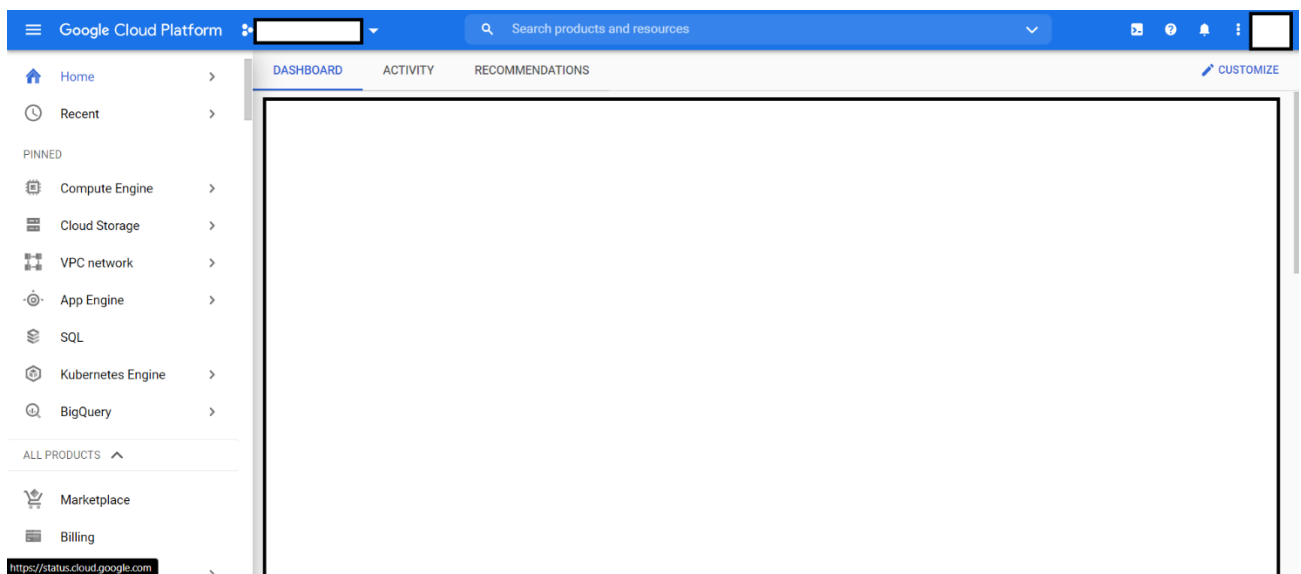


Multimodal Human Computer Interaction

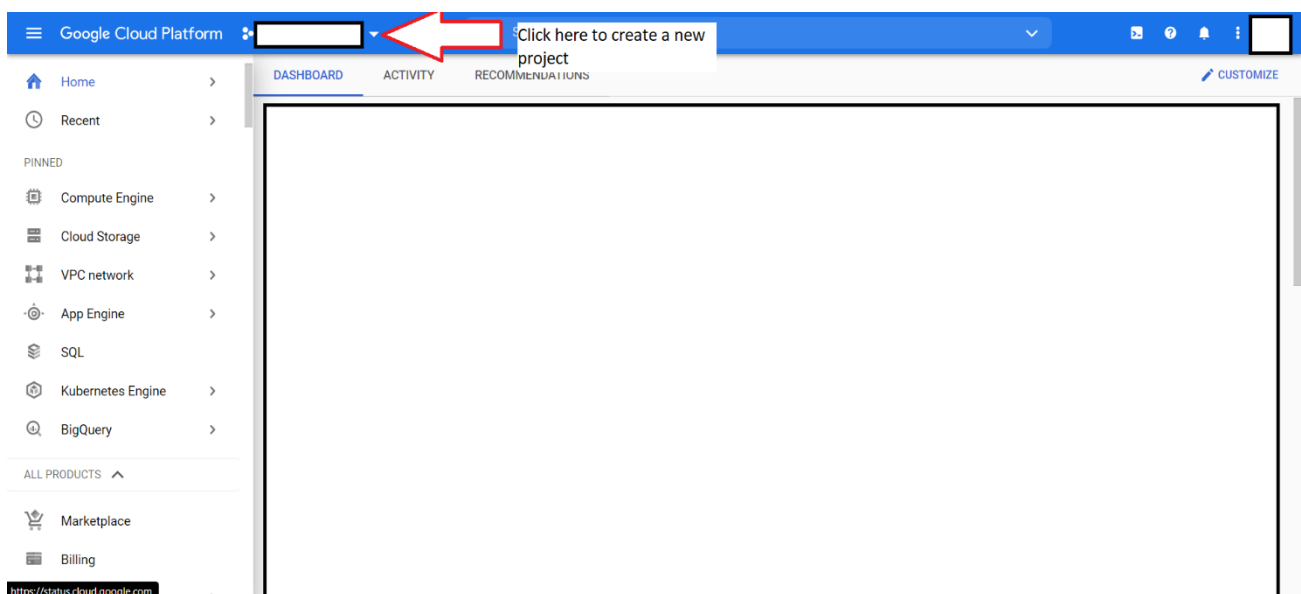
To set up the speech recognition, follow the steps below:

