

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Cloud Computing Journal

Name : Shailesh Ashok Tagadghar
Class: M.Sc. - Sem II. Part I
Roll Number: 31031523034

Academic Year 2023 - 24

Department of Computer Science
Somaiya Vidyavihar University
S K Somaiya College

Index Page

No	List
1.	Creating a virtual machine using VMWare in MS Azure.
2.	Creating a BLOB Storage using a Storage Account.
3.	SQL Database using Azure
4.	Analyzing data using Power BI.
5.	Web Feeds using Azure
6.	Artificial Intelligence Services in Cloud
7.	Generating SSH keys using azure
8.	User management in cloud
9.	Virtualization in Cloud
10.	Cost Management
11.	Infrastructure as a Service
12.	Security in Cloud

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.

[Home](#) > [Create a resource](#) >

Create a virtual machine ...



This subscription may not be eligible to deploy VMs of certain sizes in certain regions.

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Azure for Students



Resource group * ⓘ

(New) shailesh



[Create new](#)

Instance details

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

Instance details

Virtual machine name * ⓘ

Shailesh



Region * ⓘ

(Asia Pacific) Central India



Availability options ⓘ

Availability zone



Availability zone * ⓘ

Zones 1



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

Security type ⓘ

Trusted launch virtual machines



[Configure security features](#)

Image * ⓘ

Windows 10 Pro, version 22H2 - x64 Gen2



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

VM architecture ⓘ

☐ Arm64

☒ x64



Arm64 is not supported with the selected image.

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Administrator account

Username *	<input type="text" value="testuser"/>	✓
Password *	<input type="password" value="....."/>	✓
Confirm password *	<input type="password" value="....."/>	✓

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 *	<input type="radio"/> None	
	<input checked="" type="radio"/> Allow selected ports	
Select inbound ports *	<input type="text" value="RDP (3389)"/>	✓



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

< Previous	Next : Disks >	Review + create
------------	----------------	-----------------

It will take some time to create this VM

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

✓ Your deployment is complete

	Deployment name: CreateVm-MicrosoftWindowsDesktop.Windows... Subscription: Azure for Students Resource group: test	Start time: 3/30/2024, 6:55:40 PM Correlation ID: 36db0de9-9549-49cc-820d-fa828adb24d9 
---	--	---

✓ Deployment details

^ Next steps

[Setup auto-shutdown](#) Recommended




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

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

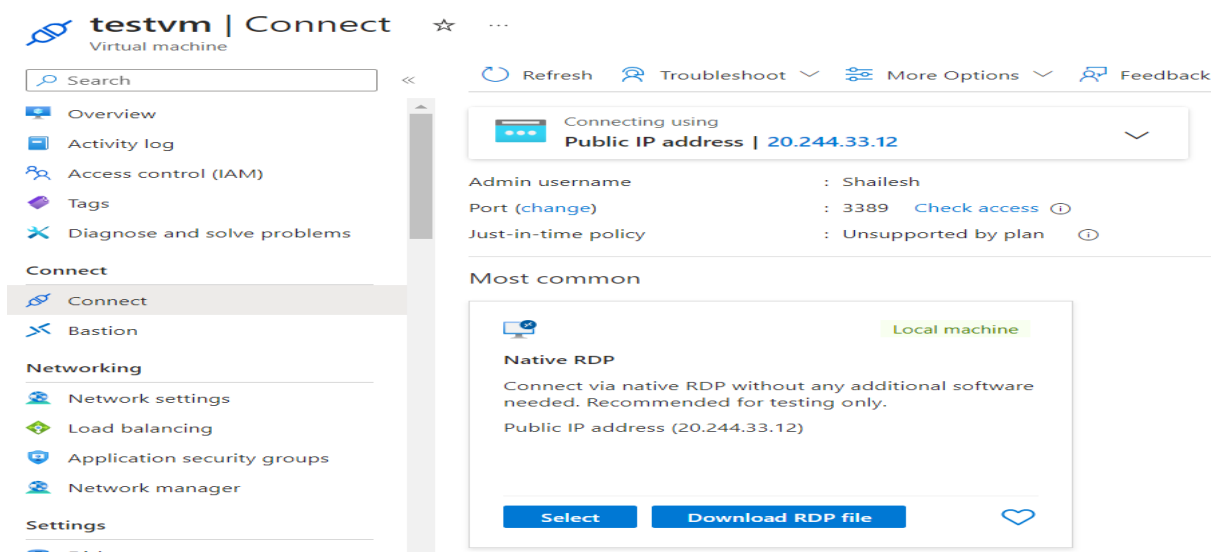
[Go to resource](#)

[Create another VM](#)

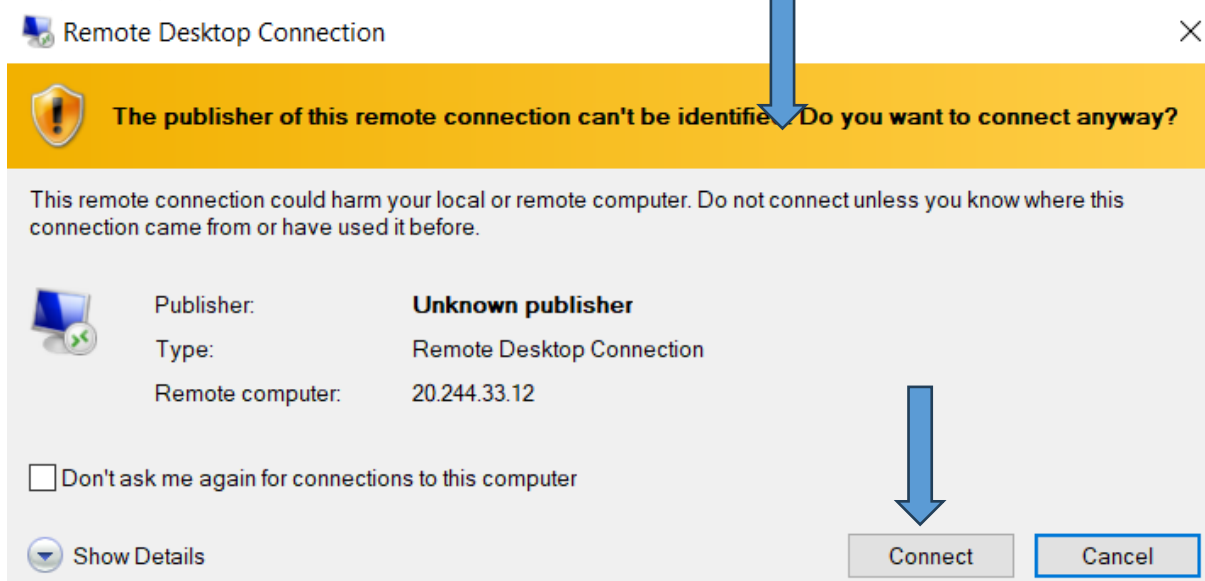
Step 5 : After creating VM -- Click on 'connect'.

	Connect	✓		Start	
---	---------	---	---	-------	---

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.

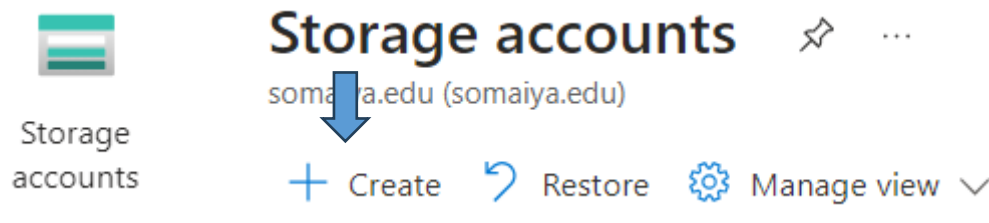
Practical 2

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.

Create a storage account ...

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription *	<input type="text" value="Azure for Students"/>
Resource group *	<input type="text" value="test"/> Create new

Instance details

Storage account name * ⓘ	<input type="text" value="testingstorageact"/>
Region * ⓘ	<input type="text" value="(Asia Pacific) Central India"/> Deploy to an edge zone
Performance * ⓘ	<input checked="" type="radio"/> Standard: Recommended for most scenarios (general-purpose v2 account) <input type="radio"/> Premium: Recommended for scenarios that require low latency.
Redundancy * ⓘ	<input type="text" value="Geo-redundant storage (GRS)"/> <input checked="" type="checkbox"/> Make read access to data available in the event of regional unavailability.

Previous

Next

Review + create

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Advanced :

Basics	Advanced	Networking	Data protection	Encryption	Tags	Review + create
--------	-----------------	------------	-----------------	------------	------	-----------------

Security
Configure security settings that impact your storage account.

Require secure transfer for REST API operations ⓘ	<input checked="" type="checkbox"/>
Allow enabling anonymous access on individual containers ⓘ	<input checked="" type="checkbox"/>
Enable storage account key access ⓘ	<input checked="" type="checkbox"/>
Default to Microsoft Entra authorization in the Azure portal ⓘ	<input type="checkbox"/>
Minimum TLS version ⓘ	Version 1.2
Permitted scope for copy operations (preview) ⓘ	From any storage account

Don't change other sections

Step 3 : Click on create.

Basics	Advanced	Networking	Data protection	Encryption	Tags	Review + create
--------	----------	------------	-----------------	------------	------	------------------------

[View automation template](#)

Basics

Subscription	Azure for Students
Resource group	test
Location	Central India
Storage account name	testingstorageact
Performance	Standard
Replication	Read-access geo-redundant storage (RA-GRS)

Advanced

Enable hierarchical namespace	Disabled
Enable SFTP	Disabled
Enable network file system v3	Disabled
Allow cross-tenant replication	Disabled
Access tier	Hot

[Previous](#) [Next](#) [Create](#)

testingstorageact_1711806616994 | Overview

Deployment

Search

Overview

Inputs

Outputs

Template

Your deployment is complete

Deployment name: testingstorageact_1711806616994
Subscription: Azure for Students
Resource group: test

Start time: 3/30/2024, 7:22:45 PM
Correlation ID: 2698a70c-dd85-4304-91fd-6ca2b50f12f8

Deployment details

Next steps

[Go to resource](#)


Create New Container – new container created

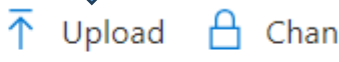
Data storage	+ Container Change
---------------------	--

Containers	<input type="text" value="Search containers by prefix"/>
----------------------------	--

File shares	Name
	<input type="checkbox"/> \$logs
	<input type="checkbox"/> addtest


Step 4: Open created container and upload a file into

**addtest**
Container




Overview

Upload blob






1 file(s) selected: Screenshot (7).png
Drag and drop files here or [Browse for files](#)

☐ Overwrite if files already exist

 Advanced

Upload

 Give feedback

 **Successfully uploaded blob(s)** 

Successfully uploaded 1 blob(s).

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 SQL Database ...

Microsoft

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Azure for Students

Resource group * ⓘ

test

[Create new](#)

Database details

Enter required settings for this database, including picking a logical server and configuring the compute and storage resources

Database name *

admin

Server * ⓘ

Select a server

[Create new](#)

✖ The value must not be empty.

Want to use SQL elastic pool? ⓘ

☐ Yes ☒ No

Create New Server

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

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

Create SQL Database Server ...

Microsoft

Server details

Enter required settings for this server, including providing a name and location. This server will be created in the same subscription and resource group as your database.

Server name *

serviceserverparc

.database.windows.net

Location *

(Asia Pacific) Central India

Authentication

Authentication method

- ☐ Use Microsoft Entra-only authentication
- ☒ Use both SQL and Microsoft Entra authentication
- ☐ Use SQL authentication

Set Microsoft Entra admin

shailesh.t@somaiya.edu

Admin Object/App ID: b17f761a-94e0-4ee2-9164-9e2799872192

Set admin

Server admin login *

server

Password *

.....

Confirm password *

.....



OK

Click Review + Create



Review + create

Next : Networking >

Will take some time to create SQL database

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

Public access Private access Connectivity

Public network access


Public Endpoints allow access to this resource through the internet using a public IP address. An application or resource that is granted access with the access this resource. [Learn more](#)




Public network access

☐ Disable








☒ Selected networks

☐ Secured by perimeter

 Connections from the IP addresses configured in the Firewall rules section below will have access to this data. [more](#)

 **admin (serviceserverparc/admin)**   ...

SQL database

<<  Copy  Restore  Export  Set server firewall  Delete  Connect with...  Feedback

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


Firewall rules

Allow certain public internet IP addresses to access your resource. [Learn more](#)

 Add your client IPv4 address (103.160.109.208)  Add a firewall rule

Rule name	Start IPv4 address
<input type="text" value="ClientIPAddress_2024-3-30_20-15-33"/>	<input type="text" value="103.160.109.208"/>

Exceptions

☒ Allow Azure services and resources to access this server 

Save Changes.

