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Roll No : 31031523034

Cloud Computing Journal

Name : Shailesh Ashok Tagadghar
Class: M.Sc. - Sem ll. Part I
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Academic Year 2023 - 24

Department of Computer Science
Somaiya Vidyavihar University
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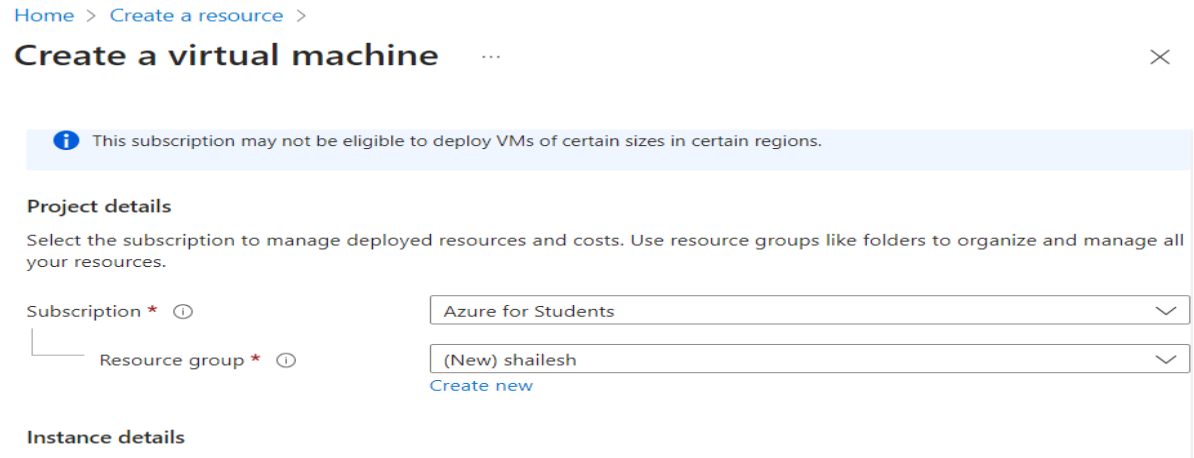
Practical 1

Aim : Creating a virtual machine using VMWare in Microsoft Azure.

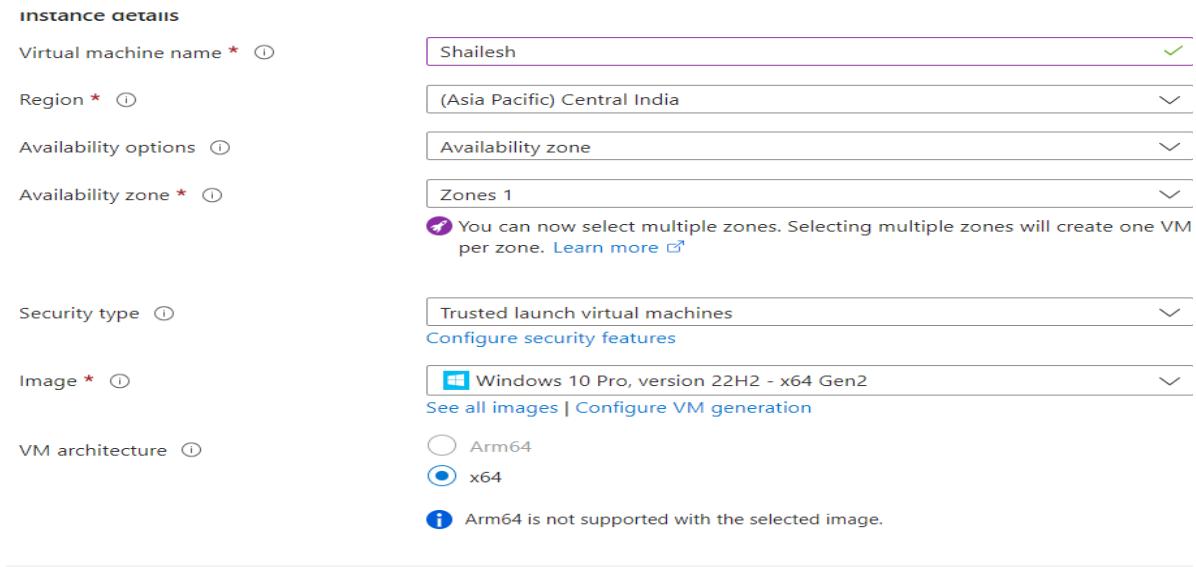
Steps :

1. Login to azure student login – use your credentials
2. Click in create a resource
3. Click on Create Virtual Machine

Step 1 : Click on create.



Step 2 : Create a resource group and give the name to your virtual machine.



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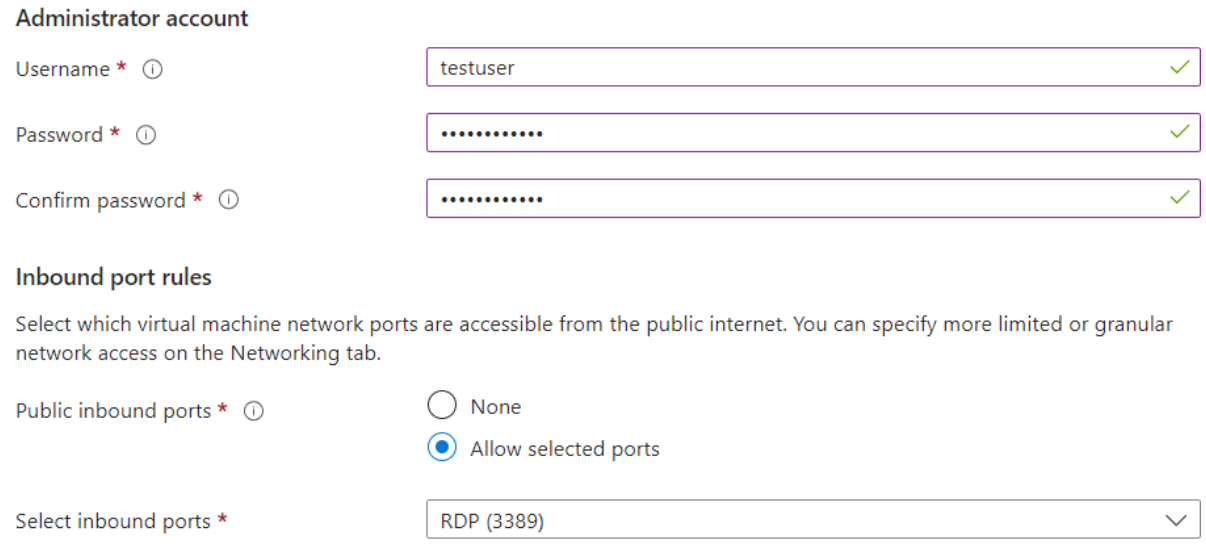
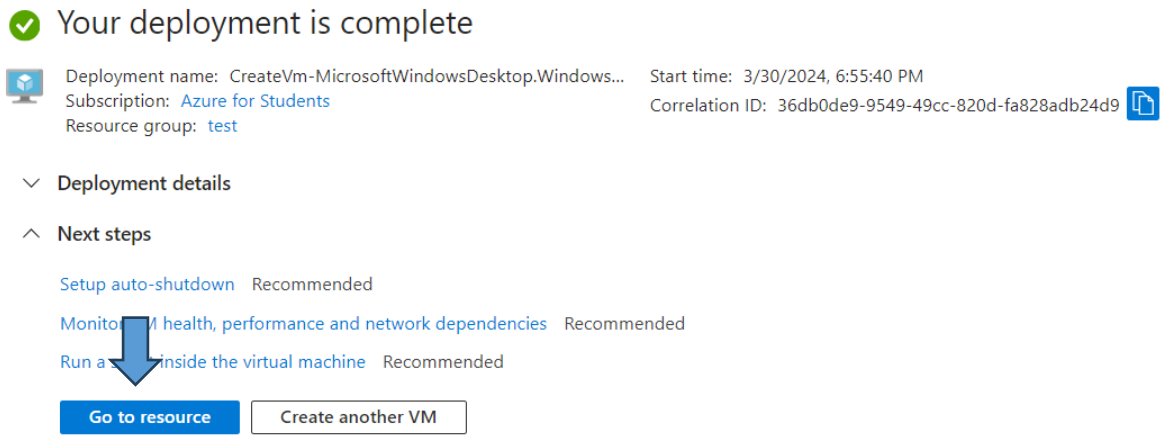


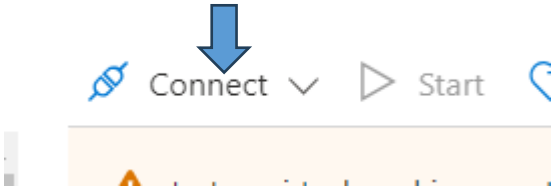
Step 3 : Don't change other details & Click on review+create. Click create.

It will take some time to create this VM

Step 4 : After deployment is completed , click on 'go to resources'.



Step 5 : After creating VM -- Click on 'connect'.



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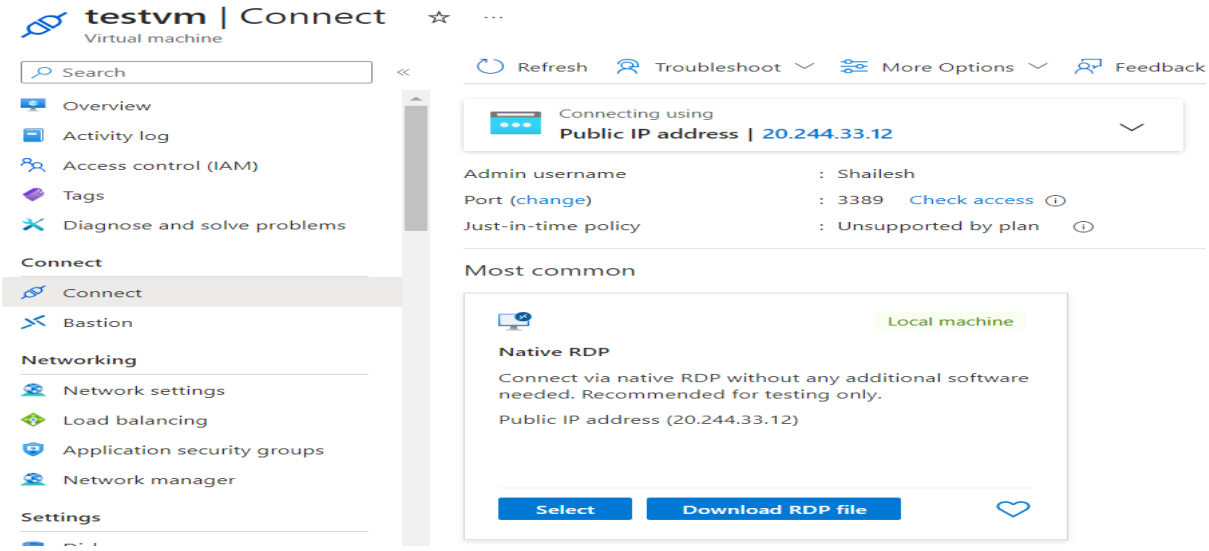
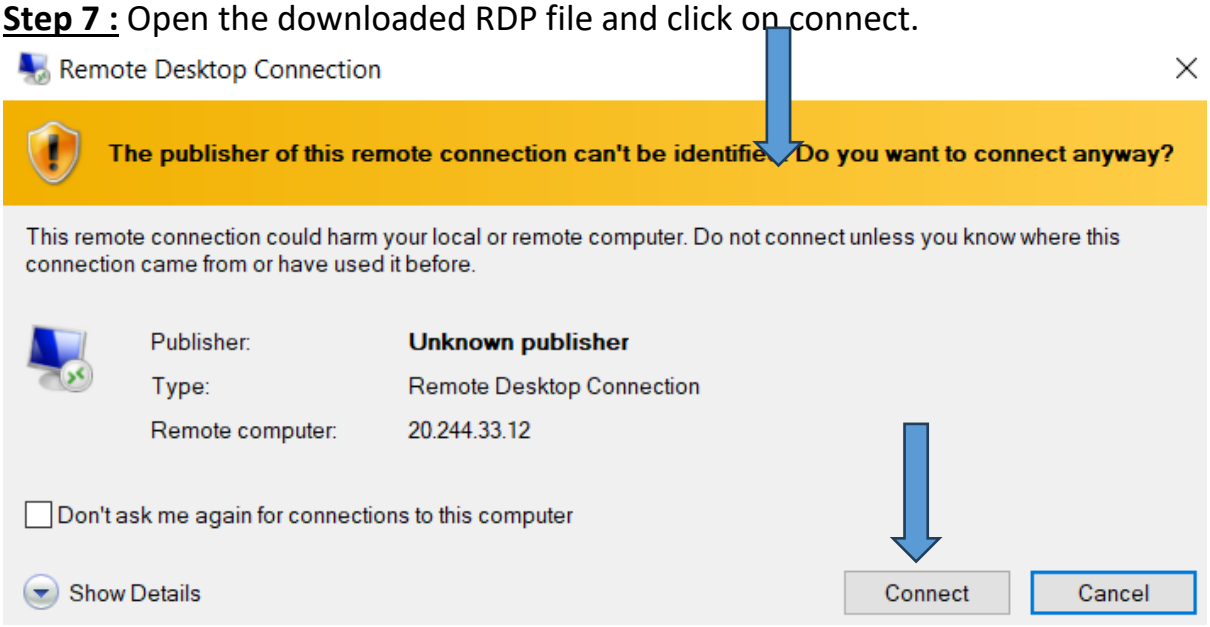
Step 6 : Now download the RDP file.



Step 7 : Open the downloaded RDP file and click on connect.



Step 8 : Enter your login credentials and click yes to continue.

Step 9 : Your virtual machine will be created now . After that Exit your virtual Machine by clicking on the exit button. **Done** with this practical.

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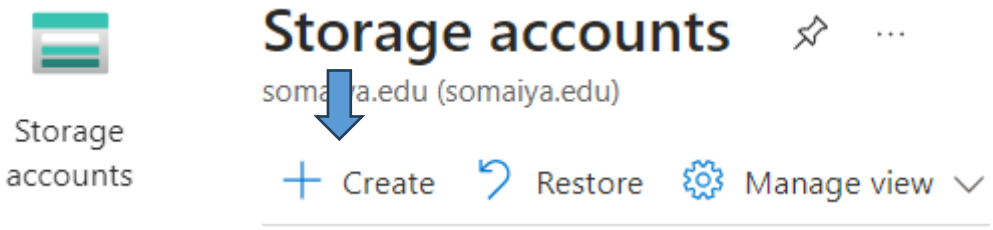
Practical 2

Aim : Creating a BLOB Storage using Storage Account.

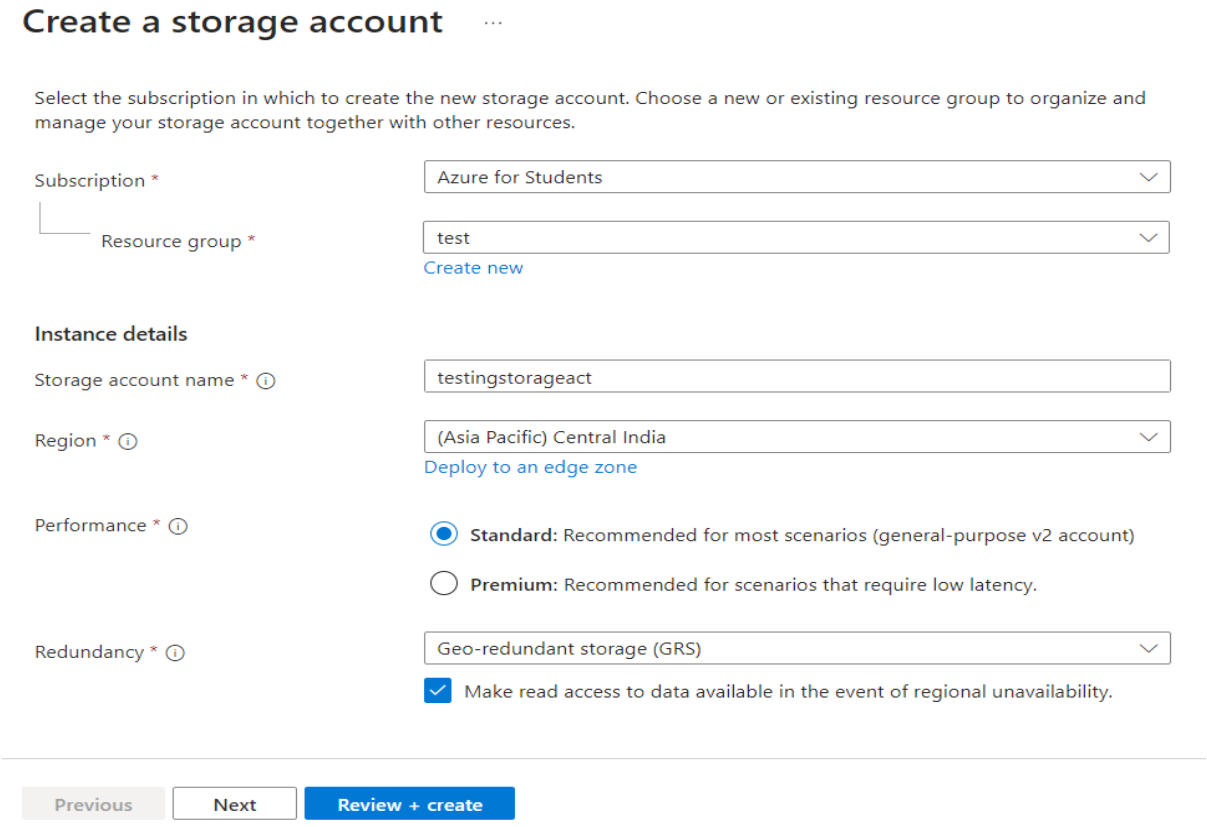
Steps :

1. Login to azure student login – use your credentials
2. Click in create a resource
3. Click on Create Storage Accounts

Step 1 : Search & Go to the storage account and click on create.



Step 2: Select the resource group and give a name to your storage account.



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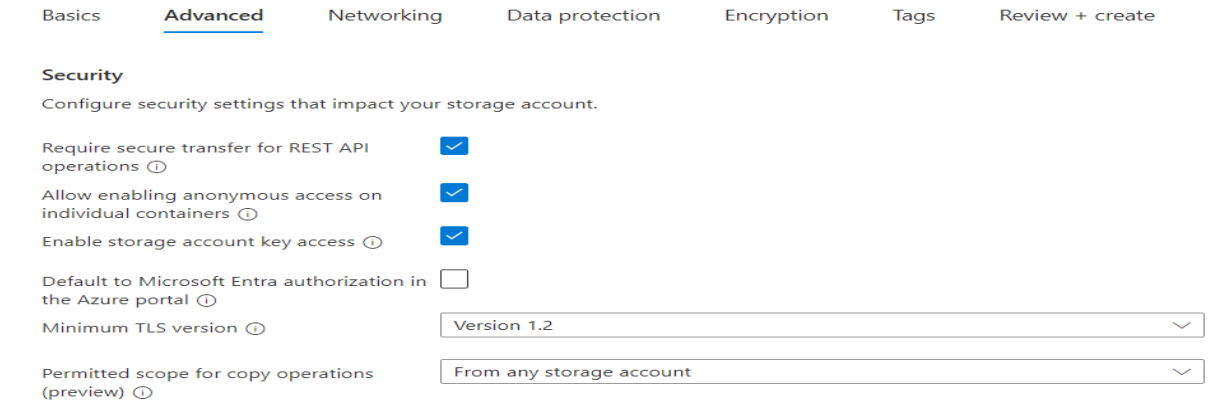
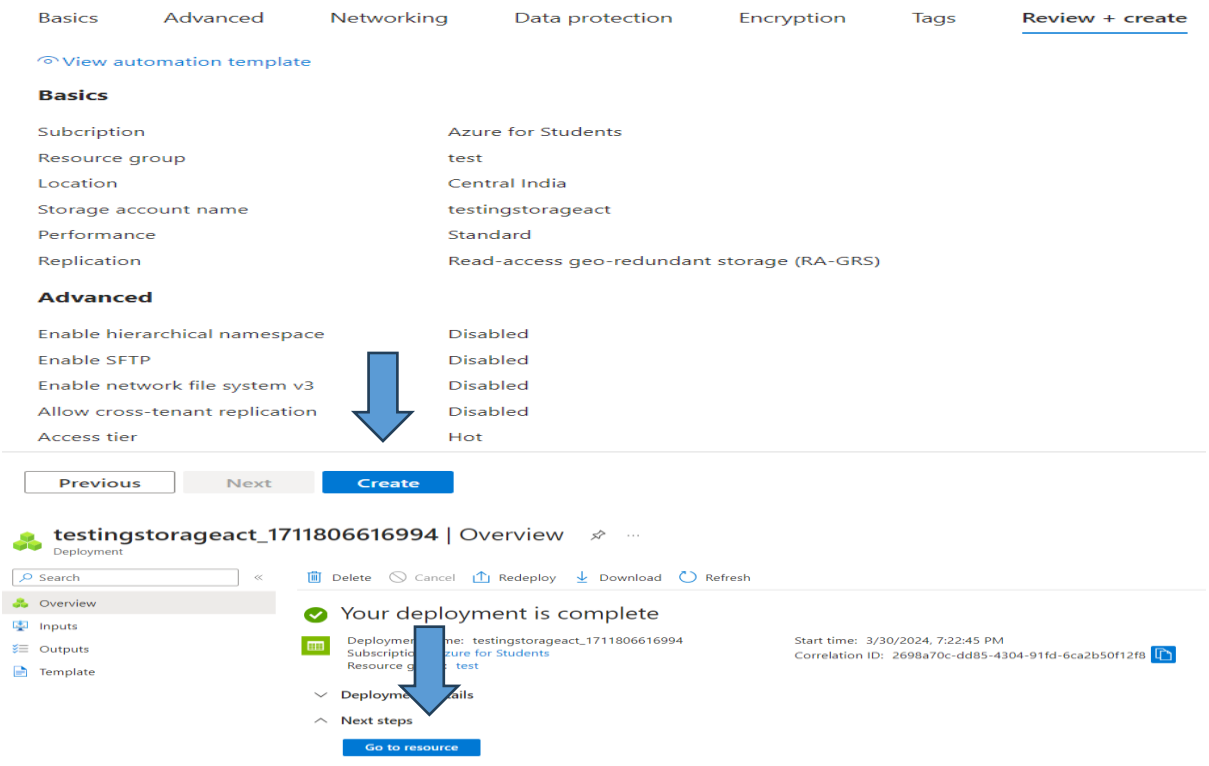
Advanced :

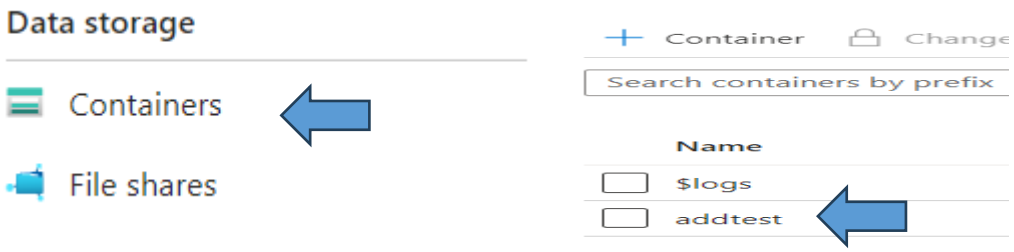


Don’t change other sections

Step 3 : Click on create.