Step 1: Create a Google Cloud Platform Account (<https://console.cloud.google.com/>). A free trial account will be sufficient.

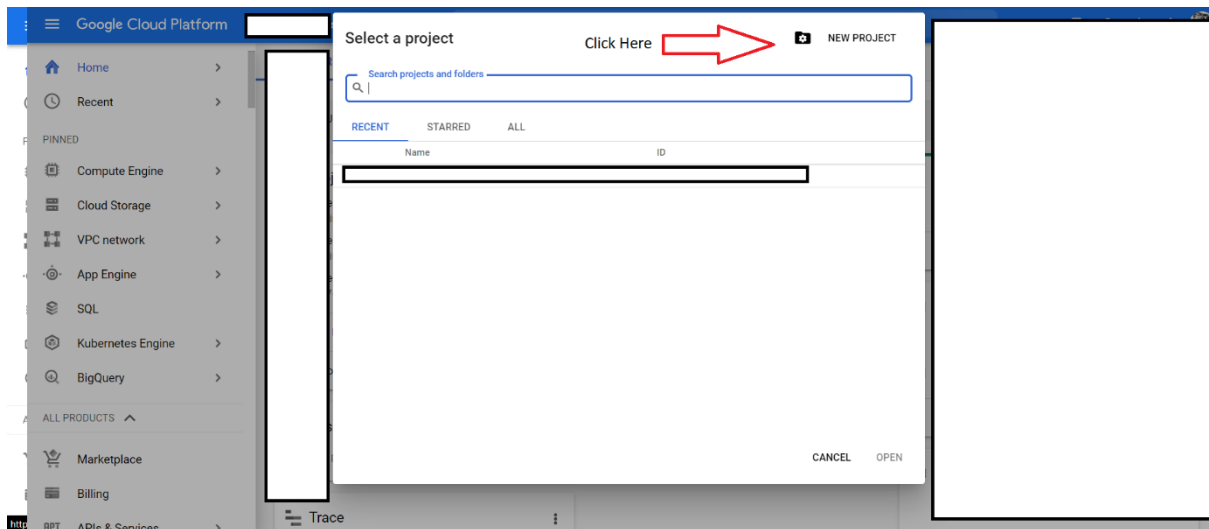
Step 2: After you're done creating the account, you'll land on the following page



