# Youtube Analysis

* Goto Google search ‘google developer console’
* Will see Google Cloud platform Page
* Will see a ‘Create Project’ button on top right corner or can go to the search option at top centre search bar
* Named Our Project as ‘YT Analysis’

## 2. Enable API Which we want to use

* Either we can click on button named ‘Enable APIS and Services’ or can go to the library
* Will Search API which we want to use. Currently we are going to use ‘YouTube Data API v3
* We will click on that and will click on enable

## 3. Creating API Key

* Goto ‘Credentials’ showing left hand side and click on it
* Will see a button top centre ‘Create Credentials’, then we will see that we can create ‘API Key’ and ‘OAuth client ID’. Here we will create API Key only in this project. API is enough for this project.
* A pop-up screen will be seen and can see the API Key has been generated

## 4. YouTube API Documentation

* YouTube has provided documentation we can easily find as typing ‘YouTube data api’ in our browser
* Will see website https://developers.google.com>youtube
* This will open YouTube > Data API, here we can see lot of things but we only see what are needed for our current Project.
* First let’s go to **‘References’**, under here we would different resources so can be used different type of data from YouTube to access channel name videos etc.
* Go to the Channels>list>code button **“</>”** under ‘Use cases’ column ‘**list (by channel ID’**, On clicking it, we will see all the different parameters
* On Right side we will see Google has already provided some sample codes, we can see it any language. We click on **python** and can see this code can be used in order to call API to access Particular data.
* We will also be using these source codes when we are writing our program
* **In the ‘part’ whatever we are seeing will be used to find our desired output**
* **In the Resource we are provided all the resources and Methods like for video on any one of these resources can be used what we are seeing in ‘Reference’ Column in the left side**
* We see a button named **‘Guides’** besides of ‘Reference’, clicking on it we can see the step by steps guidance
* If we click on python showing under **‘Quickstarts’** we can see what are the **prerequisite**

## Quota Costs for API requests

* We can see a daily limit for each method in the form of cost like for ‘list’ it’s 1, for insert it’s 50

## Pre-requisites

* Install packages
* To run this quickstart, we will need
* Python 3.5+
* The pip package management tool
* Open Jupiter Notebook
* The Google APIs Client Library for Python

*Pip instal –upgrade google-api-python-client*

* Install Pandas
* Install Seaborn

# Scrape, Analyze & Visualize Channel Statistics

## Problem or Project all About

* In this project we have two Parts.
* First part is to extract data for some youtube channels so that we can have total no. of videos, views, subscribers and then we’ll take few channels and try to 9 their data and will see how these channels growth have been
* In second part will try to extract all the videos from a particular channel so we will take all the video data i.e. their video views, title of the video, total comments, likes, dislikes and then try to analyse and visualiz.
* From googleapiclient.discovery import build
* Import pandas as pd
* Import seaborn as sns

## 5. Extracting Data

* Create variable like channel\_id a
* Go to any youtube channel whom we want to analyse and copy the channel id by channel and get the channel id (in the last of url) and paste it
* If we do not find the channel id, directly from youtube channel then click at any of the video of that channel and then check the url in search bar, we can see the same.
* **Next thing is to get the youtube service, for this purpose we have to raise a request to the API to get the data that I’m looking for.** It is already given by google, so goto the https://developers.google.com/youtube /v3/docs/channels/list and goto the code and select language as python, then find the comment line in the code “#Get credentials and create an API client,

**# To get the service**

***Youtube = googleapiclient.discovery.build(api\_service\_name, api\_version, credentials= credentials)***

Our code will be –

*from googleapiclient.discovery import build*

*import pandas as pd*

*import seaborn as sns*

*api\_key = ‘api\_key paste here’*

*channel\_ids = [‘chennel\_id1’,*

*‘chennel\_id2’,……so on*

*]*

*Youtube = build(‘youtube’, ‘v3’, developerKey=api\_key)*

### 5.1 Creating a function to extract the details

# Function to get channel statistics

*def get\_channel\_stats(youtube, channel\_ids):*

*all\_data = []*

*request = youtube.channels().list(*

*part = ‘snippet, contentDetails, statistics’,*

*id = ‘,’.join(channel\_ids))*

*response = request.execute()*

*for i in range(len(response[‘items’])):*

*data = dict(channel\_name = response[‘items’][i][‘snippet’][‘title],*

*Subscribers = response[‘items’][i][‘statistics’][‘subscriberCount’],*

*Views = response[‘items’][i][‘statistics’][‘viewCount’],*

*Total\_videos = response[‘items’][i][‘statistics’][‘videoCount’])*

*all\_data.append(data)*

*return all\_data*

*get\_channel\_stats(youtube, channel\_ids)*

# we will have a dictionary in “json format” to change it we do the following steps

* Go to the <http://jsonformatter.curiousconcept.com> or search json formatter on google
* Copy that output result and paste in it and click process, we will see in a easy to understand format.
* We will have the information of that channel in dictionary

### 5.2 Write a code to access these elements (views, subscriber etc)

* Go to the above written code and modify it as

*data = response[‘item’][0][‘snippet’][‘title’]*

***creating it as a dictionary see in above written code***

**Now we will change it into dataframe so that easily readable for everyone**

*Channel\_statistics = get\_channel\_stats(youtube, channel\_ids)*

*Channel\_data = pd.DataFrame(channel\_statistics)*

*Channel\_data*

We will have the output as in dataFrame

**NOTE: For further details please refer Jupiter notebook**