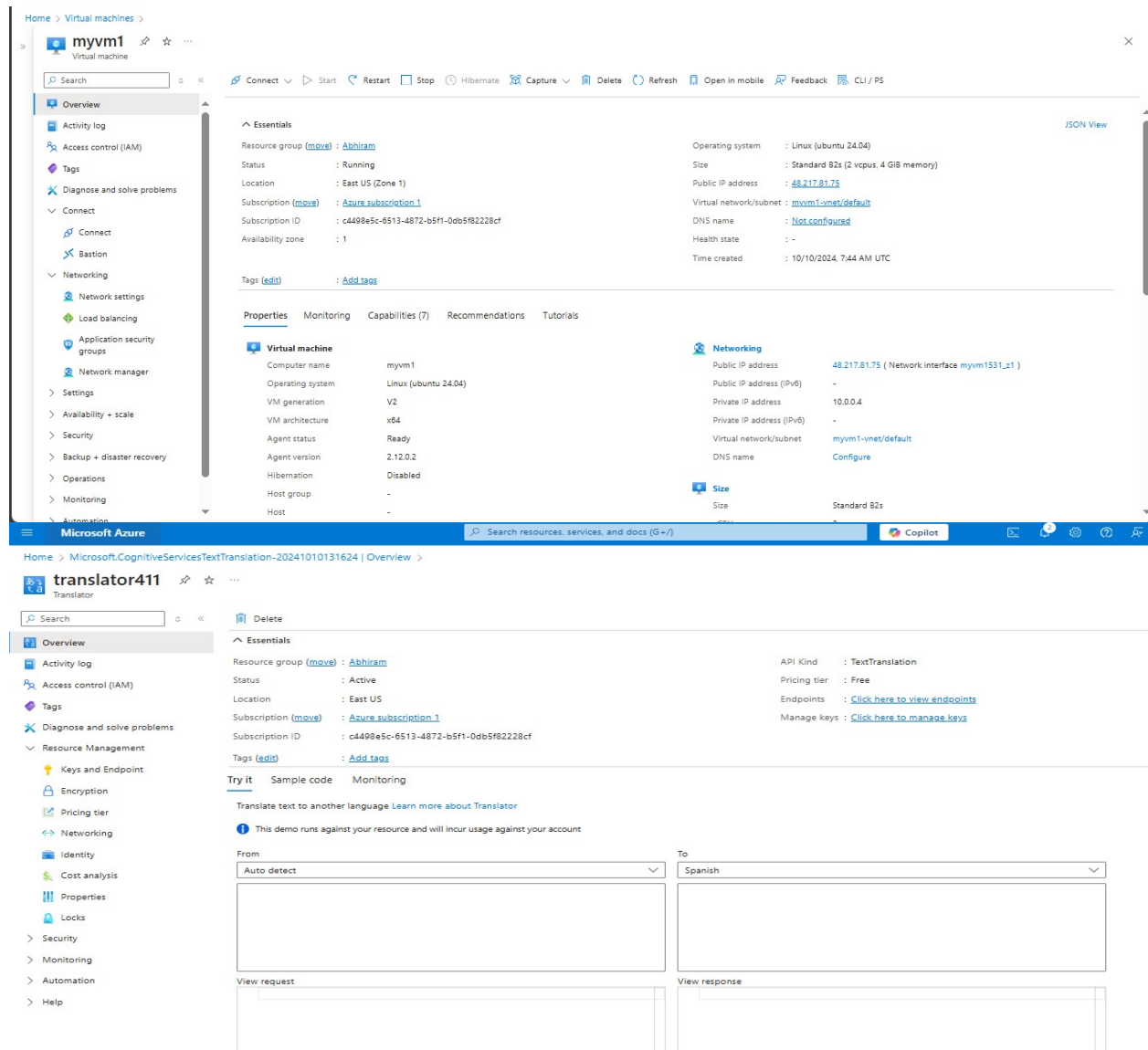


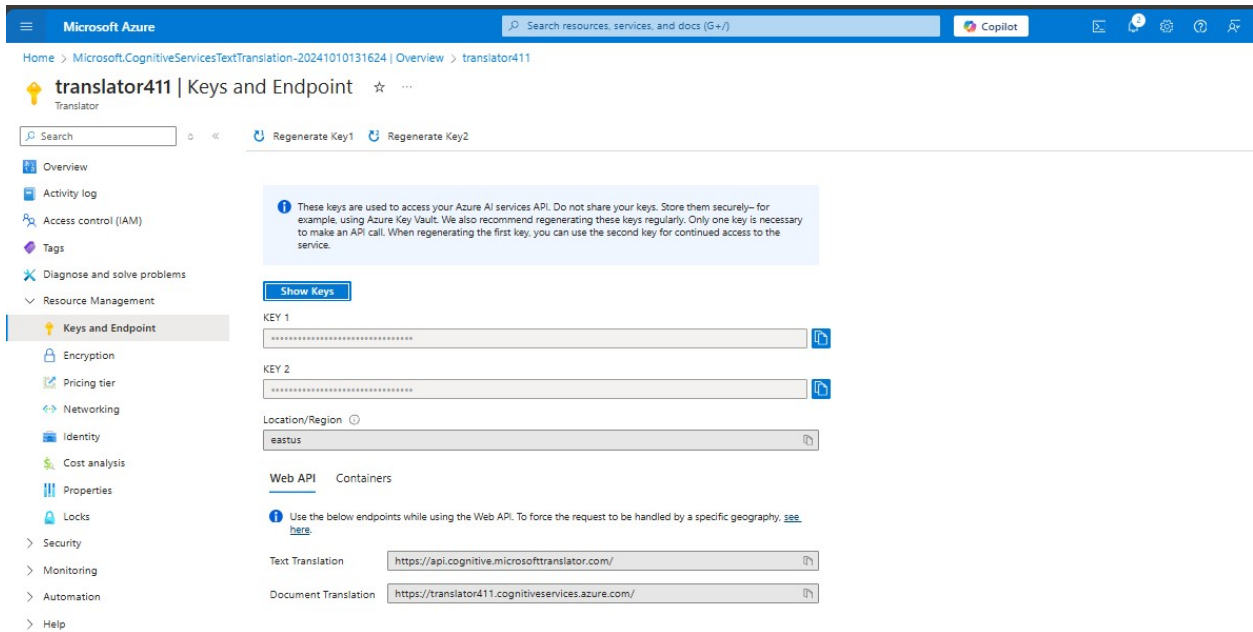
# Project 1 : Cognitive Services

## 1.Translator:



The screenshot displays the Microsoft Azure portal interface. The top section shows the 'myvm1' Virtual Machine resource. The left sidebar contains navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Connect, Networking, Settings, Availability + scale, Security, Backup + disaster recovery, Operations, Monitoring, and Automation. The main content area for 'myvm1' shows 'Essentials' with details like Resource group (Abhiram), Status (Running), Location (East US (Zone 1)), Subscription (Azure subscription 1), Subscription ID (c4498e5c-6513-4872-b5f1-0db5f82228cf), Availability zone (1), and Tags. It also shows 'Properties' for the Virtual machine, including Computer name (myvm1), Operating system (Linux (ubuntu 24.04)), VM generation (V2), VM architecture (x64), Agent status (Ready), Agent version (2.12.0.2), Hibernation (Disabled), Host group, and Host. The 'Networking' section shows the Public IP address (48.217.81.75) and the Virtual network/subnet (myvm1-vnet/default). The bottom section shows the 'translator411' Translator resource. The left sidebar for 'translator411' includes Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource Management, Keys and Endpoint, Encryption, Pricing tier, Networking, Identity, Cost analysis, Properties, Locks, Security, Monitoring, Automation, and