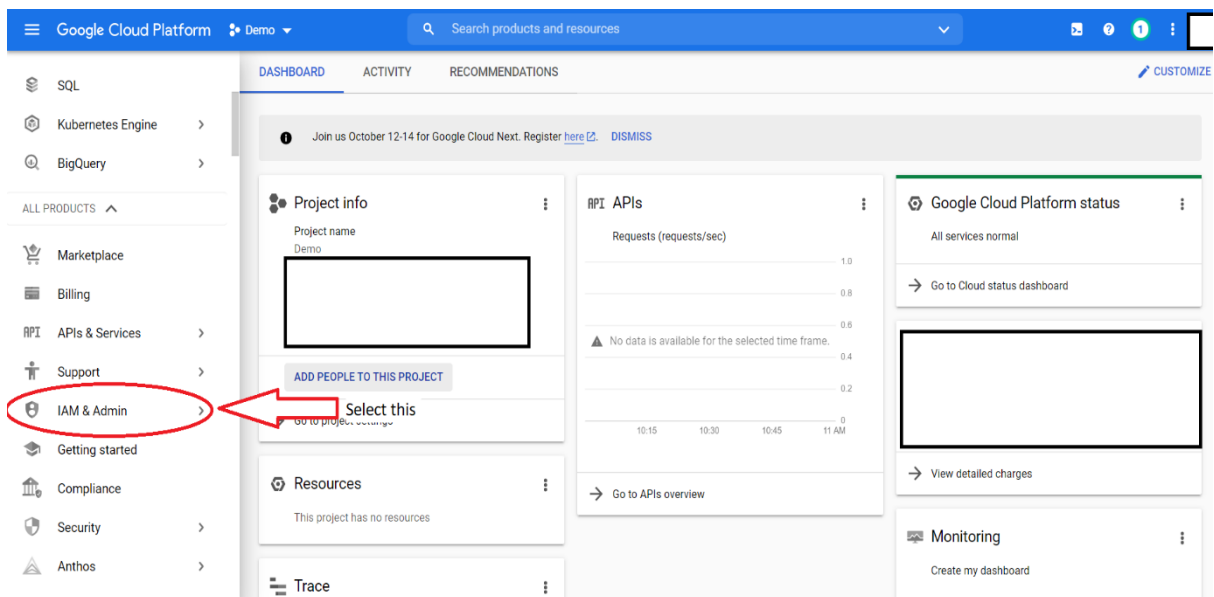
Next create a new project



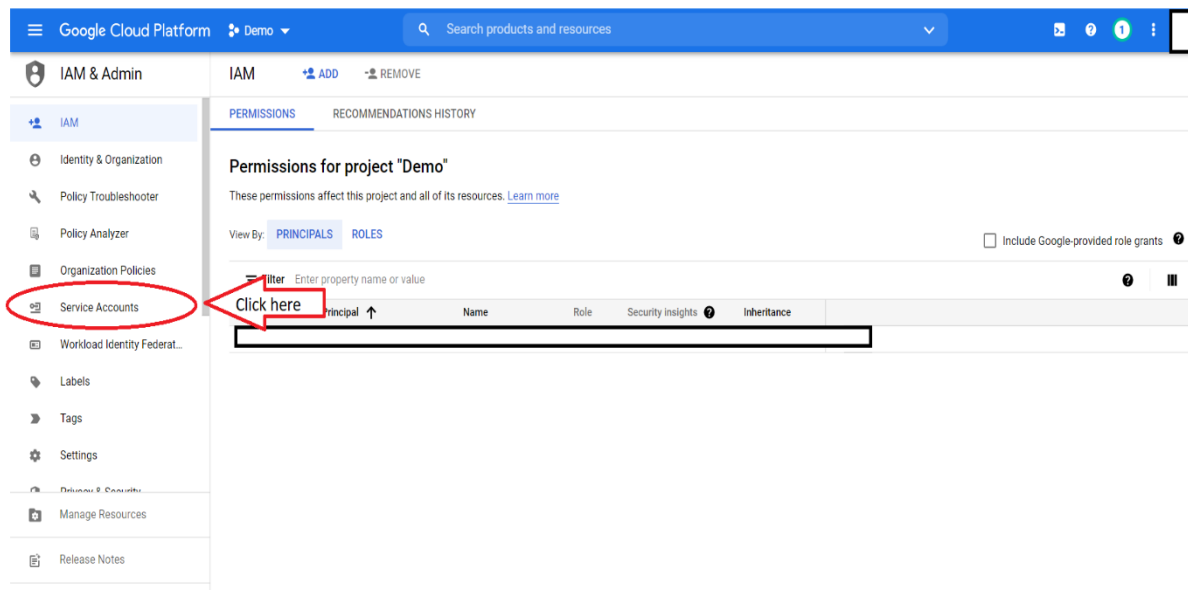
Select the following in the popup. Then continue to creating the project.