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

SQL Server

Login Connection Properties Always Encrypted Additional Connection Parameters

Server

Server type: Database Engine

Server name: serviceserverparc.database.windows.net

Authentication: SQL Server Authentication

Login: server

Password:

☐ Remember password

Connection Security

Encryption: Mandatory

☐ Trust server certificate

Host name in certificate:

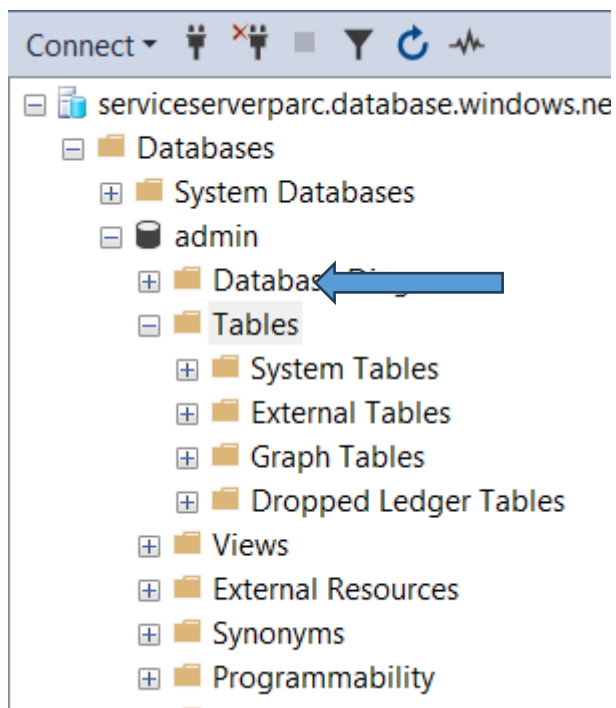
Connect

Cancel

Help

Options <<

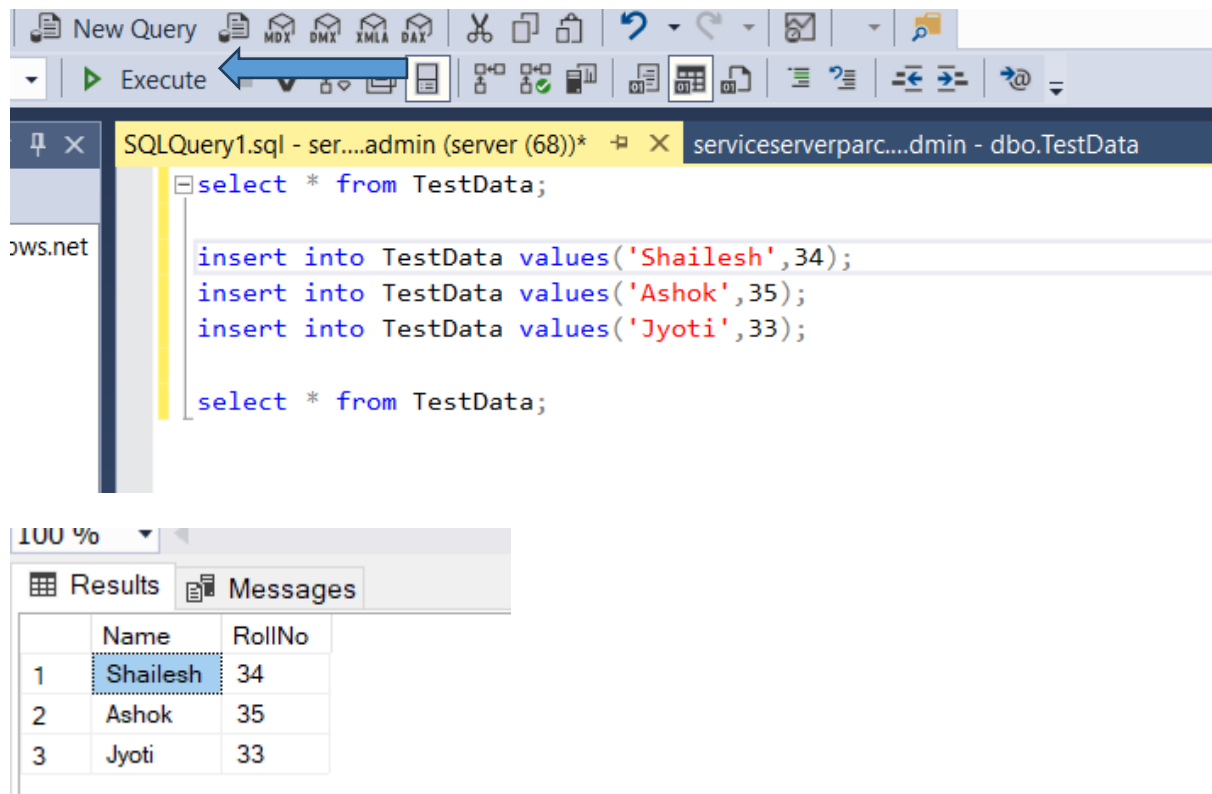
7. After successful login, create a new table and insert data into it.



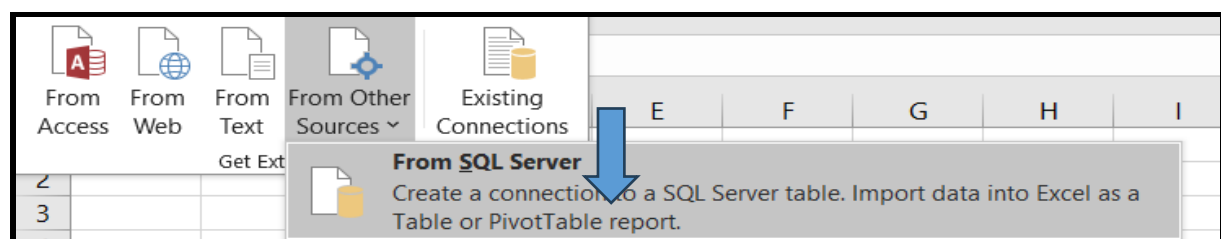
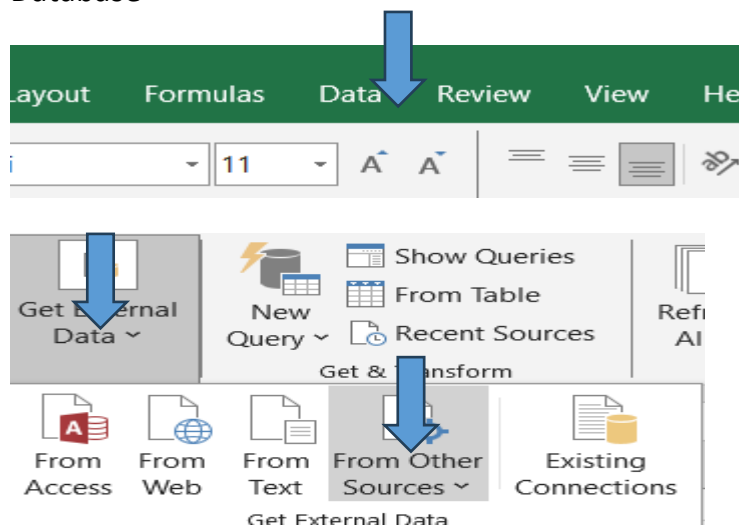
Click on New Query then insert data into table

Name : Shailesh Ashok Tagadghar

Roll No : 31031523034



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

Data Connection Wizard

Connect to Database Server

Enter the information required to connect to the database server.

1. Server name: serviceserverparc.database.windows.net

2. Log on credentials

☐ Use Windows Authentication

☒ Use the following User Name and Password

User Name: server

Password: ●●●●●●●●

Cancel < Back Next > Finish

Select admin from dropdown

Select the database that contains the data you want:

admin

☒ Connect to a specific table:

☐ Enable selection of multiple tables

Name	Owner	Description	Modified	Created	Type
TestData	dbo			3/30/2024 2:55:58 PM	TABLE

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					
7					

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

[Home](#) > [Analysis Services](#) >

Analysis Services

Analysis Services

Server name * ⓘ

tests



Subscription *

Azure for Students



Resource group *

(New) shailesh



[Create new](#)

Location *

East US



Pricing tier ([View full pricing details](#)) *

B2 (80 Query Processing Units)



Administrator (Select) * ⓘ

shailesh.t@somaiya.edu



Backup Storage Settings

[Backup Storage: Not configured](#)

Storage key expiration

Never



Create

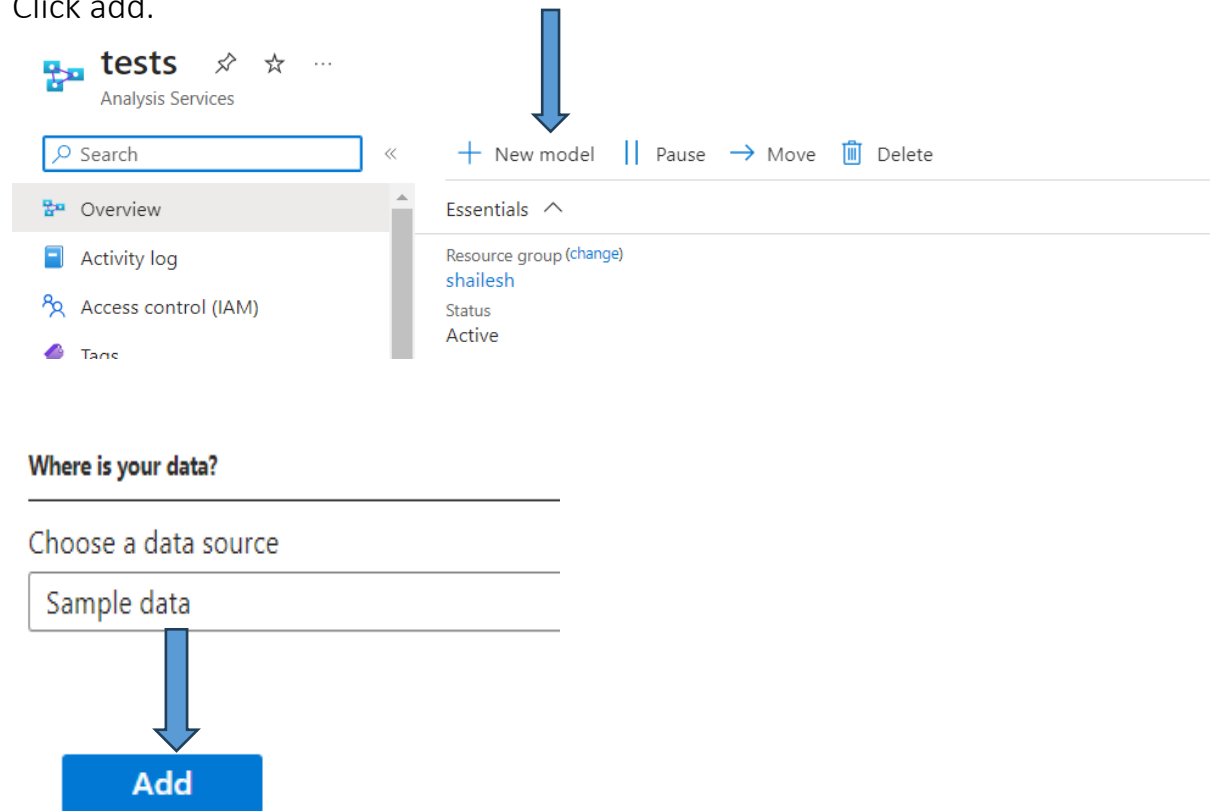
[Automation options](#)

It will take some time to create this service

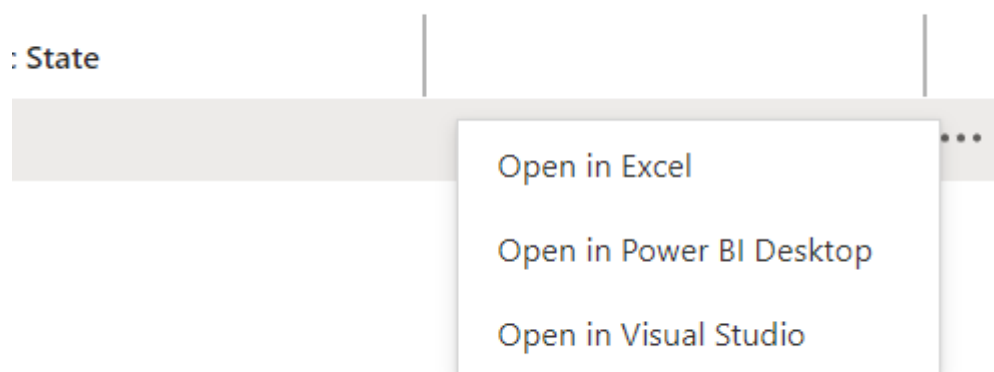
Step 2 : Once it is deployed, go to resources.