Help. The main content area for 'translator411' shows 'Essentials' with details like Resource group (Abhiram), Status (Active), Location (East US), Subscription (Azure subscription 1), Subscription ID (c4498e5c-6513-4872-b5f1-0db5f82228cf), and Tags. It also shows 'Try It' with a 'Sample code' tab and a 'Monitoring' tab. The 'Try It' section includes a 'From' dropdown (Auto detect) and a 'To' dropdown (Spanish), with input and output text areas for translation.

- Create a Virtual Machine with Ubuntu software
- Then created the Microsoft Cognitive Service Text Translator
- The created a code to access the translator in the virtual machine
- In that code I had added the key value and the endpoint
- After adding I had ssh to the Virtual 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 = "3889d925a1a4bdfa25eb4dd628f4f31"
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 p\u00e8re ment, ses os sont faits de corail. Ce sont des perles qui \u00e9taient ses yeux. Rien de celui qui ne se fane, mais subit un changement radical en quelque chose de riche et d'\u00e9trange",
        "to": "fr"
      },
      {
        "text": "I-fathom ephelele ezinhlanu uyihlo amanga, amathambo akhe enziwe amakhorali. Lawo ngamaparele ayengamehlo akhe. Akukho lutho kuye oluphelayo, kodwa oluhlupeka ngokushintsha 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 > Azure AI services | Computer vision >