Create New Container – new container created



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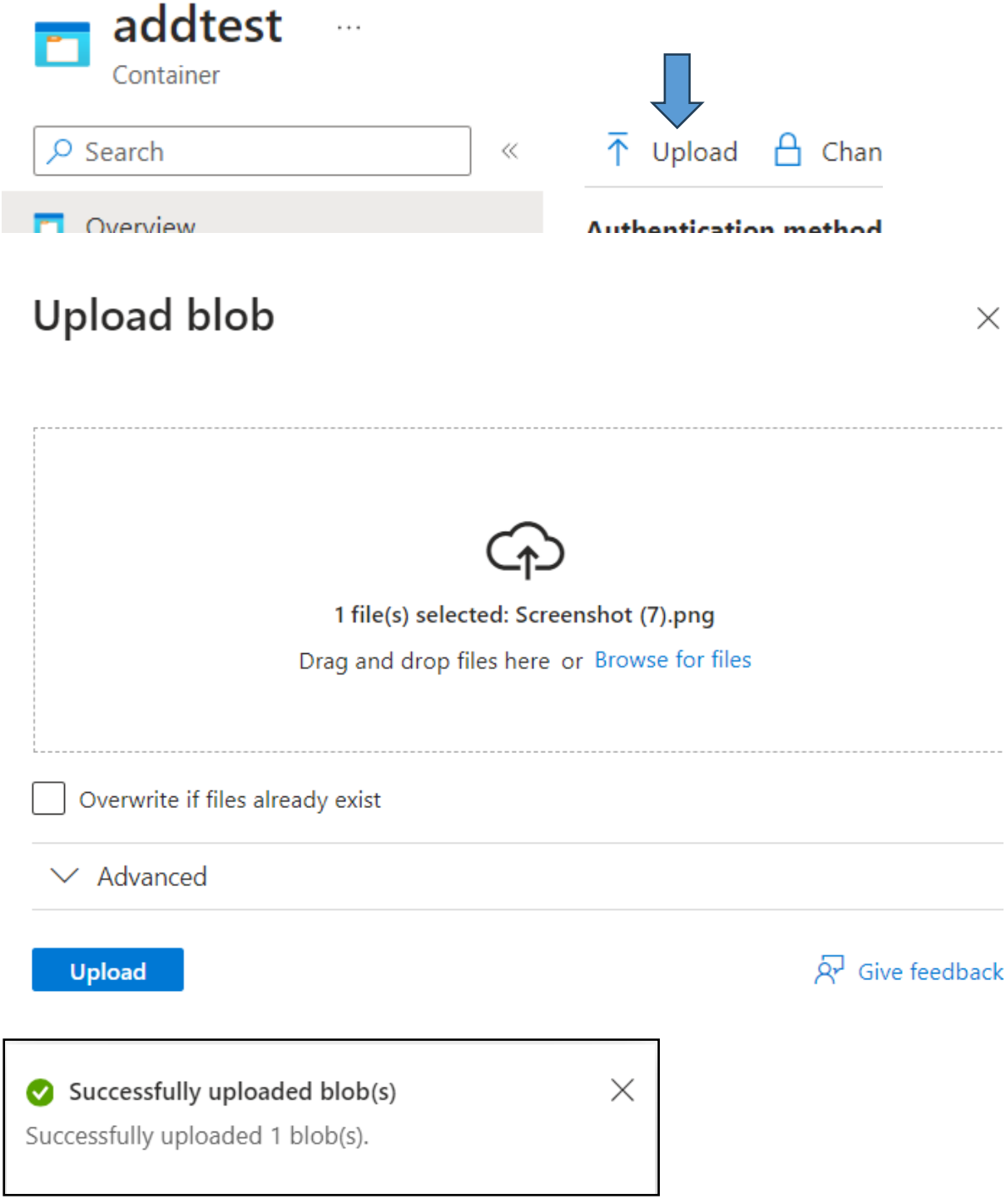
Step 4: Open created container and upload a file into



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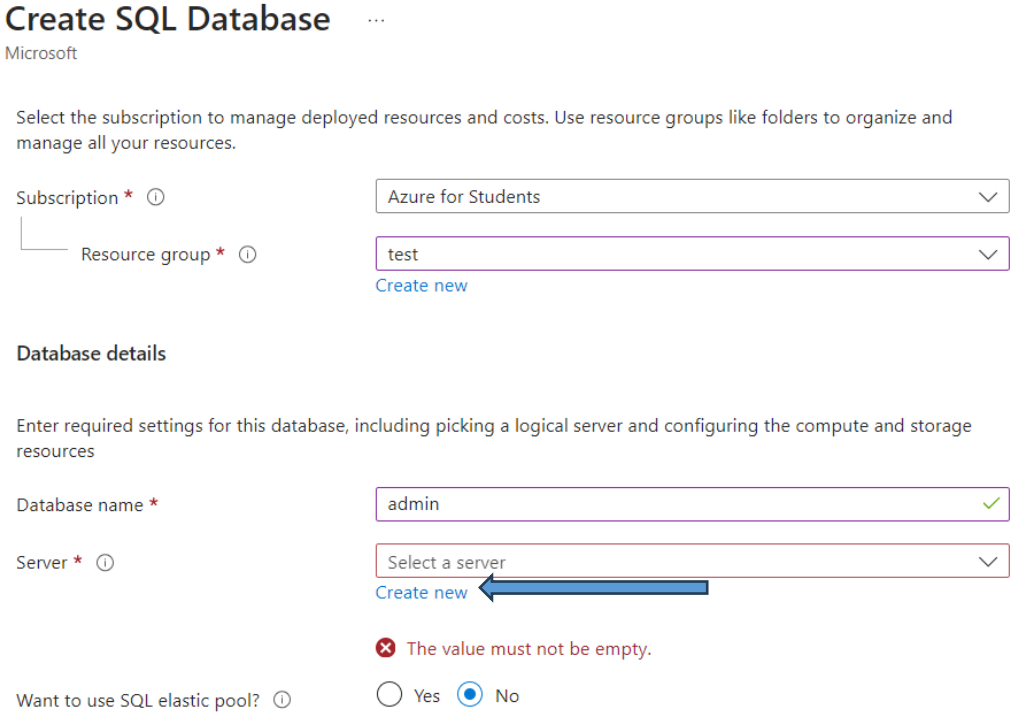
Practical 3

Aim : SQL Database using Azure.

Steps :

1. Login to azure student login – use your credentials
2. Click in create a resource
3. Click on Create SQL Database
4. Download **SSMS tool** for SQL Connection https://learn.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver16#download-ssms

1. Open SQL database and click on create.



Create New Server

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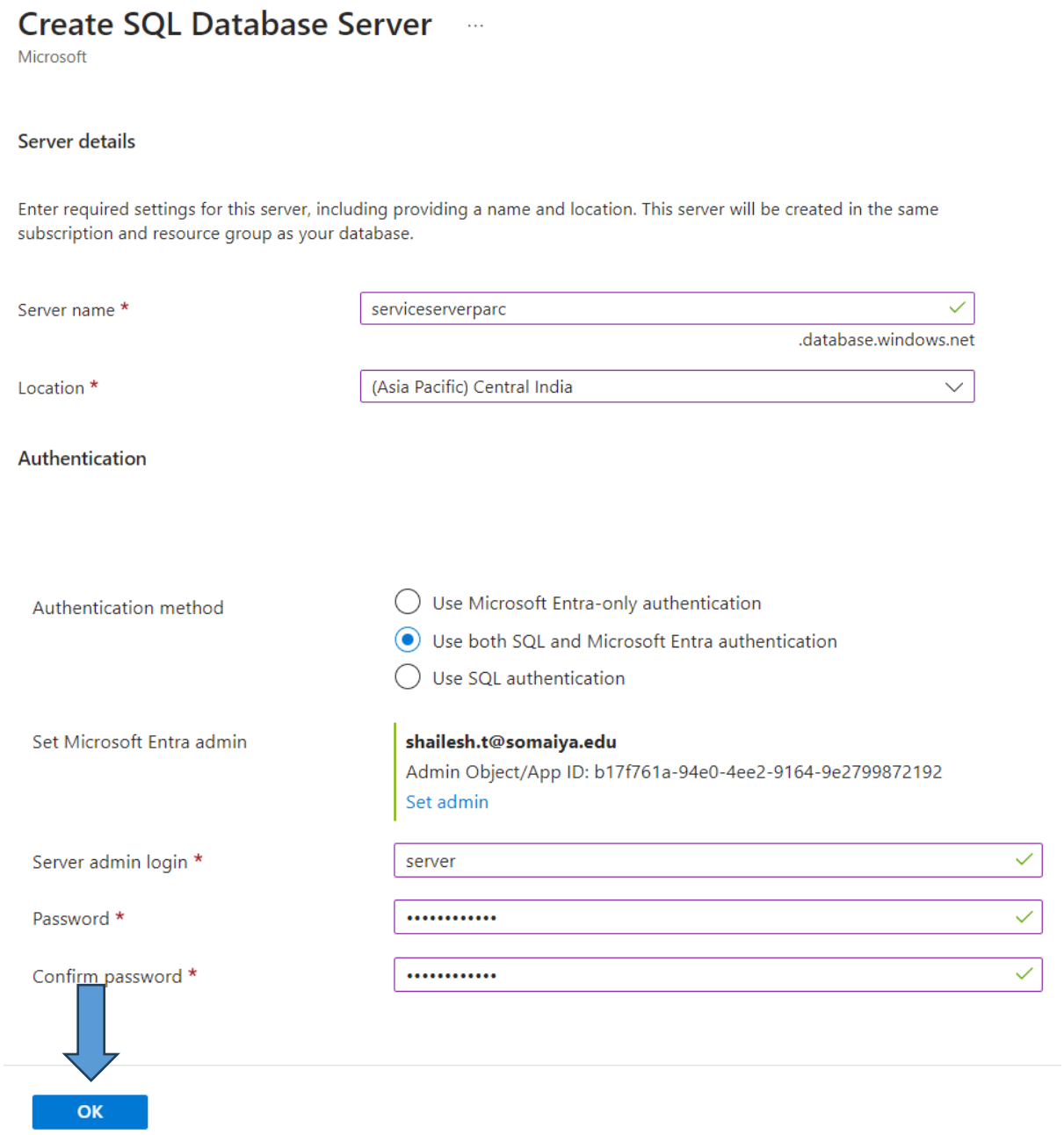
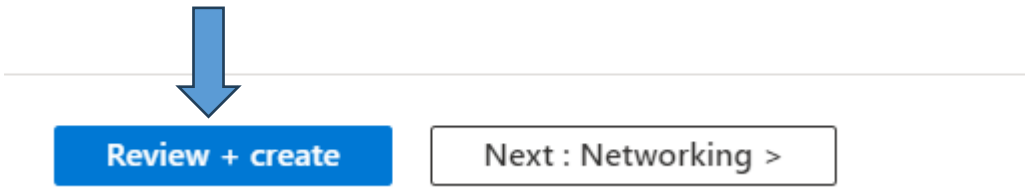
2.Create a new Server and give it a name.



Click Review + Create



Will take some time to create SQL database

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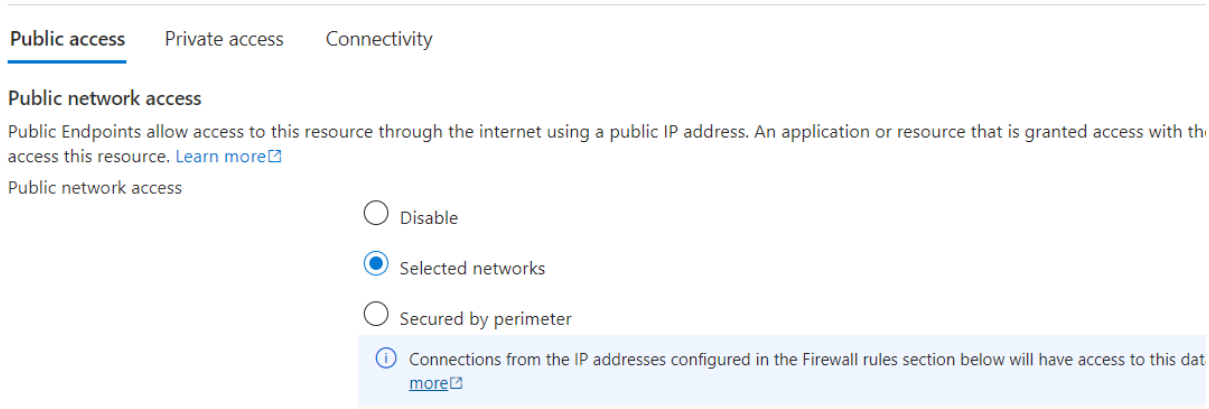
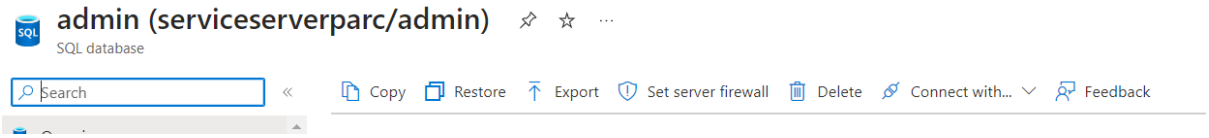
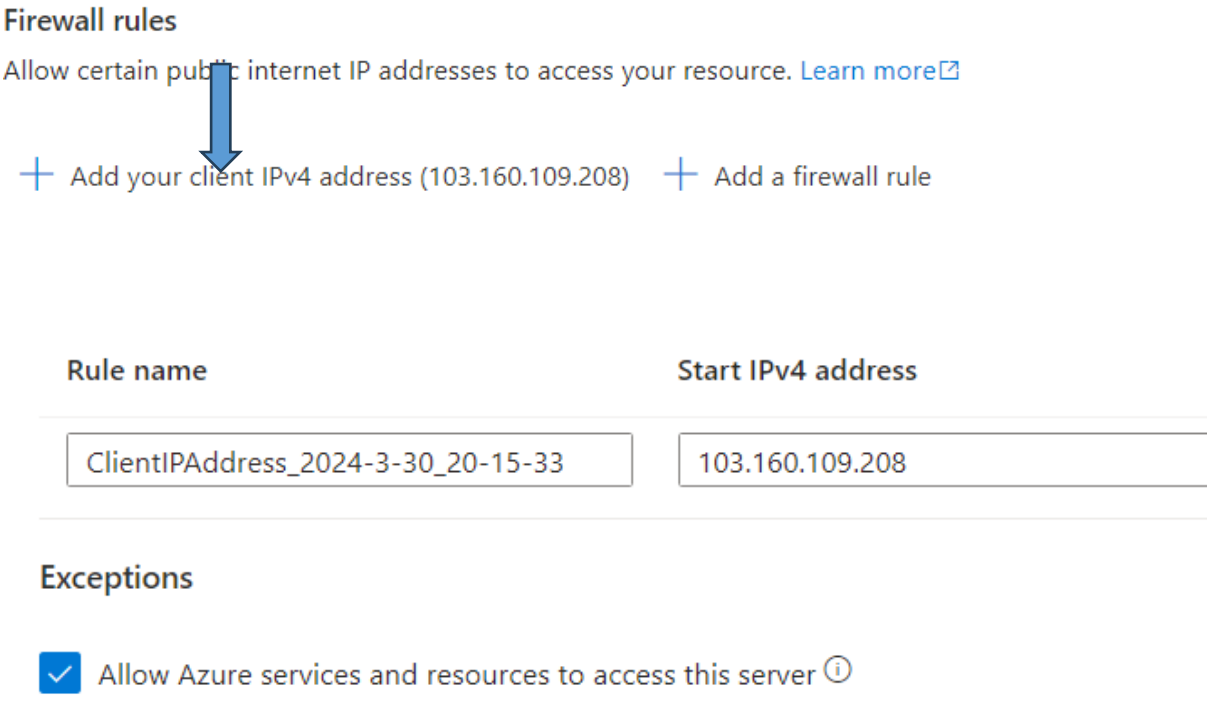
3. Click on Go To Resource and click on Set Server Firewall





Click on – client IPv4 address & Allow azure given check box



Save Changes.

4. Open SSMS App. and enter the following credentials and click on connect.

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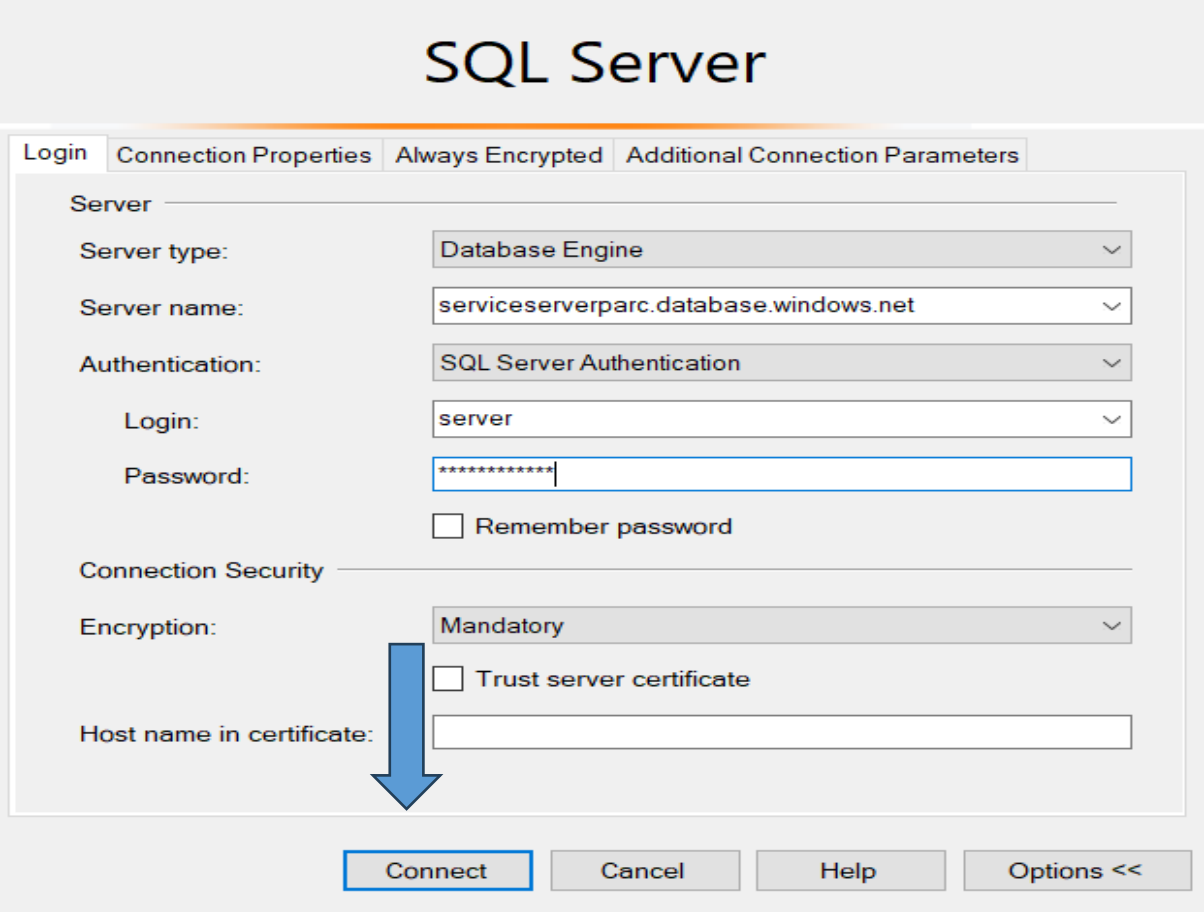
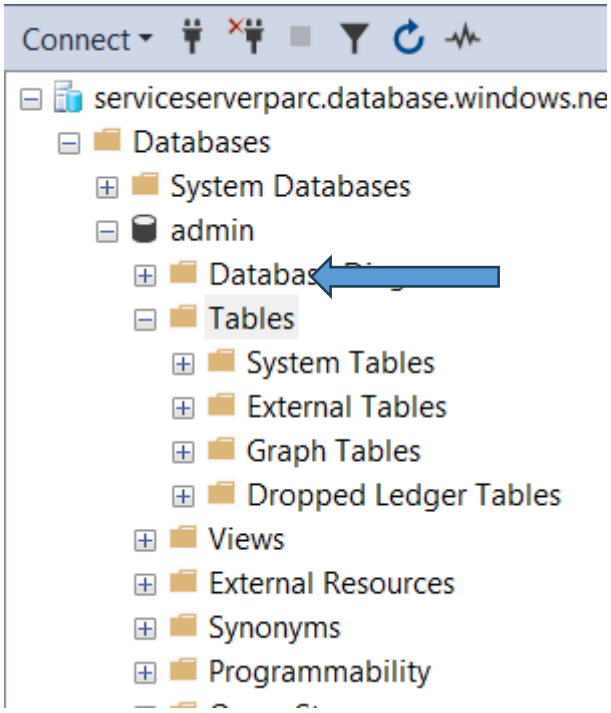


7.After successful login, create a new table and insert data into it.



Click on New Query then insert data into table

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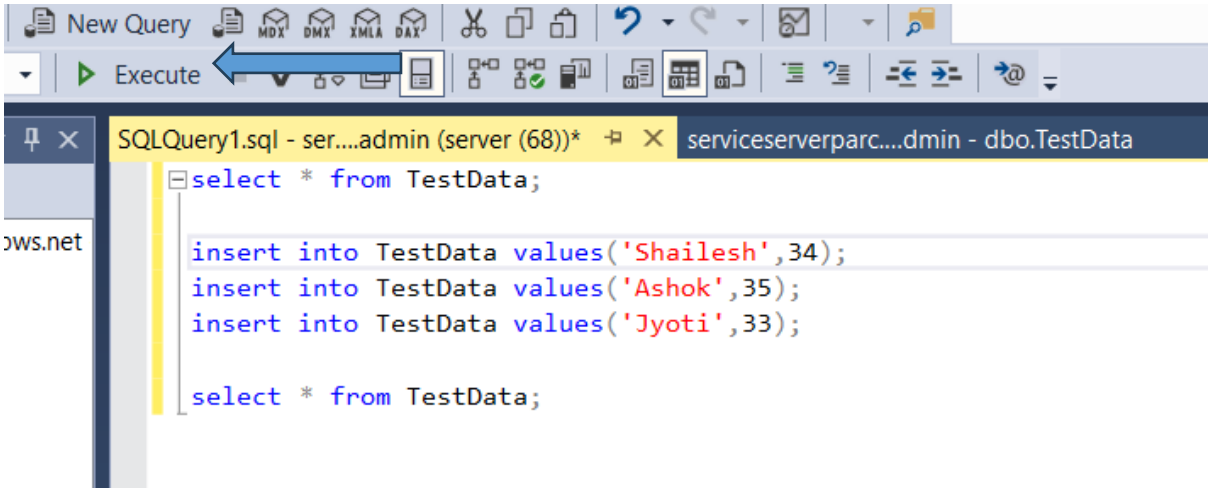
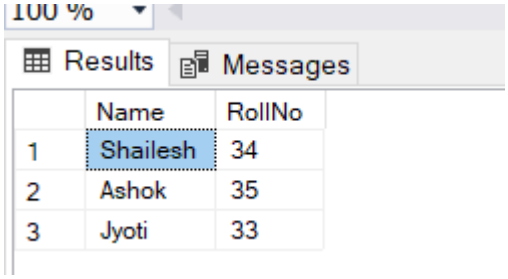
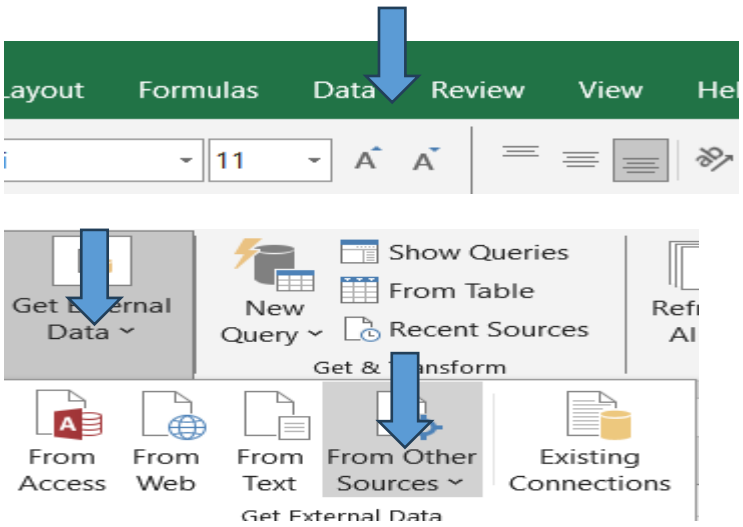
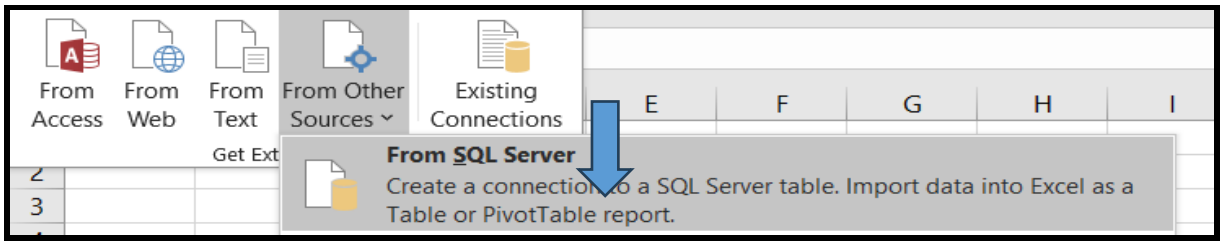


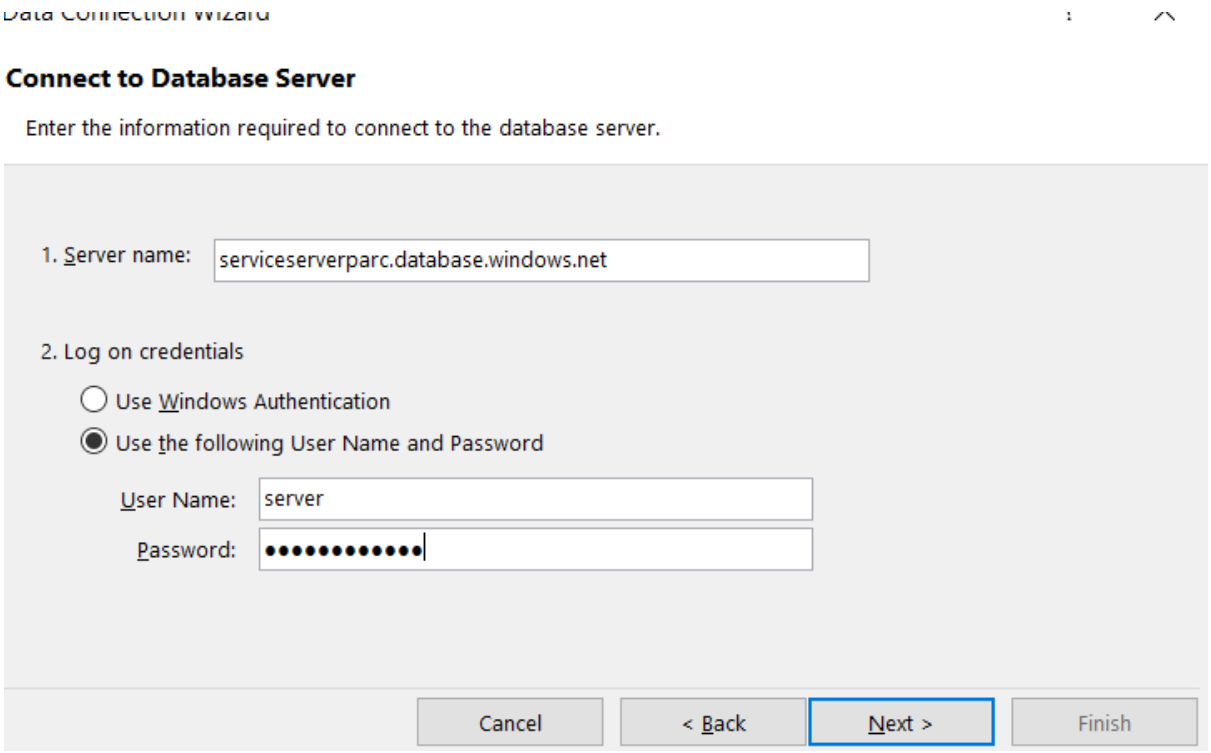


8. Open excel and create a new blank workbook. Go to Data Section and select “Get Data -> From Azure -> From Azure SQL Database”

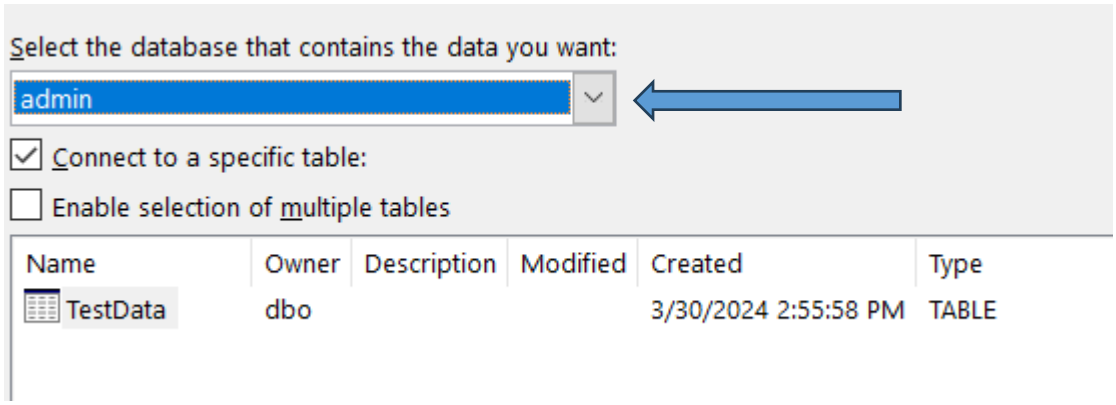




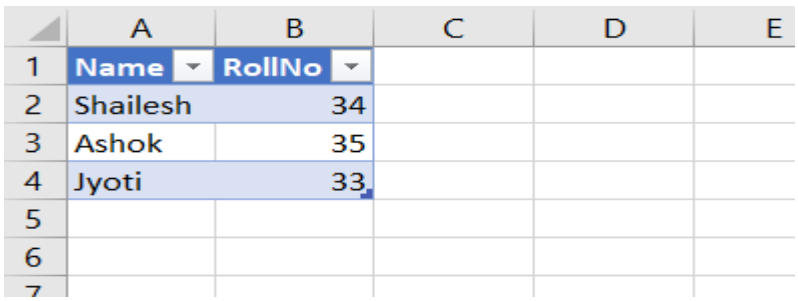
Now insert server name



Select admin from dropdown



Data will be presented on excel file



	A	B	C	D	E
1	Name	RollNo			
2	Shailesh	34			
3	Ashok	35			
4	Jyoti	33			
5					
6					

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Practical 4

Aim : Analyzing data using Power BI.

