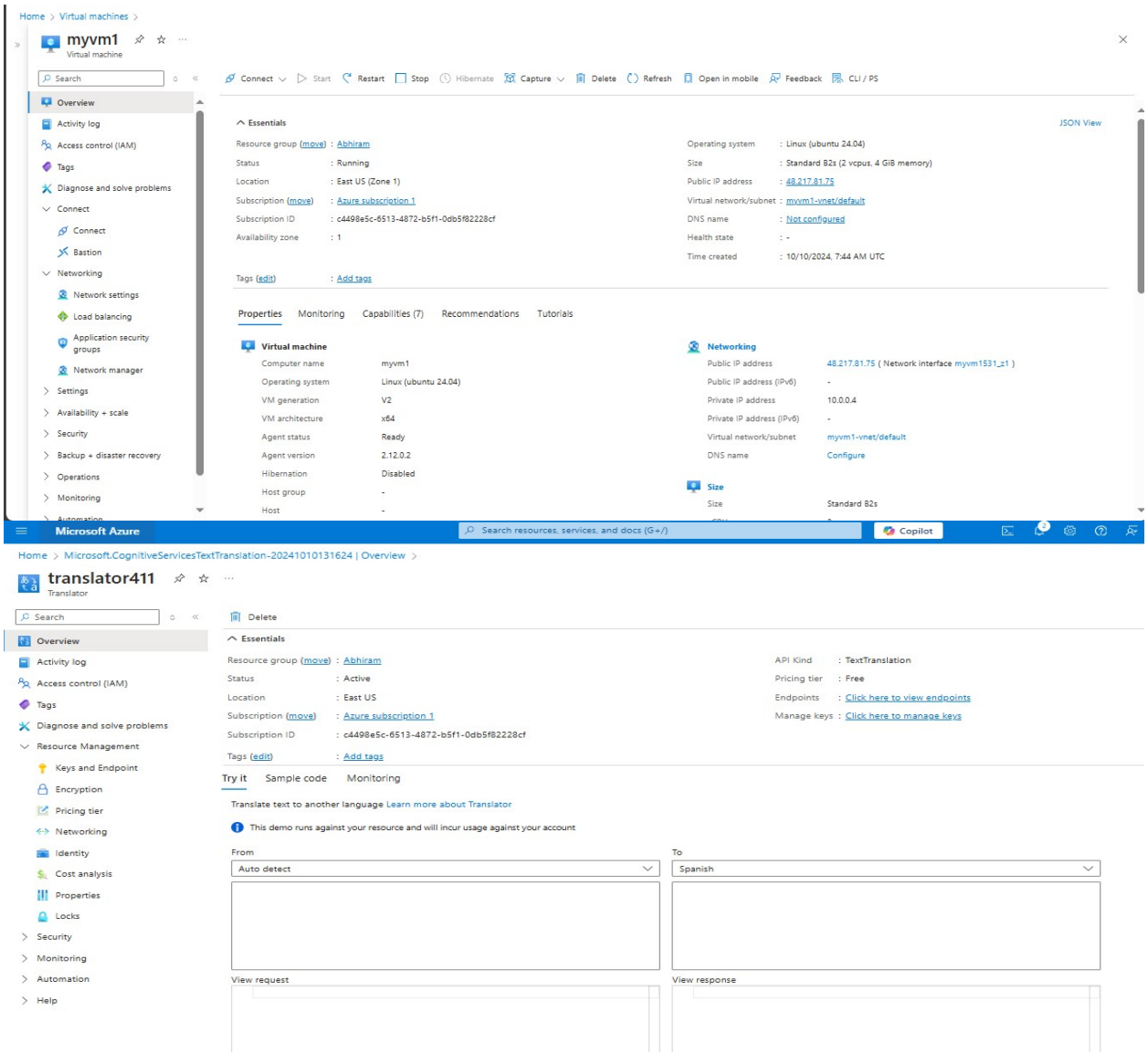
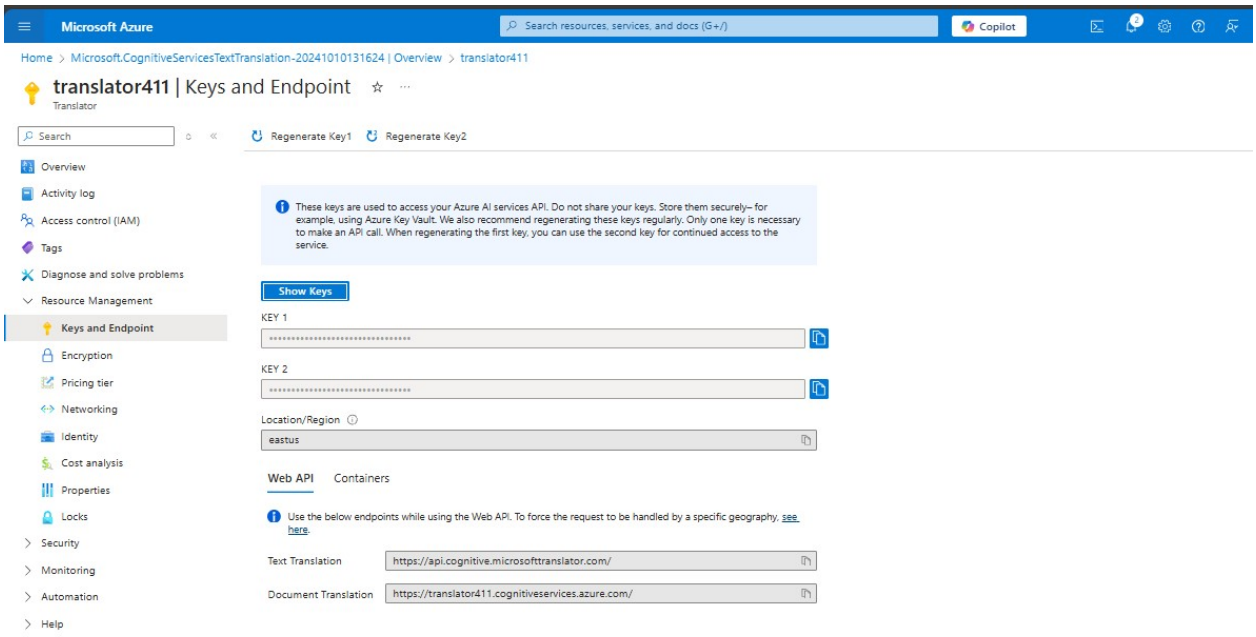
Project 1 : Cognative Services

1.Translator:



- **Create a Vritual Machine with Ubentu software**
- **Then created the Microsoft Cognative Service Text Translator**
- **The created a code to acces the translator in the vritual machine**
- **In that code I had added the key value and the endpoint**
- **After adding I had ssh to the Vritual Machine**
- **And then installed the software like sudo apt update**
- **sudo apt install python3-pip,sudo apt install python3-requests, sudo apt install python3-pillow, sudo apt install python3-flask**