### Create Computer Vision

Project Details

Subscription \*

Azure subscription 1

Resource group \*

(New) AbhiAI

Create new

Instance Details

Region

Central India

Name \*

MyAIcomputer

Pricing tier \*

Free F0 (20 Calls per minute, 5K Calls per month)

[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 services is intended to process Customer Data that includes Biometric Data (as may be further described in product documentation) that Customer may incorporate into its own systems used for personal identification or other purposes. Customer acknowledges and agrees that it is responsible for complying with the Biometric Data obligations contained in the Online Services DPA.

[Online Services DPA](#)

[Responsible Use of AI documentation for Spatial Analysis](#)

By checking this box I certify that I have

☒

Previous

Next

Review + create

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

Home > Microsoft.CognitiveServicesComputerVision-20241007215154 | Overview >

MyAIcomputer

Computer vision

Search

Delete

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource Management

Security

Monitoring

Automation

Help

Essentials

Resource group (move)

AbhiAI

Status

Active

Location

Central India

Subscription (move)

Azure subscription 1

Subscription ID

c4498e5c-6513-4872-b5f1-0db5f82228cf

Tags (edit)

Add tags

API Kind

ComputerVision

Pricing tier

Free

Endpoint

https://myaicomputer.cognitiveservices.azure.com/

Manage keys

Click here to manage keys

Get Started

Get started with your resource in Vision Studio

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

Go to Vision Studio

Keys and endpoint

These keys are used to access your Azure AI services API. Do not share your keys. Store them securely—for example, using Azure Key Vault. We also recommend regenerating these keys regularly. Only one key is necessary to make an API call. When regenerating the first key, you can use the second key for continued access to the service.

Show Keys

Microsoft Azure

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 : c4d98e5c-6513-4872-b5f1-0db5f82228cf

Availability zone : 1

Tags (edit) : [Add tags](#)

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

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 vm116\_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

```

azuser@vm1:~$ ssh azuser@98.70.73.52
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\sabhi> ssh azuser@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.
azuser@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               Processes:    117
Usage of /:   5.0% of 28.02GB   Users logged in: 0
Memory usage: 7%               IPv4 address for eth0: 10.0.0.4
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

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

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

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

```

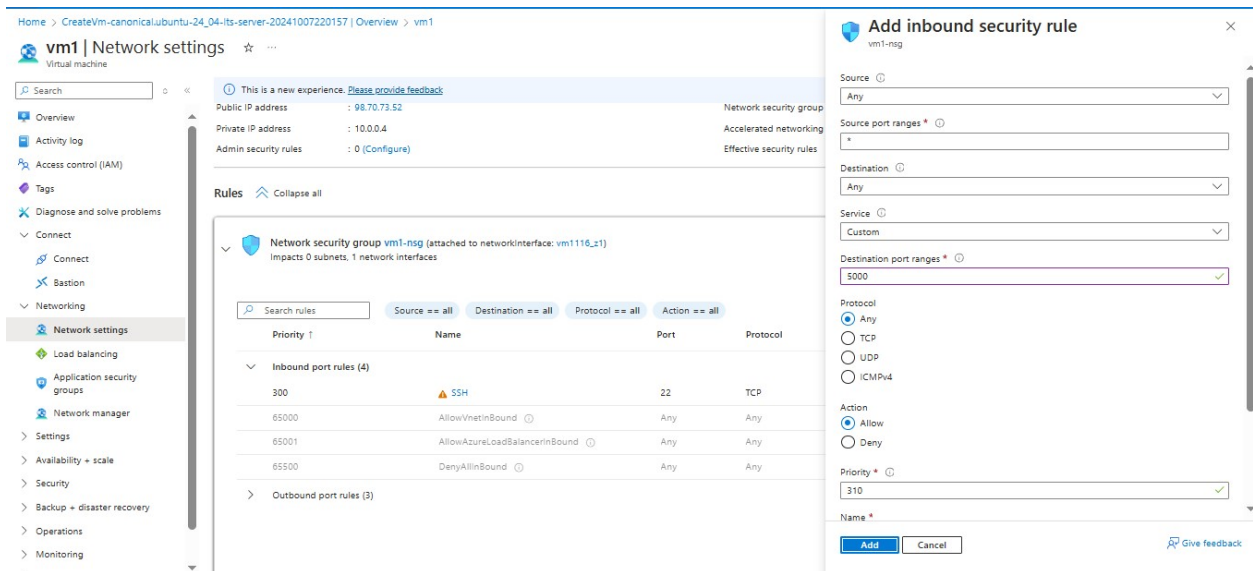
```

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



The screenshot shows the Azure portal interface for a virtual machine named 'vm1'. The 'Network settings' section is active, displaying the 'Network security group vm1-nsg'. A dialog box titled 'Add inbound security rule' is open, showing the configuration for a new rule. The rule is named 'vm1-nsg' and is attached to the network interface 'vm1116\_z1'. The configuration includes:

- Source: Any
- Destination: Any
- Service: Custom
- Destination port ranges: 5000
- Protocol: Any
- Action: Allow
- Priority: 310

The 'Add' button is visible at the bottom of the dialog.

## Add port rule in vm port range as 5000