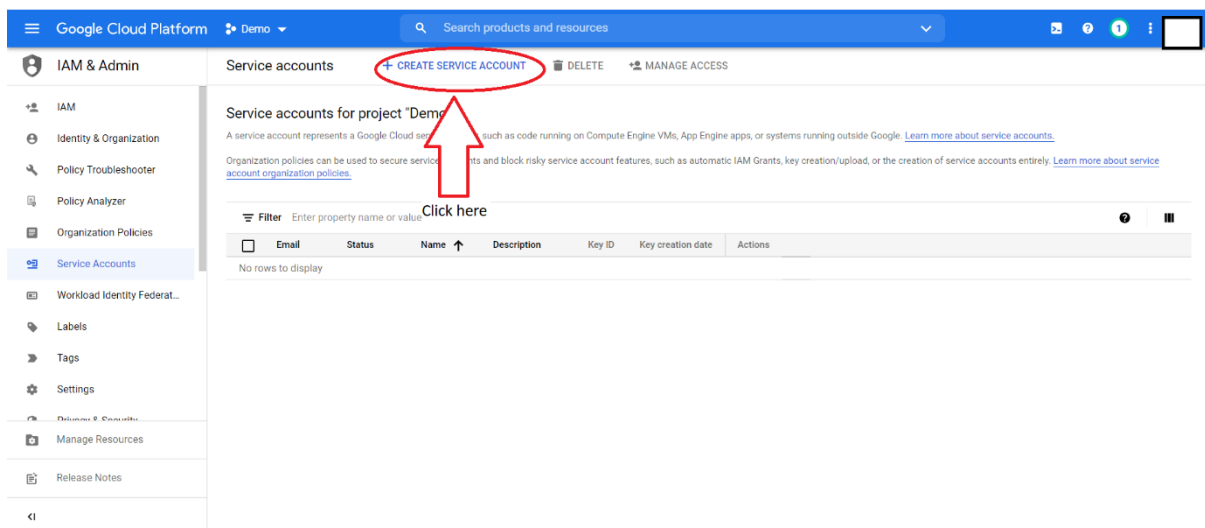
Step 3: Scroll down and select **IAM & Admin** from the side menu



Then the following will appear. Here, click on **Service Accounts** from the side menu.



Then the following will appear. Here, click on **Create Service Account** from the side menu.



Then the following will appear. Here, fill in the name and click on done.

Google Cloud Platform Demo Search products and resources

IAM & Admin Create service account

1 Service account details

Service account name
demo account

Service account ID
demo-account @account.com

Service account description
Describe what this service account will do

CREATE AND CONTINUE

2 Grant this service account access to project (optional)

3 Grant users access to this service account (optional)

DONE

Fill in the service account name and click on done

You'll be redirected to the following page, where it shows you your new service account. Next, we'll have to create an API Key for your account.

Note: The API key generated in the following process SHOULD NOT be shared.

Google Cloud Platform Demo Search products and resources

IAM & Admin Service accounts + CREATE SERVICE ACCOUNT DELETE MANAGE ACCESS

Service accounts for project "Demo"