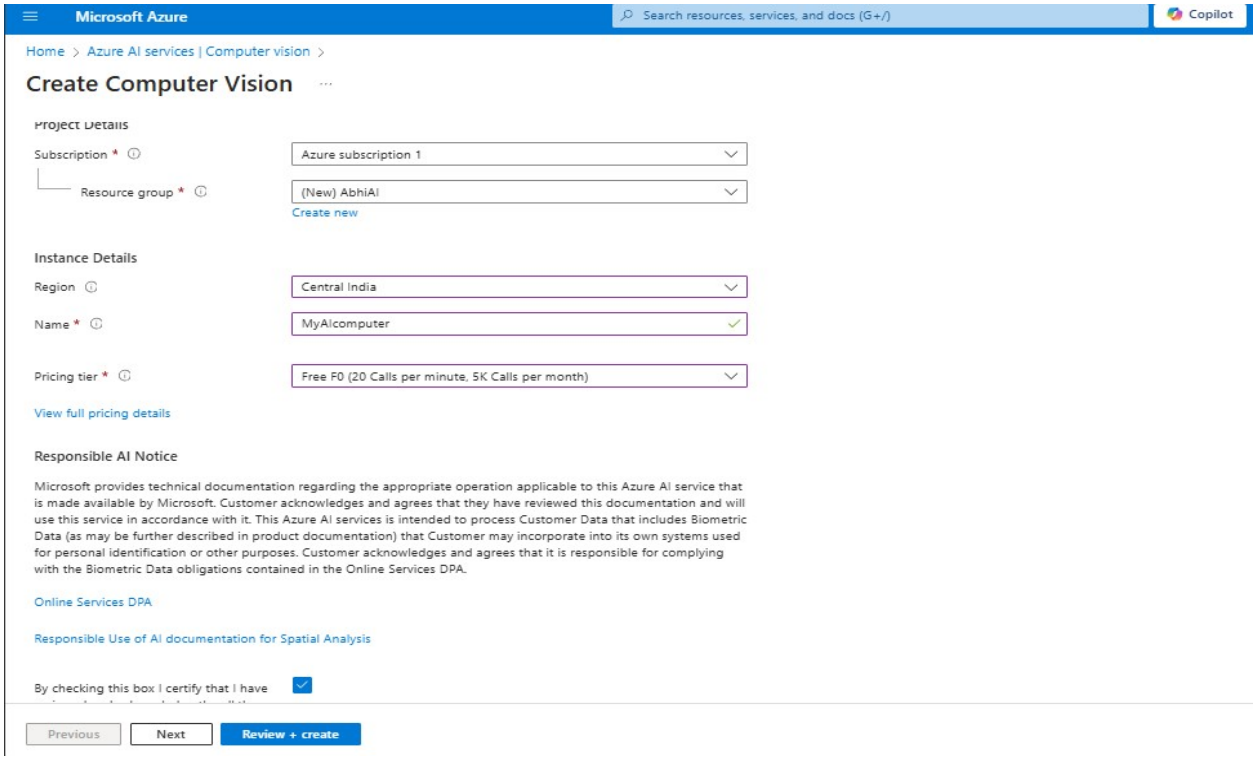


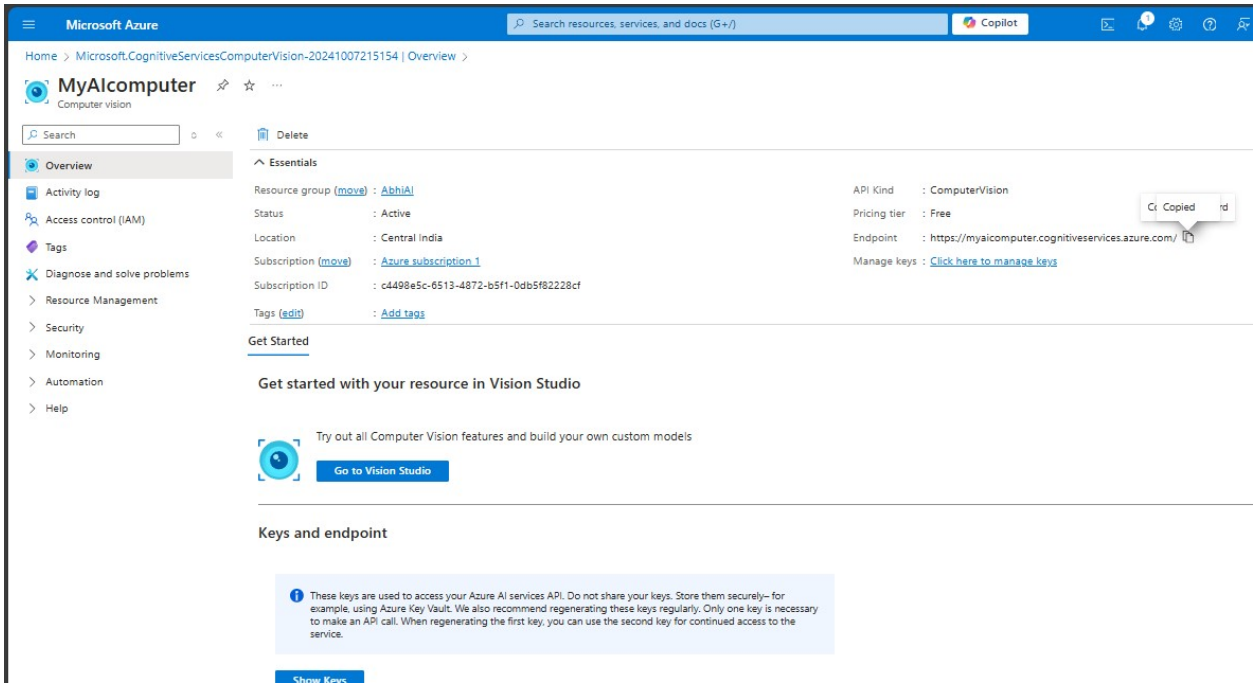

```
azureuser@myvm1: $ nano translator-app.py
azureuser@myvm1: $ cat translator-app.py
import requests, uuid, json

# Add your key and endpoint
key = "3889d925aa1a4bdfa25eb4dd628f4f31"
endpoint = "https://api.cognitive.microsofttranslator.com/"

# location, also known as region.
# required if you're using a multi-service or regional (not global) resource. It can be found in the Azure portal on the Keys and Endpoint page.
location = "eastus"

path = '/translate'
constructed_url = endpoint + path

params = {
    'api-version': '3.0',
    'from': 'en',
    'to': ['fr', 'zu']
}

headers = {
    'Ocp-Apim-Subscription-Key': key,
    # location required if you're using a multi-service or regional (not global) resource.
    'Ocp-Apim-Subscription-Region': location,
    'Content-type': 'application/json',
    'X-ClientTraceId': str(uuid.uuid4())
}

# You can pass more than one object in body.
body = [{
    'text': 'Full fathom five thy father lies, of his bones are coral made. Those are pearls that were his eyes. Nothing of him that doth fade, but doth suffer a sea-change into something rich
 and strange'
}]

request = requests.post(constructed_url, params=params, headers=headers, json=body)
response = request.json()

print(json.dumps(response, sort_keys=True, ensure_ascii=False, indent=4, separators=(',', ': ')))
```

