

# Using web-APIs in Python for ML

1st March 2020

# Agenda:

1. What is a web-API ?
2. code-walkthrough: Speech to text using Google Cloud API
3. code: data-collection using Bing API (AZURE)

# Function-calls in Python

```
_____  
_____  
_____  
_____
```

```
f("Srikanth")
```

```
_____  
_____  
_____  
_____
```

```
⋮
```

```
def f(name):  
    print("Hello " + name)
```

# Web - APIs:

=====

f("Sriranth")

=====

def f(name):

=====

=====

web-server

f-API(....):

=====

request

response

+ security (using API-keys)

# Google Speech to text

<https://cloud.google.com/speech-to-text/>

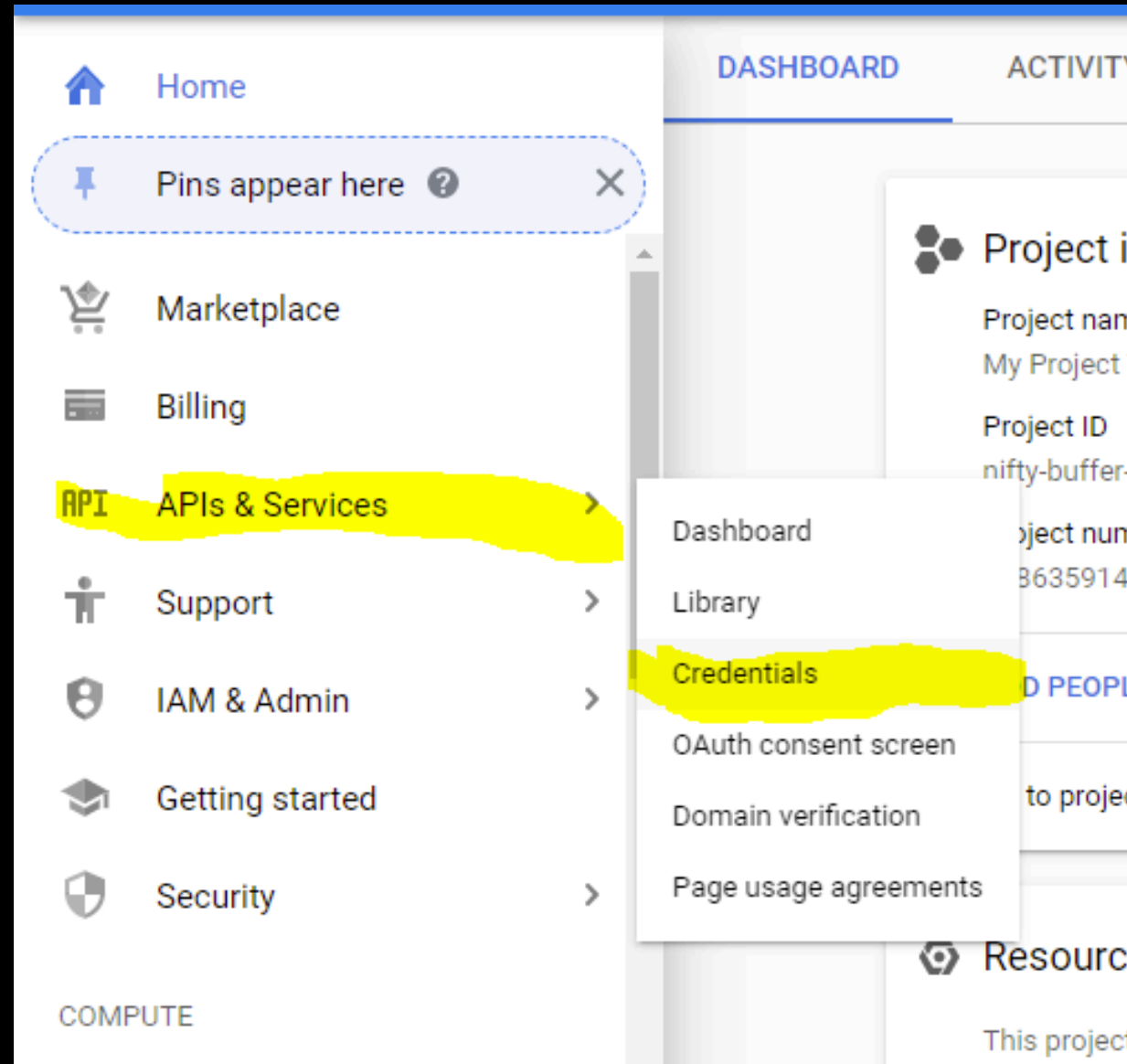
- why not build our own Speech-to-text using Transformers?