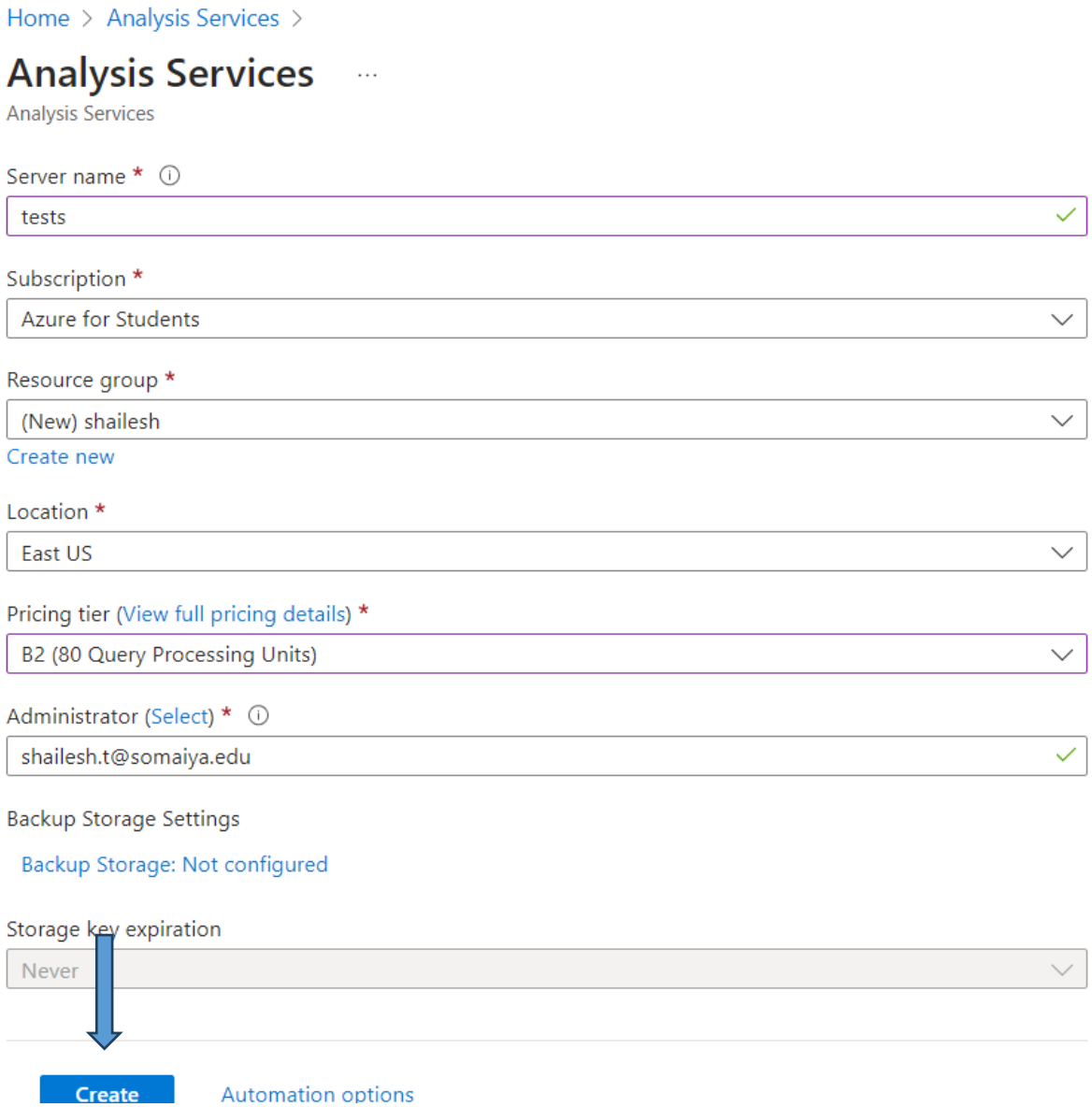
Steps :

1. Login to azure student login – use your credentials
2. Click in create a resource
3. Click on Analytics

Step 1 : Search for “Analysis Services” in the Categories section.

Select “Analysis Services” and click on Create.

Select “B2 80 Query Processing Unit” in Pricing Tier and click on create



It will take some time to create this service

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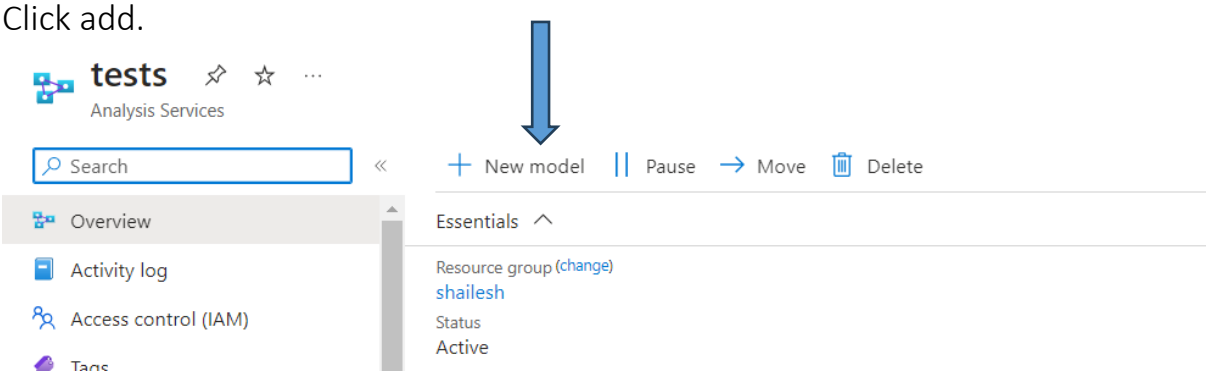
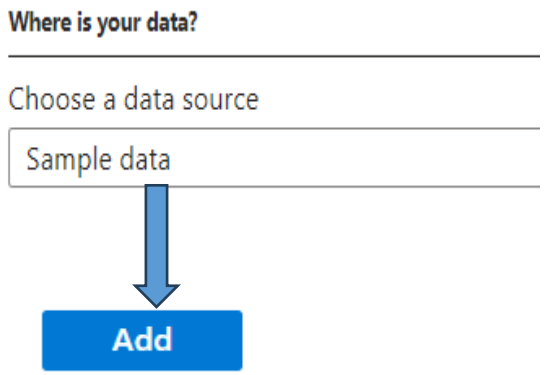
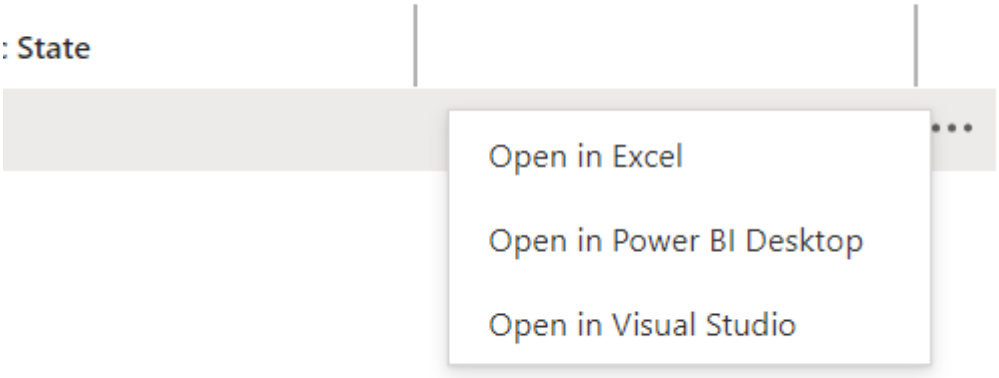
Step 2 : Once it is deployed, go to resources.
Click on “New Model”
Click add.





Step 3 : Click on “Context menu” in Models on Analysis Services Server and click on “Open in Excel” or “Open in Power BI” and download it.



Open it with Excel and login with your microsoft login

Step 5: Now open it in Excel and Perform same actions to it.

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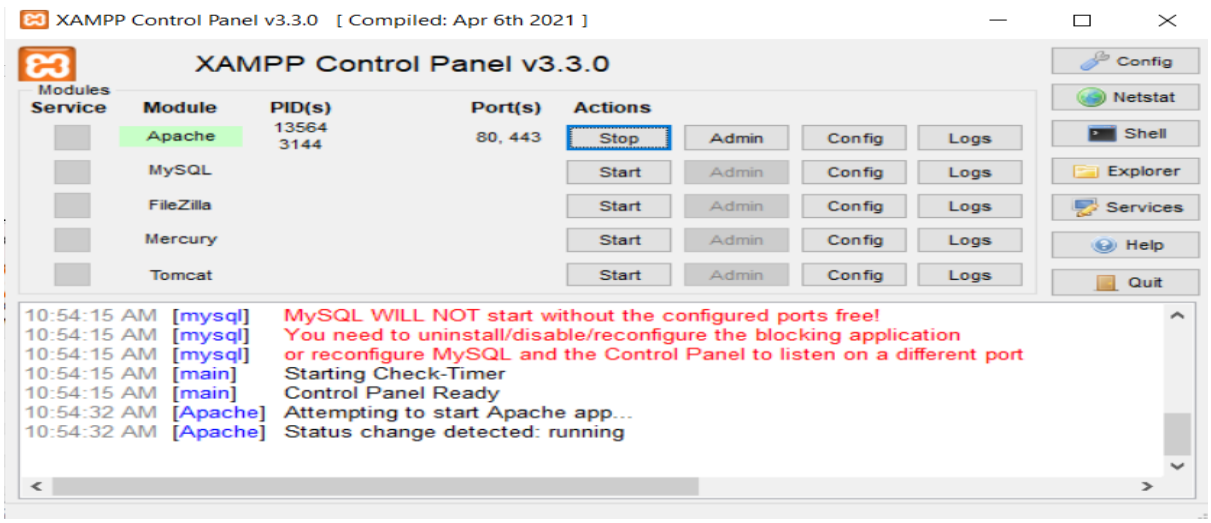
Practical 5

Aim : Web Feeds using DevOps (Azure) and RSS .

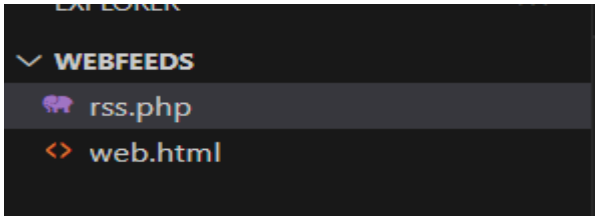
Steps : Using RSS -- Xampp

1. Download Xampp Server

Step 1 : Open XAMPP Control Panel and start the Apache service.



Step 2: Open Xampp folder – then go to htdocs – create new folder name WebFeeds – craete new two file html and php extention file.



Web.html code :

```
<html>
    <head>
        <script>
            function showRSS(str) {
                if (str.length == 0) {
                    document.getElementById("output").innerHTML = "";
                    return;
                }
```

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```
                if (window.XMLHttpRequest) {
                    xmlhttp = new XMLHttpRequest();
                } else {
                    xmlhttp = new ActiveXObject("Microsoft.XMLHTTP");
                }
                xmlhttp.onreadystatechange = function () {
                    if (xmlhttp.readyState == 4 && xmlhttp.status ==
200) {
                        document.getElementById("output").innerHTML =
                            xmlhttp.responseText;
                    }
                };
                xmlhttp.open("GET", "rss.php?q=" + str, true);
                xmlhttp.send();
            }
        </script>
    </head>
    <body>
        <p>Please select an option to get RSS:</p>
        <form>
            <select onchange="showRSS(this.value)">
                <option value="">Select an RSS-feed:</option>
                <option value="cnn">CNN</option>
                <option value="bbc">BBC News</option>
            </select>
        </form>
        <br />
        <div id="output">RSS-feeds</div>
    </body>
</html>
```

Rss.php

```
<?php
$q = $_GET["q"];


if ($q == "cnn") {
    $xml = ("http://rss.cnn.com/rss/edition_entertainment.rss");
} elseif ($q == "bbc") {
    $xml =
("http://newsrss.bbc.co.uk/rss/newsonline_world_edition/americas/rss.xml");
}
```

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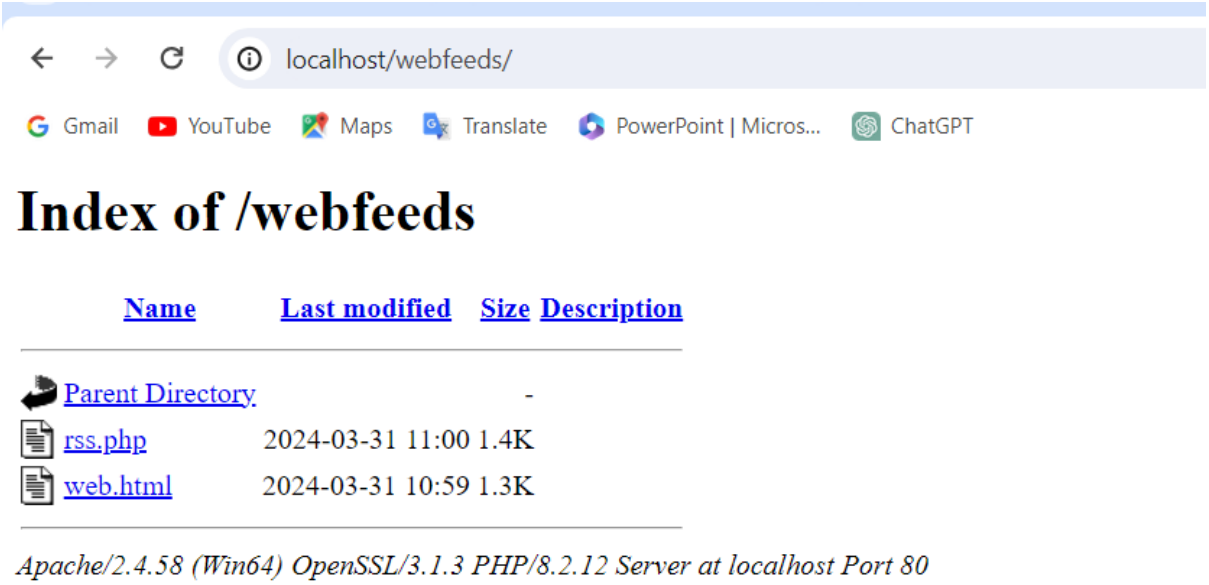
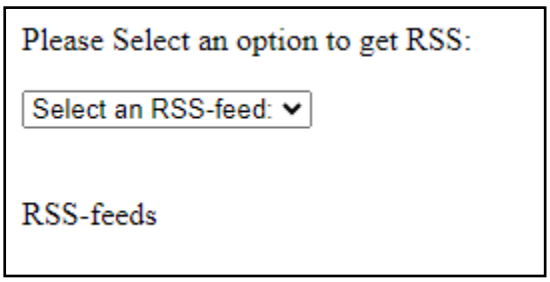
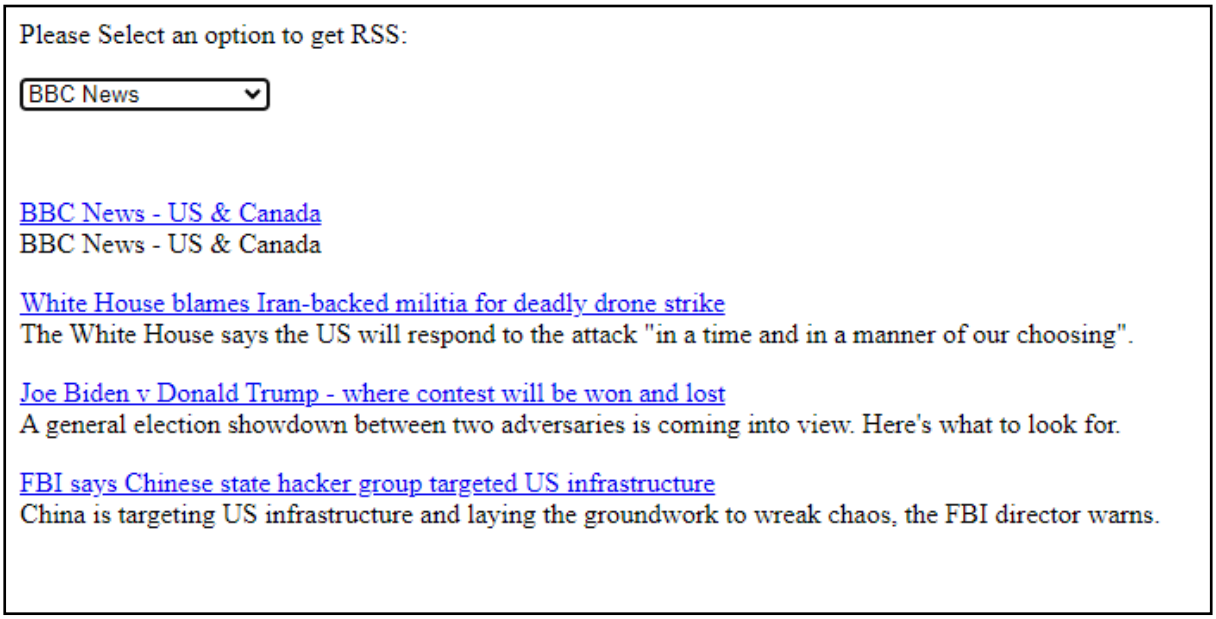
```php
$xmlDoc = new DOMDocument();
$xmlDoc->load($xml);


$channel = $xmlDoc->getElementsByTagName('channel')->item(0);


$channel_title = $channel->getElementsByTagName('title')
    ->item(0)->childNodes->item(0)->nodeValue;


$channel_link = $channel->getElementsByTagName('link')
    ->item(0)->childNodes->item(0)->nodeValue;


$channel_desc = $channel->getElementsByTagName('description')
    ->item(0)->childNodes->item(0)->nodeValue;


echo ("<p><a href = '" . $channel_link . "'>" .
    $channel_title . "</a>");
echo ("<br>");
echo ($channel_desc . "</p>");


$x = $xmlDoc->getElementsByTagName('item');