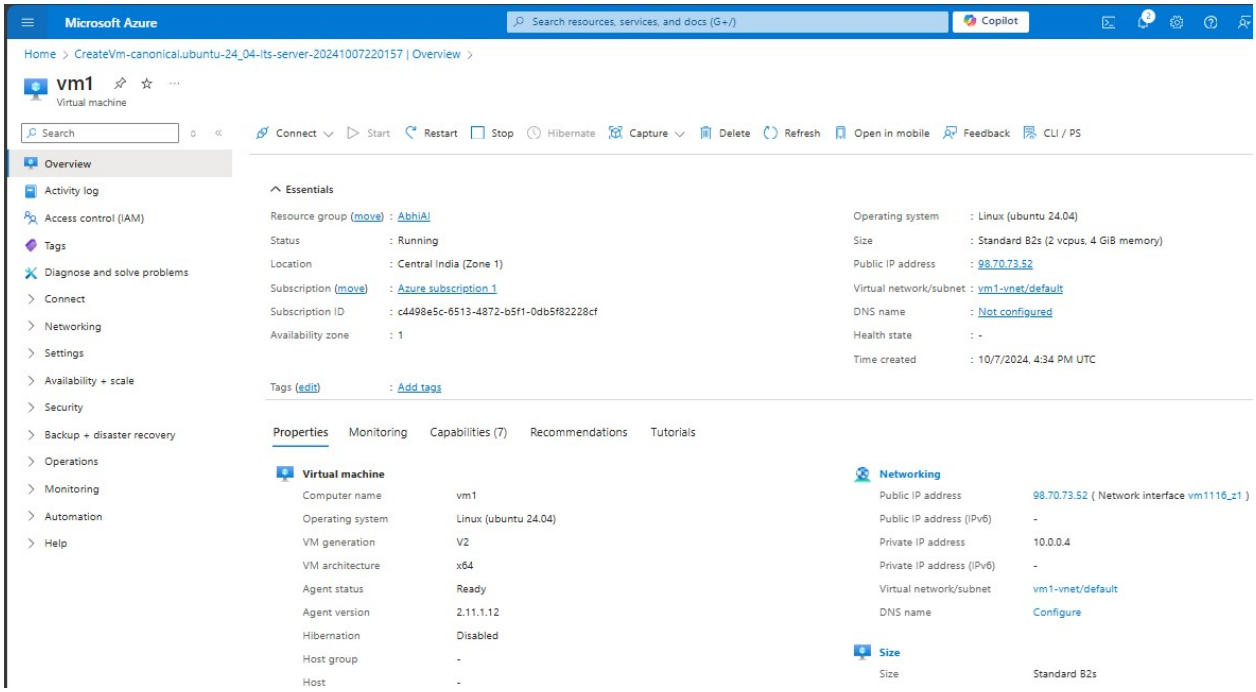
```
azureuser@myvm1: $ python3 translator-app.py
[
    {
        "translations": [
            {
                "text": "Sur cinq brasses de ton père ment, ses os sont faits de corail. Ce sont des perles qui étaient ses yeux. Rien de celui qui ne se fane, mais subit un changement radical
 en quelque chose de riche et d'étrange",
                "to": "fr"
            },
            {
                "text": "I-fathom ephelele ezinhlanu uyihlo amanga, amathambo akhe enziwe amakhorali. Lawo ngamaparele ayengamehlo akhe. Akukho lutho kuye oluphelayo, kodwa oluhlupheka ngokush
intsha kolwandle lube yinto ecebile futhi engavamile",
                "to": "zu"
            }
        ]
    }
]
```

- **After insalling I had created a nono translator-app.py folder**
- **Then added the code into the folder also the text is included in it**
- **Then viewed by using cat translator-app.py**
- **To run that I used the code pythin3 translator-app.py**