Set-up a Google cloud account-

— needs a valid credit-card to create an account-

<https://console.cloud.google.com/>

API-Key:





## APIs & Services



Dashboard



Library



Credentials



OAuth consent screen



Domain verification



Page usage agreements

## Credentials

+ CREATE CREDENTIALS

DELETE

Create credentials to access Google Cloud APIs



Remember to

## API Keys



Name

No API keys to display

### API key

Identifies your project using a simple API key to check quota and access

### OAuth client ID

Requests user consent so your app can access the user's data

### Service account

Enables server-to-server, app-level authentication using robot accounts

### Help me choose

Asks a few questions to help you decide which type of credential to use

## OAuth 2.0 Client IDs



Google Cloud Platform

My Project 79492

IAM & Admin

IAM

Identity & Organization

Policy Troubleshooter

Organization Policies

Quotas

Service Accounts

Labels

Settings

Privacy & Security

Cryptographic Keys

Identity-Aware Proxy

Roles

Audit Logs

Create service account

1 Service account details

2 Grant this service account access to project

Service account details

Service account name

aaic-live

Display name for this service account

Service account ID

aaic-live

@nifty-buffer-236512.iam.gserviceaccount.com

X

↺

Service account description


To explain the concept of api's speech to text

Describe what this service account will do

CREATE

CANCEL

Just fill  
this form.

 APPLIED  
COURSE

Google Cloud Platform

My Project 79492

IAM & Admin

IAM

Identity & Organization

Policy Troubleshooter

Organization Policies

Quotas

Service Accounts

Labels

Settings

Privacy & Security

Cryptographic Keys

Identity-Aware Proxy

Create service account

✓ Service account details

2 Grant this service account access to project (o

Service account permissions (optional)

Grant this service account access to My Project 79492 so that it has permission to complete specific actions on the resources in your project. [Learn more](#)

Select a role

Condition


[Add condition](#)

+ ADD ANOTHER ROLE

CONTINUE

CANCEL

owner  
permissions  
optional

APPLIED  
COURSE

## Create service account

- ✔ Service account details — ✔ Grant this service account access to project (optional) — 3 Grant users access to this service account (optional)

Grant access to users or groups that need to perform actions as this service account.

[Learn more](#)

Create key (optional)

Download a file that contains the private key. Store the file securely because this key can't be recovered if lost. However, if you are unsure why you need a key, skip this step for now.

+ CREATE KEY

DONE CANCEL

3 Grant users access to this service account (optional)

Create key (optional)

Download a file that contains the private key. Store the file securely because this key can't be recovered if lost. However, if you are unsure why you need a key, skip this step for now.

Key type

☒ JSON  
Recommended

☐ P12  
For backward compatibility with code using the P12 format

CREATE

CANCEL

## Private key saved to your computer



nifty-buffer-236512-ce1f8d90da35.json allows access to your cloud resources, so store it securely. [Learn more](#)

CLOSE

renamed it to api-key.json

{...} api-key.json ●

C: > Users > AAIC > Pictures > apis > gcp > {...} api-key.json > ...

```
1  {
2    "type": ".....",
3    "project_id": ".....",
4    "private_key_id": ".....",
5    "private_key": ".....",
6    "client_email": ".....",
7    "client_id": ".....",
8    "auth_uri": ".....",
9    "token_uri": ".....",
10   "auth_provider_x509_cert_url": ".....",
11   "client_x509_cert_url": "....."
12 }
```

13

14

15

code on Google-colab so that you can  
easily run it!

# Bing-Search APIs:

Go to the URL and follow the steps Under Bing Search APIs v7 section. Most of it is self explanatory

<https://azure.microsoft.com/en-in/try/cognitive-services/?api=search-api-v7>

[After signing up, you will get couple of keys which are valid for 7 days, copy and use them]

→ Let's build the API-calling from scratch

→ Back to Google colab.



