

Data Analytics Portfolio Project using YouTube API

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PROJECT OUTLINE

The Situation

You're hired as a data consultant for the School of Data Science, an online platform for project-based data science education.

The Assignment

SODS's first cohort needs students to submit data analytics portfolios. Develop a Streamlit web app for users to input YouTube API key and favorite channels, allowing them to retrieve and download data as CSV.

The Objectives


- Create a user-friendly Streamlit app for data gathering.
- Produce instructional videos to guide students in obtaining API key and channel IDs.


FINAL OUTPUT

Get any YouTube channel data

API Key

Provide your API key.



 Channel Id

Please Provide Channel Id

Get Data

FAQ's

Step-by-Step tutorial to create this app



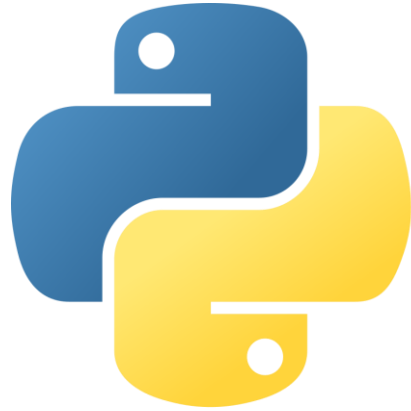
How to get YouTube API Key



How to get Youtube Channel Id



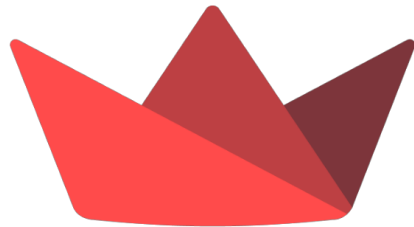
TECH STACK



Python



YouTube API



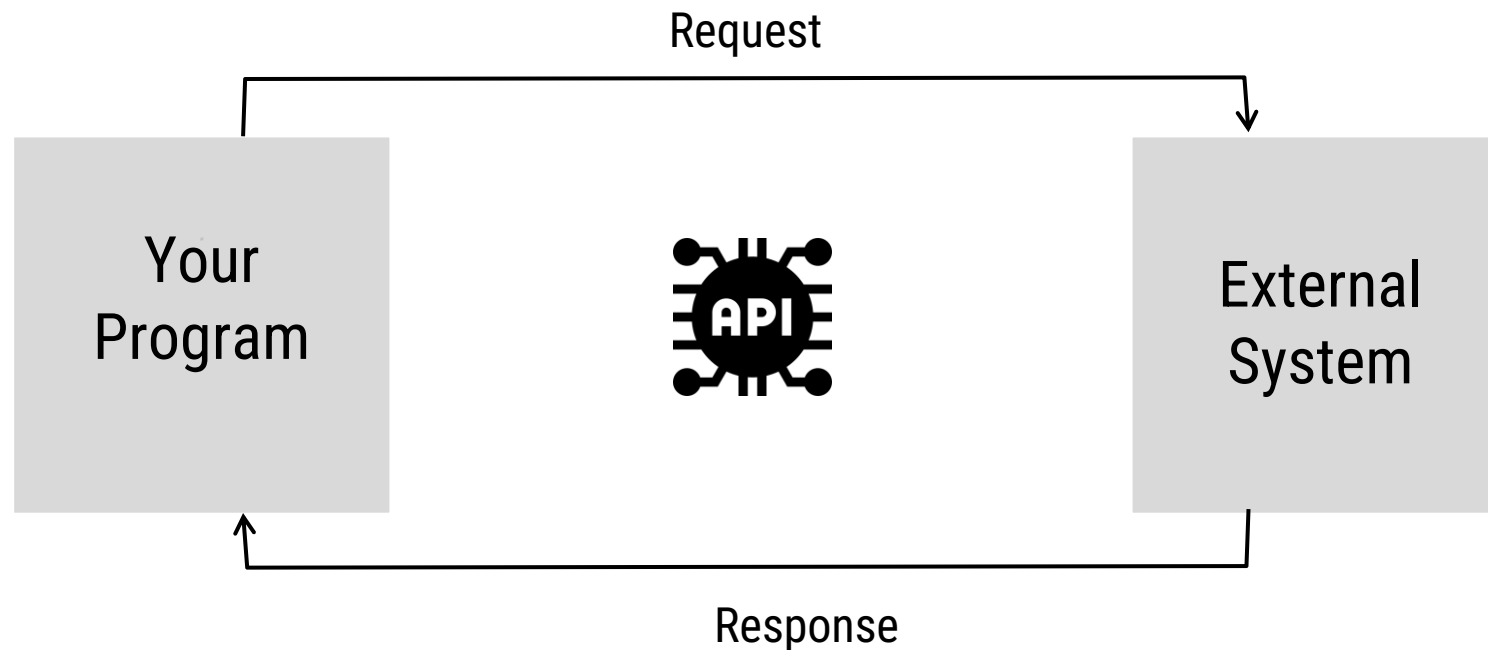
Streamlit



Pandas

API

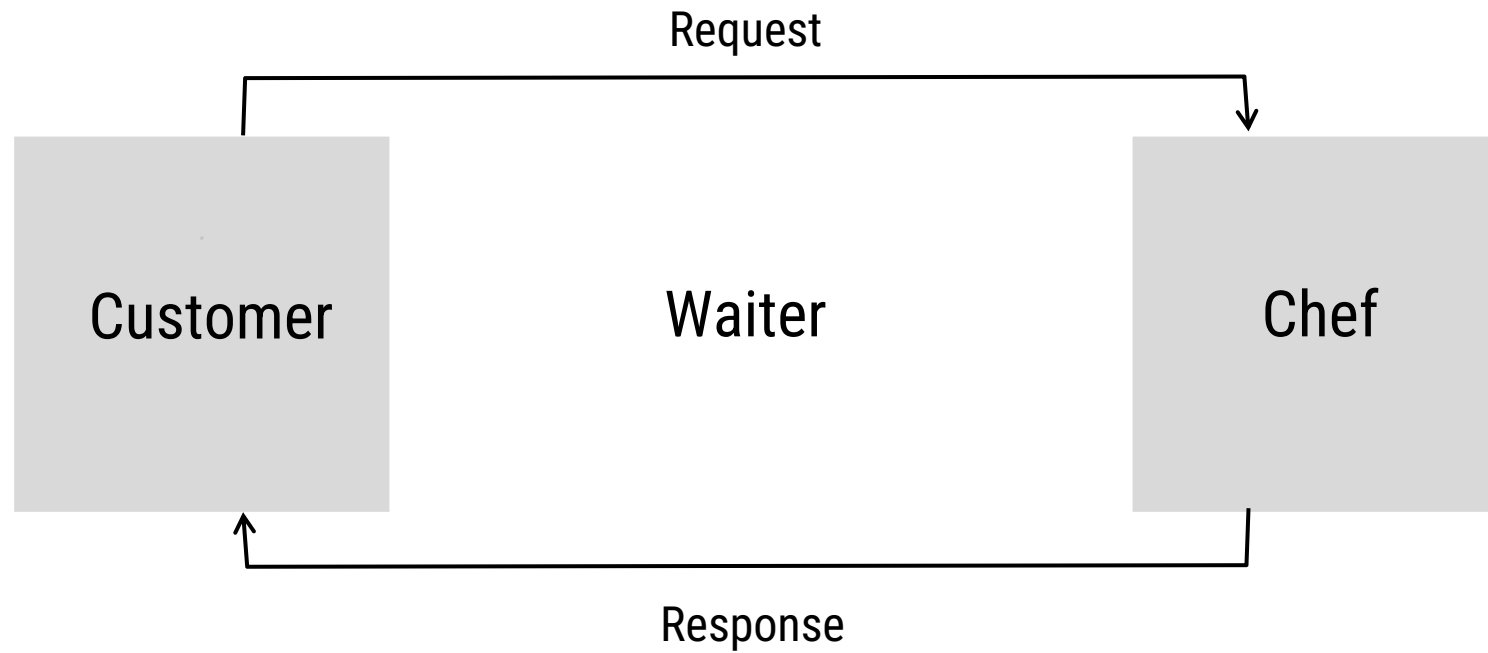
API (Application Programming Interface) is a set of rules and tools that allows applications to communicate and share data.



If Request is Valid, we get the data in JSON format.

API

Restaurant as a Metaphor



API

How to get
the YouTube
API Key?

API

How to get
any YouTube
Channel Id ?

PROJECT SETUP

Creating a new virtual environment

```
cmd  
conda create --name environment_name  
conda activate environment_name
```

Install IPython Kernel

```
ipython kernel install --user --name=environment_name
```

PROJECT SETUP

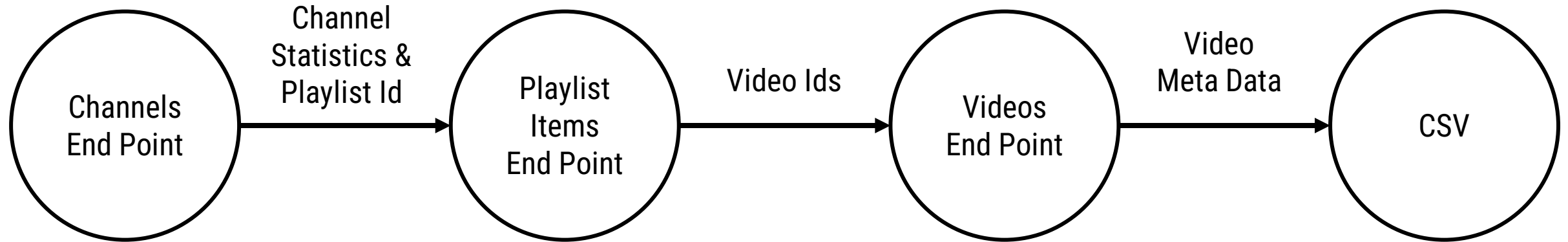
Install Requirements

```
pip install -r requirements.txt
```