```

No VM guests are running outdated hypervisor (qemu) binaries on this host.
azureuser@vm1: $ sudo iptables -A INPUT -p tcp --dport 5000 -j ACCEPT
azureuser@vm1: $ nano app.py
azureuser@vm1: $ ls
app.py
azureuser@vm1: $ mkdir templates
azureuser@vm1: $ ls
app.py  templates
azureuser@vm1: $ cd templates/
azureuser@vm1: ~/templates $

```



```

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>

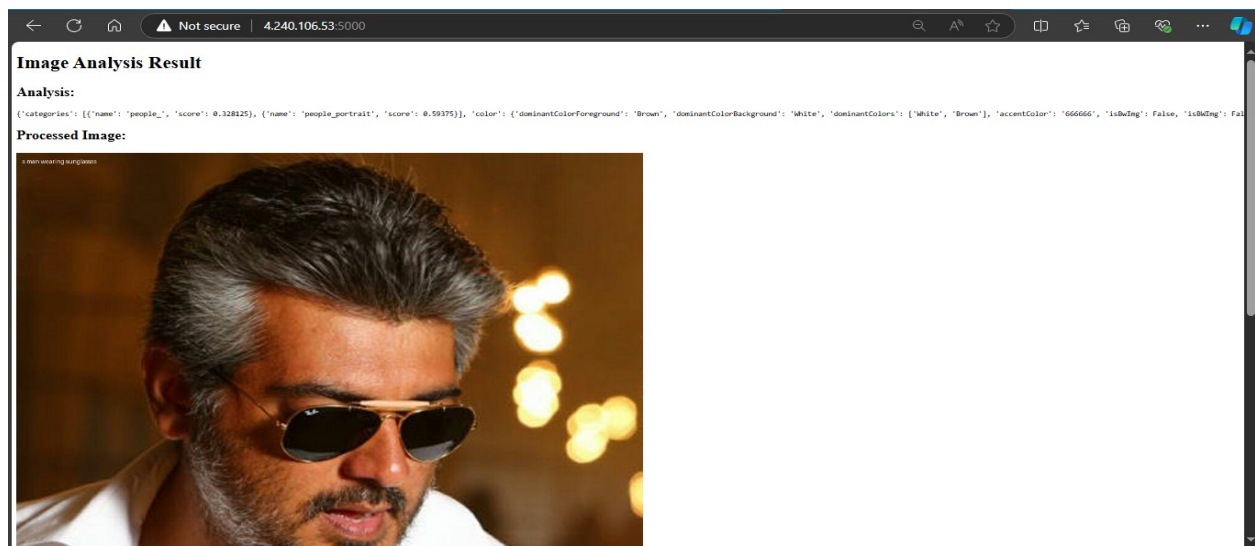
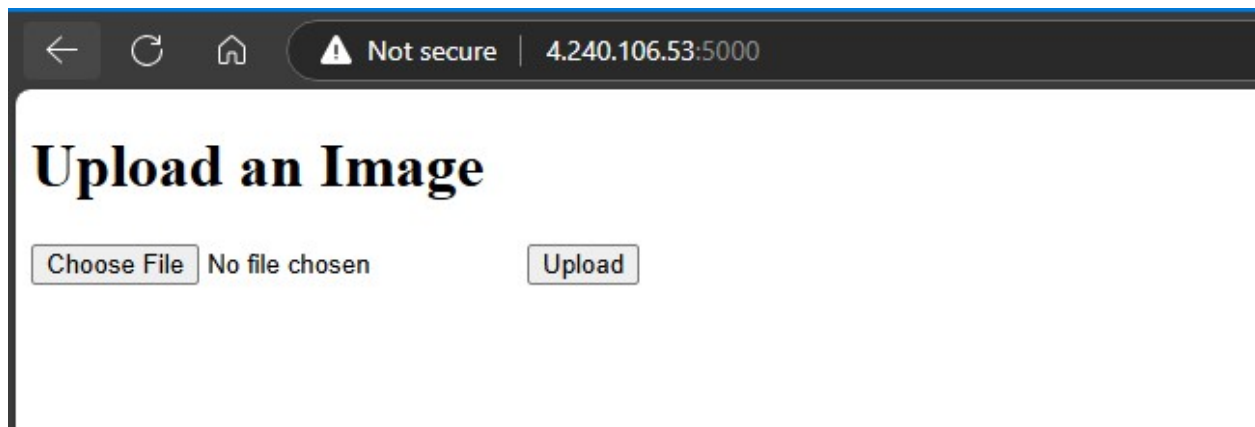
  <h2>Processed Image:</h2>
  