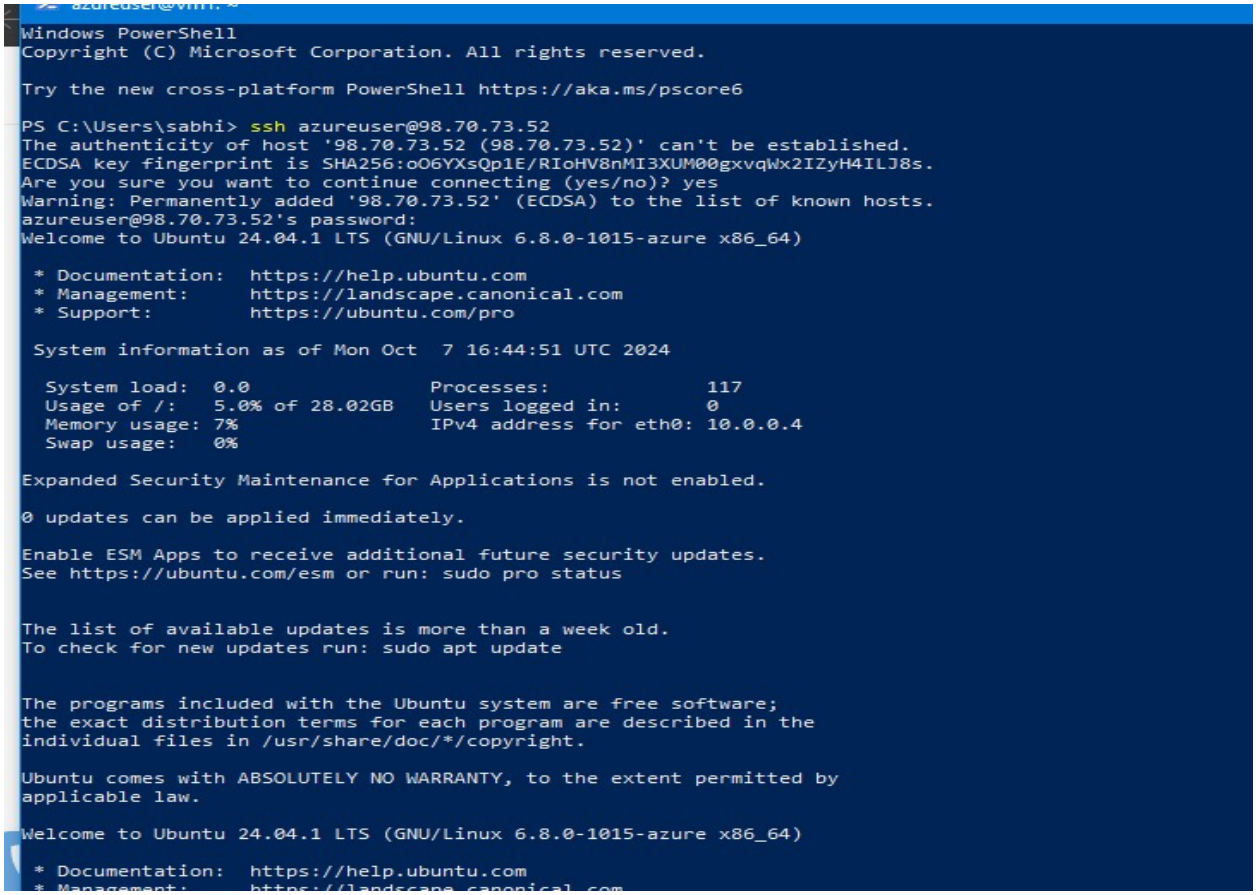
2.Image to text





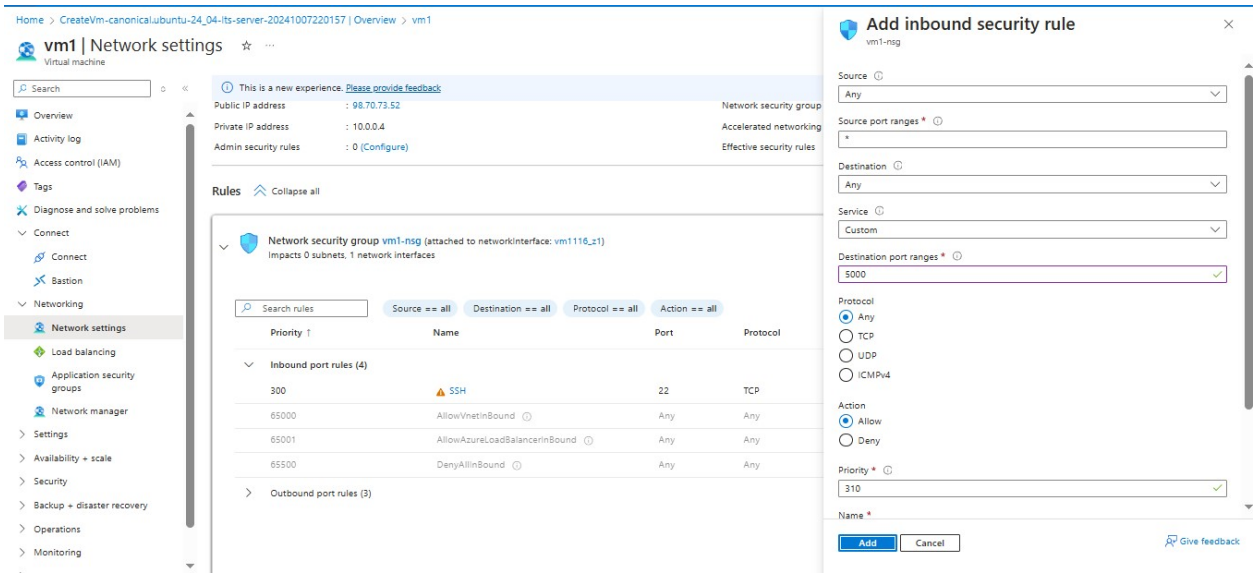

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > CreateVm-canonical.ubuntu-24_04-lts-server-20241007220157 | Overview >
vm1
Virtual machine
Search
Connect
Start
Restart
Stop
Hibernate
Capture
Delete
Refresh
Open in mobile
Feedback
CLI / PS
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Connect
Networking
Settings
Availability + scale
Security
Backup + disaster recovery
Operations
Monitoring
Automation
Help
Essentials
Resource group (move) : AbhiAI
Status : Running
Location : Central India (Zone 1)
Subscription (move) : Azure subscription 1
Subscription ID : c4498e5c-6513-4872-b5f1-0db5f82228cf
Availability zone : 1
Operating system : Linux (ubuntu 24.04)
Size : Standard B2s (2 vcpus, 4 GiB memory)
Public IP address : 98.70.73.52
Virtual network/subnet : vm1-vnet/default
DNS name : Not configured
Health state : -
Time created : 10/7/2024, 4:34 PM UTC
Tags (edit) : Add tags
Properties
Monitoring
Capabilities (7)
Recommendations
Tutorials
Virtual machine
Computer name vm1
Operating system Linux (ubuntu 24.04)
VM generation V2
VM architecture x64
Agent status Ready
Agent version 2.11.1.12
Hibernation Disabled
Host group -
Host -
Networking
Public IP address 98.70.73.52 (Network interface vm1116_z1)
Public IP address (IPv6) -
Private IP address 10.0.0.4
Private IP address (IPv6) -
Virtual network/subnet vm1-vnet/default
DNS name Configure
Size
Size Standard B2s

Created

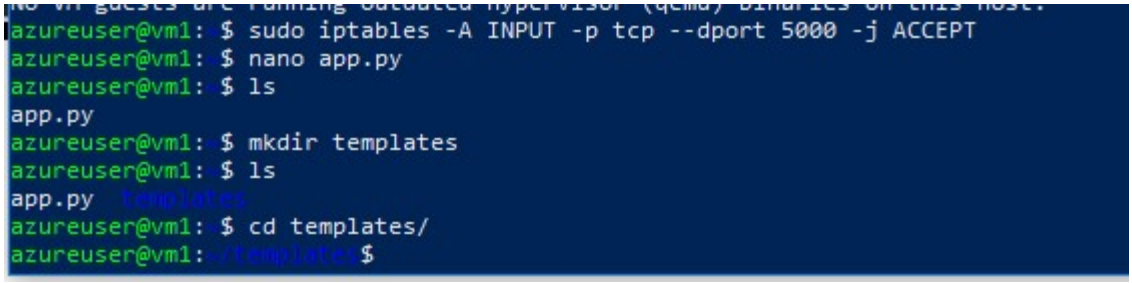

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\sabhi> ssh azureuser@98.70.73.52
The authenticity of host '98.70.73.52 (98.70.73.52)' can't be established.
ECDSA key fingerprint is SHA256:oO6YXsQp1E/RIoHV8nMI3XUM00gxvqWx2IZyH4ILJ8s.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '98.70.73.52' (ECDSA) to the list of known hosts.
azureuser@98.70.73.52's password:
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1015-azure x86_64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/pro
System information as of Mon Oct 7 16:44:51 UTC 2024
System load: 0.0
Usage of /: 5.0% of 28.02GB
Memory usage: 7%
Swap usage: 0%
Processes: 117
Users logged in: 0
IPv4 address for eth0: 10.0.0.4
Expanded Security Maintenance for Applications is not enabled.
0 updates can be applied immediately.
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status
The list of available updates is more than a week old.
To check for new updates run: sudo apt update
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1015-azure x86_64)
* Documentation: https://help.ubuntu.com

```
sudo apt update
sudo apt install python3-pip
sudo apt install python3-requests
sudo apt install python3-pillow
sudo apt install python3-flask

sudo iptables -A INPUT -p tcp --dport 5000 -j ACCEPT
```