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.

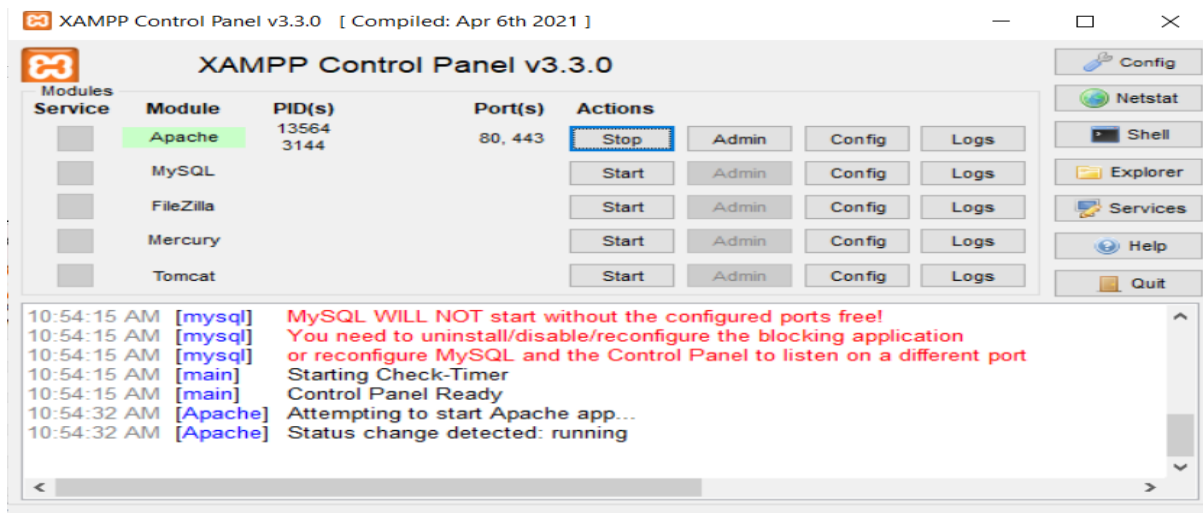
Practical 5

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

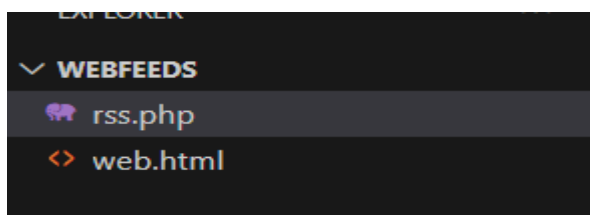
Steps : Using RSS -- Xampp

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 – create new two file html and php extension file.



Web.html code :

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

```

        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");
}