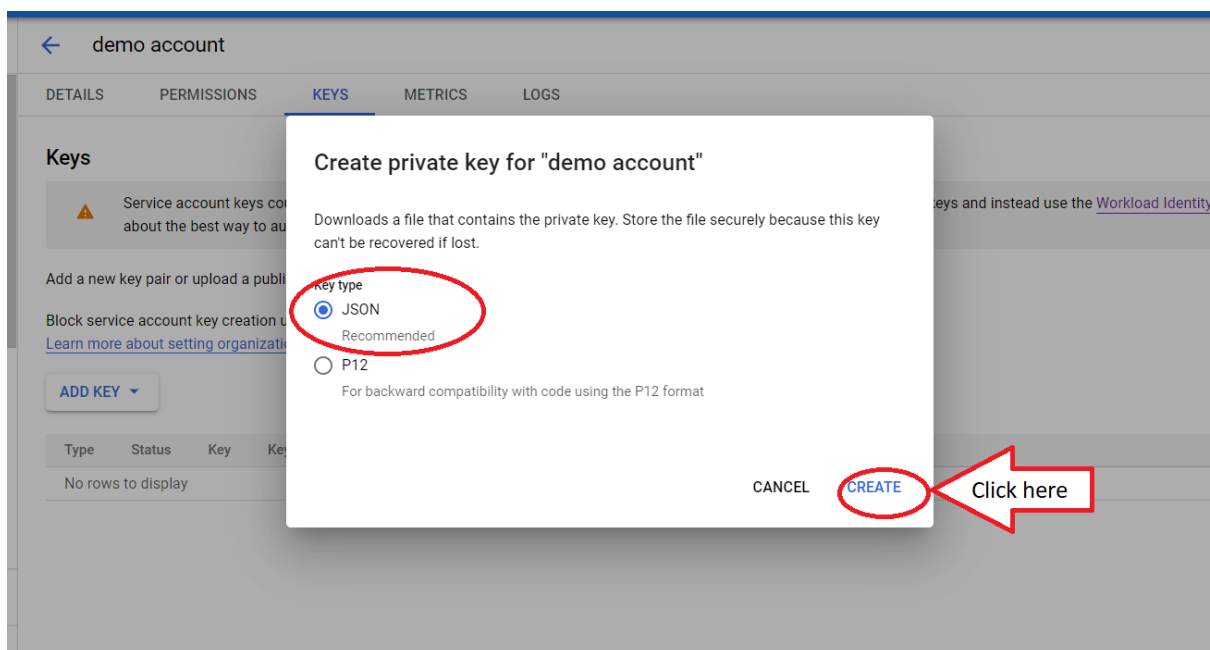
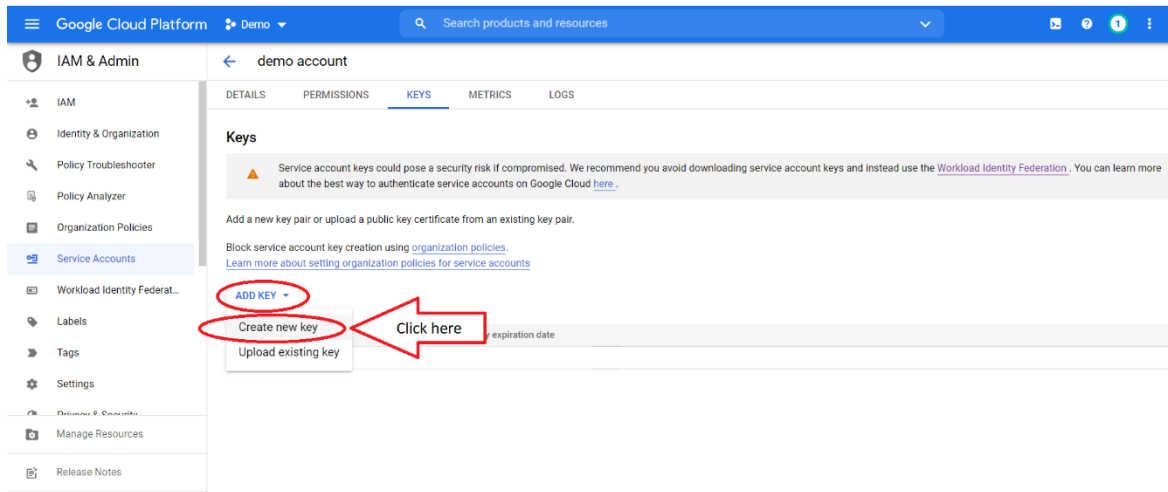
A service account represents a Google Cloud service identity, such as code running on Compute Engine VMs, App Engine apps, or systems running outside Google. [Learn more about service accounts.](#)

Organization policies can be used to secure service accounts and block risky service account features, such as automatic IAM Grants, key creation/upload, or the creation of service accounts entirely. [Learn more about service account organization policies.](#)

Filter Enter property name or value

	Email	Status	Name	Description	Key ID	Key creation date	Actions
<input type="checkbox"/>	demo-account@clean-silo-325705.iam.gserviceaccount.com	Active	demo account		No keys		<div>Manage details Manage permissions Manage keys View metrics View logs Disable Delete</div>