Code to install

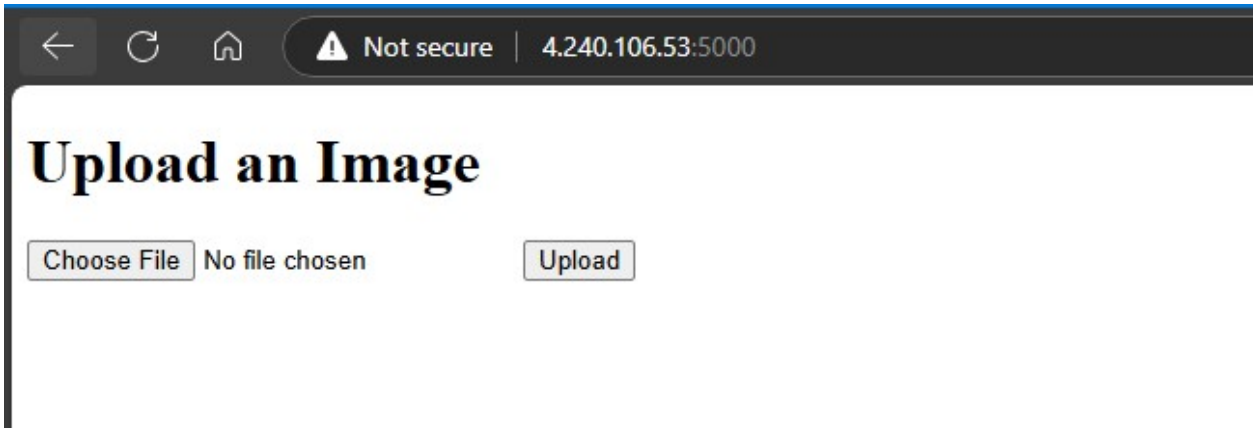


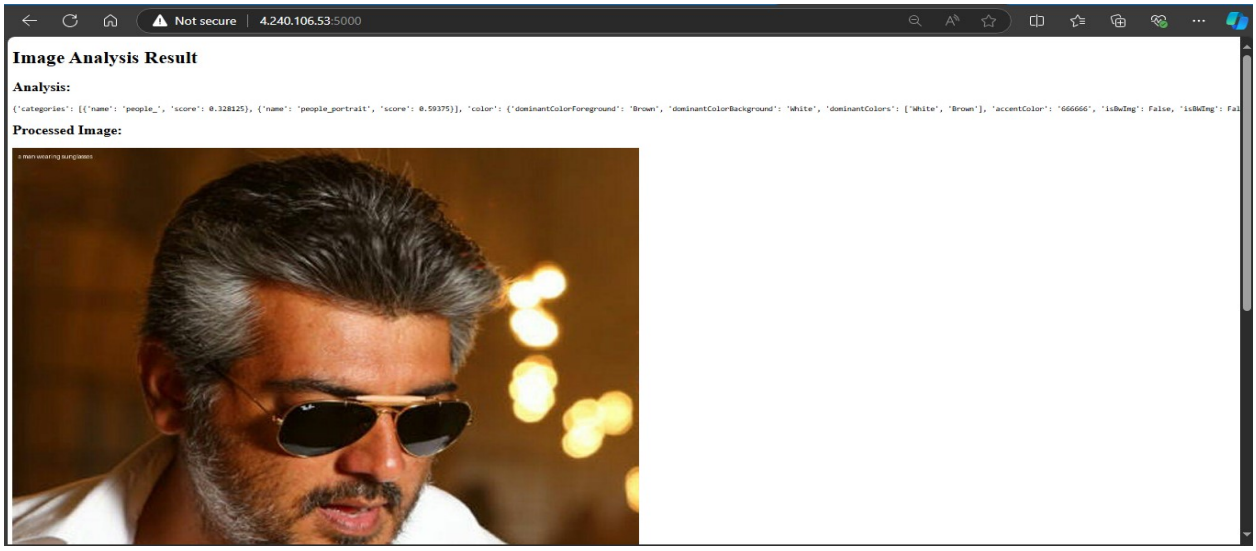
Add port rule in vm port range as 5000



```
azureuser@myvm1: $ ls
app.py
azureuser@myvm1: $ mkdir templates
azureuser@myvm1: $ ls
app.py  templates
azureuser@myvm1: $ cd templates/
azureuser@myvm1:~/templates$ nano upload.html
azureuser@myvm1:~/templates$ nano result.html
azureuser@myvm1:~/templates$ nano error.html
azureuser@myvm1:~/templates$ ls
error.html  result.html  upload.html
azureuser@myvm1:~/templates$ cat upload.html
<!doctype html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Upload Image</title>
</head>
<body>
  <h1>Upload an Image</h1>
  <form method="post" enctype="multipart/form-data">
    <input type="file" name="file">
    <input type="submit" value="Upload">
  </form>
</body>
</html>
azureuser@myvm1:~/templates$ cat result.html
<!doctype html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Image Analysis Result</title>
</head>
<body>
    <h1>Image Analysis Result</h1>

    <h2>Analysis:</h2>
    <pre>{{ analysis }}</pre>

    <h2>Processed Image:</h2>
    <img src="{{ image_data }}" alt="Processed Image">
</body>
</html>

azureuser@myvm1:~/templates$
```

