YouTube API

Getting YouTube to the terminal.

Team Details :

Harsh Raj	(180010017)
Manjeet Kapil	(180010021)
Rupesh Kalantre	(180010029)
Shriram Ghadge	(180010015)

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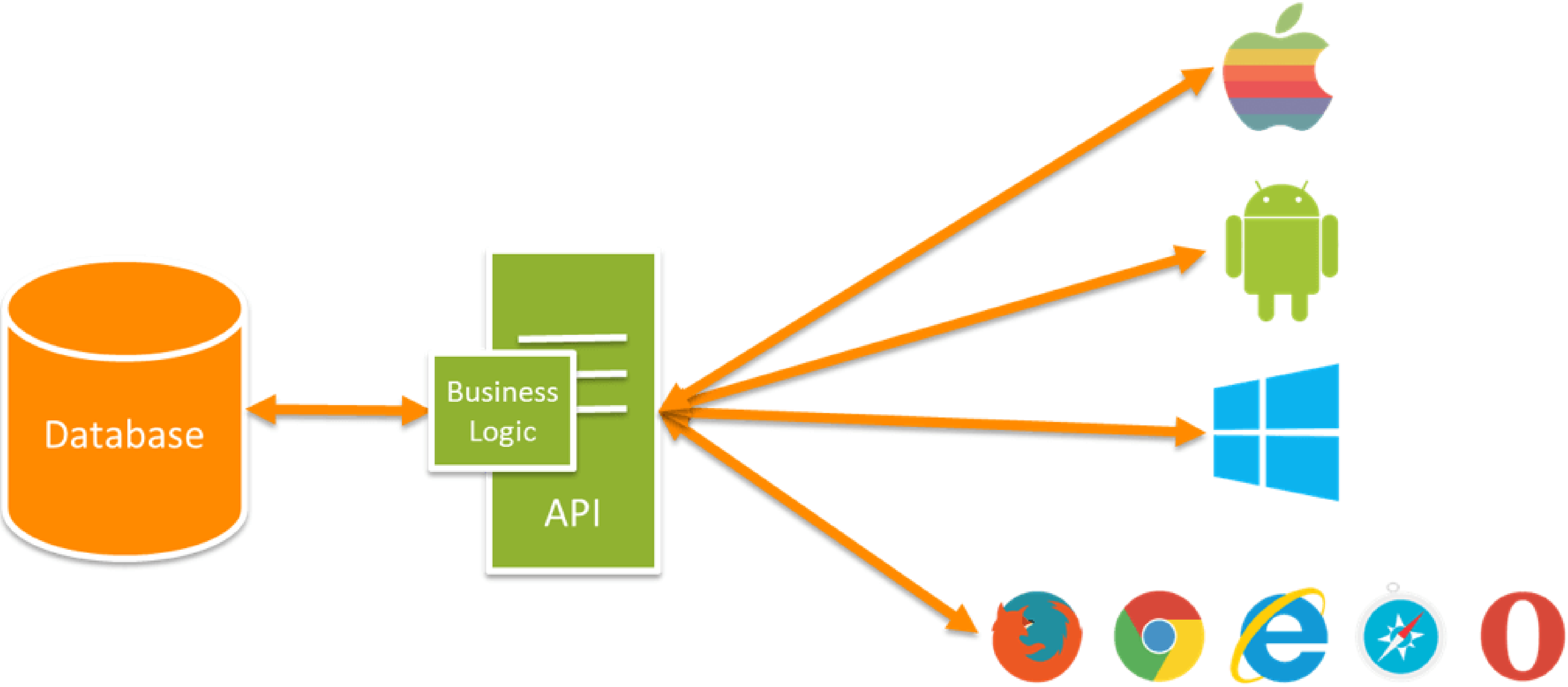
1. What Is An API ?

An application programming interface (API) is a computing interface which defines interactions between multiple software intermediaries.