</body>
</html>
azureuser@myvm1:~/templates$

```

```

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

Speech Studio > Batch speech to text

Batch speech to text

Version 3.2

Batch speech to text enables you to transcribe a large amount of audio in storage. You can point to audio files with a shared access signature (SAS) URI and asynchronously receive transcription results.

View documentation

View sample code

Use Speech CLI

Platforms

Docker container

Cloud

Try it out

Language of audio

English (United States)

Model

None

Model to compare (optional)

None

Show advanced options

Use with your resource

☒

 I acknowledge that this application uses the resource **myspeech001** and will incur usage of my account. [Choose a different resource](#)

Upload audio files

Local file

Web URLs

Batch jobs

20241007\_192259

20241007\_192259

Titanic.wav

Microsoft Azure

Search resources, services, and docs (G+/I)

Copilot

ssabhiram411@gmail.c...  
myspeech001 (East US, 50)

Home > Microsoft.CognitiveServicesSpeechServices-20241007191438 | Overview

myspeech001

Speech service

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource Management

Security

Monitoring

Automation

Help

Essentials

Resource group (mouse) : abhi

Status : Active

Location : East US

Subscription (mouse) : Azure subscription 1

Subscription ID : c4498e5c-6513-4872-b5f1-0db5f82228cf

Tags (edit) : Add tags

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](#)

Get Started

Monitoring

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](#)

Keys and endpoint

These keys are used to access your Azure AI services API. Do not share your keys. Store them securely—for example, using Azure Key Vault. We also recommend regenerating these keys regularly. Only one key is necessary to make an API call. When regenerating the first key, you can use the second key for continued access to the service.

Speech Studio > Batch speech to text

☒

 I acknowledge that this application uses the resource **myspeech001** and will incur usage of my account. [Choose a different resource](#)

Upload audio files

Local file

Web URLs

Batch jobs

20241007\_192259

20241007\_192259

Titanic.wav

Clear all

Test results

Model: --

Language: English (United States)

Speaker diarization: No

Profanity filter mode: Masked

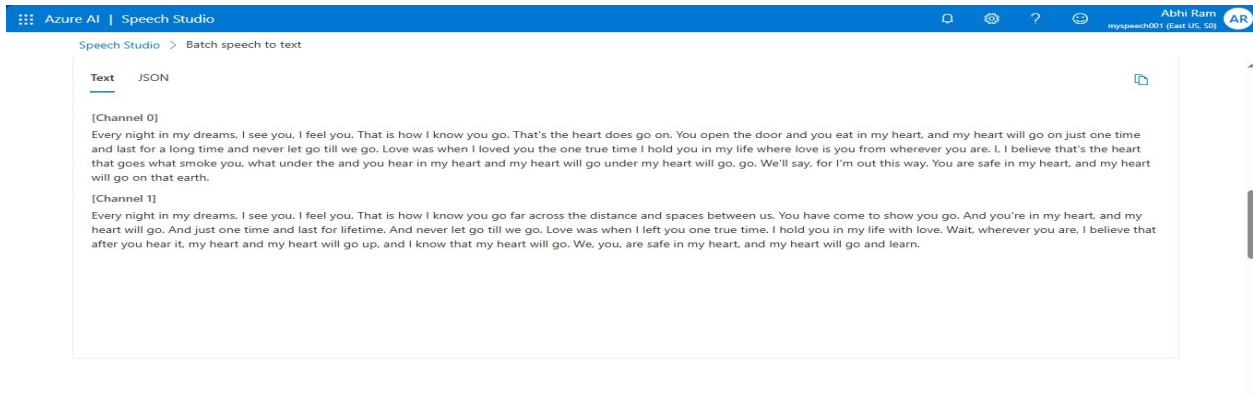
Punctuation mode: DictatedAndAutomatic

Word level timestamp: Yes (display): No (lexical)