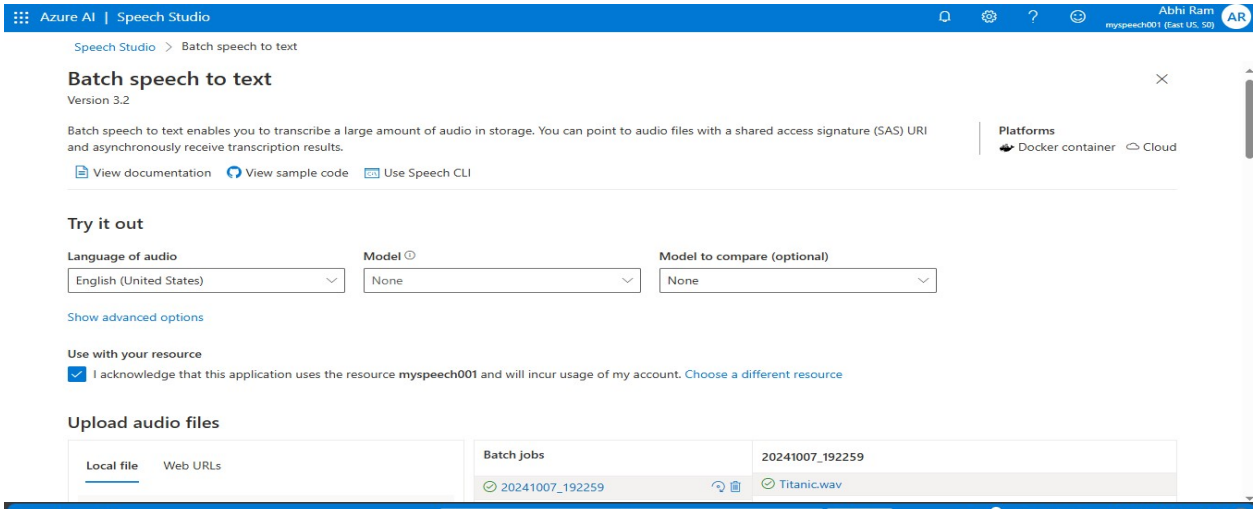
```
azureuser@myvm1:~/templates$ cd ..
azureuser@myvm1: $ ls
app.py  templates
azureuser@myvm1: $ python3 app.py
 * Serving Flask app 'app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:5000
 * Running on http://10.0.0.5:5000
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 393-599-125
```