```

```
$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

localhost/webfeeds/

Gmail YouTube Maps Translate PowerPoint | Micros... ChatGPT

Index of /webfeeds

<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
Parent Directory		-	
rss.php	2024-03-31 11:00	1.4K	
web.html	2024-03-31 10:59	1.3K	

Apache/2.4.58 (Win64) OpenSSL/3.1.3 PHP/8.2.12 Server at localhost Port 80

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.

Please Select an option to get RSS:

Select an RSS-feed: ▼

RSS-feeds

Please Select an option to get RSS:

BBC News ▼

[BBC News - US & Canada](#)
BBC News - US & Canada

[White House blames Iran-backed militia for deadly drone strike](#)
The White House says the US will respond to the attack "in a time and in a manner of our choosing".

[Joe Biden v Donald Trump - where contest will be won and lost](#)
A general election showdown between two adversaries is coming into view. Here's what to look for.

[FBI says Chinese state hacker group targeted US infrastructure](#)
China is targeting US infrastructure and laying the groundwork to wreak chaos, the FBI director warns.

Steps : Using Azure Devops

1. Login to Azure Devops --

<https://aex.dev.azure.com/me?mkt=en-US>

2. Create new project

Azure DevOps Organizations

▼ [dev.azure.com/shailesht](#) (Owner)

Projects



ShaileshWeb

[New project](#)

Create new project



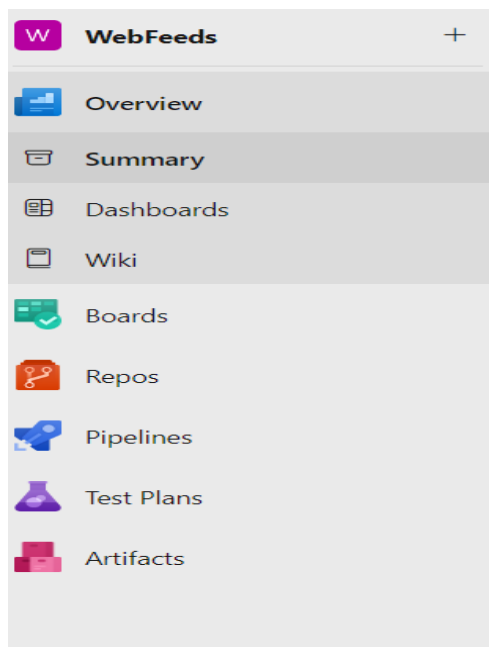
Project name *

WebFeeds

Description

nothing

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



4. Create new feed and Done with this practical

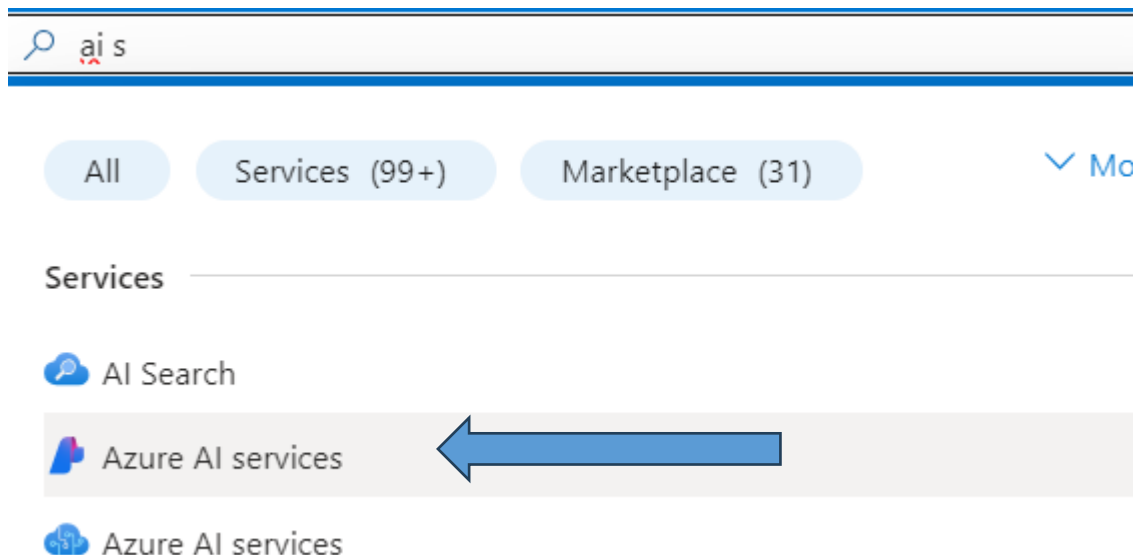
Practical 6

Aim : Artificial Intelligence Services in Cloud

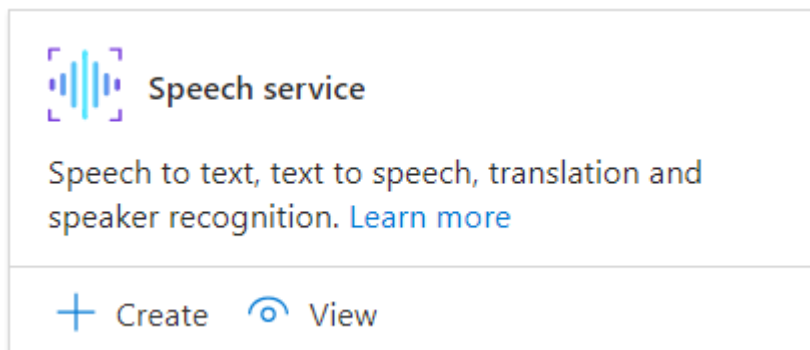
Steps :

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.



Name : Shailesh Ashok Tagadghar

Roll No : 31031523034

Project Details

Subscription * ⓘ Azure for Students ✓

Resource group * ⓘ shailesh ✓
[Create new](#)

Instance Details

Region ⓘ East US ✓

Name * ⓘ domainspeech ✓

Pricing tier * ⓘ Standard S0 ✓
[View full pricing details](#)

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

domainspeech Speech service

Search

Overview

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems

Resource Management

- Keys and Endpoint
- Encryption
- Commitment tier pricing
- Pricing tier
- Networking
- Identity

Essentials

Resource group (move) : [shailesh](#)

Status : Active

Location : East US

Subscription (move) : [Azure for Students](#)

Subscription ID : 9a6fa86-1c26-494c-8e37-298938987a3f

Tags (edit) [Add tags](#)

Get Started [Monitor](#)

Get started with your resource in Speech Studio

Try out all use cases and see other custom tools for building Speech AI models

[Go to Speech Studio](#)

API Kind : SpeechServices

Pricing tier : Standard

Endpoint : <https://eastus.api.cognitive.microsoft.com/>

Manage keys : [Click here to manage keys](#)

Commitment plans : [Click here to view Commitment Tier Pricing options](#)

Select the services that you want to perform

Step 3 : After that , Click on 'go to Speech studio' , and then click on Voice Gallery.

Text to speech

Build apps and services that speak naturally with more than 400 voices across 140 languages and dialects. Create a customized voice to differentiate your brand and use various speaking styles to bring a sense of emotion to your spoken content. [Learn more about text to speech](#)

Voice Gallery

Browse expressive voices with humanlike speech to find the perfect speaker for your project.

[Try out Voice Gallery](#)

Custom Voice

Use your own audio recordings to create a distinct, one-of-a-kind voice for your text to speech apps.

[Start a Custom Voice project](#)

Personal Voice Preview

Create an AI voice easily from a human voice sample, providing your users with a personalized voice experience across 100 languages.

[Try out Personal Voice](#)

Audio Content Creation

Craft nuanced speech by adjusting the speaking style, pacing, and pronunciation of your spoken content.

[Start an Audio Content Creation project](#)

Step 4 : Click on 'go to audio content creation'.

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Ava
Female
English (United States)

Speaking styles: 1 style
Default

Description: Bright, engaging voice with a beautiful tone.

Showcase

Advertisement

Conversation

Go to Audio Content Creation

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

Speech Studio > Audio Content Creation > My files > Untitled *

File Save Export Template Auto predict

00:00

1. **[Ava]** Hello Shailesh

i am ava

i'm here to help you

For Mp3 :

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


Speech to text

Quickly and accurately transcribe in more than 100 languages and dialects. Enhance the accuracy of your transcriptions by creating a custom speech model that can handle domain terminology, background noise, and accents. [Learn more about speech to text](#)

<p>Real-time speech to text</p> <p>Quickly test live transcription capabilities on your own audio without writing any code.</p> <p>Try out Real-time speech to text</p>	<p>Whisper Model in Azure OpenAI Service</p> <p>Quickly test live transcription capabilities on your own audio utilizing your Azure OpenAI resource and use prompts to improve the quality of the transcripts.</p> <p>Try out Whisper Model in Azure OpenAI Service</p>	<p>Batch speech to text</p> <p>Quickly test batch transcription capabilities to transcribe a large amount of audio in storage and receive results asynchronously using Azure Speech models or OpenAI Whisper model.</p> <p>Try out Batch speech to text</p>	<p>Custom Speech</p> <p>Add your own data and adapt to specific speaking styles, vocabulary, and more with a customized speech to text model.</p> <p>Start a Custom Speech project</p>
--	--	--	---

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.

File name: TITLE SONG 1 MIN MP4.mp4 Language: English (United States) Output format: Detailed
Custom endpoint: [None] Phrase list: Off

⏮ 00:04  00:57s ⏭

Text JSON

pila niko sabe nenu putin only na na ko saben nuvvu putti nave monaco same lava puttina dei adi gundela gundi pate bilani noku flataya pilani chu

For Mp4 :

Step 10 : Click on 'try out captioning'.

Speech capabilities by scenario

Explore, try out, and view sample code for some of common use cases using Azure Speech Services features like speech to text and text to speech.



Captioning with speech to text

Convert the audio content of TV broadcast, webcast, film, video, live event or other productions into text to make your content more accessible to your audience.

[Try out captioning](#)



Post call transcription and analytics

Batch transcribe call center recordings and extract valuable information such as Personal Identifiable Information (PII), sentiment, and call summary.

[Try out post call transcription](#)



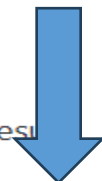
Live chat avatar [Preview](#)

Engage in natural conversations with an avatar that recognizes users' speech input and responds fluently with realistic AI voice.

[Try out live chat avatar](#)

Try it out

Choose a video clip to see captioning results

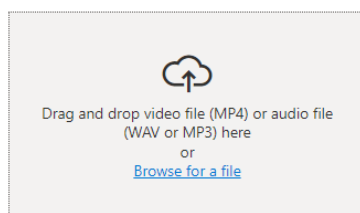


Sample videos

Try with your own video

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

Upload your own video files



Video files I've uploaded



Continuing next...

Continuing next...

Name : Shailesh Ashok Tagadghar

Roll No : 31031523034

Captioning result



Captioning settings

Captioning settings

Caption mode: Real-time (dropdown)
Stable partial threshold: 3 (Recommended) (dropdown)

Choose a language: English (United States) (dropdown)

Language identification: ☒ At start ☐ Continuous (dropdown)
English (United States) (dropdown)

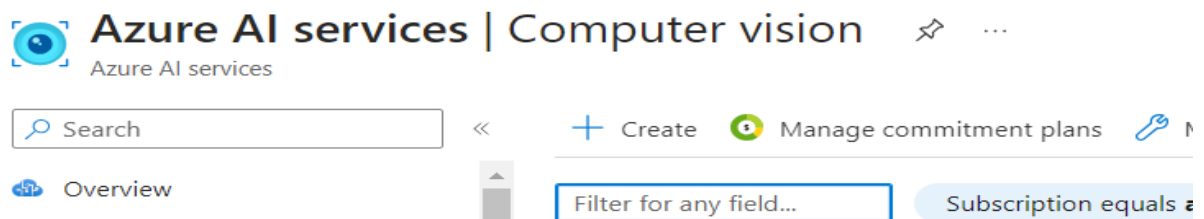
Phrase list: ☐ Off
Enter words or phrases to improve accuracy (separated with a comma or semicolon)

Show advanced options

Apply Reset to default

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

[All services](#) > [Azure AI services](#)



Create Computer Vision

Project Details

Subscription * ⓘ

Azure for Students (dropdown)

Resource group * ⓘ

shailesh (dropdown)

[Create new](#)

Instance Details

Region ⓘ

East US (dropdown)

Name * ⓘ

scvisionscv (dropdown) ✓

Pricing tier * ⓘ

Standard S1 (10 Calls per second) (dropdown)

[View full pricing details](#)

Responsible AI Notice

Microsoft provides technical documentation regarding the appropriate operation applicable to this Azure AI service that is made available by Microsoft. Customer acknowledges and agrees that they have reviewed this documentation and will use this service in accordance with it. This Azure AI service is intended to process Customer Data that includes Biometric

[Previous](#)

[Next](#)

[Review + create](#)

Check given check box agree with there condition

Click on review + create.

Get started with your resource in Vision Studio



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

[Go to Vision Studio](#)

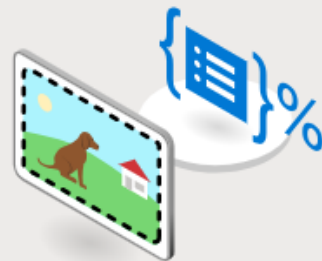
➤ Extract text from images



Extract text from images

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

[Try it out](#)

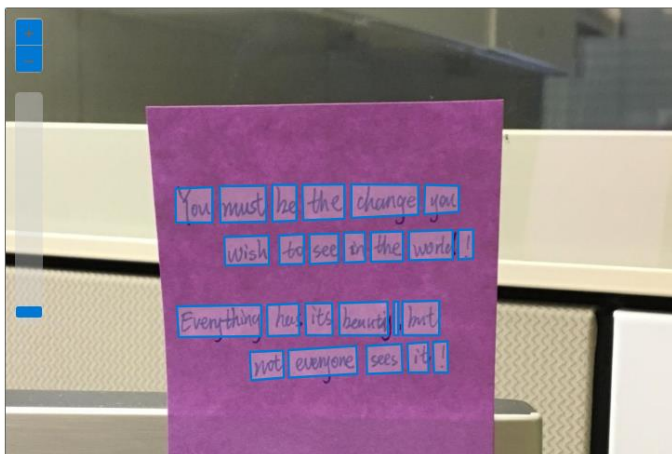


Extract common tags from images

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.

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'.

Create an SSH key ...

Basics Tags Review + create

Creating an SSH key resource allows you to manage and use public keys stored in Azure with Linux virtual machines.
[Learn more](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Azure for Students ▼

Resource group * ⓘ

(New) shailesh ▼

[Create new](#)

Instance details

Region * ⓘ


(Asia Pacific) Central India ▼

Key pair name *

testssh ✓

SSH public key source

Generate new key pair ▼




Review + create

< Previous

Next : Tags >

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

Generate new key pair

i An SSH key pair contains both a public key and a private key. **Azure doesn't store the private key.** After the SSH key resource is created, you won't be able to download the private key again. [Learn more](#) 



Download private key and create resource

Return to create an SSH key resource

Step 4 : Now the key is downloaded.



testssh.pem
2,498 B • Done

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'.

Create an SSH key ...

Basics Tags Review + create

Creating an SSH key resource allows you to manage and use public keys stored in Azure with Linux virtual machines.
[Learn more](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Azure for Students ▼

Resource group * ⓘ

(New) shailesh ▼

[Create new](#)

Instance details

Region * ⓘ


(Asia Pacific) Central India ▼

Key pair name *

testssh ✓

SSH public key source

Generate new key pair ▼



Review + create

< Previous

Next : Tags >

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

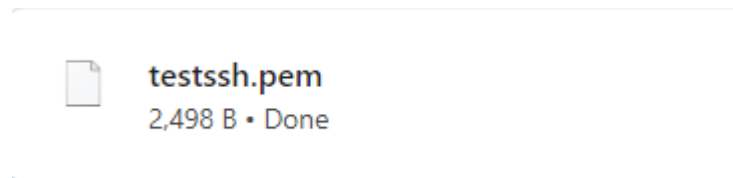
Generate new key pair

i An SSH key pair contains both a public key and a private key. **Azure doesn't store the private key.** After the SSH key resource is created, you won't be able to download the private key again. [Learn more](#)

Download private key and create resource

Return to create an SSH key resource

Step 4 : Now the key is downloaded.



Step 5 : Search for Management grp and create new

All services >

Management groups somaiya.edu

Search < + Create + Add subscription Refresh Expand / Collapse all Export to CSV Feedback

Use management groups to group subscriptions. Click on an existing group to drill in, view details and govern resources. Right-click on any subscription or management group to launch quick actions. Click the "Get Started" tab to learn more.

Search by name or ID

Showing 1 subscriptions in 1 groups

Name	Type	ID	Total subscriptions
Tenant Root Group	Management group	a64aeeab6-f01b-462b-aa9c-44546386ff31	1
Azure for Students	Subscription	dba6fa86-1c26-494c-8e37-298938987a3f	

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

The screenshot shows the 'Management groups' page in the Azure portal. The left sidebar has 'Overview', 'Get started', and 'Settings'. The main area shows a table with 1 subscription in 2 groups. The table has columns: Name, Type, ID, and Total subscriptions. The 'shailesh' group is highlighted with a blue arrow.

Name	Type	ID	Total subscriptions
Tenant Root Group	Management group	a64aeb6-f01b-462b-aa9c-44546386ff31	1
Azure for Students	Subscription	dba6fa86-1c26-494c-8e37-298938987a3f	...
shailesh	Management group	shailesh	0

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

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

The screenshot shows the Azure portal interface for a management group named 'shailesh'. The left-hand navigation pane is expanded, showing the 'Governance' section. Within this section, the 'Policy' option is highlighted with a large blue arrow. Other options in the Governance section include 'Get started', 'Security', 'Deployments', and 'Deployment stacks'. The main content area on the right is partially visible, showing a table with columns for 'Name', 'ID', 'Access Lev', and 'Path'. There is also a search bar and a '+ Creat' button at the top right.

Then click on Assign Policy

This screenshot shows the 'Policy | Compliance' page in the Azure portal. A blue arrow points to the 'Assign policy' button in the top navigation bar. The page displays various compliance metrics: 'Overall resource compliance' is at 100%, 'Resources by compliance state' shows 0 compliant and 0 non-compliant resources, 'Non-compliant initiatives' is 0 out of 0, and 'Non-compliant policies' is 0 out of 0. The left-hand navigation pane shows the 'Compliance' section selected. The main content area has a search bar and filters for 'Scope : shailesh', 'Definition type : All definition types', and 'Compliance state : All compliance states'. Below these, there is a table with columns for 'Name', 'Scope', 'Compliance state', 'Resource complian...', 'Non-Compliant Re...', and 'Non-compliant po...'. The table currently shows 'No assignments to display within the given scope'.

Step 7 : Assign the policy and fill the Basics.

Assign policy

Basics Parameters Remediation Non-compliance messages Review + create

Scope

Scope * shailesh

Exclusions

Resource selectors (Expand)

Basics

Policy definition *

Overrides (Expand)

Assignment name * ○

Description

Previous Next **Review + create**

Available Definitions

Automated Microsoft managed

audit virtual Policy type : All policy types

Policy name	Category	Type
<input checked="" type="checkbox"/> Audit virtual machines without disaster recovery configured	Compute	Builtin

1 of 1 policies selected

Add Cancel

Add it and then click on Review + create option.

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

Policy | Assignments

Search

Assign policy Assign initiative Refresh

Overview Getting started Compliance Remediation Events

Authoring

Definitions **Assignments** Exemptions

Search

Filter by name or ID...

Scope : shailesh Definition type : All definition types

Total Assignments 1 Initiative Assignments 0 Policy Assignments 1

Assignment name	Scope	Type
<input checked="" type="checkbox"/> Audit virtual machines without disaster recovery configured	shailesh	Policy

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

[All services](#) > [Virtual networks](#) >

Create virtual network ...

Basics Security IP addresses Tags Review + create

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *	Azure for Students
Resource group *	shailesh

[Create new](#)

Instance details

Virtual network name *	vmnetwork
Region *	(Asia Pacific) Central India

[Deploy to an edge zone](#)

Then go to IP Addresses and save default address:

Basics Security **IP addresses** Tags Review + create

Add IPv4 address space

10.0.0.0/16 [Delete address space](#)

10.0.0.0

/16

10.0.0.0 - 10.0.255.255 65,536 addresses

Add a subnet

Subnets	IP address range	Size	NAT gateway
default	10.0.0.0 - 10.0.0.255	/24 (256 addresses)	-

Click on Create

Create virtual network ...

Basics	Security	IP addresses	Tags	<u>Review + create</u>
Subscription				Azure for Students
Resource Group				shailesh
Name				vmnetwork
Region				Central India
Security				
Azure Bastion				Disabled
Azure Firewall				Disabled
Azure DDoS Network Protection				Disabled
IP addresses				
Address space				10.0.0.0/16 (65,536 addresses)
Subnet				default (10.0.0.0/24) (256 addresses)
Tags				

Now Create Two Virtual Machine

Step 1 : create a virtual machine.

[All services](#) > [Virtual machines](#) >

Create a virtual machine ...

Create a virtual machine

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ Azure for Students

Resource group * ⓘ shailesh
[Create new](#)


Instance details

Virtual machine name * ⓘ VM1 ✓

Region * ⓘ (Asia Pacific) Central India

Availability options ⓘ No infrastructure redundancy required

Security type ⓘ Trusted launch virtual machines
[Configure security features](#)

Image * ⓘ  Windows 10 Pro, version 22H2 - x64 Gen2
[See all images](#) | [Configure VM generation](#)

VM architecture ⓘ
☐ Arm64
☒ x64

Name : Shailesh Ashok Tagadghar

Roll No : 31031523034

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

Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution. [Learn more](#)

Network interface

When creating a virtual machine, a network interface will be created for you.



Virtual network *	<div>vmnetwork</div> <div>Create new</div>
Subnet *	<div>default (10.0.0.0/24)</div> <div>Manage subnet configuration</div>
Public IP	<div>(new) VM1-ip</div> <div>Create new</div>
NIC network security group	<div><input type="radio"/> None</div> <div><input checked="" type="radio"/> Basic</div> <div><input type="radio"/> Advanced</div>
Public inbound ports *	<div><input type="radio"/> None</div>

< Previous Next : Management > Review + create

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

Delete Cancel Redeploy Download Refresh

✓ Your deployment is complete

 Deployment name: CreateVm-MicrosoftWindowsDesktop.Windows... Start time: 4/1/2024, 7:22:13 PM
Subscription: [Azure for Students](#) Correlation ID: a387f04a-16b5-44da-bb8f-ebd11b666537 
Resource group: [shailesh](#)

Deployment details

Next steps

[Setup auto-shutdown](#) Recommended
[Monitor VM health, performance and network dependencies](#) Recommended
[Run a script inside the virtual machine](#) Recommended

[Go to resource](#) [Create another VM](#)

Give feedback

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

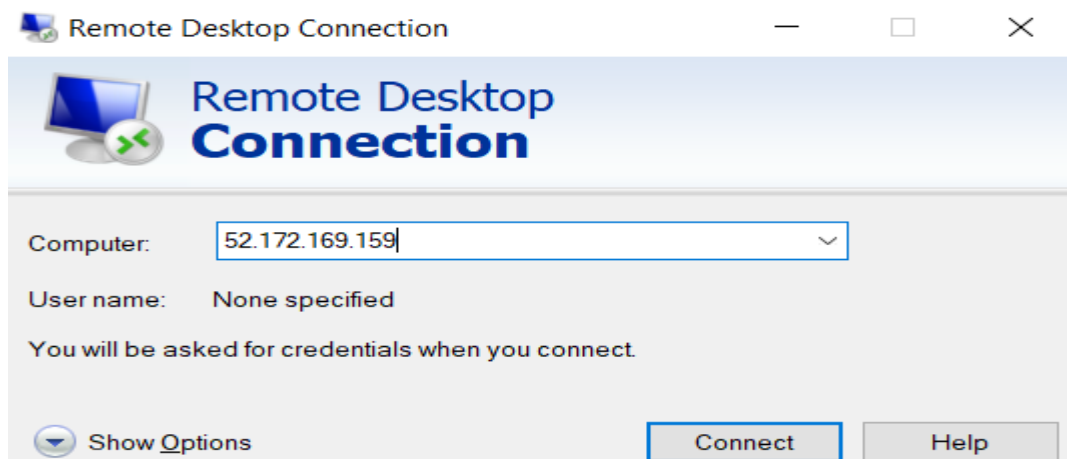
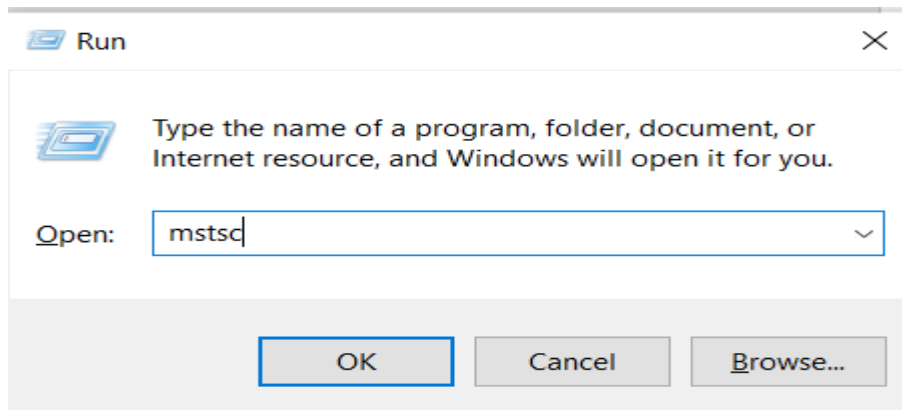
Then Create VM2 – same as VM1

Copy VM1 Public Ipv4 address

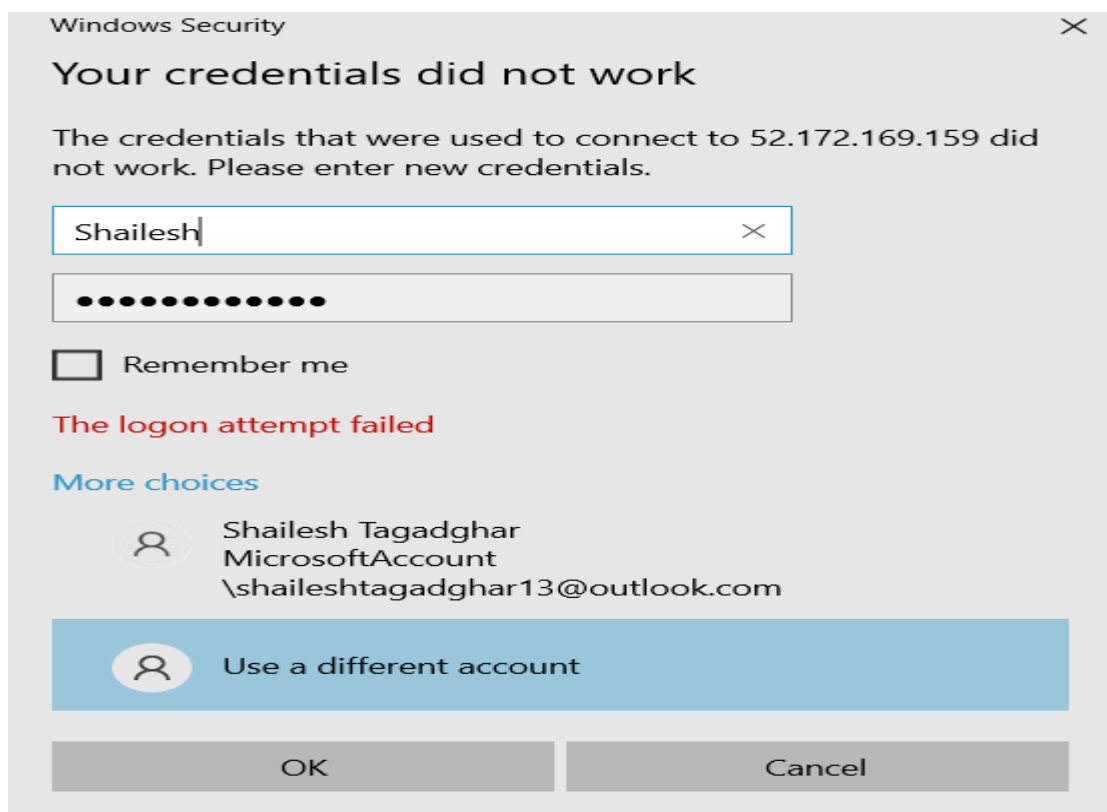
Press Windows + r button then type **mstsc (run command)**

Name : Shailesh Ashok Tagadghar

Roll No : 31031523034



Click on connect



Use created credentials

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



Customize settings for each type of network

You can modify the firewall settings for each type of network that you use.

Private network settings

-  ☐ Turn on Windows Defender Firewall
- ☐ Block all incoming connections, including those in the list of allowed apps
- ☒ Notify me when Windows Defender Firewall blocks a new app
-  ☒ Turn off Windows Defender Firewall (not recommended)

Public network settings

-  ☐ Turn on Windows Defender Firewall
- ☐ Block all incoming connections, including those in the list of allowed apps
- ☒ Notify me when Windows Defender Firewall blocks a new app
-  ☒ Turn off Windows Defender Firewall (not recommended)

VM1 :