00:00

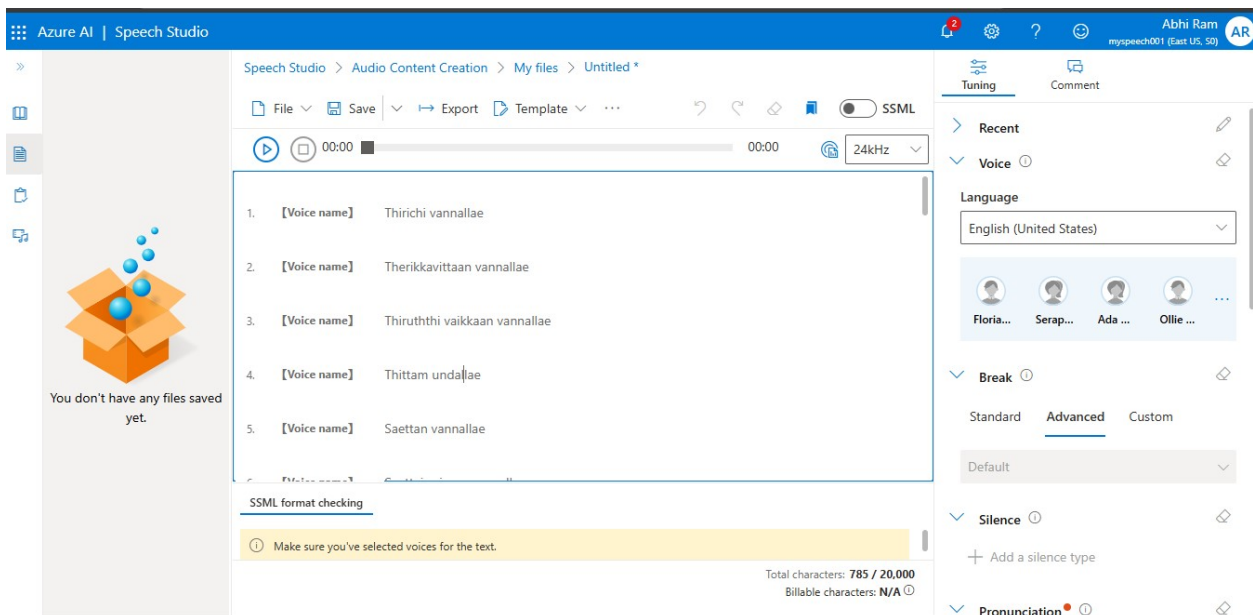
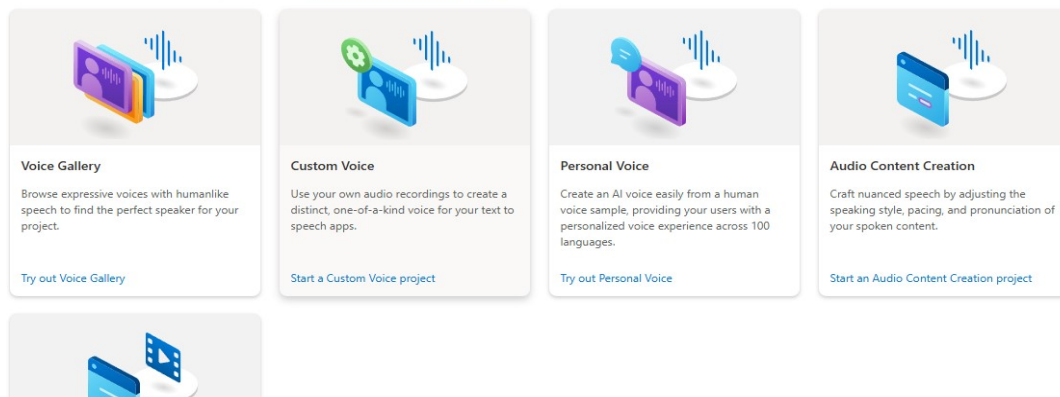
04:43s





## 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

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] Saetta seiyaa 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 cognitive 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 executed 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**