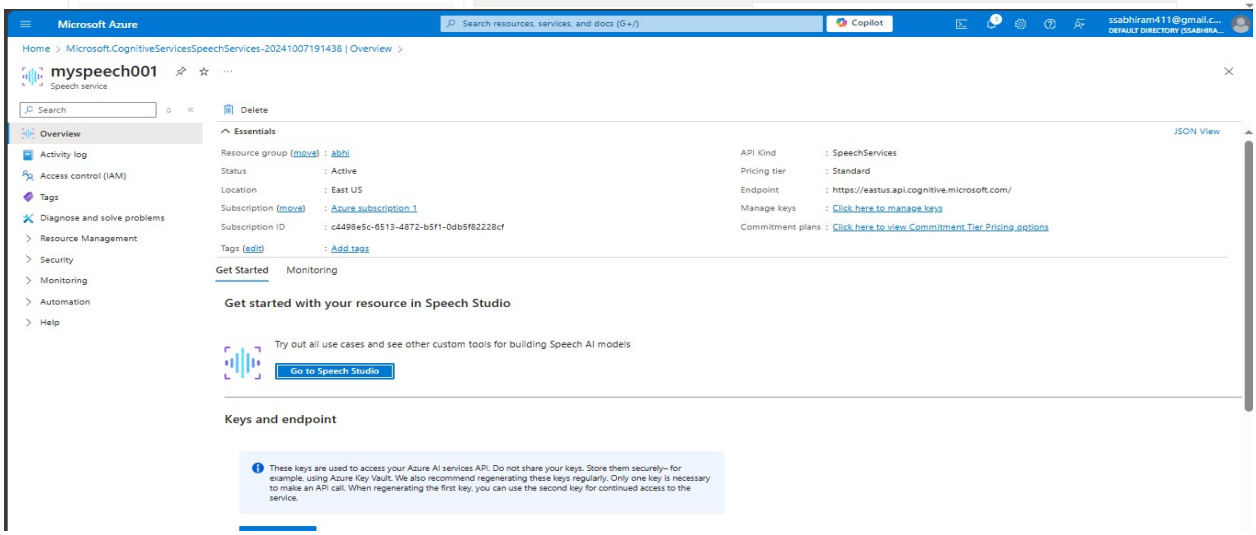


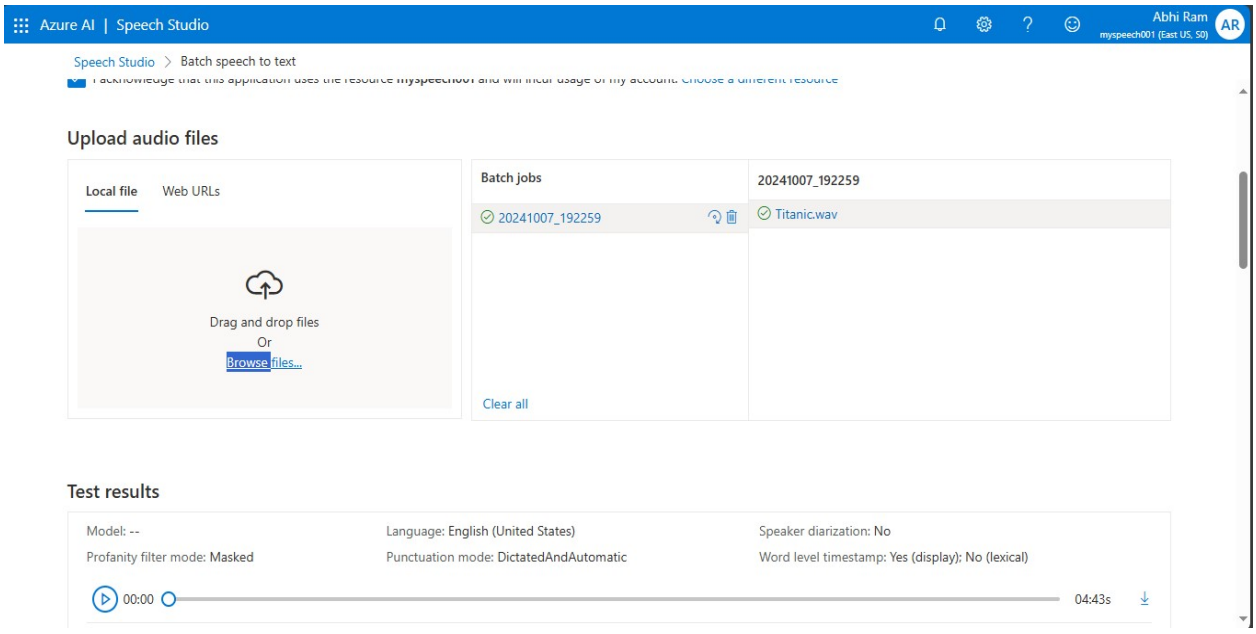


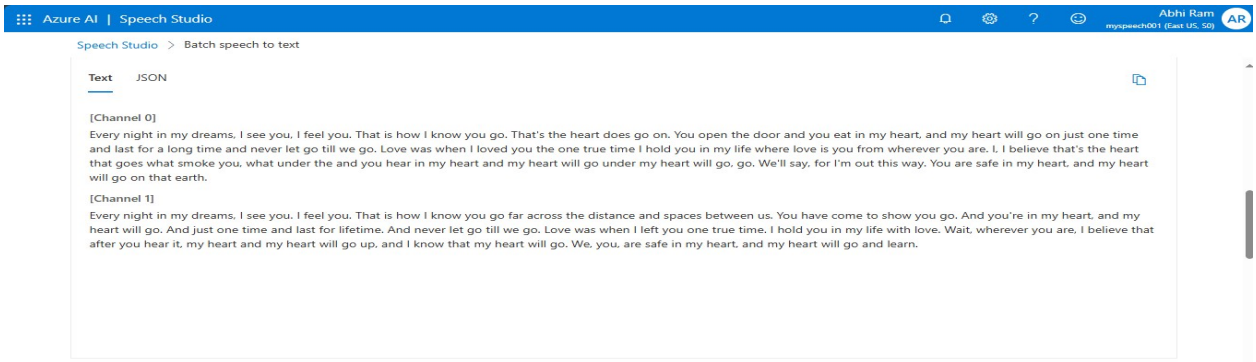
- **Created the Computer Vision account in portal.azure**
- **Then created linux disktop and ssh in to it**
- **Installed some codes like sudo apt install python3-pip,sudo apt install python3-requests, sudo apt install python3-pillow, sudo apt install python3-flask**
- **After install added the nano app.py and added the code into it**
- **The entered some codes like mkdir template , cd templates/ , la**
- **Then added the nano value like update.html, result.html, error.html**
- **After viwing that by cat option added the codes like cd .., python3 app.py to view the details**
- **Add port rule in vm port range as 5000**
- **Searched that by using http port and ip address and the port number (eg:http//4.240.106.53:5000)**
- **Then choose the image and upload it the result will bee executed**