for ($i = 0; $i <= 2; $i++) {
    $item_title = $x->item($i)->getElementsByTagName('title')
        ->item(0)->childNodes->item(0)->nodeValue;
    $item_link = $x->item($i)->getElementsByTagName('link')
        ->item(0)->childNodes->item(0)->nodeValue;
    $item_desc = $x->item($i)->getElementsByTagName('description')
        ->item(0)->childNodes->item(0)->nodeValue;
    echo ("<p><a href = '" . $item_link . "'>" .
        $item_title . "</a>");
    echo ("<br>");
    echo ($item_desc . "</p>");
}
?>
```

Step 3: Open browser and type localhost/ followed by the name of your folder.
localhost/webfeed



Step 5: Now click on web.html to fetch all the web feeds of the provided website that you have mentioned in the html file.





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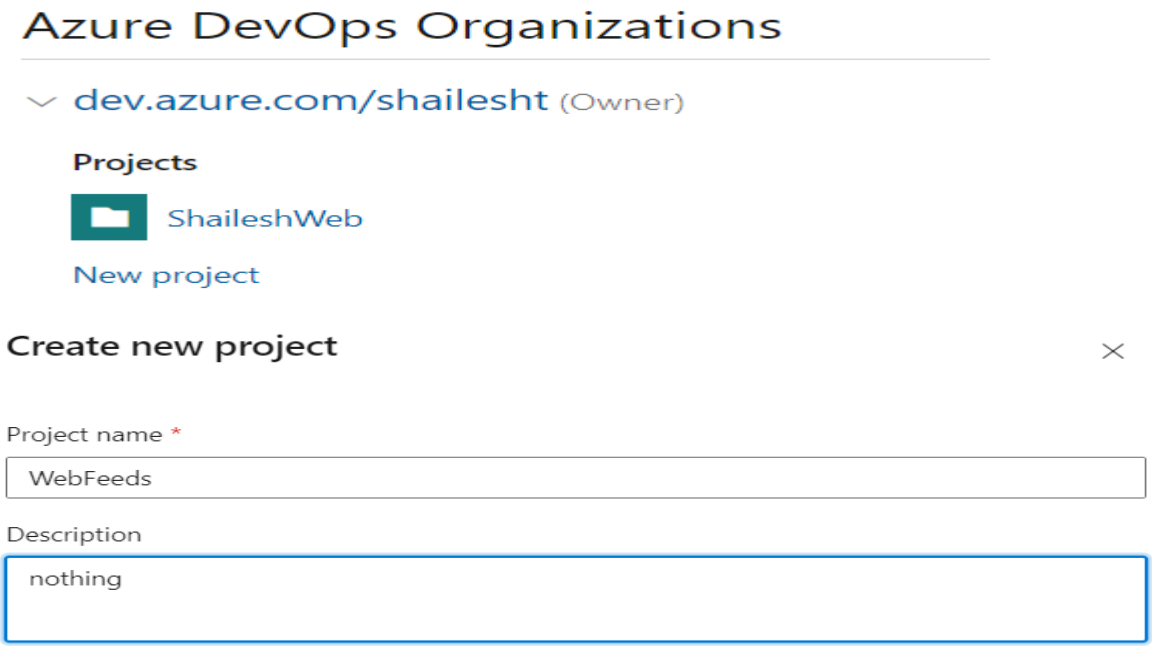
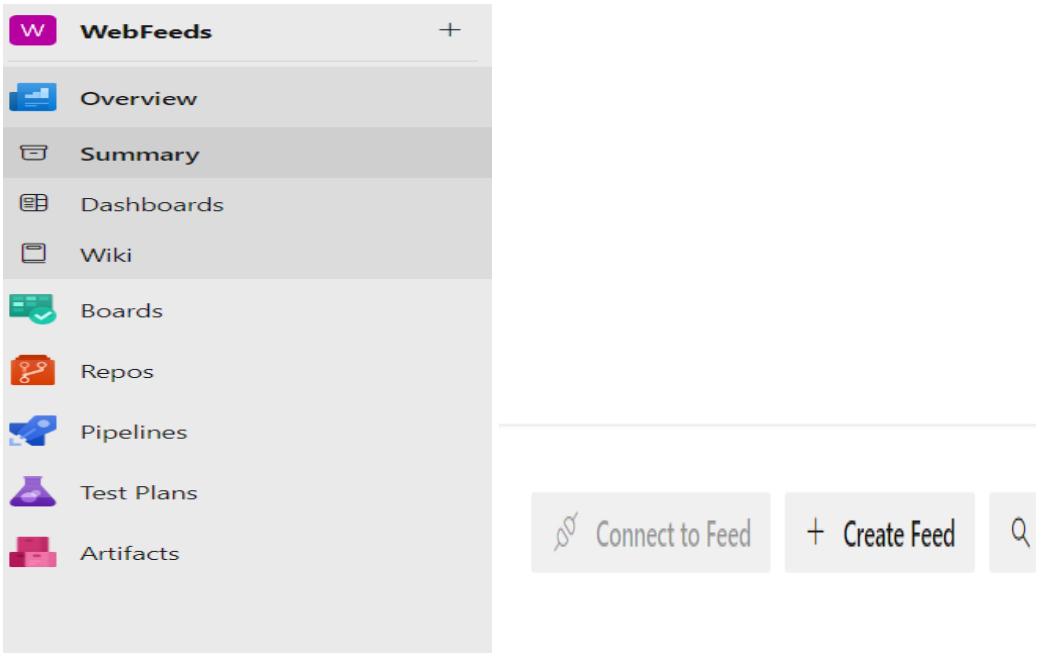
Steps : Using Azure Devops

1. Login to Azure Devops -- https://aex.dev.azure.com/me?mkt=en-US
2. Create new project



3. Click on create and click on artifact and create new feed



4. Create new feed and Done with this practical

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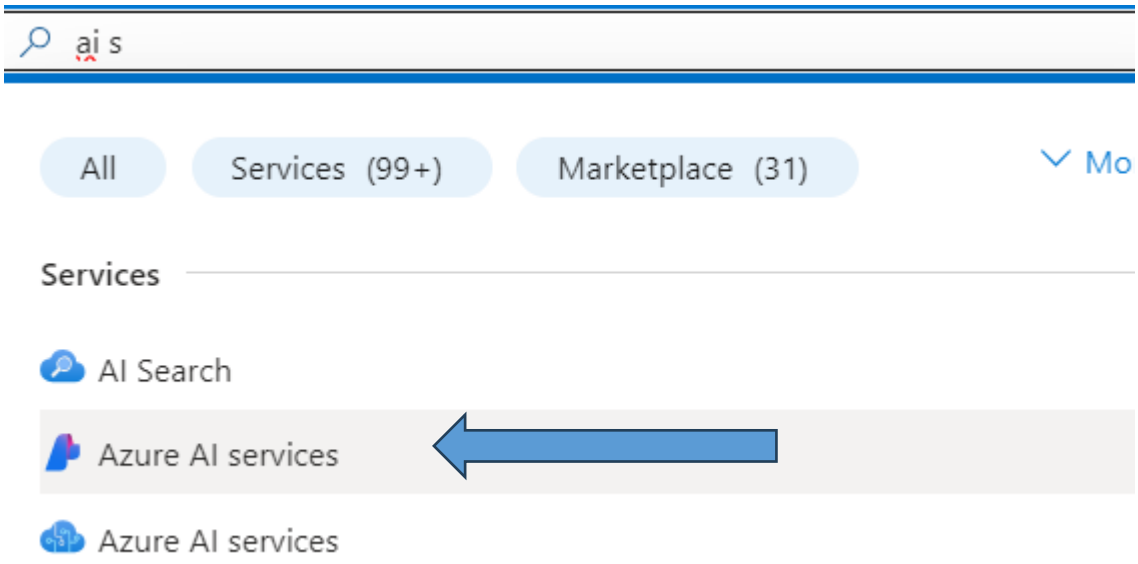
Practical 6

Aim : Artificial Intelligence Services in Cloud

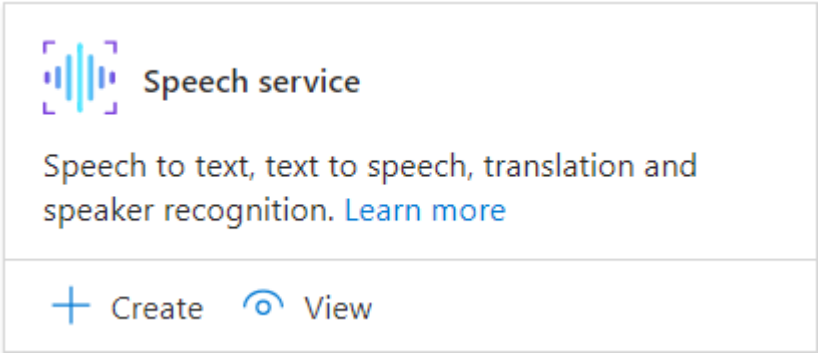
Steps :

1. Login to azure student login – use your credentials
2. Click in create a resource
3. Click on AI Services

Step 1 : Search for AI services and create new service



Step 2 : Click on create speech services + review / create.



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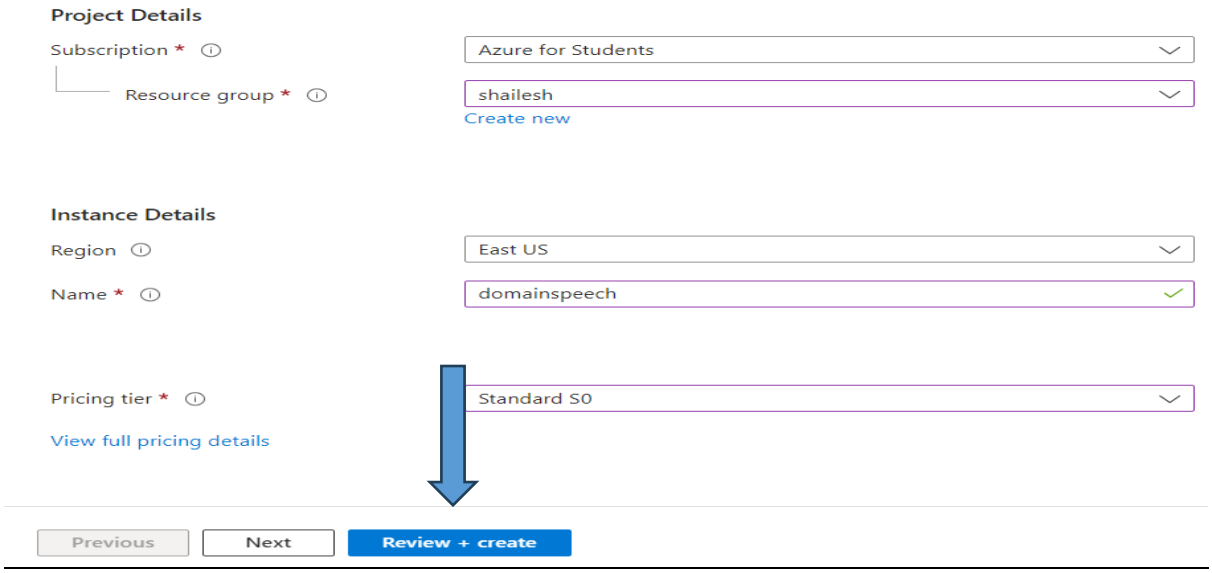
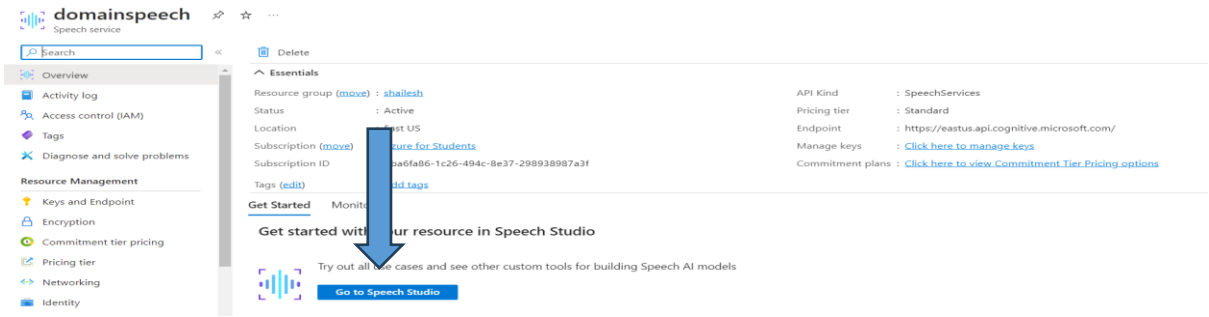
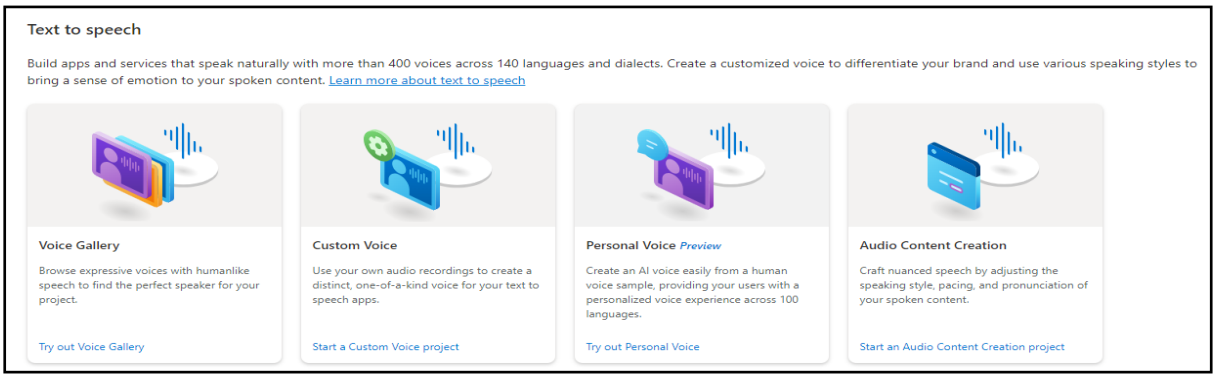
Roll No : 31031523034





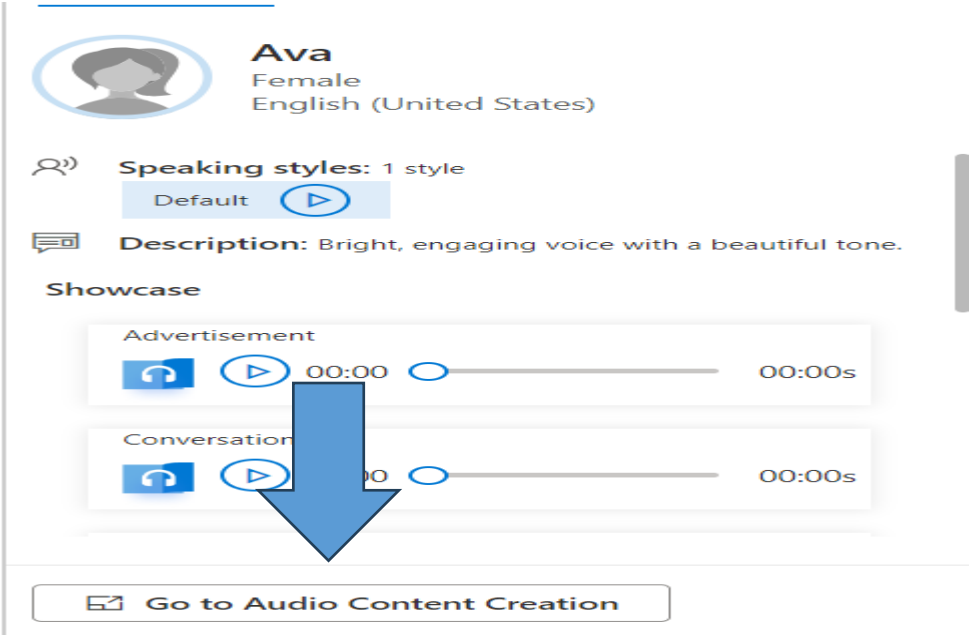
Select the services that you want to perform

<u>Step 3 :</u> After that , Click on ‘go to Speech studio’ , and then click on Voice Gallery.

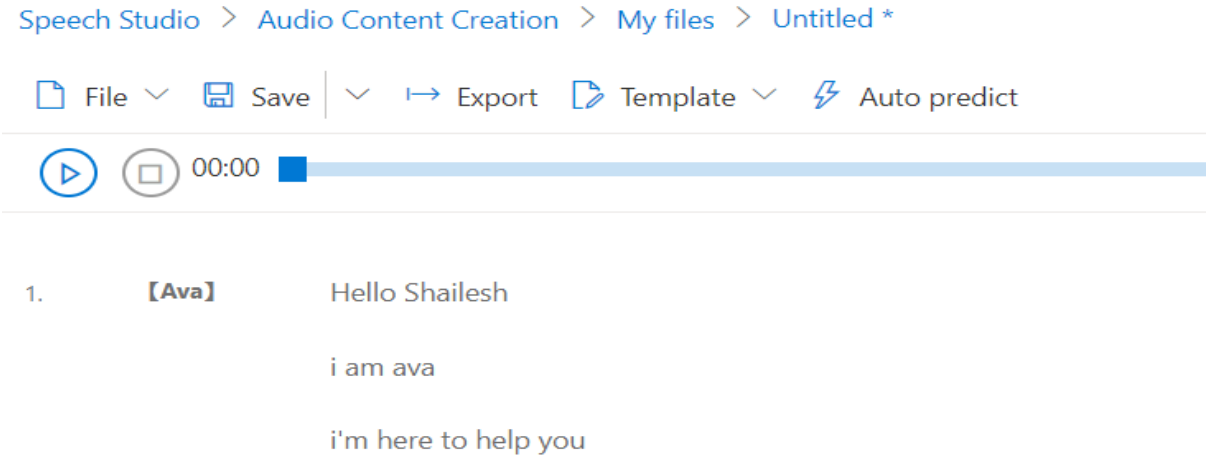


<u>Step 4 :</u> Click on ‘go to audio content creation’.

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

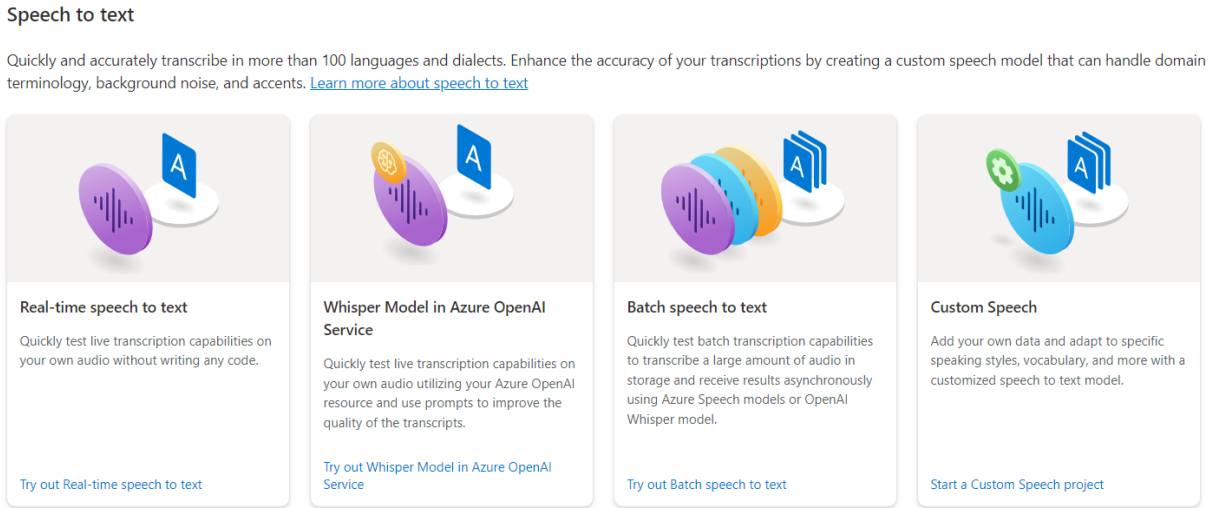


Step 7 : Type anything you want in the text area and play.



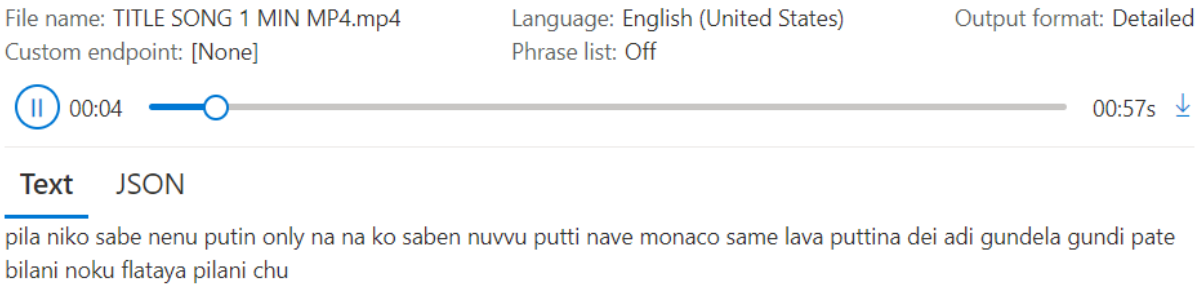
For Mp3 :

Step 8 : Click on 'Real time speech to text'.



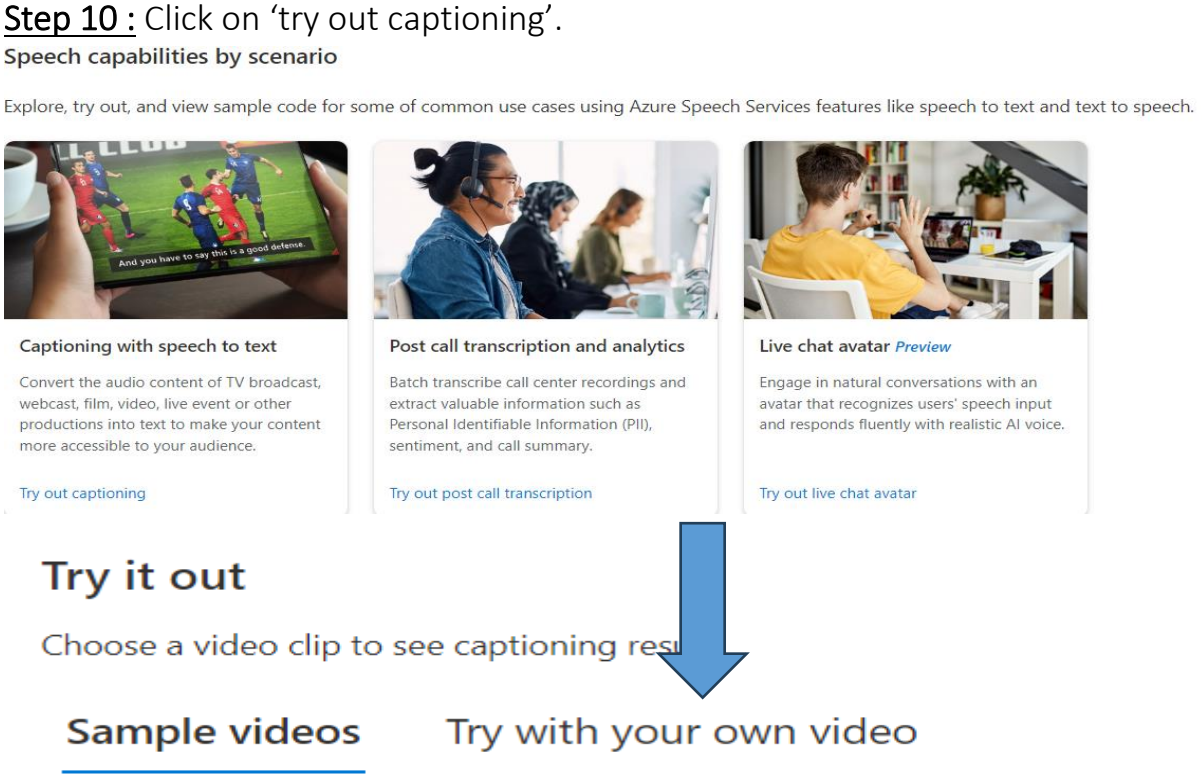
Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Step 9 : Download any MP3 / MP4 video from youtube and then drag and drop the mp3 file in 'choose audio files' and play the file.

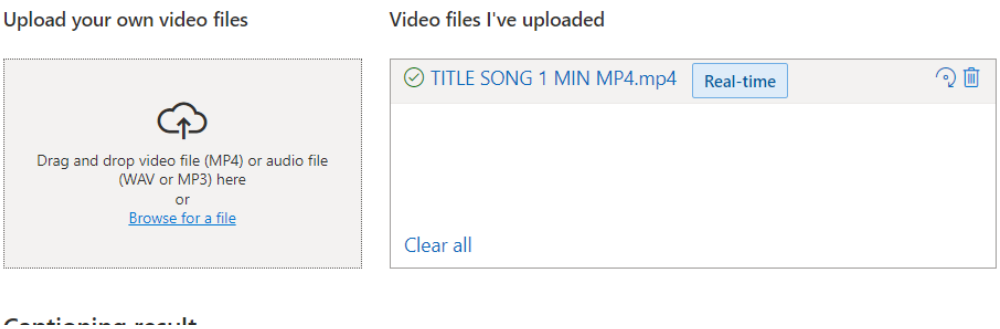


For Mp4 :

Step 10 : Click on 'try out captioning'.



Step 11 : Upload your Mp4 video and as per your settings your video will play.



Name : Shailesh Ashok Tagadghar
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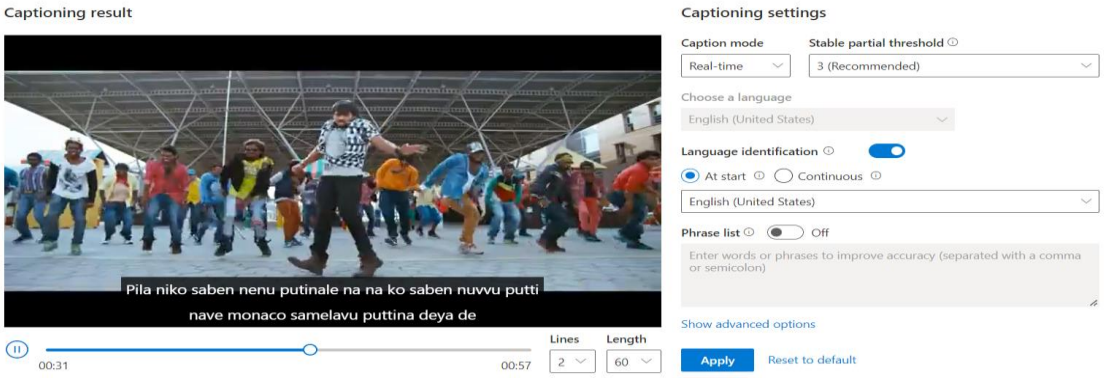
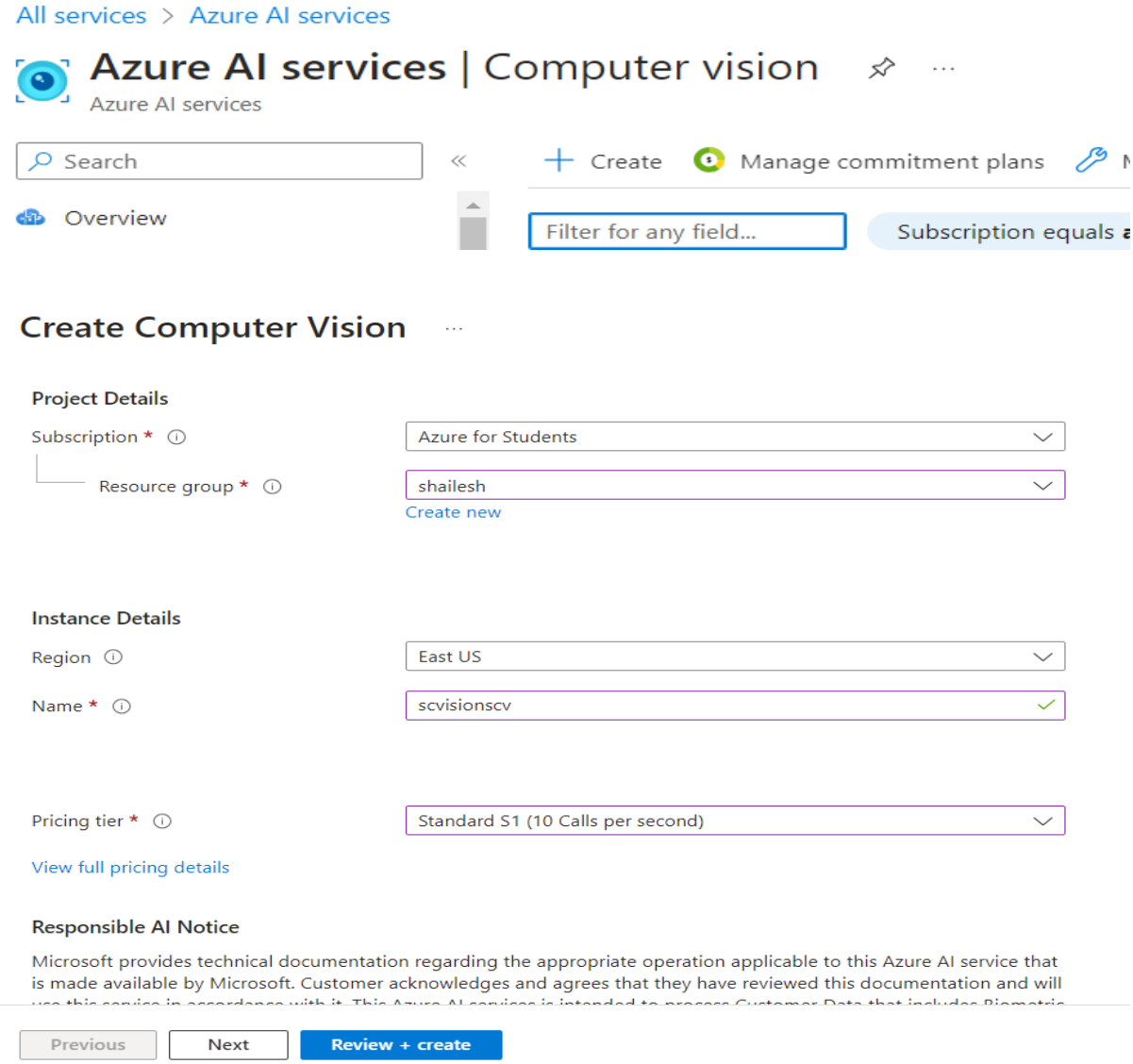


Step 10 : Back to AI Services -- Create Computer Vision



Check given check box agree with there condition

Click on review + create.

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

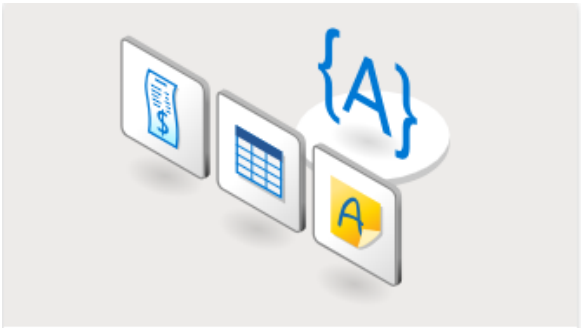
Get Started Monitoring

Get started with your resource in Vision Studio

Try out all Computer Vision features and build your own custom models

Go to Vision Studio

- Extract text from images



Extract text from images

Extract printed and handwritten style text from images and documents for supported languages.

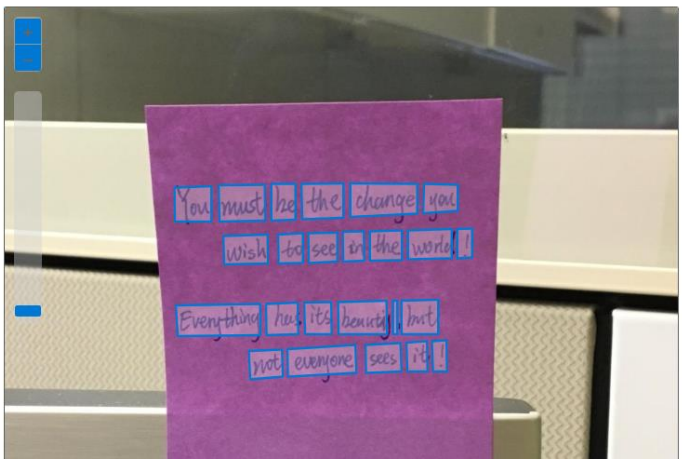
Try it out

Extract common tags from images

Use an AI model to automatically assign one or more labels to an image.

Try it out

Sample form #1



Detected attributes JSON

You must be the change you
wish to see in the world!
Everything has its beauty, but
not everyone sees it!

We can perform other services as well into this.

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Practical 7

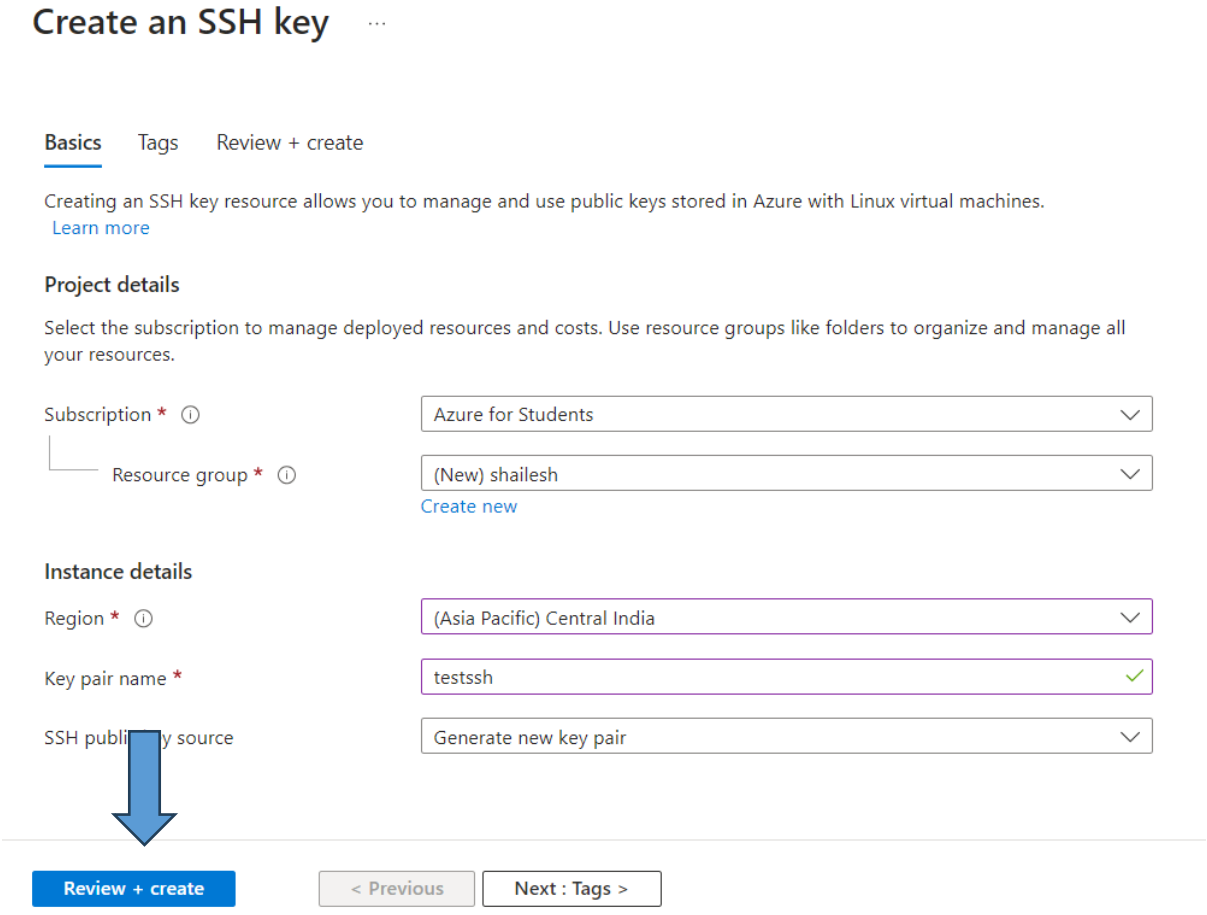
Aim : Generating SSH keys using azure