```
Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.4170]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\system32>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : 5i2zj5ixiwne5fq4k4xal4j4th.rx.internal.cloudapp.net
    Link-local IPv6 Address . . . . . : fe80::607b:29a4:1f8c:8b3%6
    IPv4 Address. . . . . : 10.0.0.4
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.0.0.1

C:\Windows\system32>firewall.cpl

C:\Windows\system32>
```

VM2 :

```
C:\Users\Shailesh>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : 5i2zj5ixiwne5fq4k4xal4j4th.rx.internal.cloudapp.net
    Link-local IPv6 Address . . . . . : fe80::2bcd:6445:822b:c340%6
    IPv4 Address. . . . . : 10.0.0.5
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.0.0.1

C:\Users\Shailesh>firewall.cpl

C:\Users\Shailesh>
```

>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
```

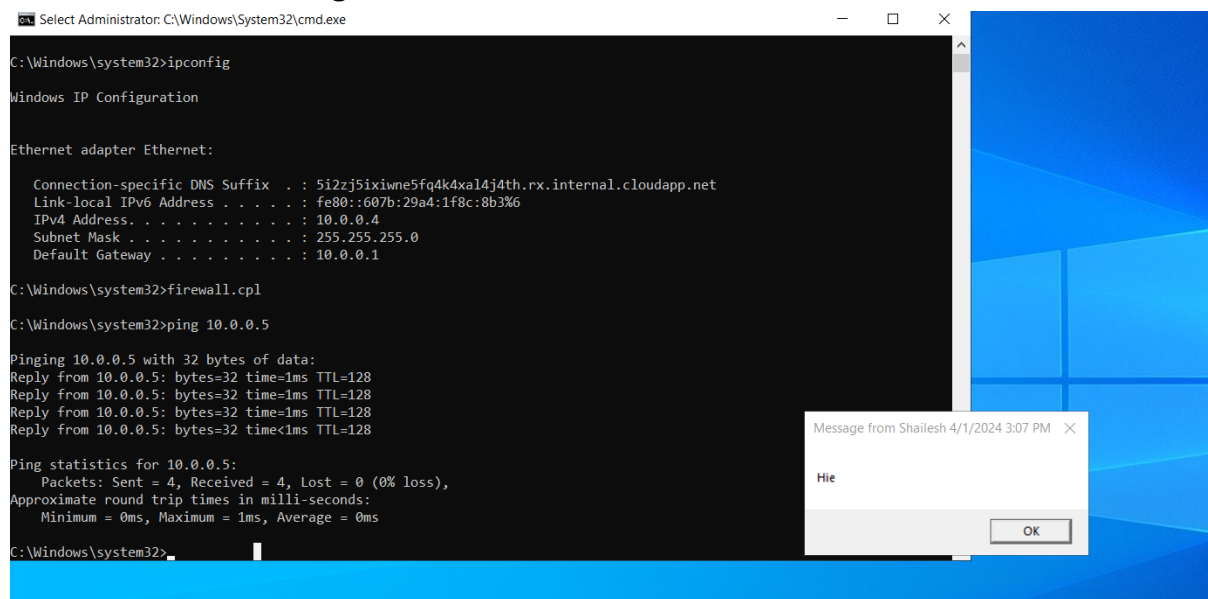
Now Both VM1 and VM2 is Connected

Then Send the msg to VM2 to VM1

>msg Shailesh server/10.0.0.4 Hie

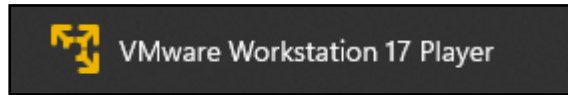
```
C:\Users\Shailesh>msg Shailesh /server:10.0.0.4
Enter message to send; end message by pressing CTRL-Z on a new line, then ENTER
Hie
```

We have received msg Hie from VM2 to VM1

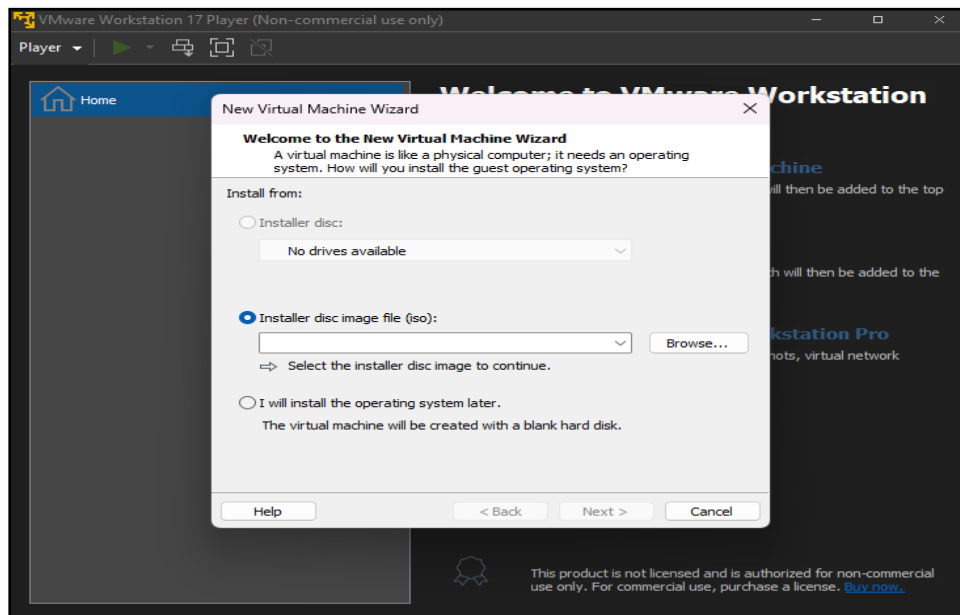


Communication between 2 VM using VM - Ware :