3. Speech to text and Text to speech



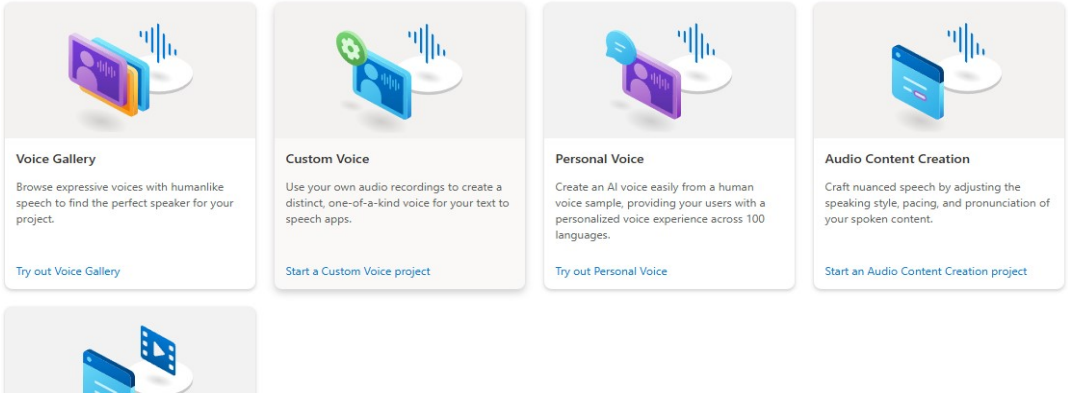


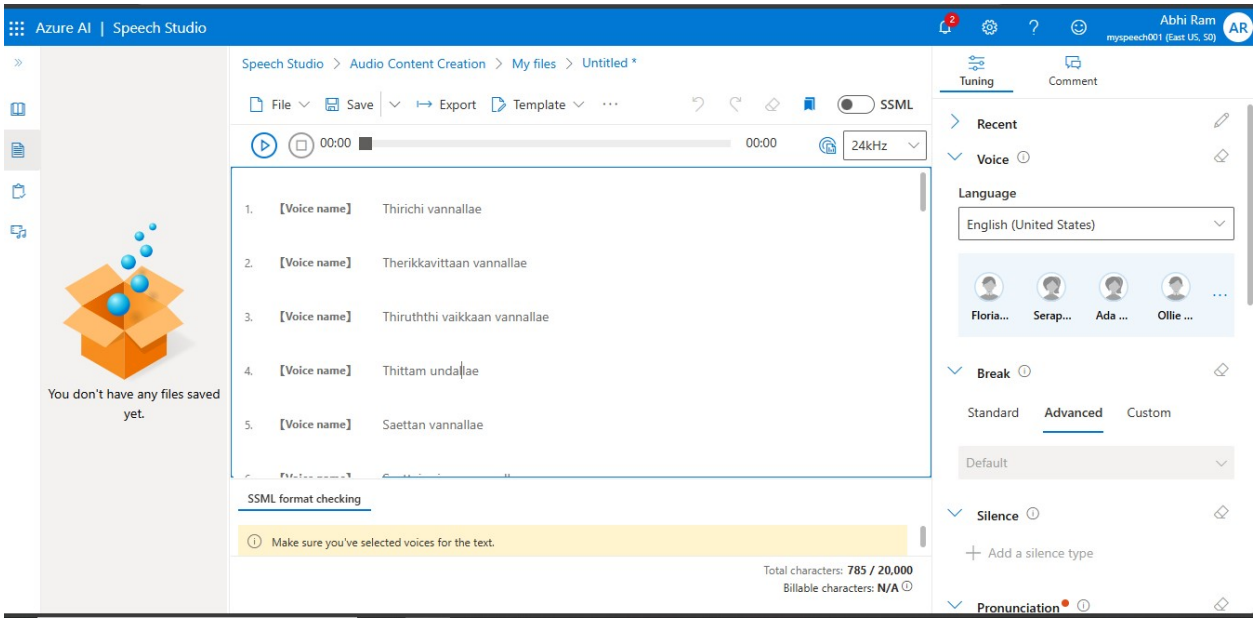


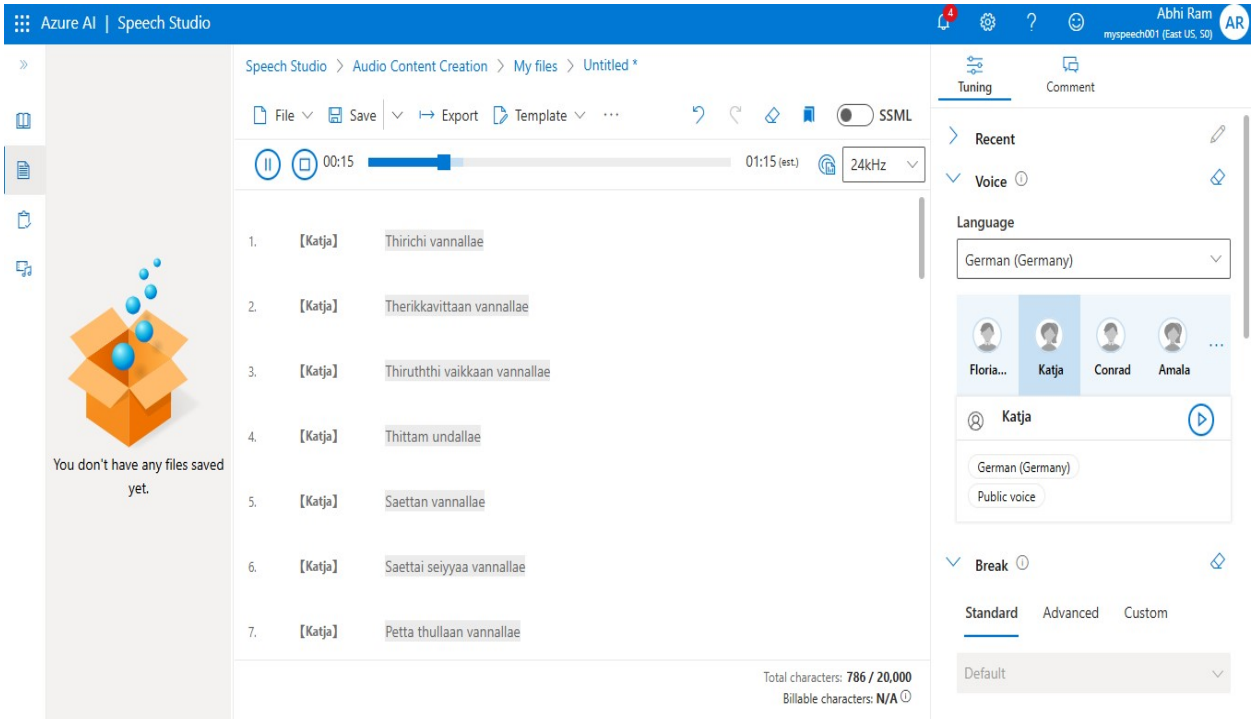


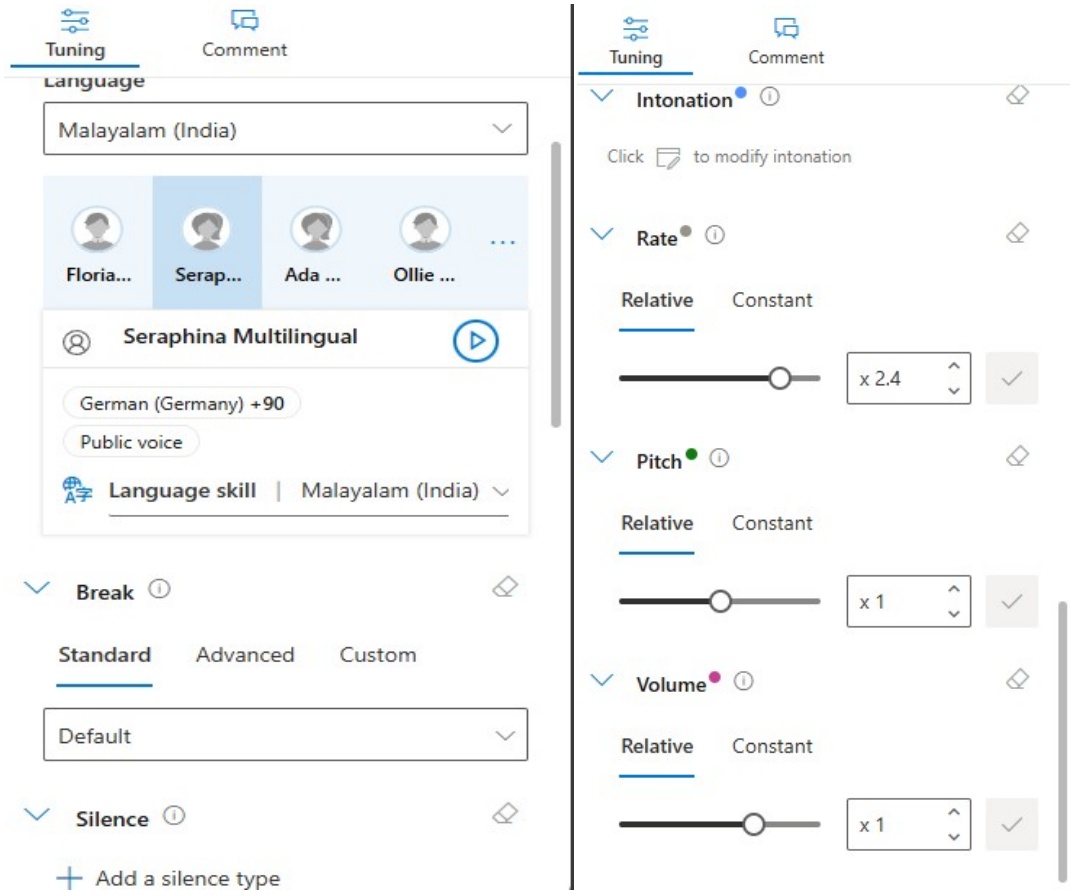
Text to speech

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






Azure AI | Speech Studio
Abhi Ram
myspeech001 (East US, S0)
Speech Studio > Audio Content Creation > My files > Untitled *
File
Save
Export
Template
SSML
00:15
01:15 (est.)
24kHz
1. [Katja] Thirichi vannallae
2. [Katja] Therikkavittaan vannallae
3. [Katja] Thiruththi vaikkaan vannallae
4. [Katja] Thittam undallae
5. [Katja] Saettan vannallae
6. [Katja] Saettai seiyyaa vannallae
7. [Katja] Petta thullaan vannallae
You don't have any files saved yet.
Total characters: 786 / 20,000
Billable characters: N/A
Tuning
Comment
Recent
Voice
Language
German (Germany)
Floria...
Katja
Conrad
Amala
Katja
German (Germany)
Public voice
Break
Standard
Advanced
Custom
Default


Tuning
Comment
Language
Malayalam (India)
Floria...
Serap...
Ada ...
Ollie ...
Seraphina Multilingual
German (Germany) +90
Public voice
Language skill | Malayalam (India)
Break
Standard
Advanced
Custom
Default
Silence
Add a silence type
Tuning
Comment
Intonation
Click to modify intonation
Rate
Relative
Constant
x 2.4
Pitch
Relative
Constant
x 1
Volume
Relative
Constant
x 1

- **Created a speech services in cognative services and deployed it**
- **Selected speech studio from the sector and then selected one speech to text file**
- **Added the pre recorded audio file and exected the process**
- **Same in the speech studio I choosed the text to speech option and tried text to speech**
- **In that I added the uploaded the text and executed it there is also an audio change optin in it**
- **It can change the voice , language , modify the voice etc.**
- **There is also multiple ways to create this speech to text and text to speech option**
- **By the help of VM by executing the code what I done in my translator**