It defines the kinds of calls or requests that can be made, how to make them, the data formats that should be used, the conventions to follow, etc


Database
Business
Logic
API

1.1 Youtube API

The youtube APIs and Tools let you bring the Youtube experience to your webpage, application , or device.

It is possible to search for videos, retrieve standard feeds, and see related content. A program can also authenticate as a user to upload videos, modify user playlists, and more.

1.2 Youtube APIs

Youtube is having mainly two APIs

1. *Data and analysis API*
2. *Player and Players API*

1. **Data and Analytics APIs :**

The Data and Analytics APIs section briefly describes APIs that let your application access features and data normally available on the YouTube website : such as no. of likes on a video, no. of subs to a channel.

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1.3 Useful things to do with APIs

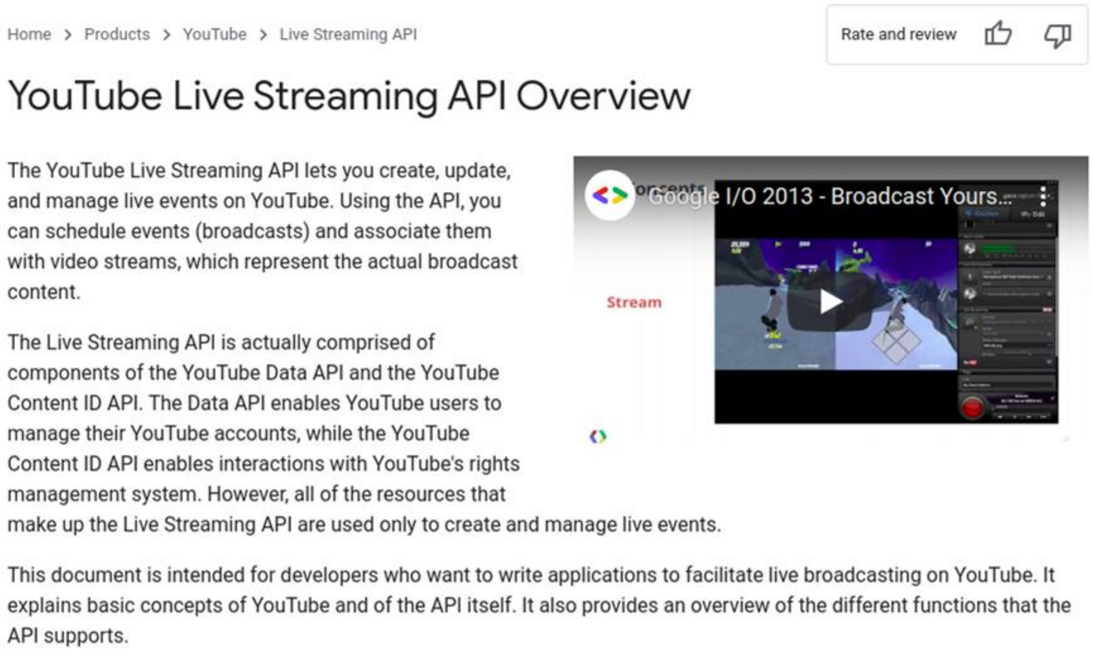
- ❑ Upload
- ❑ Search
- ❑ Rate a video(Like/Dislike)
- ❑ Comment
- ❑ Add a playlist
- ❑ Retrieve Insight video statistics
- ❑ And much more!

1.4 Advantages

- ✓ A great advantage of using YouTube's API is that 3rd party companies are able to arrange pay per click coupled with advertising for your videos. This allows the video uploader to receive money for the work they have put into their videos.

- ✓ YouTube API's also allow a tighter integration of the video service into a 3rd party website. This essentially means that the user does not need to click a link to go to the YouTube video. Instead, they are able to view the video in the same page that they are visiting.