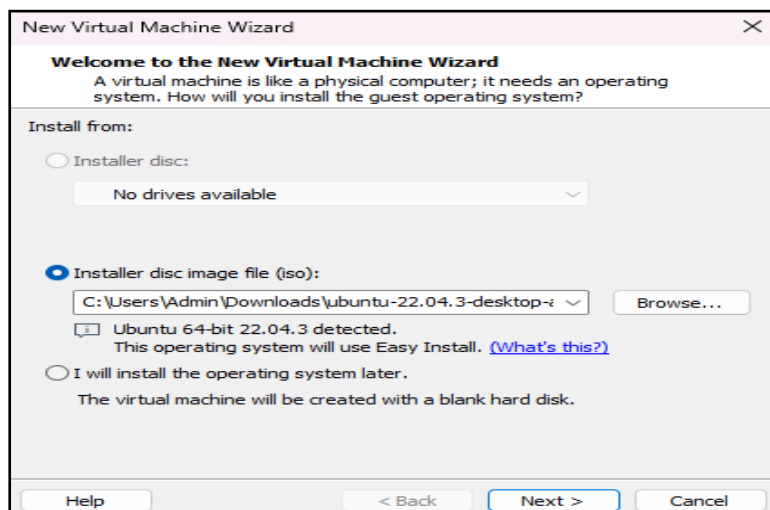
Step 1 : Open the VMware Workstation 17 player application.



Step 2 : Create a virtual machine.

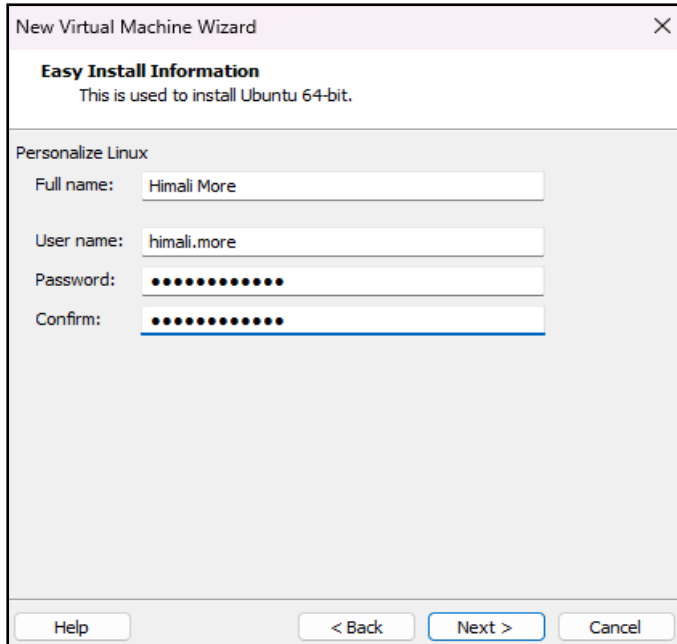


Step 3 : Download Ubuntu and browse the file and select it.



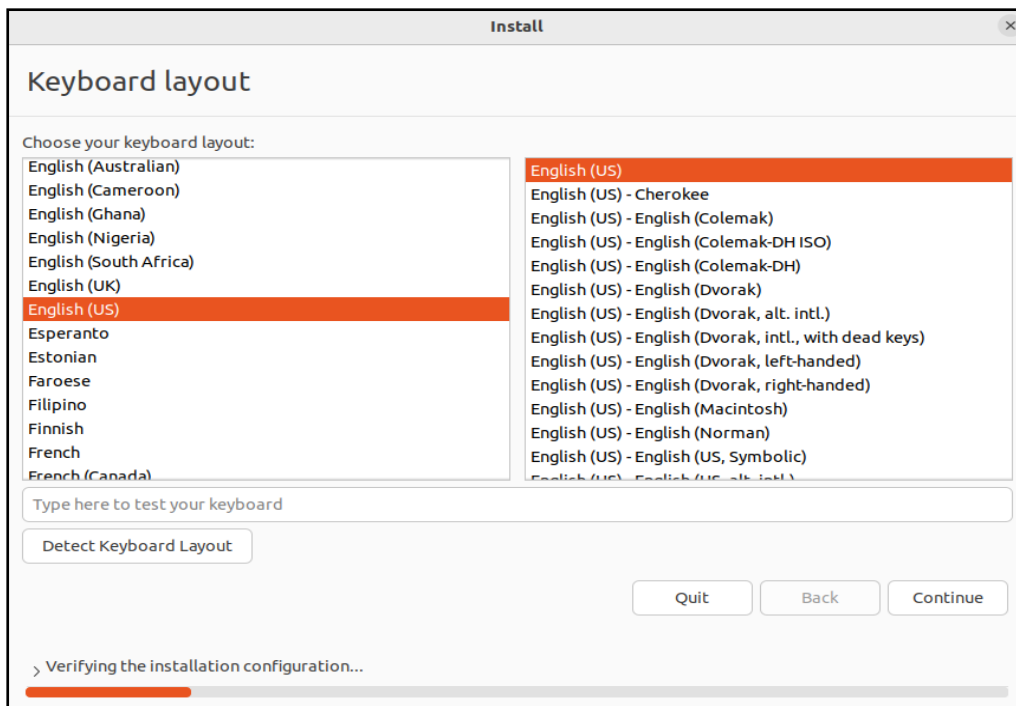
Step 4 : Fill in the details and password.

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034



The screenshot shows the 'New Virtual Machine Wizard' window, specifically the 'Easy Install Information' step. The window title is 'New Virtual Machine Wizard' with a close button. Below the title bar, it says 'Easy Install Information' and 'This is used to install Ubuntu 64-bit.' The main area is titled 'Personalize Linux' and contains four input fields: 'Full name:' with the value 'Himali More', 'User name:' with the value 'himali.more', 'Password:' with masked characters, and 'Confirm:' with masked characters. At the bottom, there are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'.

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

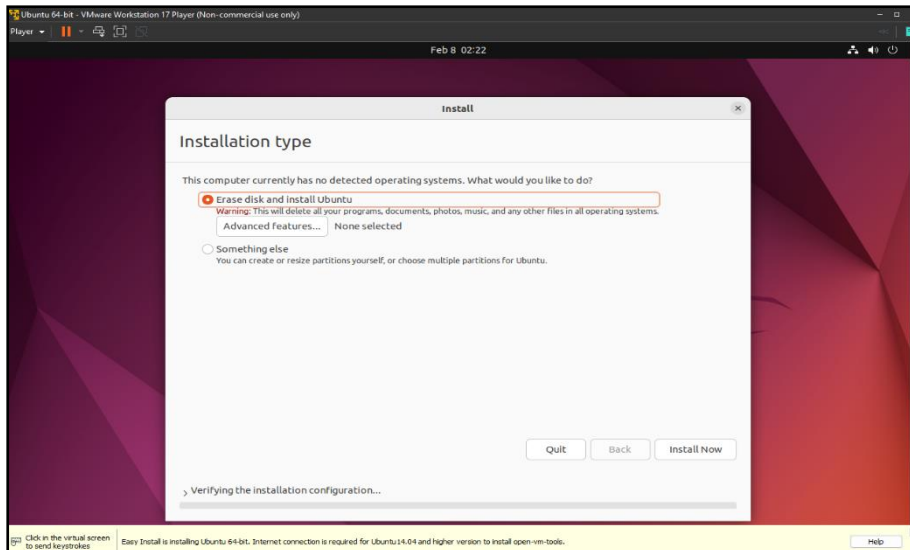


The screenshot shows the 'Install' window, specifically the 'Keyboard layout' step. The window title is 'Install' with a close button. The main area is titled 'Keyboard layout' and contains a list of keyboard layouts. The list is divided into two columns. The left column lists various languages and regions, with 'English (US)' highlighted in orange. The right column lists specific keyboard layouts for 'English (US)', with 'English (US)' highlighted in orange. Below the list, there is a text input field labeled 'Type here to test your keyboard' and a button labeled 'Detect Keyboard Layout'. At the bottom right, there are three buttons: 'Quit', 'Back', and 'Continue'. At the bottom left, there is a progress bar and the text 'Verifying the installation configuration...'.

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.

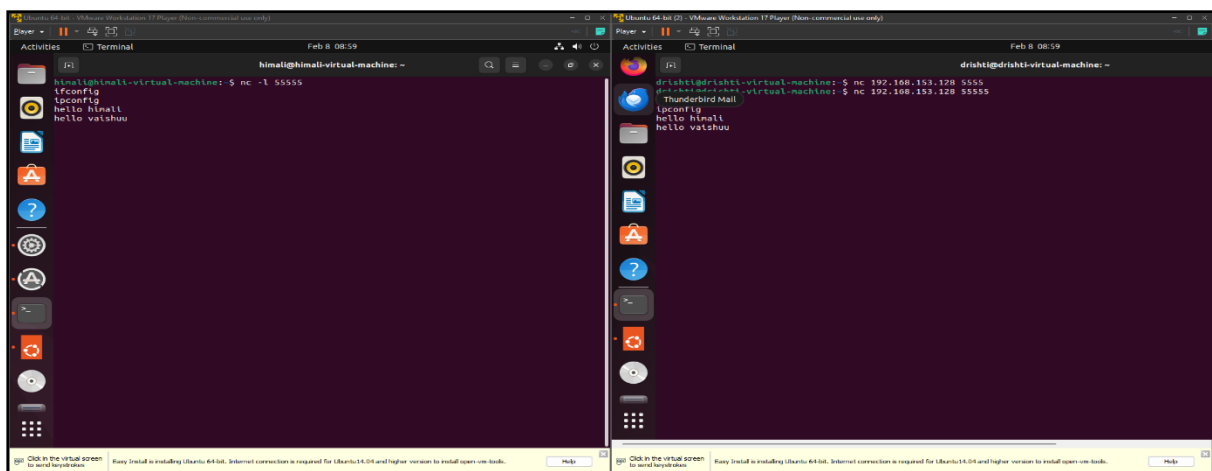
Step 8 : Ping both machines to check connectivity.

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.