Steps :

1. Login to azure student login – use your credentials
2. Click in create a resource
3. Search and Click on SSH Key

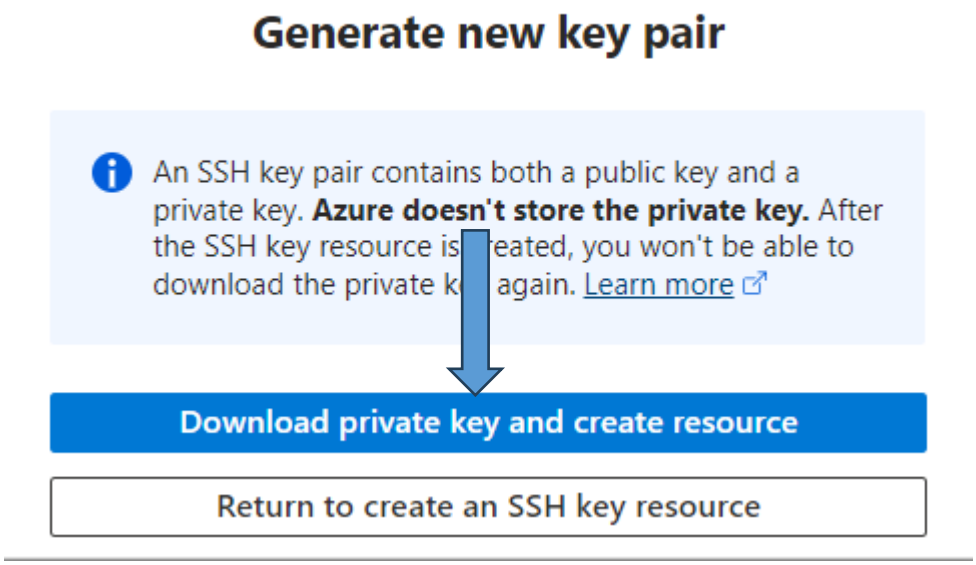
Step 1 : Type on search bar 'SSH key'.

Step 2 : Create a SSH key and fill in the details and 'review+create'.

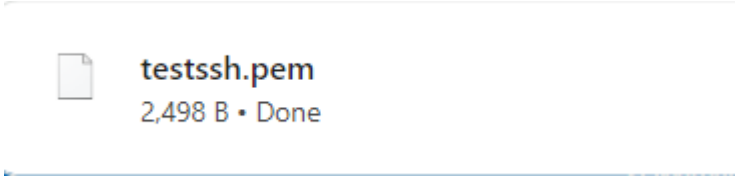


Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Step 3 : After final Create, Generate a new key pair and click on ‘Download private key and create resource’.



Step 4 : Now the key is downloaded.



Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Practical 8

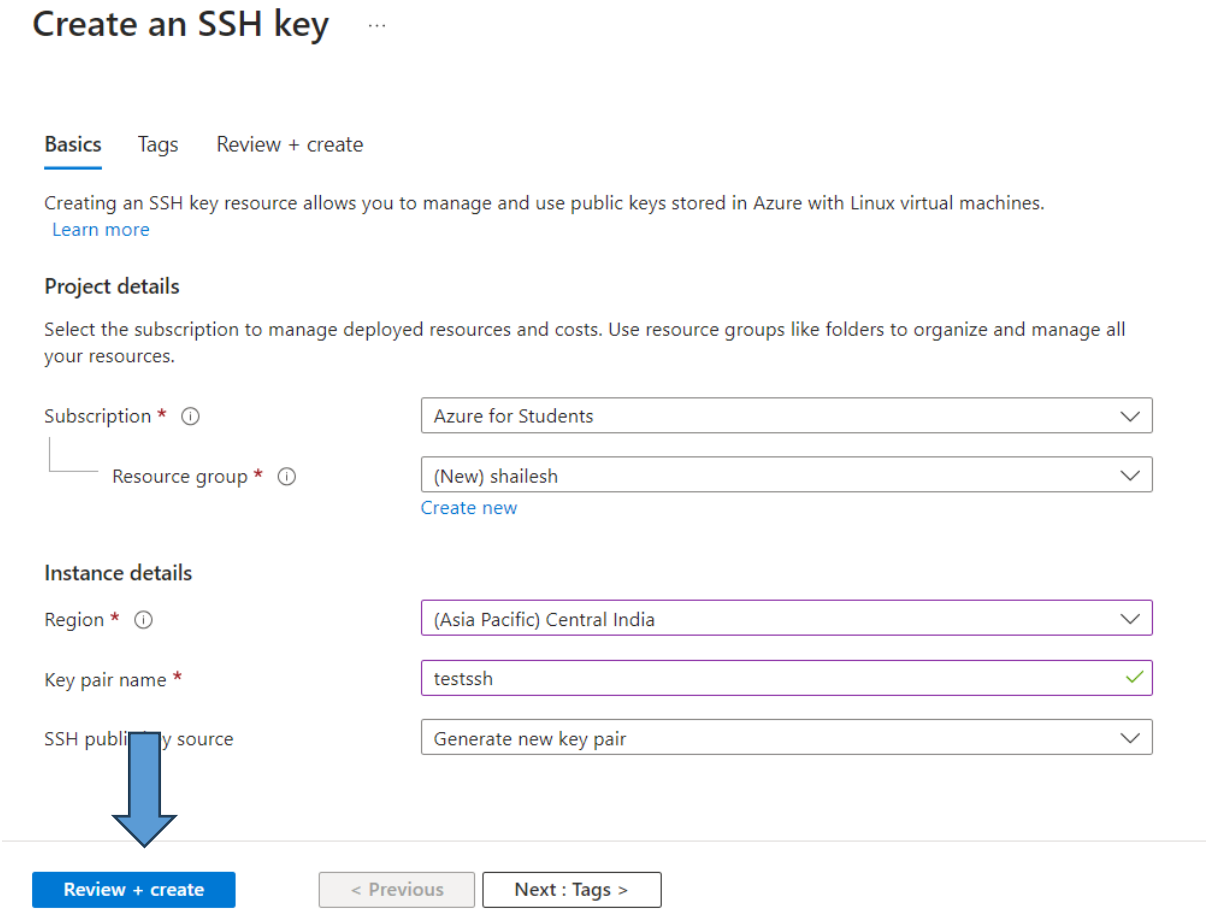
Aim : User management in cloud

Steps :

1. Login to azure student login – use your credentials
2. Click in create a resource
3. Search and Click on SSH Key

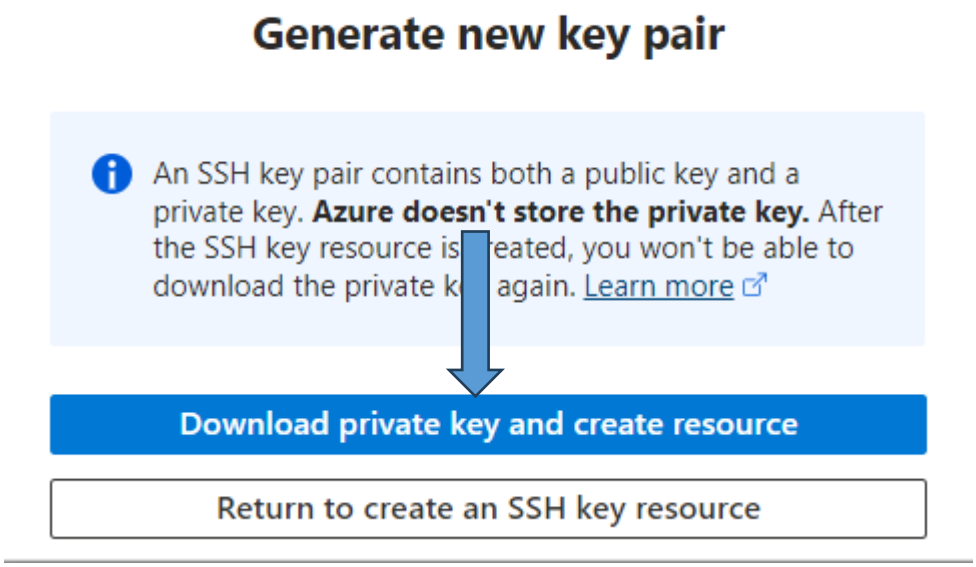
Step 1 : Type on search bar ‘SSH key’.

Step 2 : Create a SSH key and fill in the details and ‘review+create’.

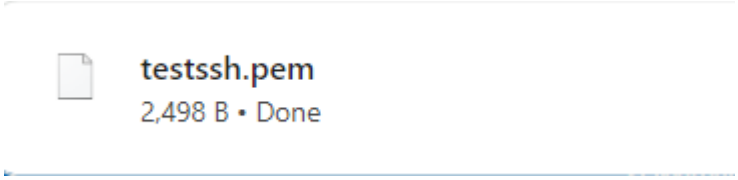


Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

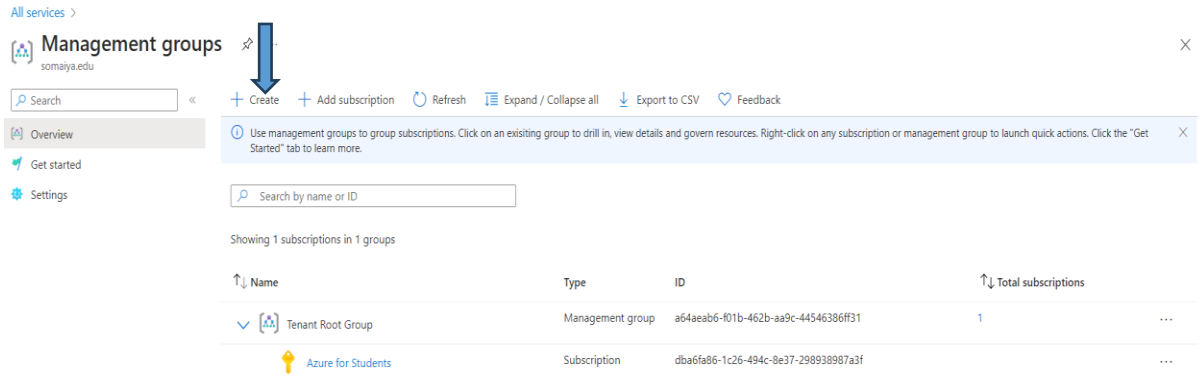
Step 3 : After final Create, Generate a new key pair and click on 'Download private key and create resource'.



Step 4 : Now the key is downloaded.



Step 5 : Search for Management grp and create new



Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Create management group

Create a new management group to be a child of 'Tenant Root Group'

Management group ID (Cannot be updated after creation) *

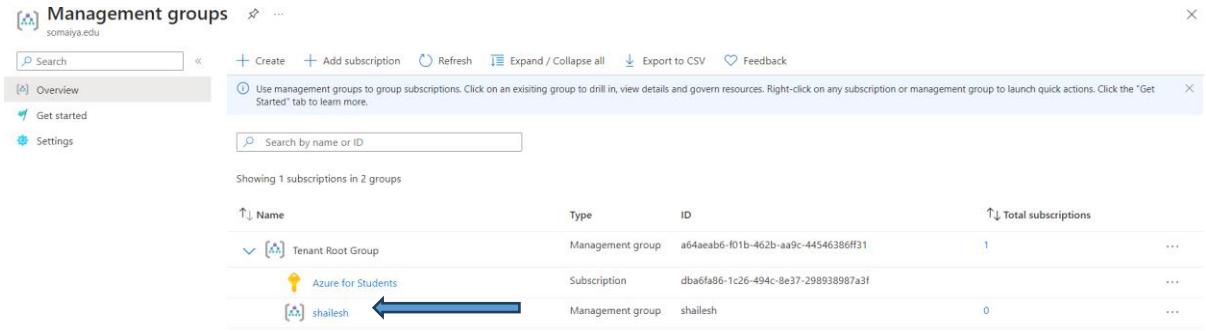
shailesh

Management group display name

shailesh

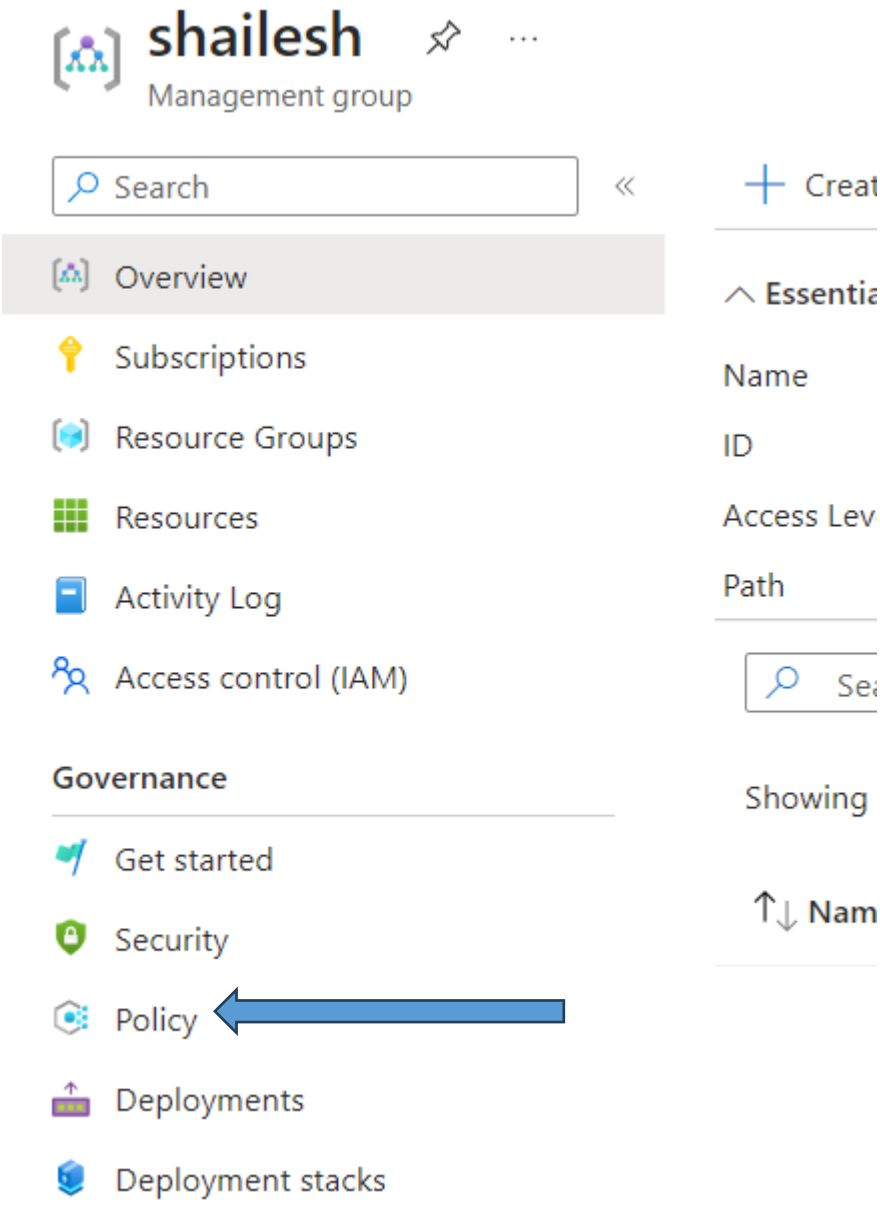
Then Submit..

It will show created group – Open it

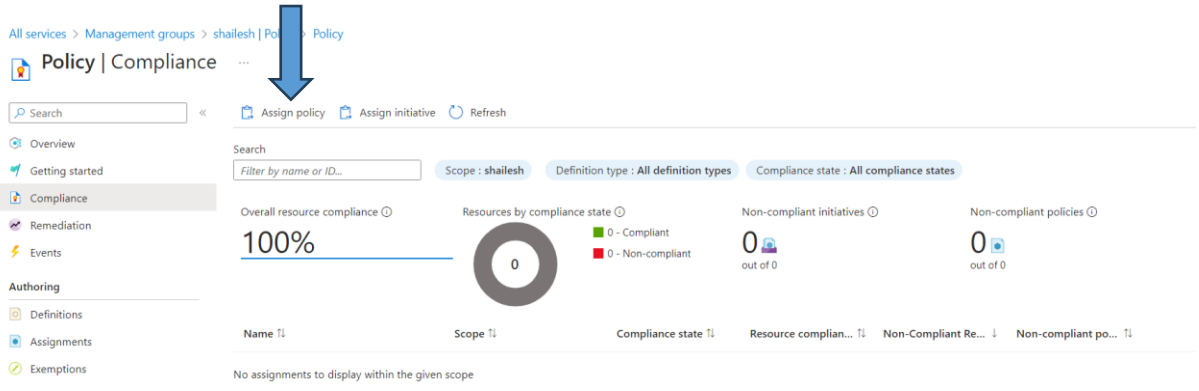


<u>Step 5 :</u> After updating the group , go to policy on the left side of the screen.

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

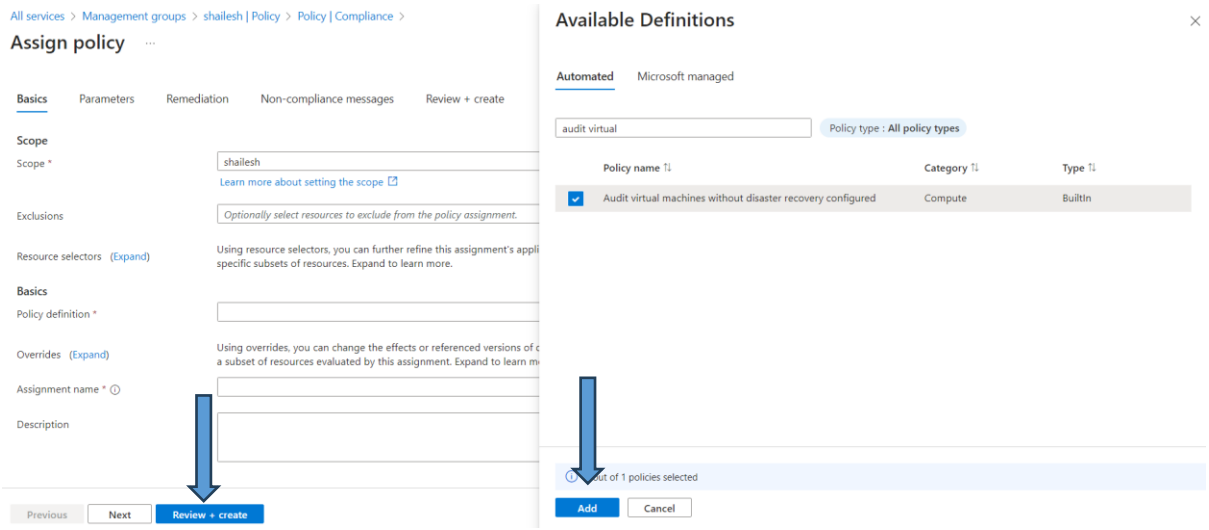


Then click on Assign Policy



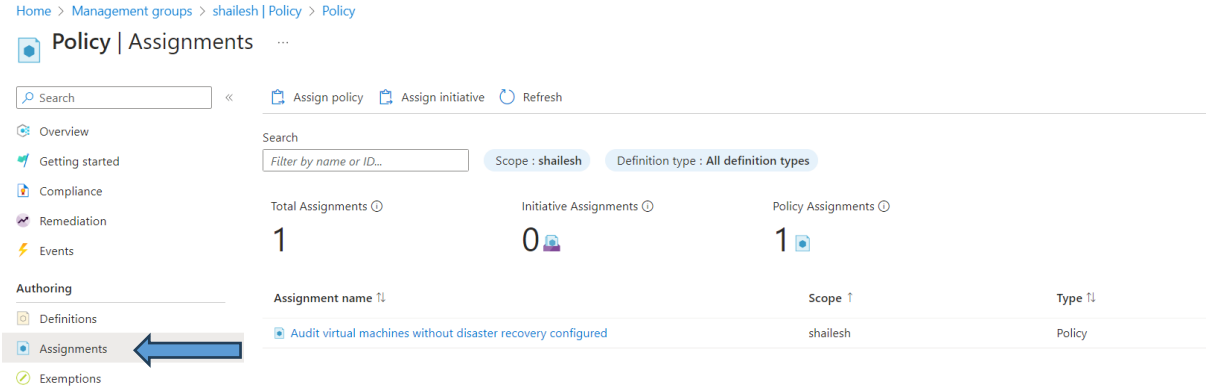
Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Step 7 : Assign the policy and fill the Basics.



Add it and then click on Review + create option.

Step 8 : Then click on assignment and check added policy there



Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Practical 9

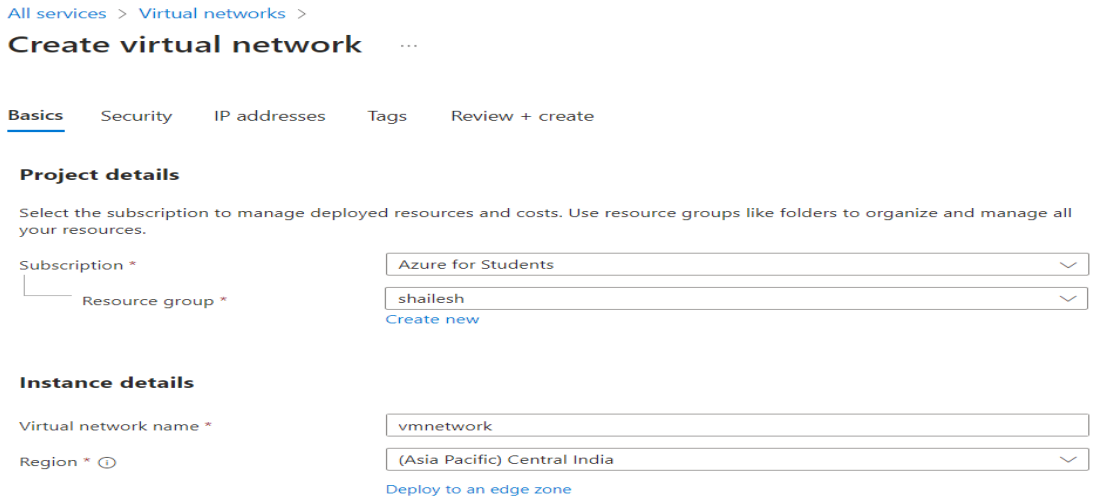
Aim : Virtualization in Cloud

Steps :

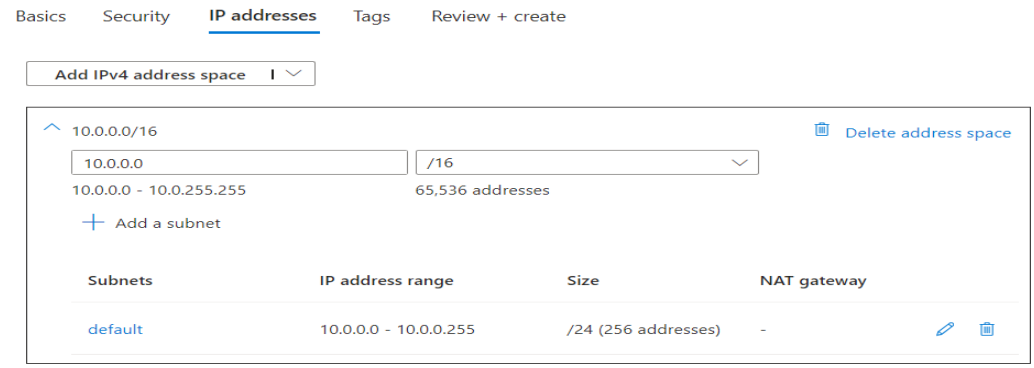
1. Login to azure student login – use your credentials
2. Click in create a resource
3. Create a virtual network and create 2 virtual machine

Communication between 2 VM using Azure cloud :

Step 1 : Crete a Virtual Network

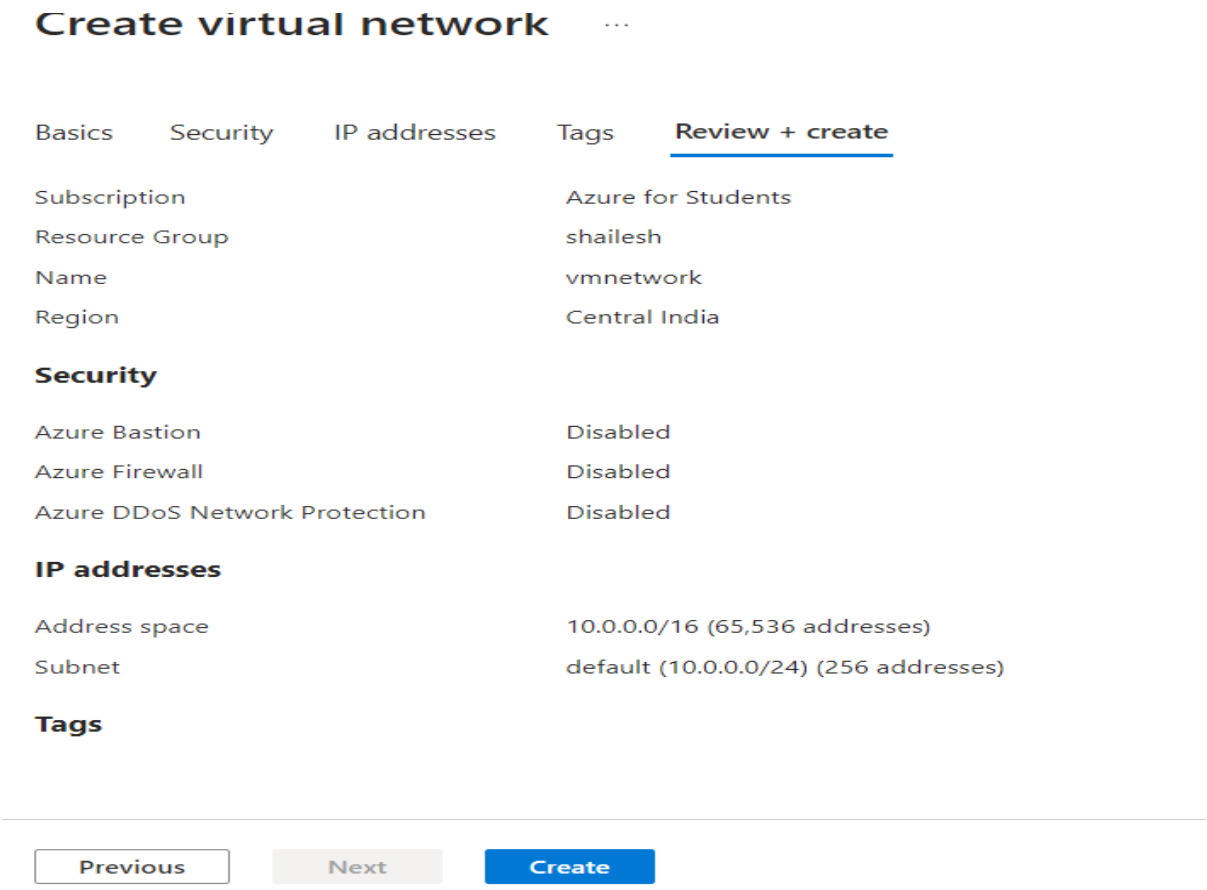


Then go to IP Addresses and save default address:



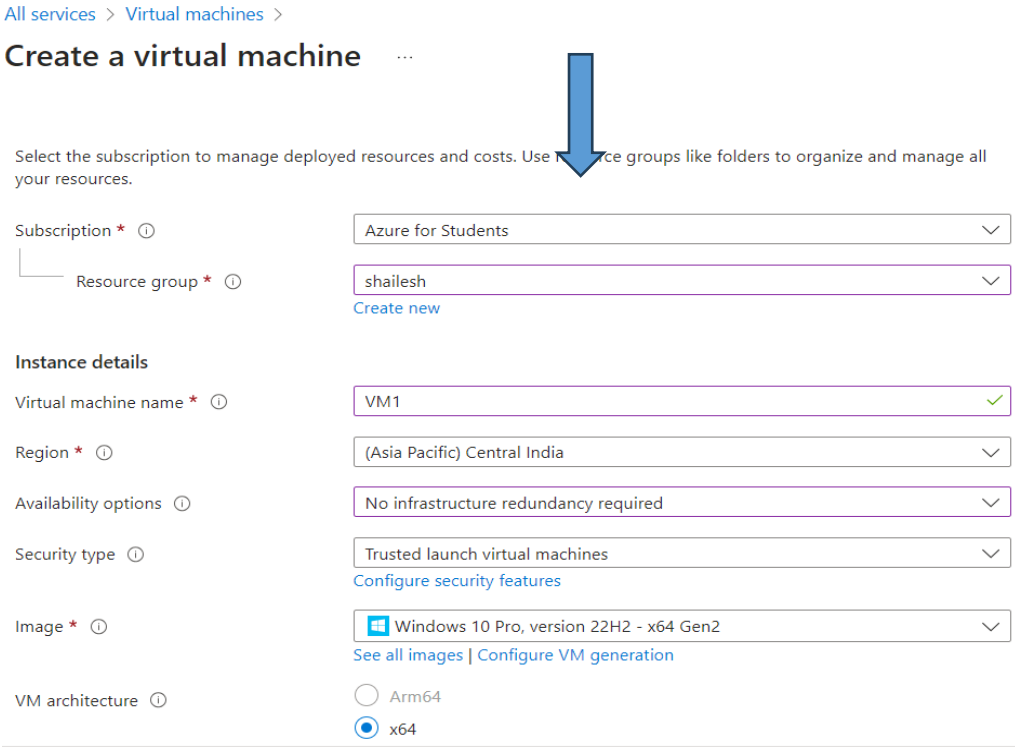
Click on Create

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

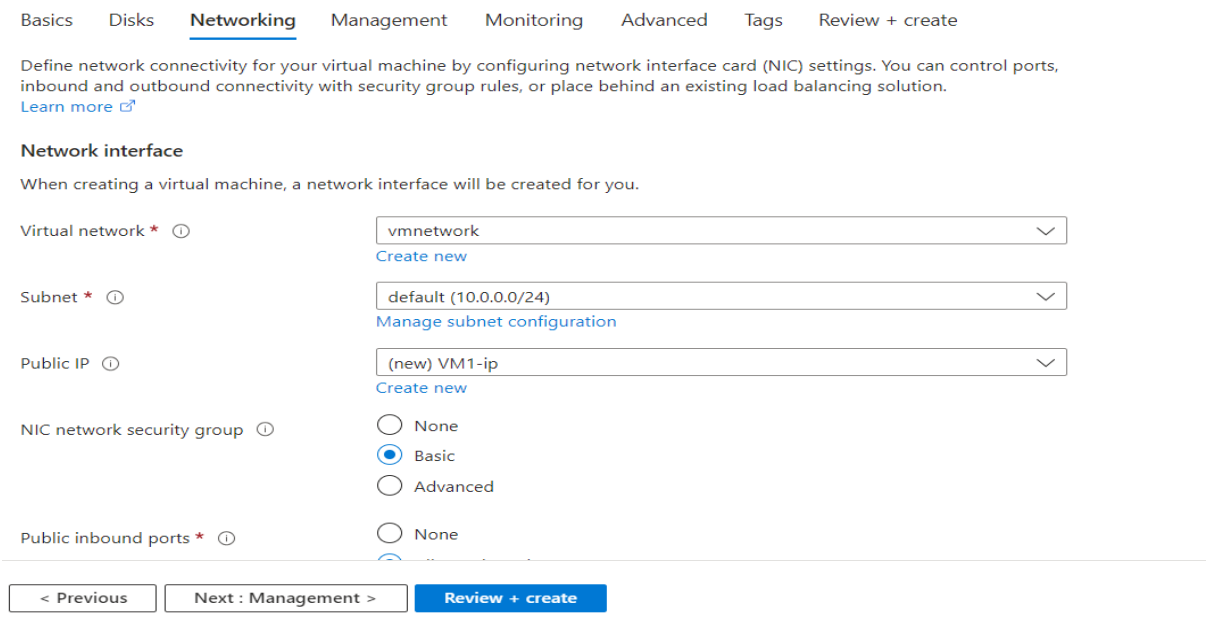


Now Create Two Virtual Machine

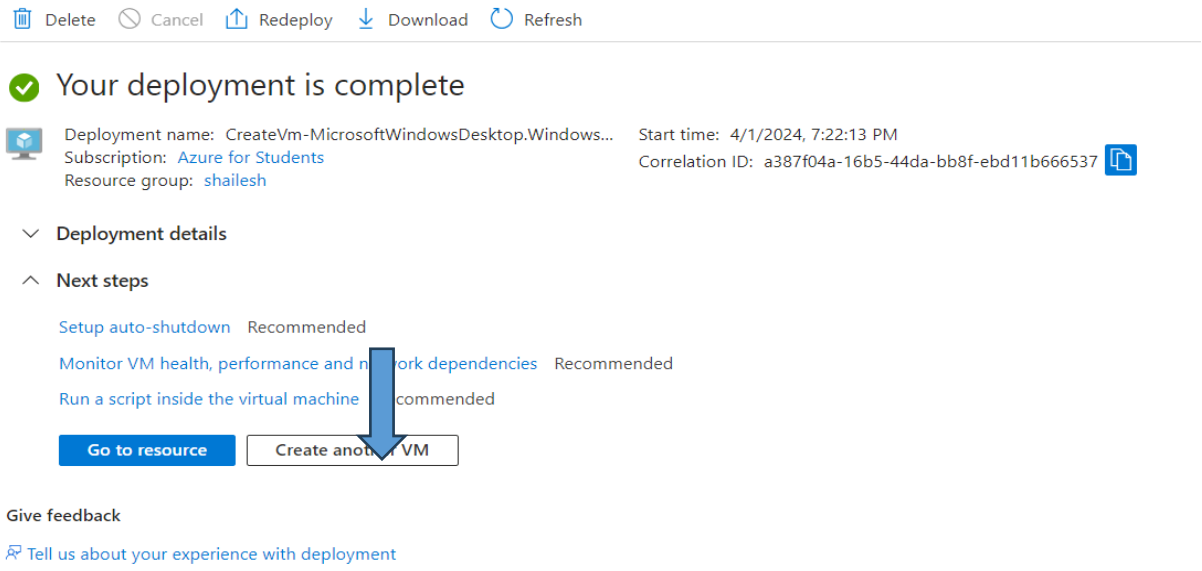
Step 1 : create a virtual machine.



Name : Shailesh Ashok Tagadghar
Roll No : 31031523034



Review + Create – create --- it will create VM1

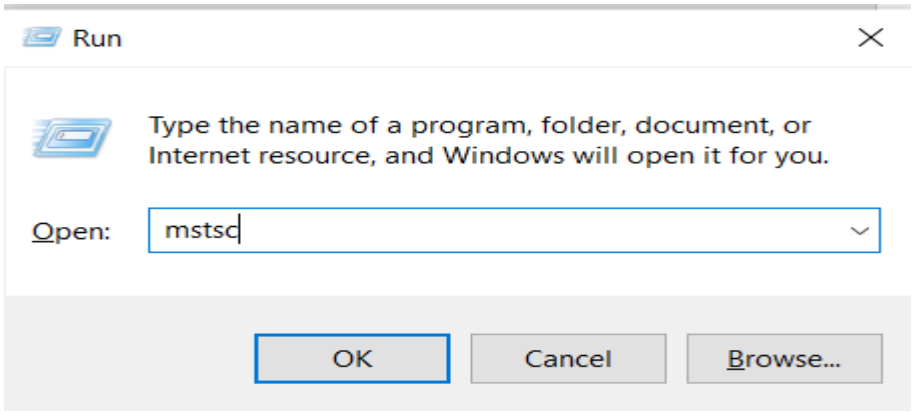


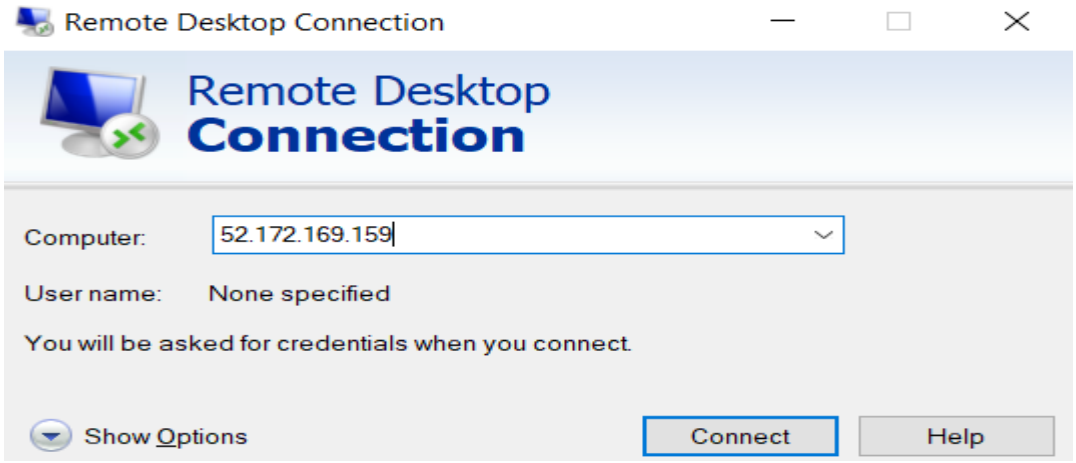
Then Create VM2 – same as VM1

Copy VM1 Public Ipv4 address

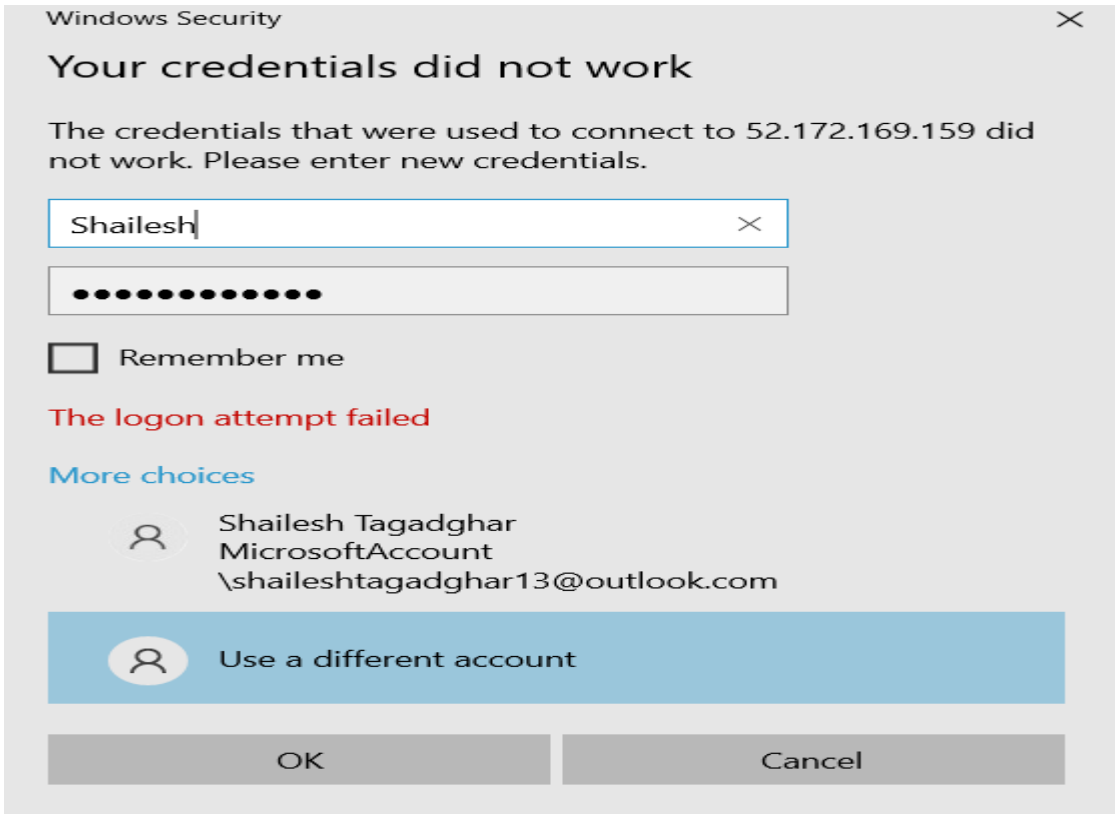
Press Windows + r button then type **mstsc (run command)**

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034





Click on connect



Use created credentials

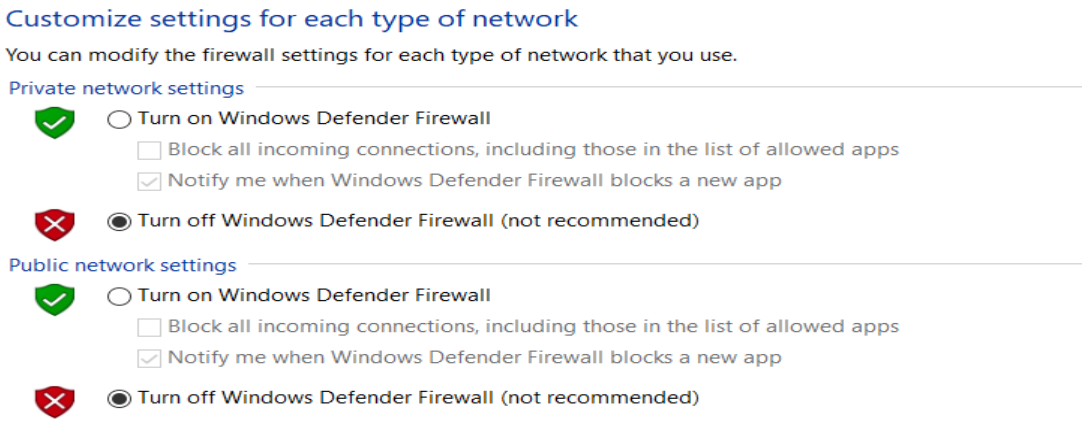
Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Use same step to open VM2

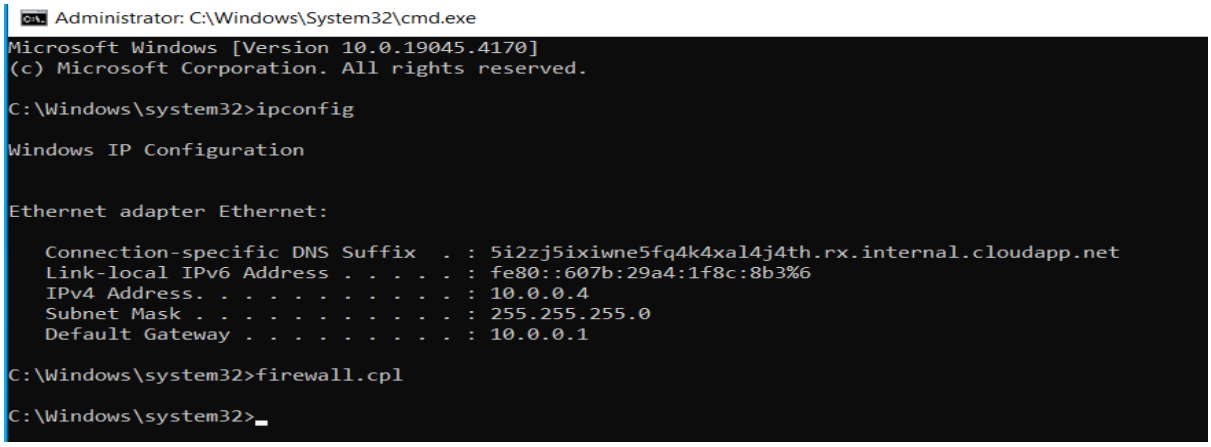
Use CMD – to check IPCONFIG cmd on that VM's

Then change Firewall Setting – Turn OFF firewall for both VM's

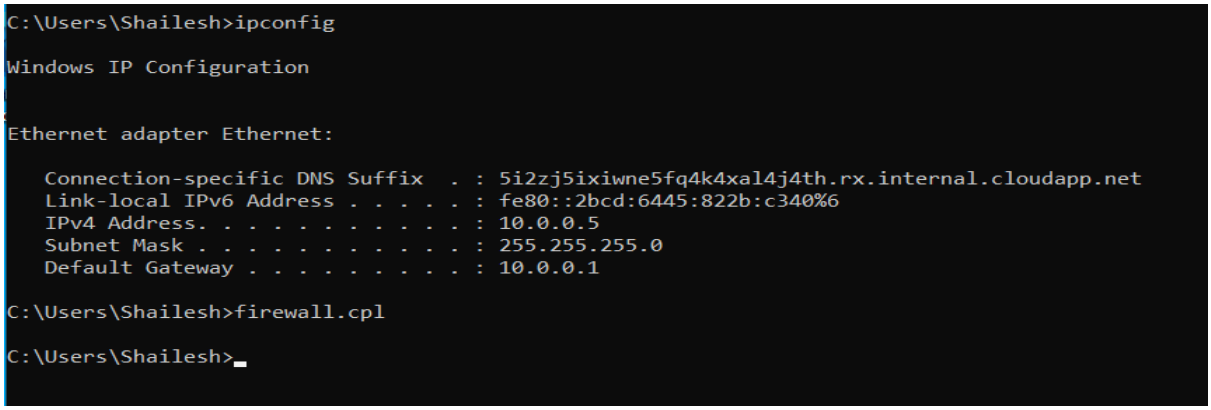
Cmd to open firewall setting -- firewall.cpl



VM1 :



VM2 :



>ping 10.0.0.4 on VM2 and ping 10.0.0.5 on VM1

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