Example,



Home > Products > YouTube > Live Streaming API
Rate and review
Google I/O 2013 - Broadcast Yours...
Stream

YouTube Live Streaming API Overview

The YouTube Live Streaming API lets you create, update, and manage live events on YouTube. Using the API, you can schedule events (broadcasts) and associate them with video streams, which represent the actual broadcast content.

The Live Streaming API is actually comprised of components of the YouTube Data API and the YouTube Content ID API. The Data API enables YouTube users to manage their YouTube accounts, while the YouTube Content ID API enables interactions with YouTube's rights management system. However, all of the resources that make up the Live Streaming API are used only to create and manage live events.

This document is intended for developers who want to write applications to facilitate live broadcasting on YouTube. It explains basic concepts of YouTube and of the API itself. It also provides an overview of the different functions that the API supports.

2. Accessing The API

In order to use the publicly available youtube API, one must:

1. Generate an API key
2. Read and understand documentation to know about various methods provided.

2.1 Generating API Key

- Demo Video

YouTube API KEY

3. Various Methods That YouTube API Provides

YouTube API provides numerous of methods to access both public and private data from the youtube. Users can get straightforward details like channel details, comments on the video, etc to more narrow details like the geographic diversity of viewers.

But for accessing/changing private data of a channel such as making a video private/public or liking other video on behalf of the channel requires accessing rights granted by channel owner.

There are various scopes in Youtube API.

3.1 Different Resources of Youtube Data API

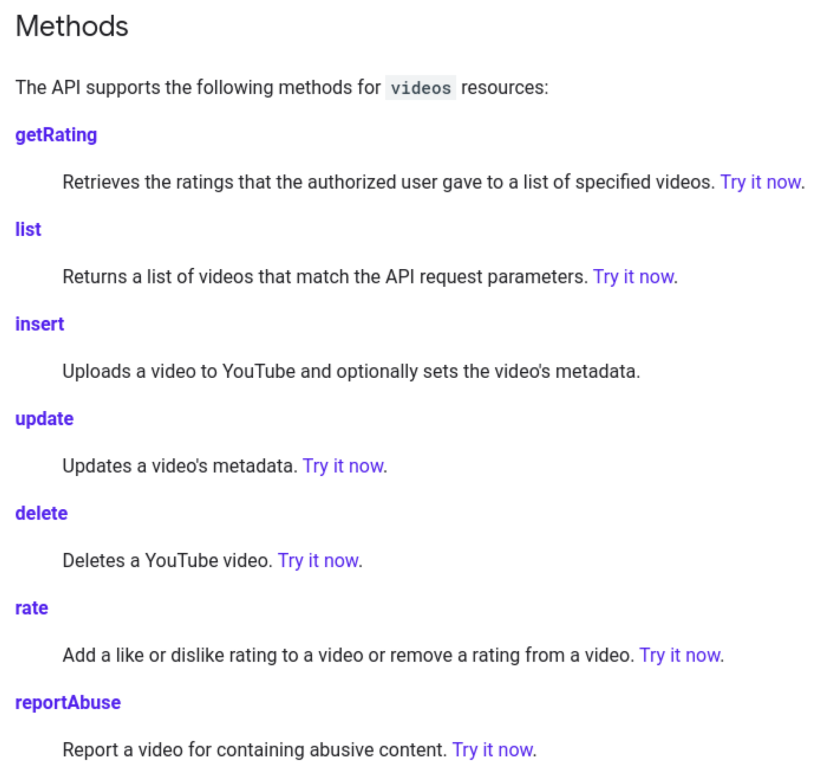
1. Videos (documentation)
2. Captions (documentation)
3. Comments (documentation)
4. CommentsThread (documentation)
5. VideoCategories (documentation)
6. VideoAbuseReportReasons (documentation)
7. Playlist (documentation)
8. PlaylistItems (documentation)
9. Subscribers (documentation)
10. Thumbnails (documentation)