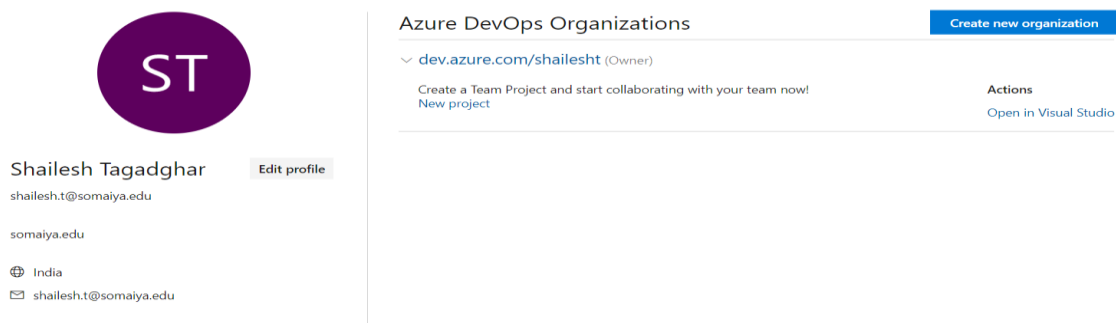
Practical 10 : Cost Management

Steps :

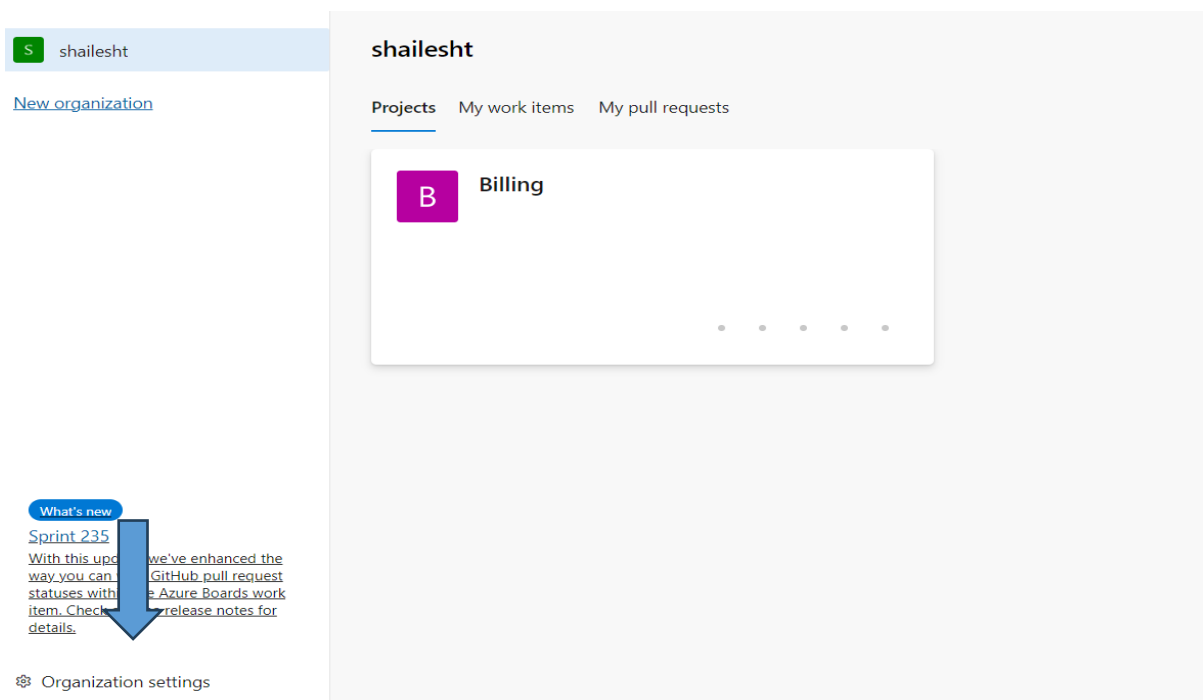
1. Login to azure student login – use your credentials
2. Click in create a resource
3. Login to Azure DevOps Website

<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.

Organization Settings
shailesht

Search Settings

General

- Overview
- Projects
- Users
- Billing**
- Global notifications
- Usage
- Extensions
- Microsoft Entra

Security

- Policies
- Permissions

Boards

Overview

Name
shailesht

☒ Use the new URL: <https://dev.azure.com/shailesht/>
[Learn more about URLs](#)

Privacy URL
[Learn more about the Privacy URL](#)

Description
Add organization description

Time zone
UTC

Geography
India
[Learn more about the Geographies](#)

Region
South India

Open Billing Tab

Azure DevOps shailesht / Settings / Billing

Organization Settings
shailesht

Search Settings

General

- Overview
- Projects
- Users
- Billing**
- Global notifications
- Usage
- Extensions
- Microsoft Entra

Security

- Policies
- Permissions

Boards

- Process

Set up billing

Pipelines for private projects	Free	Paid parallel jobs
MS Hosted CI/CD	1800 minutes	0
Self-Hosted CI/CD	1	0

Visit [parallel jobs](#) for full details on free pipelines and public concurrency

Boards, Repos and Test Plans	Free
Basic users	5
Basic + Test Plans	Start free trial

Settings	Access level
Default access level for new users	Stakeholder

Step 4 : View your Resources at the bottom.

Resources	Free	Used	Usage limit
Artifacts	2 GiB*	Less than 1 GiB	Up to 2 GiB free

*Artifacts now bills for packages-only. For other updates, please see <https://aka.ms/artbilling>.

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'.

[All services](#) > [Storage accounts](#) >

Create a storage account

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription *

Resource group *
[Create new](#)

Instance details

Storage account name *

Region *
[Deploy to an edge zone](#)

Performance * ☒ **Standard:** Recommended for most scenarios (general-purpose v2 account)
☐ **Premium:** Recommended for scenarios that require low latency.

Redundancy *
☒ Make read access to data available in the event of regional unavailability.

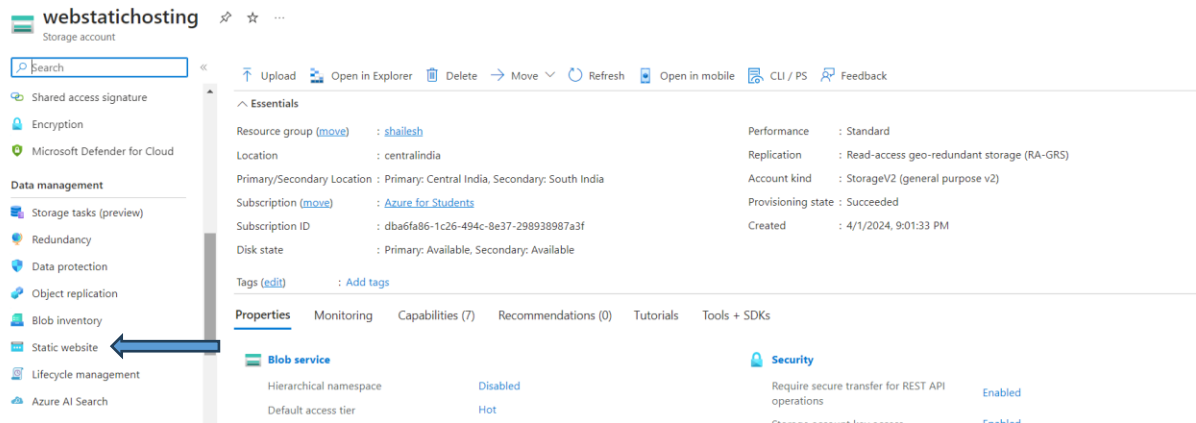
[Previous](#) [Next](#) [Review + create](#)

Don't Change other sections and click on create

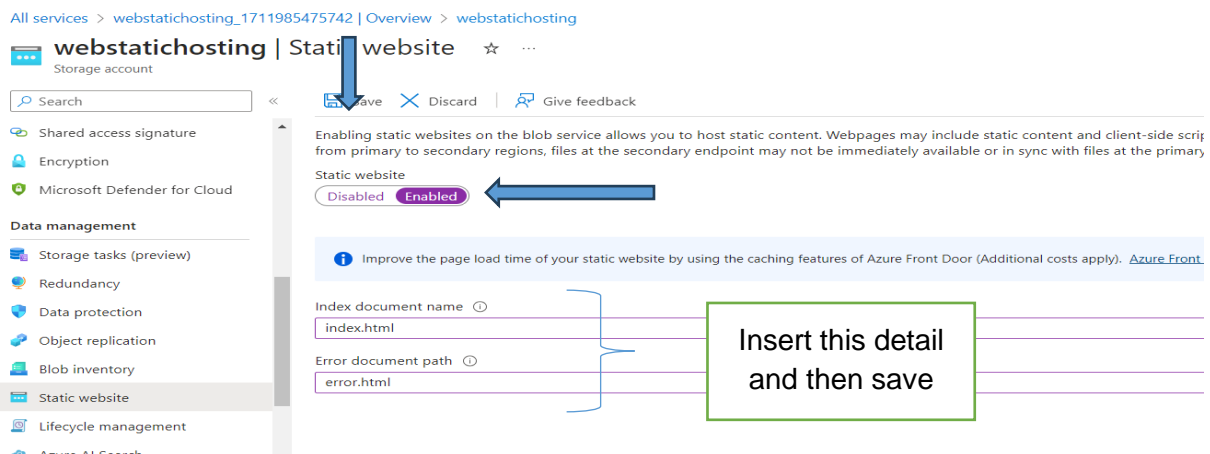
It will take some time to create this storage account

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

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034



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



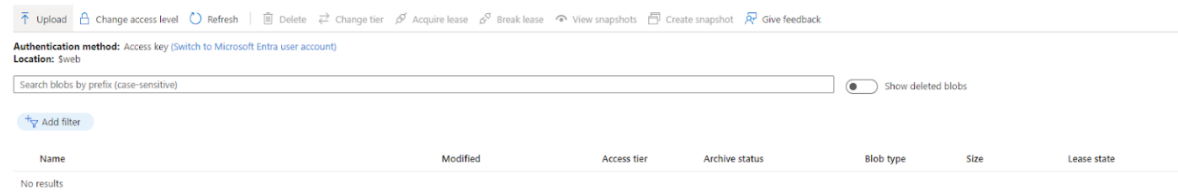
After saving --- go to container --click on \$web -- upload your index.html file

Index.html code

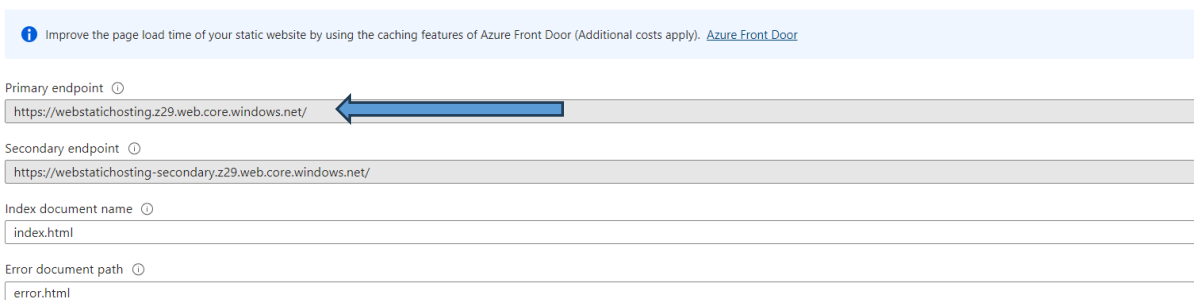
```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Web Hosting with Azure</title>
</head>
<body>
  <h1>Hello I am Shailesh Tagadghar</h1>
  <h3>Roll No. 34</h3>
  <button><a href="google.com">Click Me</a></button>
</body>
</html>
```

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

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

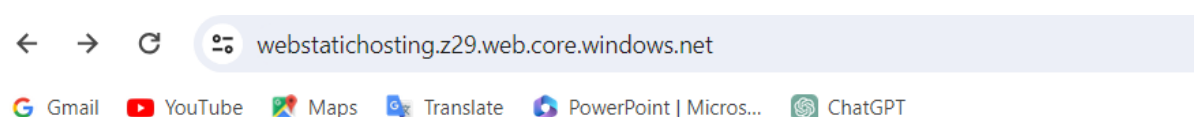


Step 6 : Once the html file is uploaded . Go to 'Static Website' and copy the url.



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

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



Hello I am Shailesh Tagadghar

Roll No. 34

[Click Me](#)

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

[All services](#) > [SQL databases](#) > [Create SQL Database](#) >

Create SQL Database Server

Microsoft

Server details

Enter required settings for this server, including providing a name and location. This server will be created in the same subscription and resource group as your database.

Server name *	<input type="text" value="dbserviceprac"/>
	.database.windows.net
Location *	<input type="text" value="(US) East US"/>

Authentication

Azure Active Directory (Azure AD) is now Microsoft Entra ID. [Learn more](#)

Select your preferred authentication methods for accessing this server. Create a server admin login and password to access your server with SQL authentication, select only Microsoft Entra authentication [Learn more](#) using an existing Microsoft Entra user, group, or application as Microsoft Entra admin [Learn more](#) , or select both SQL and Microsoft Entra authentication.

Authentication method	<input type="radio"/> Use Microsoft Entra-only authentication	
	<input checked="" type="radio"/> Use both SQL and Microsoft Entra authentication	
	<input type="radio"/> Use SQL authentication	
Set Microsoft Entra admin	shailesh.t@somaiya.edu Admin Object/App ID: b17f761a-94e0-4ee2-9164-9e2799872192 Set admin	
Server admin login *	<input type="text" value="server"/>	
Password *	<input type="password" value="....."/>	
Confirm password *	<input type="password" value="....."/>	
<input type="button" value="OK"/>		

Name : Shailesh Ashok Tagadghar

Roll No : 31031523034

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

[All services](#) > [SQL databases](#) >

Create SQL Database

Microsoft

Project database

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Azure for Students

Resource group * ⓘ

(New) shailesh

[Create new](#)

Database details

Enter required settings for this database, including picking a logical server and configuring the compute and storage resources

Database name *

testdb

Server * ⓘ

(new) dbserviceprac (East US)

[Create new](#)

Want to use SQL elastic pool? ⓘ

☐ Yes ☒ No

Workload environment

☒ Development
☐ Production

[Review + create](#)

[Next : Networking >](#)

Compute + storage * ⓘ

General Purpose - Serverless

Standard-series (Gen5), 1 vCore, 32 GB storage, zone redundant disabled


[Configure database](#)

Backup storage redundancy

Choose how your PITR and LTR backups are replicated. Geo restore or ability to recover from regional outage is only available when geo-redundant storage is selected.