```
C:\Windows\system32>ping 10.0.0.5

Pinging 10.0.0.5 with 32 bytes of data:
Reply from 10.0.0.5: bytes=32 time=1ms TTL=128
Reply from 10.0.0.5: bytes=32 time=1ms TTL=128
Reply from 10.0.0.5: bytes=32 time=1ms TTL=128
Reply from 10.0.0.5: bytes=32 time<1ms TTL=128

Ping statistics for 10.0.0.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
C:\Users\Shailesh>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:
Reply from 10.0.0.4: bytes=32 time=2ms TTL=128
Reply from 10.0.0.4: bytes=32 time=1ms TTL=128
Reply from 10.0.0.4: bytes=32 time=1ms TTL=128
Reply from 10.0.0.4: bytes=32 time<1ms TTL=128

Ping statistics for 10.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 2ms, Average = 1ms
```

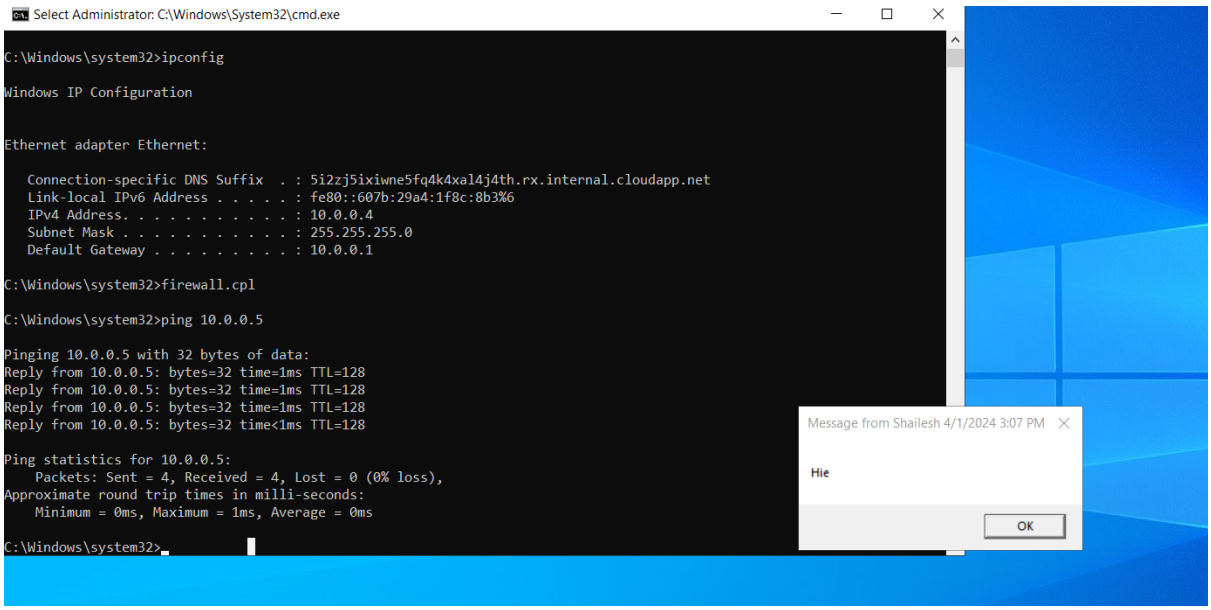
Now Both VM1 and VM2 is Connected

Then Send the msg to VM2 to VM1

>msg Shailesh server/10.0.0.4 Hie