Click Here

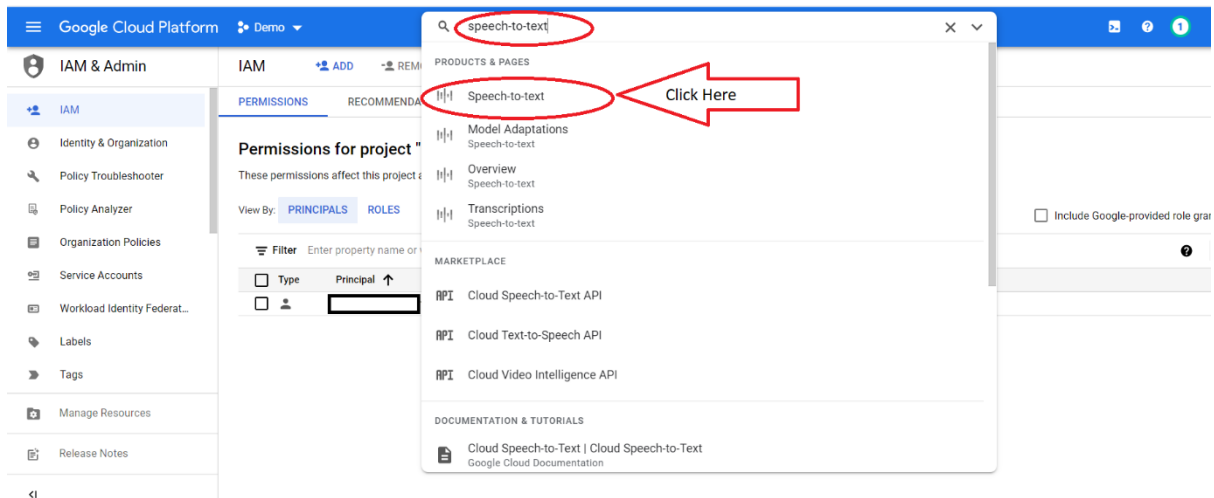


When you click create, a .json file containing the API key is downloaded. [Rename this file to "SERVICE_KEY.json"](#), and place it in the same folder as the main program file.

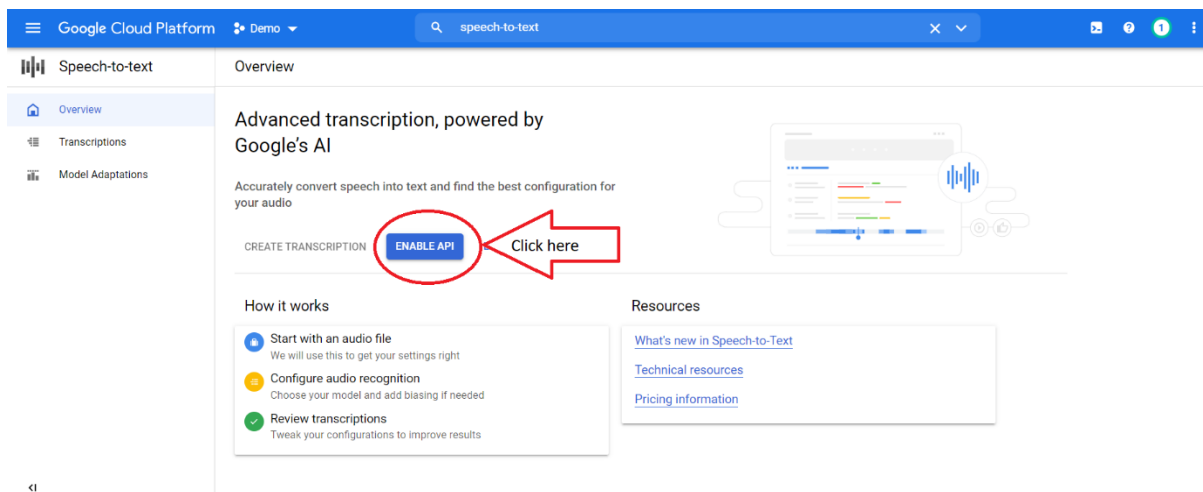
Do not share the .json file anywhere public.

Step 4: Activating the speech-to-text API.

In the above search bar, search for “speech-to-text”.



Then the following will appear. Here, click on “Enable API”.



Your Cloud speech-to-text API will be activated.

Program:

Before you run the program make sure the following Python packages are installed.

cv2

numpy

mediapipe

time

autopy

threading

re

sys

google.cloud

pyaudio

pywin32

keyboard

json

os

Speech Commands Available:

Open, double click

Click, tap, left click

Right click

Copy

Cut, move

Paste

Scroll up

Scroll down

Zoom in

Zoom out

Exit, quit, close, done (these commands are used to stop the program execution)