Backup storage redundancy ⓘ

- ☐ Locally-redundant backup storage
☐ Zone-redundant backup storage
☒ Geo-redundant backup storage

 Selected value for backup storage redundancy is Geo-redundant backup storage. Database backups will be geo-replicated which might impact your data residency requirements. [Learn more](#)

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

Basics

Networking

Security

Additional settings

Tags

Review + create

Configure network access and connectivity for your server. The configuration selected below will apply to the selected server 'dbserviceprac' and all databases it manages. [Learn more](#)

Network connectivity

Choose an option for configuring connectivity to your server via public endpoint or private endpoint. Choosing no access creates with defaults and you can configure connection method after server creation. [Learn more](#)

Connectivity method * ⓘ

☐ No access

☒ Public endpoint

☐ Private endpoint

Firewall rules

Setting 'Allow Azure services and resources to access this server' to Yes allows communications from all resources inside the Azure boundary, that may or may not be part of your subscription. [Learn more](#)

Setting 'Add current client IP address' to Yes will add an entry for your client IP address to the server firewall.

Allow Azure services and resources to access this server *

No

Yes

Add current client IP address *

No

Yes

Review + create

< Previous

Next : Security >

testdb (dbserviceprac/testdb)

SQL database

Search

Copy

Restore

Export

Set server firewall

Delete

Connect with...

Feedback

Overview

Activity log

Tags

Diagnose and solve problems

Query editor (preview)

Settings

Compute + storage

Connection strings

Properties

Locks

Essentials

Resource group (move) : shailesh

Status : Online

Location : East US

Subscription (move) : Azure for Students

Subscription ID : dba6fa86-1c26-494c-8e37-298938987a3f

Tags (edit) : Add tags

Server name : dbserviceprac.database.windows.net

Connection strings : Show database connection strings

Pricing tier : General Purpose - Serverless: Gen5, 1 vCore

Auto-pause delay : 1 hour

Earliest restore point : No restore point available

Getting started

Monitoring

Properties

Features

Notifications (0)

Integrations

Tutorials

Start working with your database

Connect to your database and start working with data with a few simple steps. [Learn more](#)

Click on Set Server Firewall

dbserviceprac | Networking

SQL server

Search

Feedback

Overview

Activity log

Access control (IAM)

Tags

Quick start

Diagnose and solve problems

Settings

Microsoft Entra ID

SQL databases

SQL elastic pools

Public access

Private access

Connectivity

Public network access

Public Endpoints allow access to this resource through the internet using a public IP address. An application or resource that is granted access this resource. [Learn more](#)

Public network access

☐ Disable

☒ Selected networks

☐ Secured by perimeter

Connections from the IP addresses configured in the Firewall rules section below will have access to this resource. [Learn more](#)

Virtual networks

Name : Shailesh Ashok Tagadghar
Roll No : 31031523034

Firewall rules

Allow certain public internet IP addresses to access your resource. [Learn more](#)

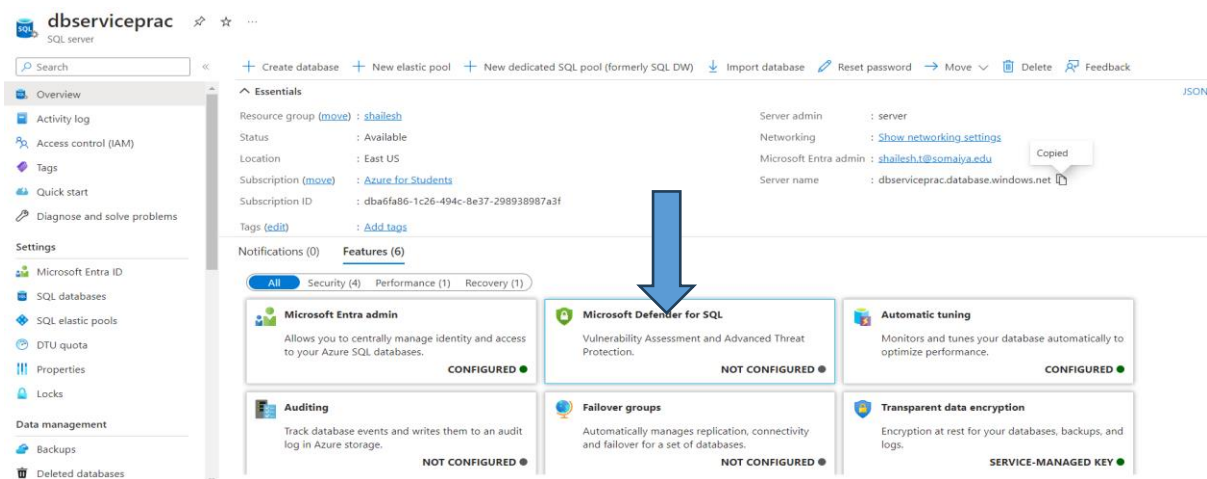
+ Add your client IPv4 address (103.160.109.208) + Add a firewall rule

Rule name	Start IPv4 address	End IPv4 address
ClientIPAddress_2024-4-2_14-0-39	103.160.109.208	103.160.109.208

Exceptions

☒ Allow Azure services and resources to access this server ⓘ

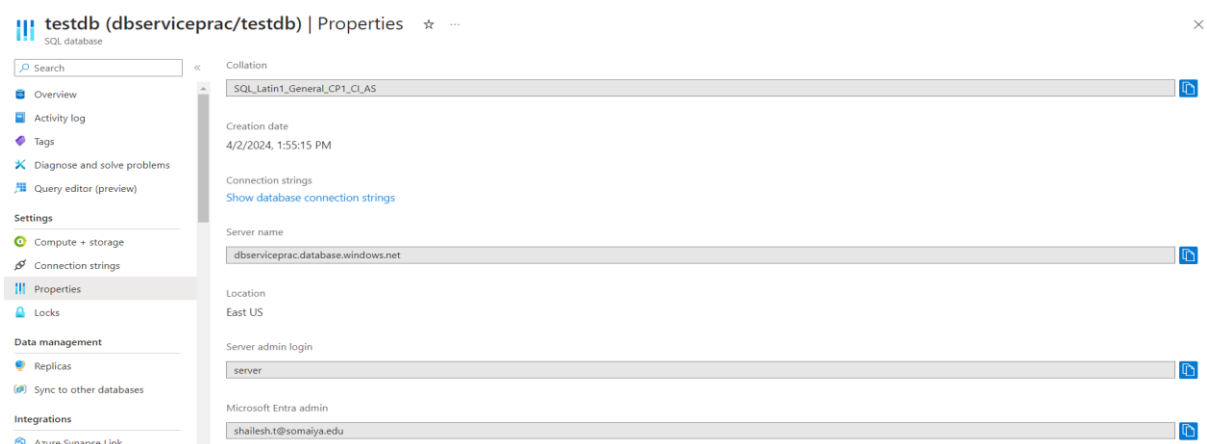
Then Save this changes



The screenshot displays the Azure portal interface for a Microsoft Defender for SQL resource. The left sidebar shows the navigation menu with options like Overview, Activity log, Access control (IAM), Tags, Quick start, Diagnose and solve problems, Settings, Microsoft Entra ID, SQL databases, SQL elastic pools, DTU quota, Properties, Locks, Data management, Backups, and Deleted databases. The main content area shows the 'Essentials' section with details about the resource group, status, location, subscription, and tags. Below this, there are tabs for Notifications (0) and Features (6). The 'Features' tab is active, showing a grid of features: Microsoft Entra admin (CONFIGURED), Microsoft Defender for SQL (NOT CONFIGURED), Automatic tuning (CONFIGURED), Auditing (NOT CONFIGURED), Failover groups (NOT CONFIGURED), and Transparent data encryption (SERVICE-MANAGED KEY). A blue arrow points to the 'Microsoft Defender for SQL' tile.

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

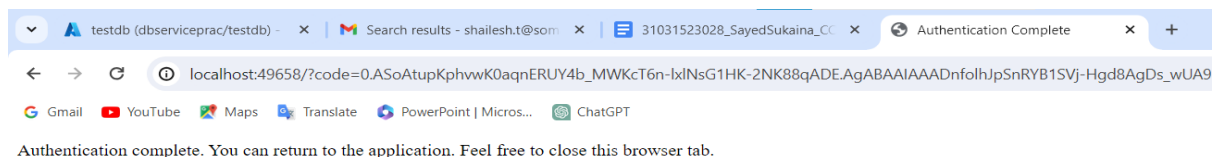
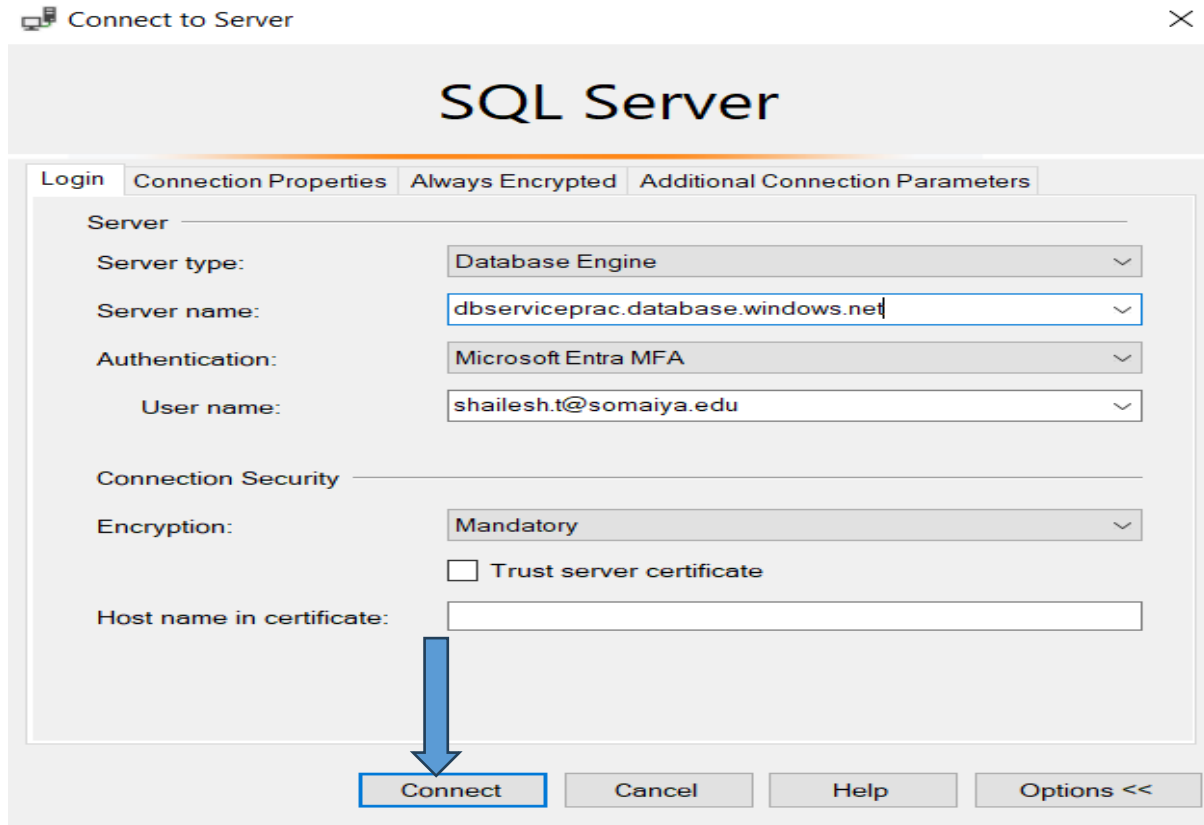
Step 7 : Now go into Properties and copy Server name and the Entra admin.



The screenshot displays the 'Properties' page of a Microsoft Defender for SQL resource in the Azure portal. The left sidebar shows the navigation menu with options like Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview), Settings, Compute + storage, Connection strings, Properties, Locks, Data management, Replicas, Sync to other databases, Integrations, and Azure Synapse Link. The main content area shows the 'Properties' section with details about the resource: Collation (SQL_Latin1_General_CP1_CI_AS), Creation date (4/2/2024, 1:55:15 PM), Connection strings (Show database connection strings), Server name (dbserviceprac.database.windows.net), Location (East US), Server admin login (server), and Microsoft Entra admin (shailesh.t@somaiya.edu). Each field has a copy icon to its right.

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.