10. Watermarks (documentation)
11. Channels (documentation)
12. Activities (documentation)
13. ChannelBanners (documentation)
14. ChannelSection (documentation)
15. Search (documentation)
16. i18nLanguages (documentation)
17. I18nRegions (documentation)
18. Members (documentation)
19. MembershipLevels (documentation)

3.2 Different methods for each of these Resources

Example,

Vide



Methods

The API supports the following methods for `videos` resources:

getRating

Retrieves the ratings that the authorized user gave to a list of specified videos. Try it now.

list

Returns a list of videos that match the API request parameters. Try it now.

insert

Uploads a video to YouTube and optionally sets the video's metadata.

update

Updates a video's metadata. Try it now.

delete

Deletes a YouTube video. Try it now.

rate

Add a like or dislike rating to a video or remove a rating from a video. Try it now.

reportAbuse

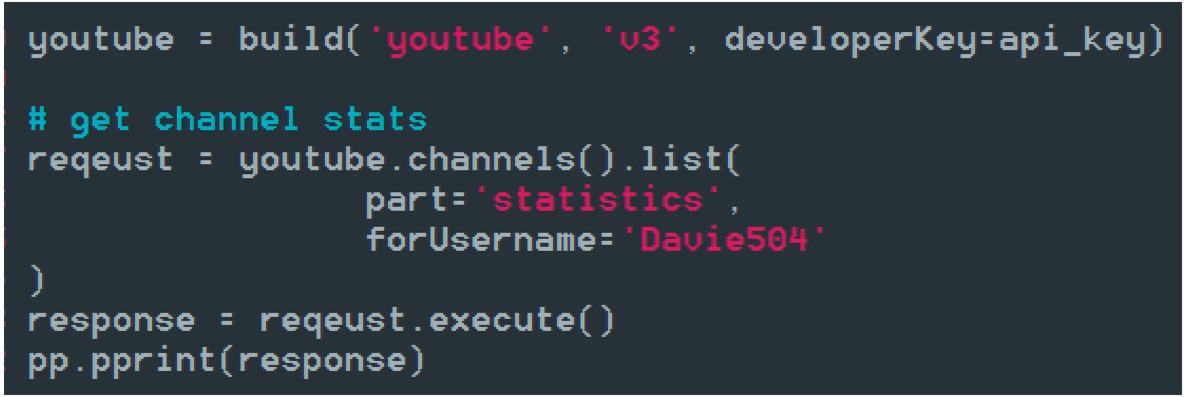
Report a video for containing abusive content. Try it now.

4. Real Life Use Cases

1. Getting public channel statistics
2. Accessing/ uploading videos locally via script
3. Generating various data analytics (like country specific view count etc)
4. Easily choosing best/ worst comments if there are lots of comments