```
C:\Users\Shailesh>msg Shailesh /server:10.0.0.4
Enter message to send; end message by pressing CTRL-Z on a new line, then ENTER
Hie
```

We have received msg Hie from VM2 to VM1

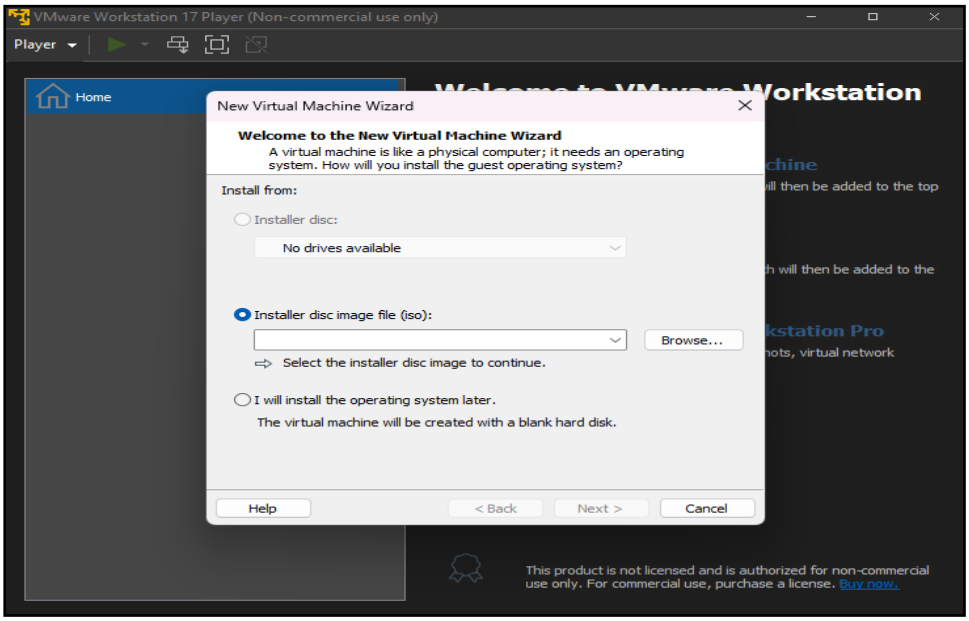


Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

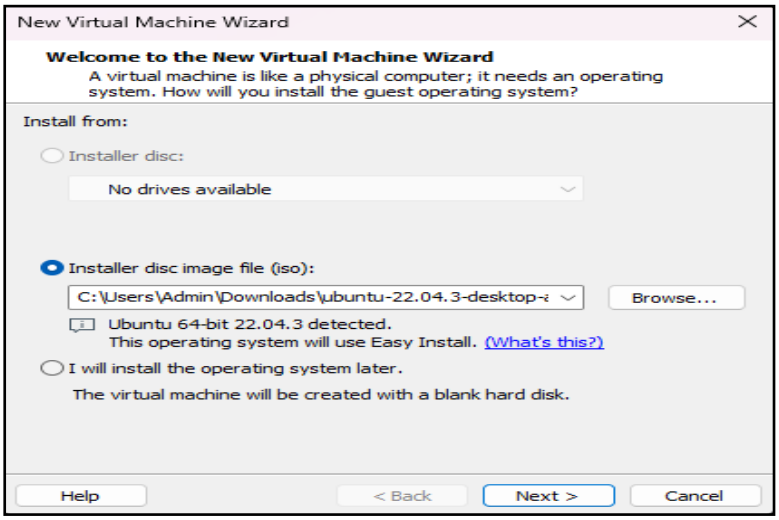
Communication between 2 VM using VM - Ware :

Step 1 : Open the VMware Workstation 17 player application.

Step 2 : Create a virtual machine.

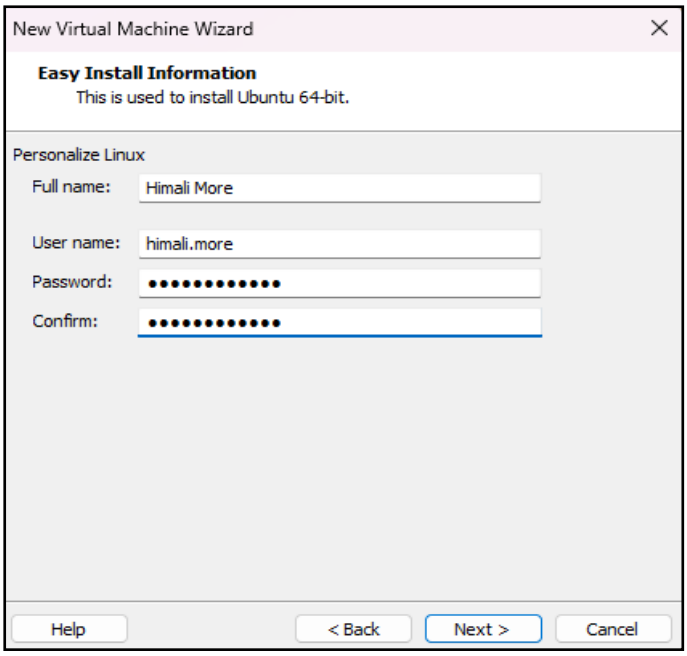


Step 3 : Download Ubuntu and browse the file and select it.

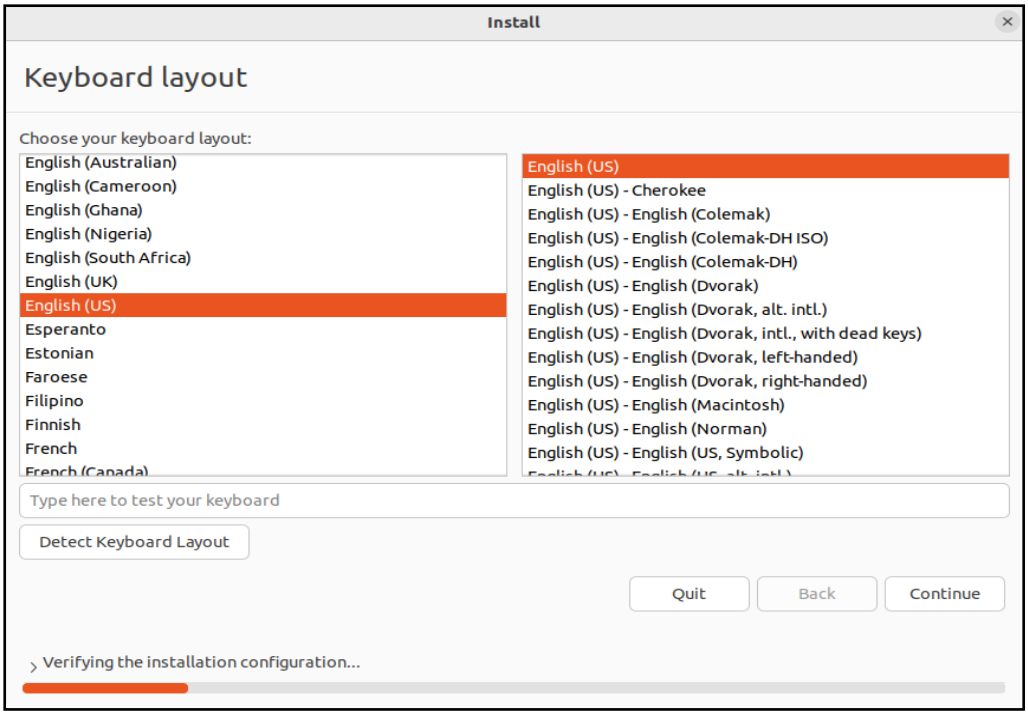


Step 4 : Fill in the details and password.

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

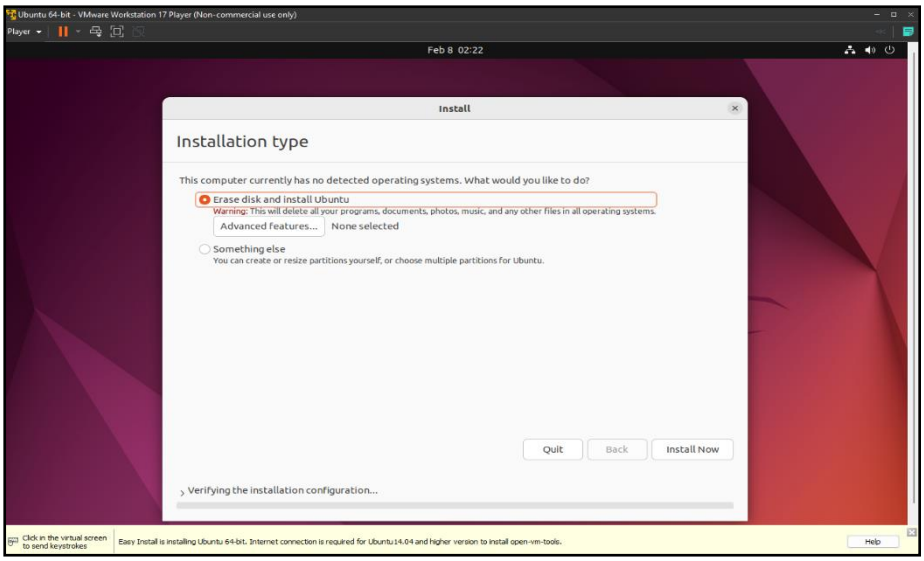


Step 5 : Select the english language and click on ‘Continue’.



Step 6 : Select ‘Erase disk and install Ubuntu’ and the VM is created.

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034



Step 7 : Similarly create another VM Considering the above steps.

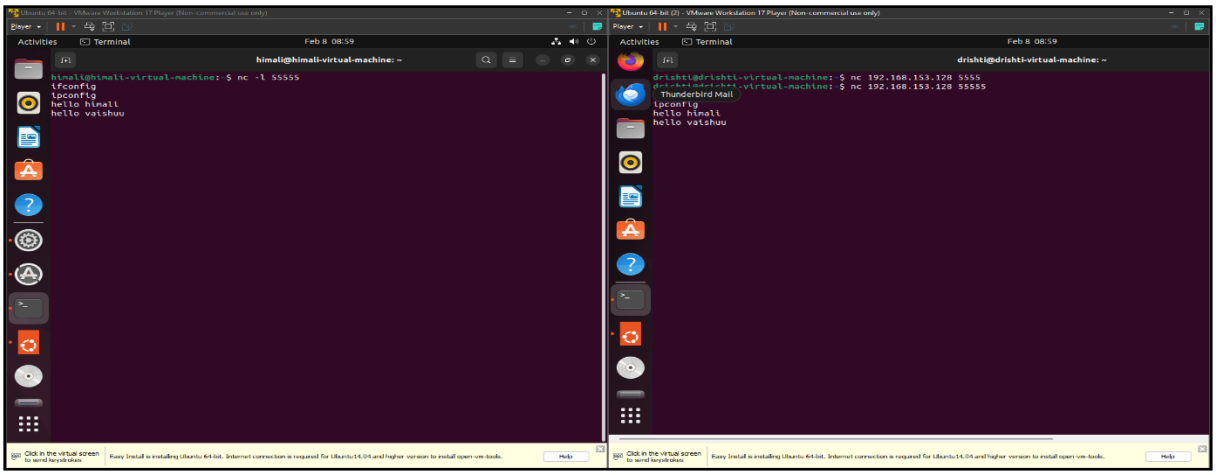
Step 8 : Ping both machines to check connectivity.

Use commands to send messages :

Command to use on the first VM : nc -lv 5555

Command to use on the second VM : nc -v 192.168.153.128 5555

Both the VMs are connected.



Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

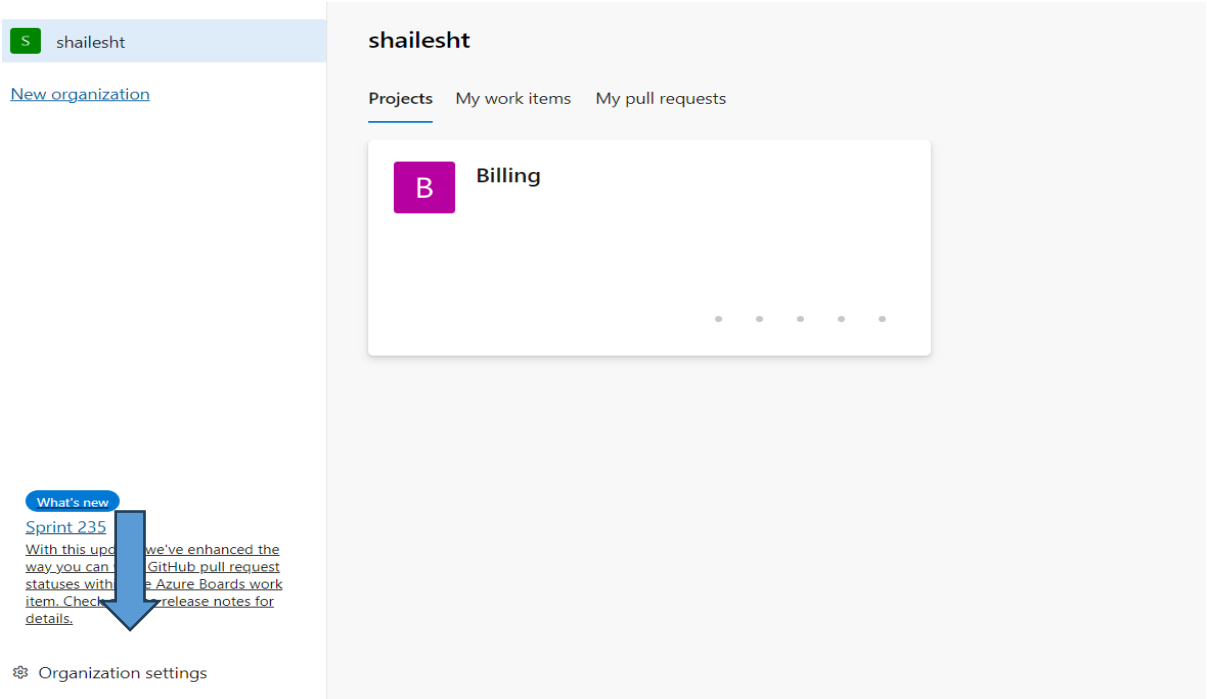
Practical 10 : Cost Management

Steps :

1. Login to azure student login – use your credentials
2. Click in create a resource
3. Login to Azure DevOps Website
   https://aex.dev.azure.com/me?mkt=en-US

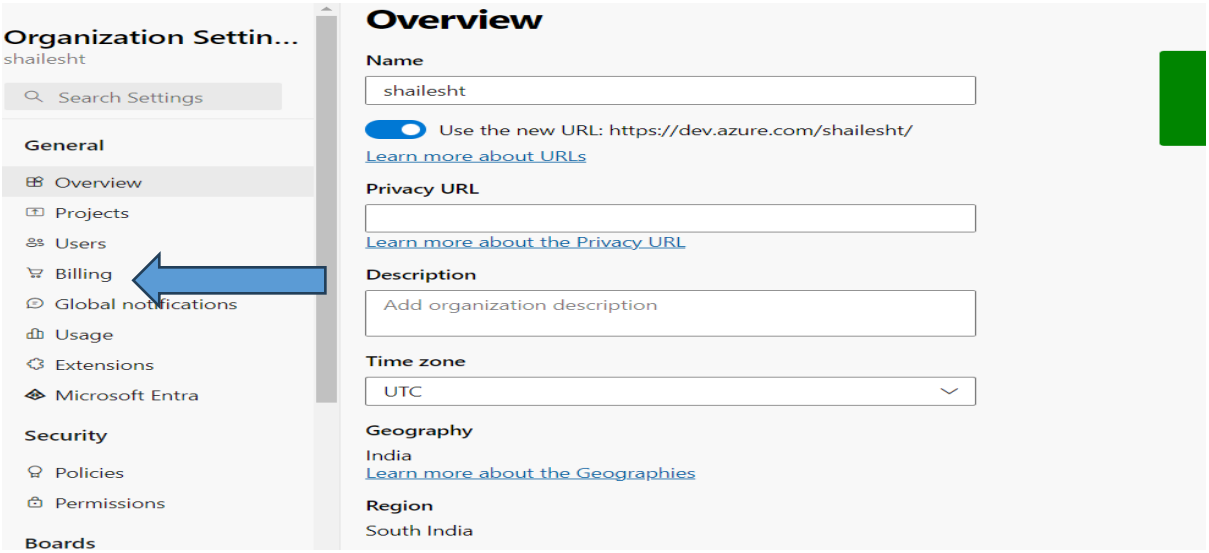
Step 1 : Go to Azure DevOps website.

Step 2 : Now on the left panel , select your organization and then Click on 'Organization Setting' at the bottom.

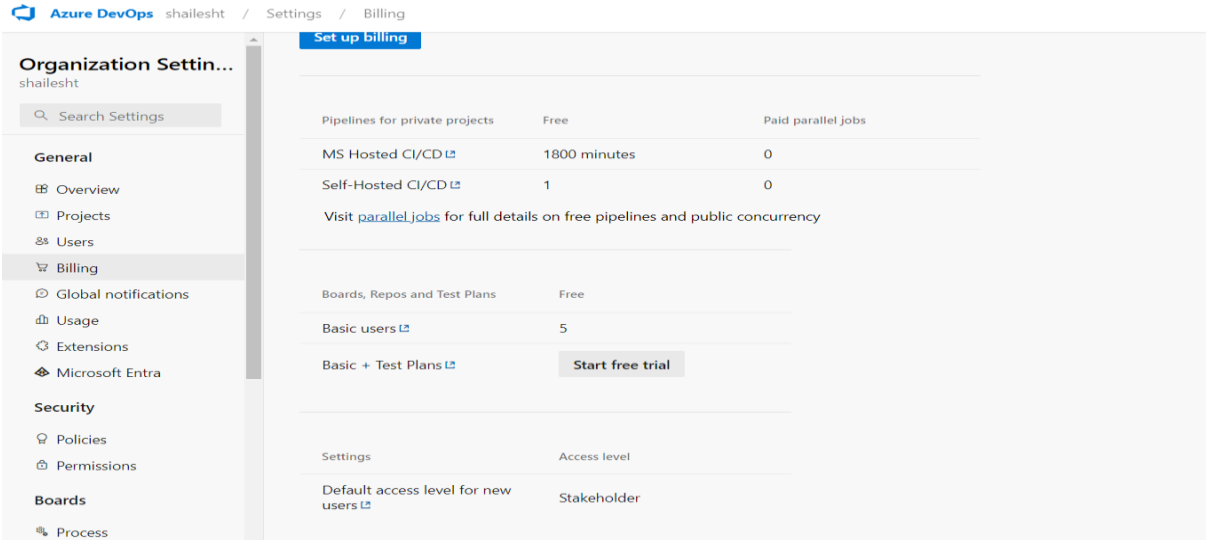


Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

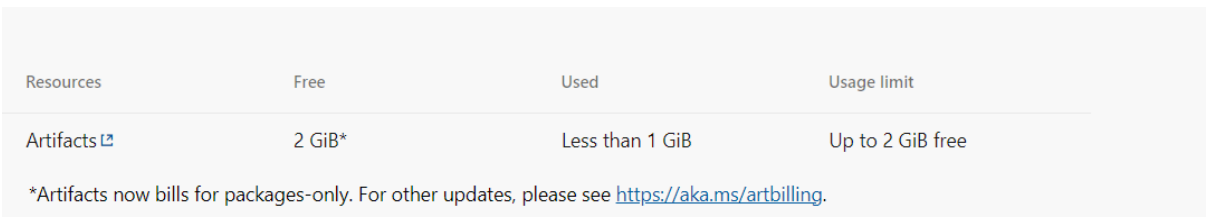
Step 3 : Now go to 'Billing' on the left side.



Open Billing Tab



Step 4 : View your Resources at the bottom.



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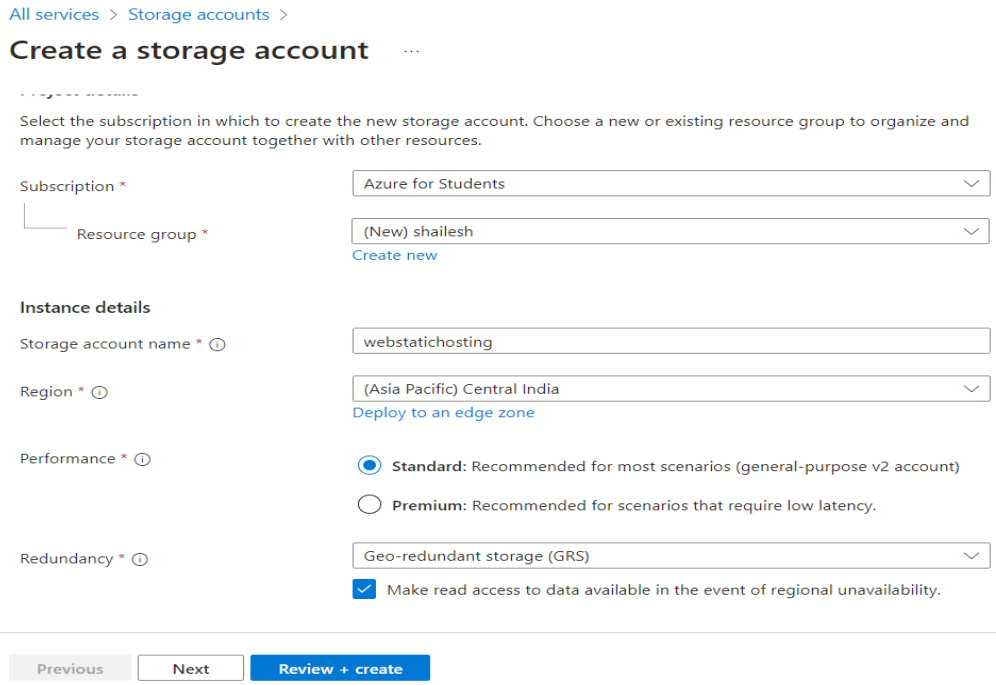
Practical 11 : Web Hosting in Cloud

Steps :

1. Login to azure student login – use your credentials
2. Click in create a resource
3. Open Storage Account

Step 1 : Select Storage account , and fill in the details required and click on 'Create'.



Don't Change other sections and click on create
It will take some time to create this storage account

Step 2 : Search 'Static website' on the left panel.

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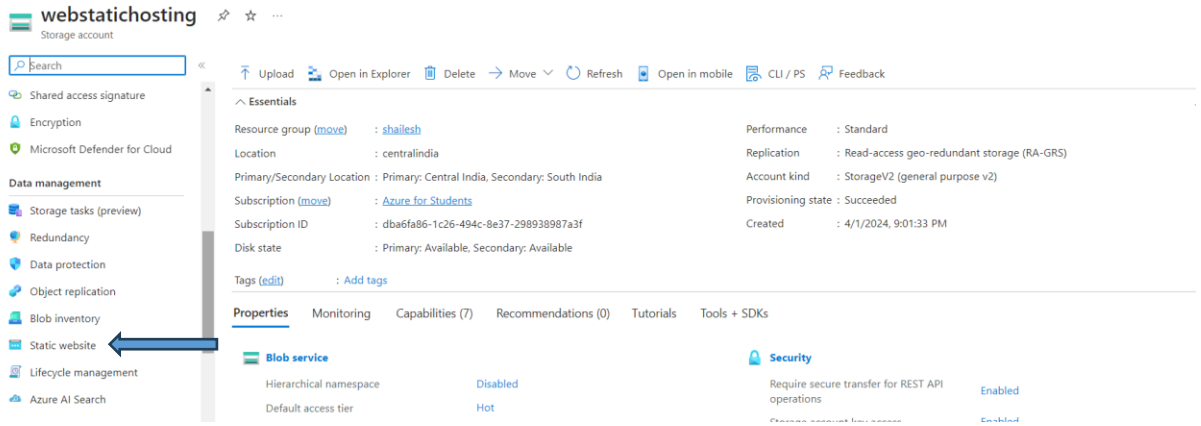
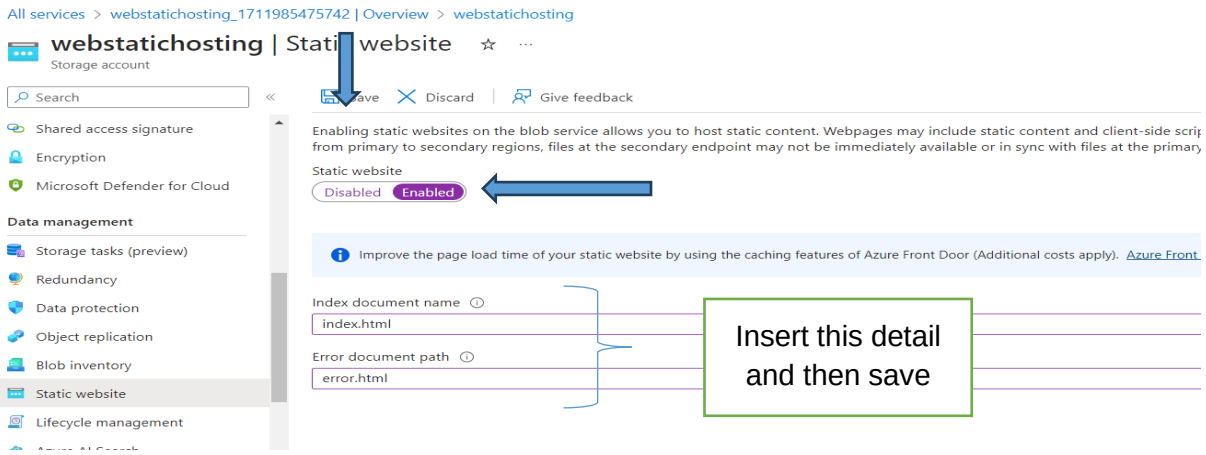


Step 4 : Enable it and then save a html code in your PC.



After saving --- go to container –click on $web – upload your index.html file

Index.html code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Web Hosting with Azure</title>
</head>
<body>
    <H1>Hello I am Shailesh Tagadghar</H1>
    <h3>Roll No. 34</h3>
    <button><a href="google.com">Click Me</a></button>
</body>
</html>
```

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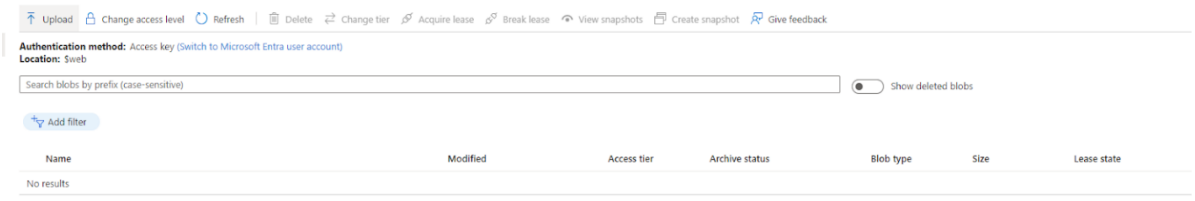
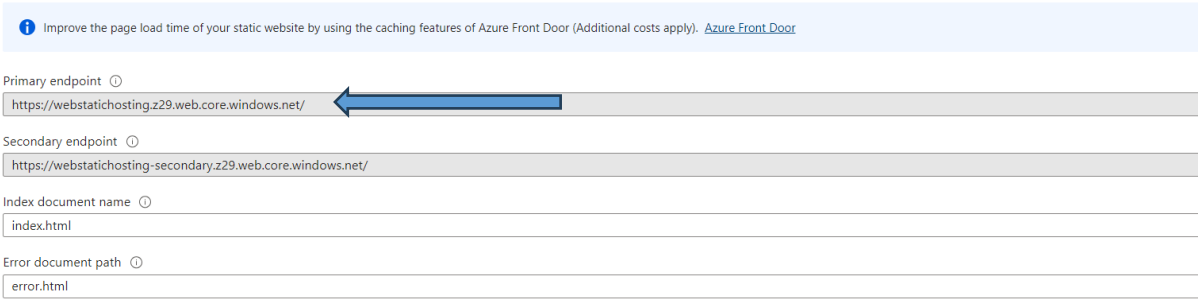
Step 5 : Click on ‘Upload’. And then upload the html file.