Activate the environment

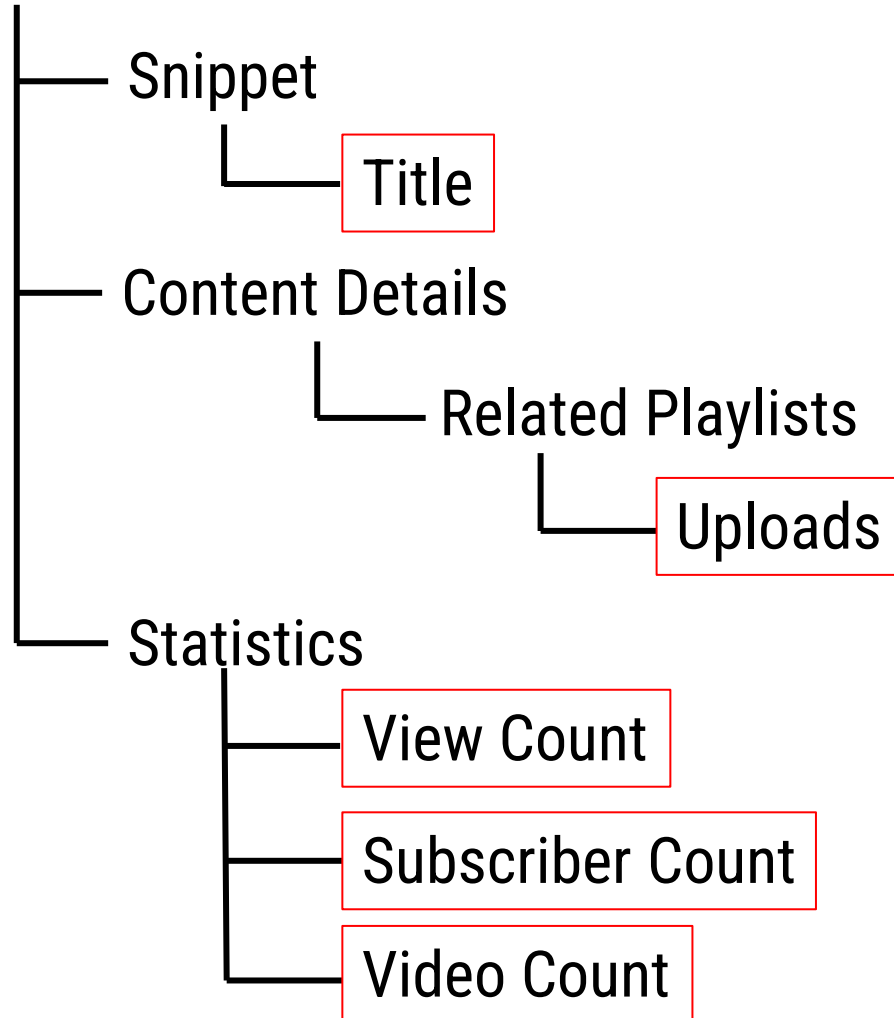
```
conda activate environment_name & jupyter lab
```

DATA RETRIEVAL PROCESS



CHANNEL - END POINT

Items



`get_channel_data():`

1. Getting JSON Response
2. Understanding `get()` method
3. Getting the Playlist Id and Statistics
4. Handling Exceptions

PLAYLIST ITEMS - END POINT

Items



Fetch_video_ids():

1. Getting JSON Response
2. Getting One Video Id
3. Getting Max Video Ids
4. Adding Page Token and While Loop
5. Handling Exceptions

Challenges:

- At max, we can only retrieve 50 ids at a time
- We need to use page Tokens to retrieve remaining ids
- Using a While loop to extract all of the video ids

VIDEOS - END POINT

Items

Snippet

Title

Description

Published At

Tags

Content Details

Duration

Statistics

View Count

Like Count

Favorite Count

Comment Count

VIDEOS - END POINT

Get_video_meta_data()

1. Getting JSON Response
2. Getting Video Meta Data for 50 Items
3. Converting tags list to string
4. Getting all the video meta data
5. Handling Exceptions

STREAMLIT WEB APP

4 Functions

1. Inputs
2. Get Data
3. Download Data
4. Sidebar

ERROR HANDLING

- Add Try and Except Blocks when necessary to mitigate any potential errors

Error Handling for Streamlit App

1. No API Key
2. Incorrect API Key
3. No Channel Id
4. Incorrect Channel Id
5. Channel with No Videos

MARKETING



GitHub
Project Description



LinkedIn Post &
Add to Project Section



Article / Blog Post



Video Summary



Resume

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