4.1 Getting channel statistics

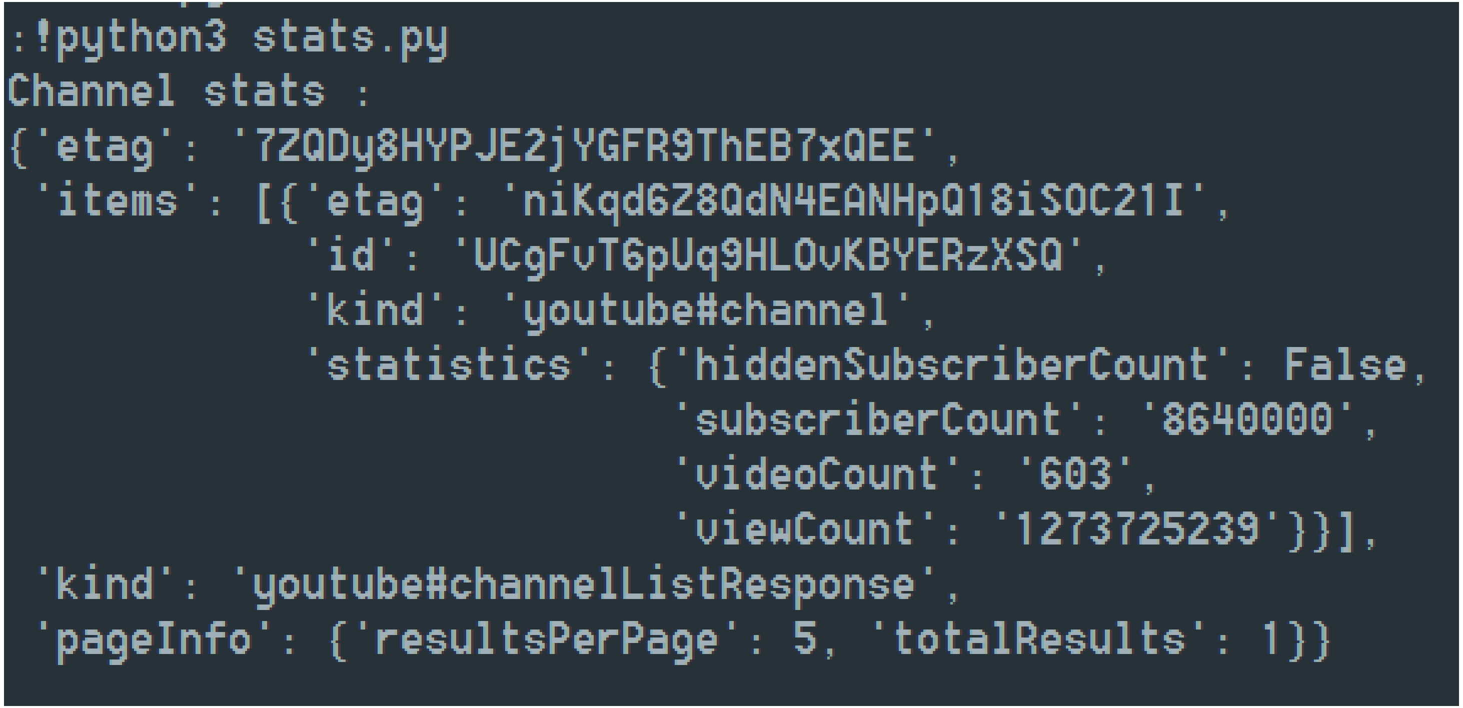
With the youtube api, getting the youtube channel statistics is as easy as calling a function with channel id/username as given parameters.



```
youtube = build('youtube', 'v3', developerKey=api_key)

# get channel stats
reqeust = youtube.channels().list(
                part='statistics',
                forUsername='Davie504'
)
response = reqeust.execute()
pp.pprint(response)
```

Statistics Output :



```
:!python3 stats.py
Channel stats :
{'etag': '7ZQDy8HYPJE2jYGFR9ThEB7xQEE',
 'items': [{'etag': 'niKqd6Z8QdN4EANHpQ18iSOC21I',
            'id': 'UCgFvT6pUq9HLOvKBYERzXSQ',
            'kind': 'youtube#channel',
            'statistics': {'hiddenSubscriberCount': False,
                           'subscriberCount': '8640000',
                           'videoCount': '603',
                           'viewCount': '1273725239'}}],
 'kind': 'youtube#channelListResponse',
 'pageInfo': {'resultsPerPage': 5, 'totalResults': 1}}
```

4.2 Uploading videos via script

With YouTube api, uploading videos becomes really easy. One may easily write script to upload lots of videos sequentially. This would save content creator’s time to great extent, compared to case when they upload each video manually.

- Documentation

4.3 Generating various data analytics

With the amount of methods provided for specific types of data, collecting/ extracting required data for data analysis/ machine learning has become insanely simple. One doesn’t have to spend hours cleaning data after scraping them using some web scraping library.

- Documentation

4.4 Ordering comments

Tasks like selecting most voted comment from thousands of comment on videos, can be made as simple as sorting an array using the youtube API, saving hours of manual work or writing web scraper.

- Documentation

Thank you !

For listening our presentation patiently