Step 6 : Once the html file is uploaded . Go to ‘Static Website’ and copy the url.



https://webstatichosting.z29.web.core.windows.net/

Step 7 : Paste the URL in the browser and enter.

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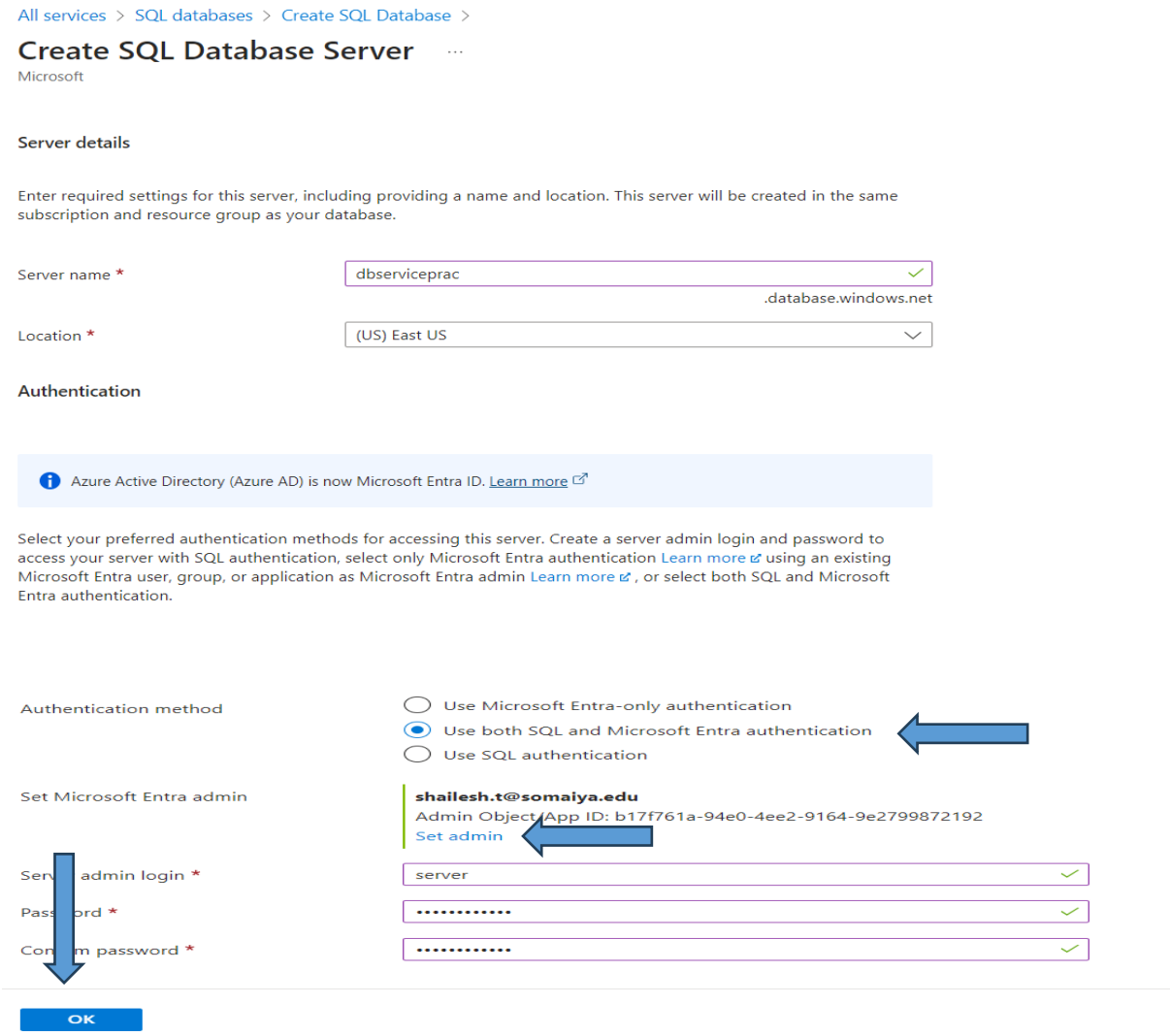
Practical 12 : Security as a Service in Cloud

Steps :

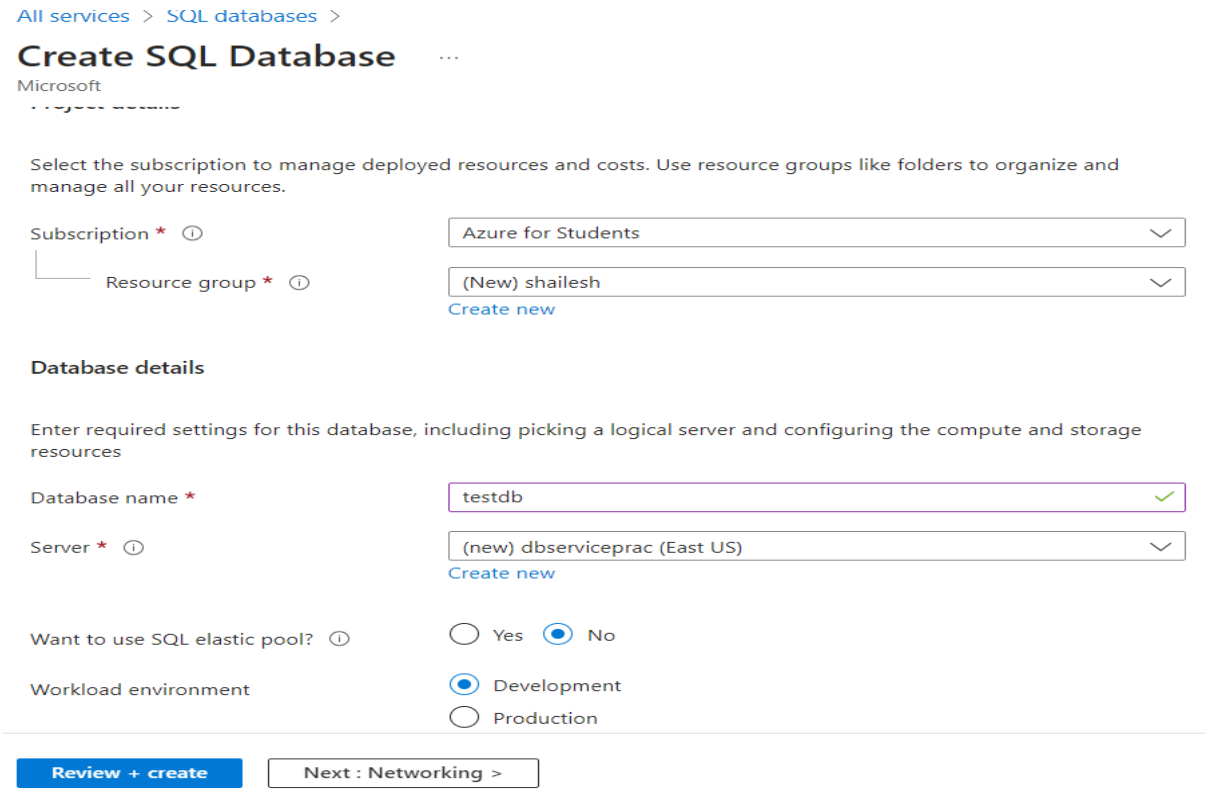
1. Login to azure student login – use your credentials
2. Click in create a resource
3. Download SSMS tool : https://learn.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver16#download-ssms

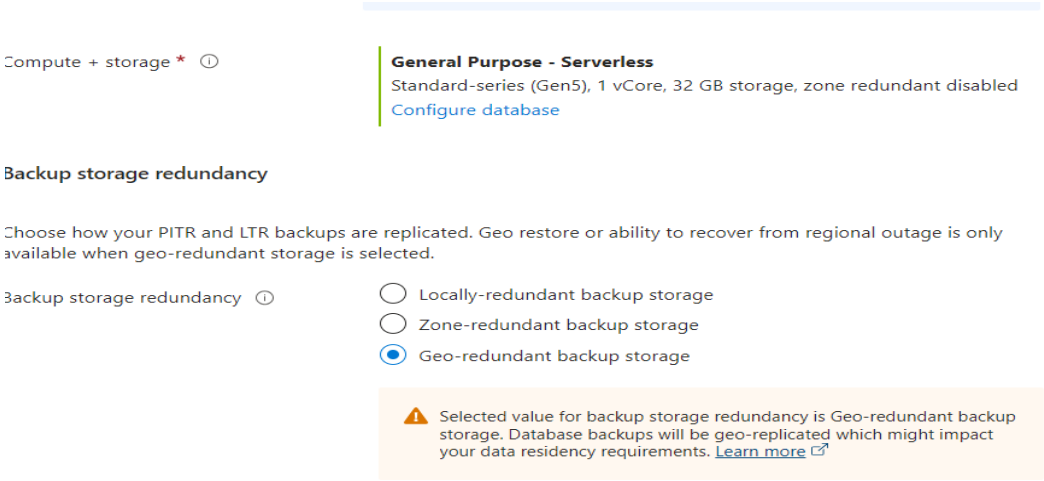
Step 1 : Create a SQL Database and fill the following details.

Create new server or if you have a server then use previous server-name



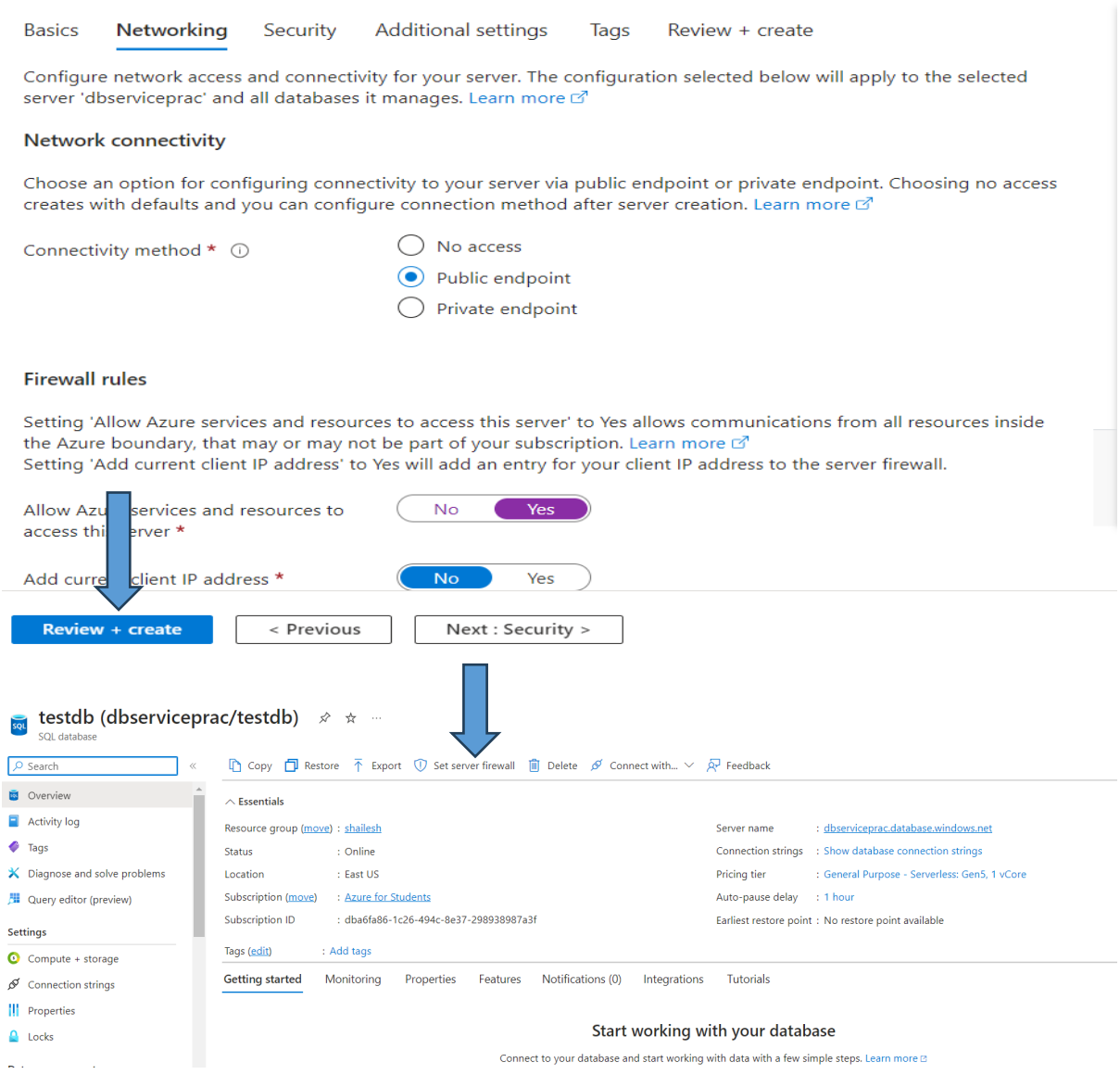
It will create new server that we are going to use in this practical



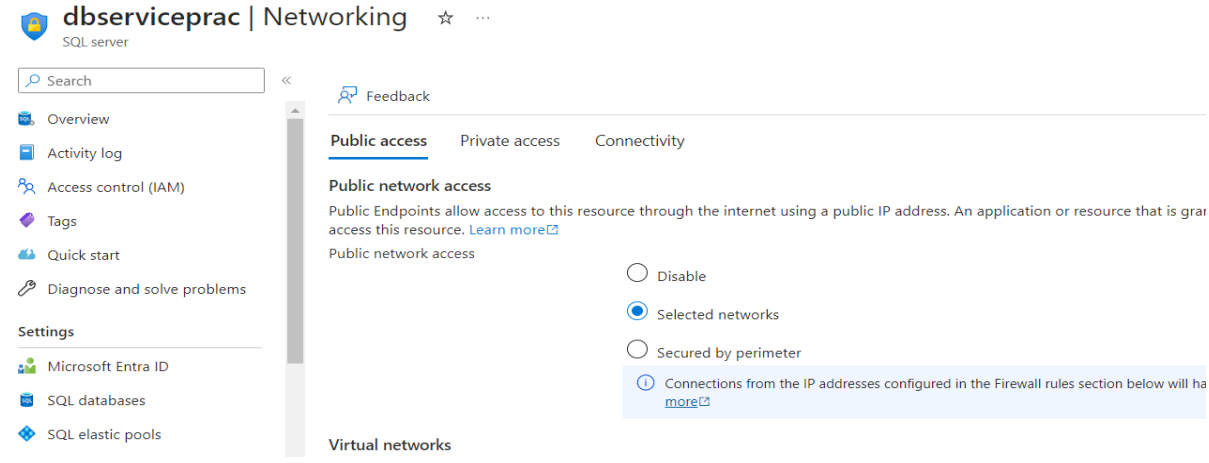


Click on next Networking Tab -- change following details and save other details default and then Create the Following DB – it will take some time to create this DB

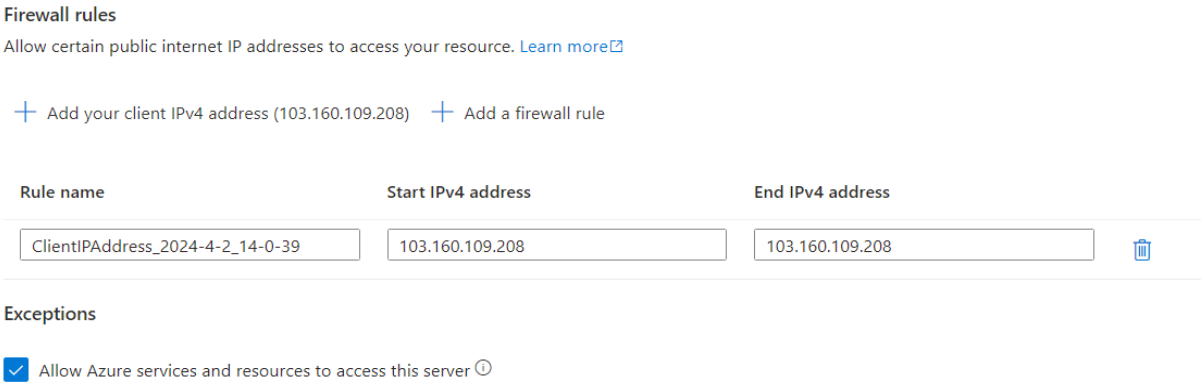
Name : Shailesh Ashok Tagadghar
Roll No : 31031523034



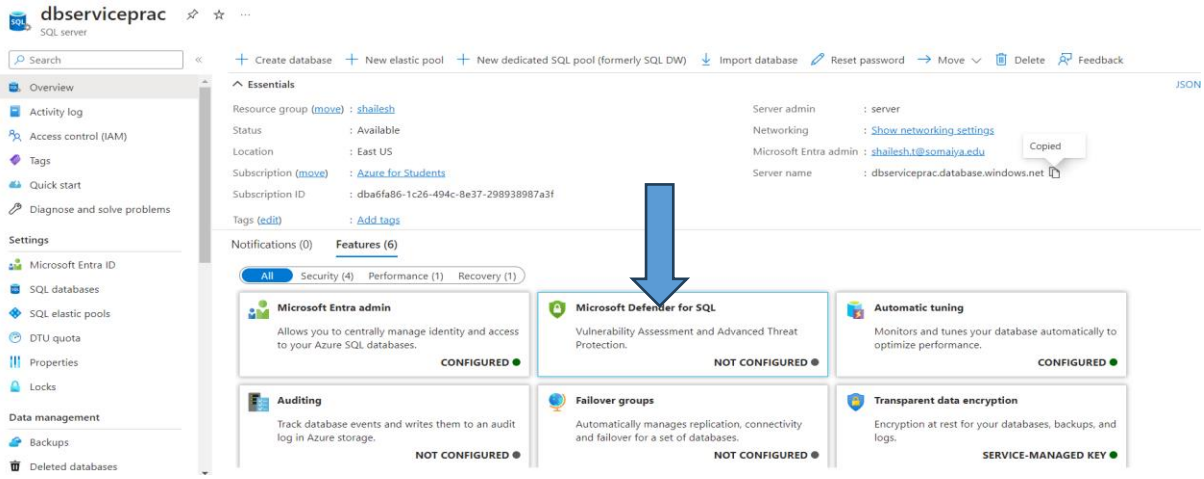
Click on Set Server Firewall



Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

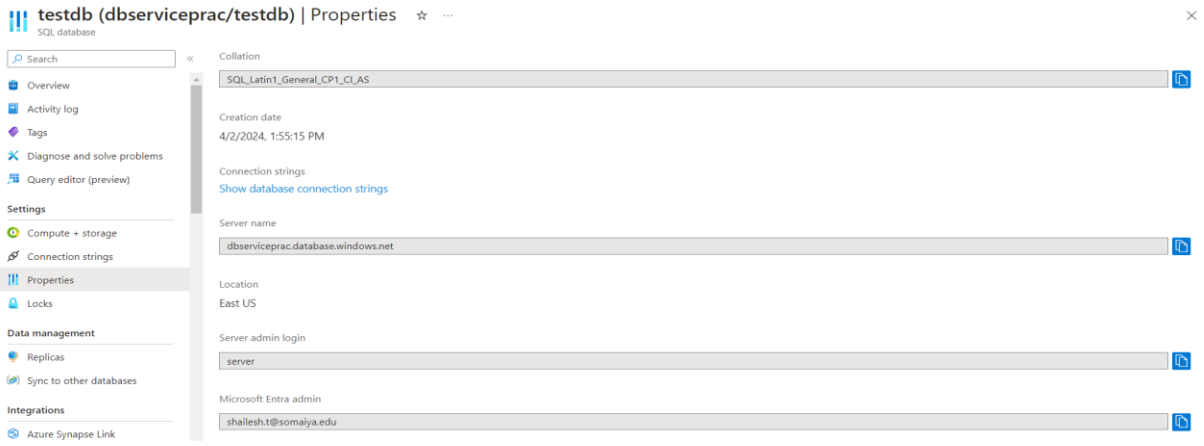


Then Save this changes



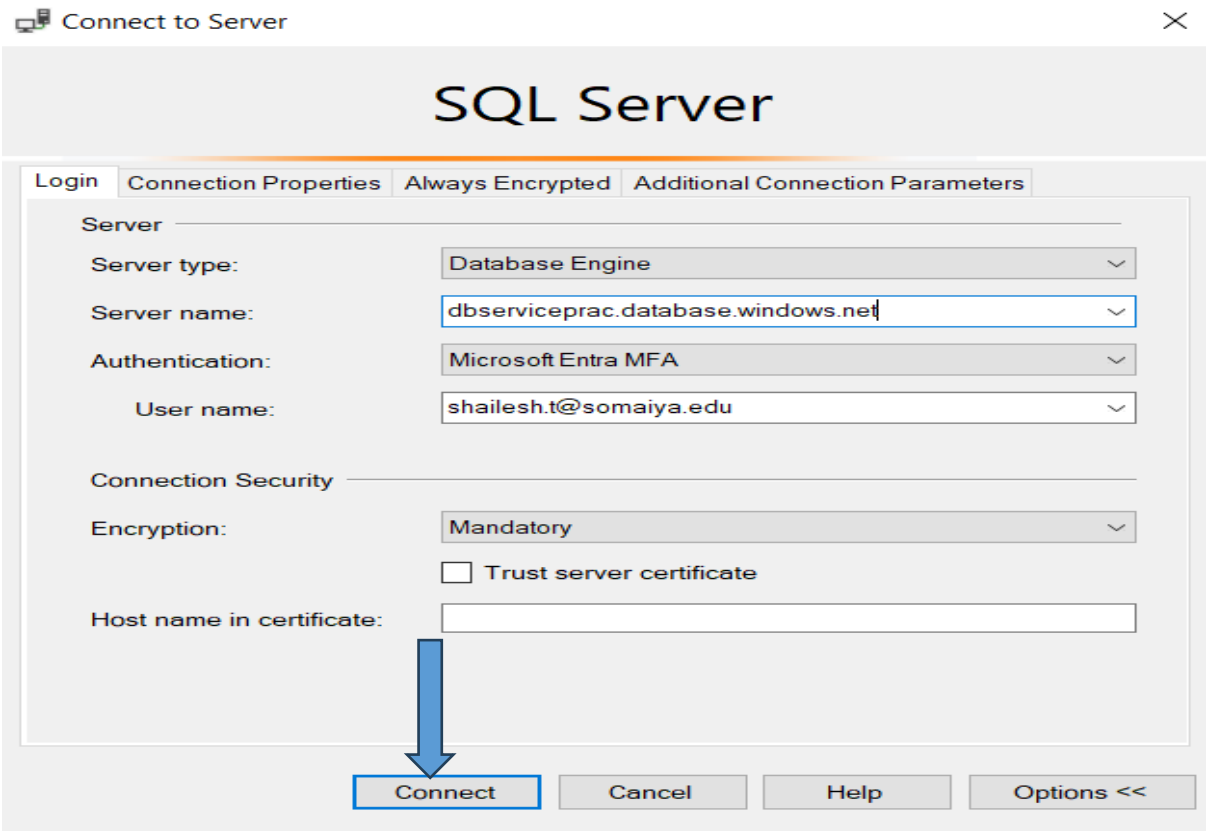
Change Microsoft Defender for SQL , after some time will change status to Configured

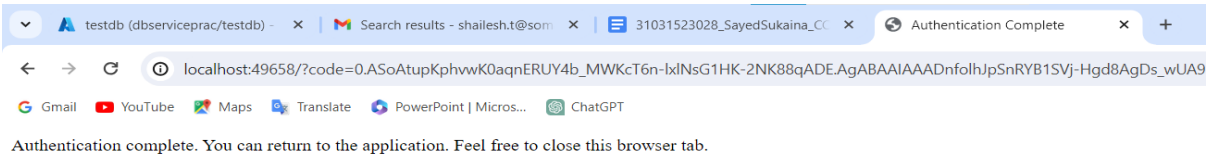
Step 7 : Now go into Properties and copy Server name and the Entra admin.



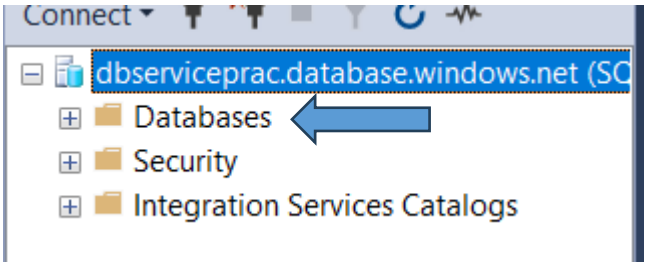
Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Step 8 : Now open SSMS and Paste the server name and under username paste your Entra admin and then click on Options.





Step 11 : Security in the cloud is done through database.



Use default Database