set to 'barbarik0711z29.web.core.windows.net'. The page content displays 'Welcome to Site!' followed by the heading 'Heading' and the text 'This is my 1st static web host though azure.'