CoverDiscover Guide

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Video:

https://youtu.be/HRdt5RVrBtE

Application Comments:

Due to issues with the YouTube API, we were not able to upload our program to App Engine. While it seems as though the error is related to the amount of times we call the YouTube API, after about 30 minutes the YouTube API will give you an "HTTPERROR HTTP Error 403: Forbidden" (not the quota error). In other words, the program runs until you select a playlist and click 'Go'.


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Internal Server Error

The server has either erred or is incapable of performing the requested operation.

Traceback (most recent call last):
  File "/Users/trinitycho/Desktop/google-cloud-sdk/platform/google_appengine/lib/webapp2-2.5.2/webapp2.py", line 1535, in __call__
    rv = self.handle_exception(request, response, e)
  File "/Users/trinitycho/Desktop/google-cloud-sdk/platform/google_appengine/lib/webapp2-2.5.2/webapp2.py", line 1529, in __call__
    rv = self.router.dispatch(request, response)
  File "/Users/trinitycho/Desktop/google-cloud-sdk/platform/google_appengine/lib/webapp2-2.5.2/webapp2.py", line 1278, in default_dispatcher
    return route.handler_adapter(request, response)
  File "/Users/trinitycho/Desktop/google-cloud-sdk/platform/google_appengine/lib/webapp2-2.5.2/webapp2.py", line 1102, in __call__
    return handler.dispatch()
  File "/Users/trinitycho/Desktop/google-cloud-sdk/platform/google_appengine/lib/webapp2-2.5.2/webapp2.py", line 572, in dispatch
    return self.handle_exception(e, self.app.debug)
  File "/Users/trinitycho/Desktop/google-cloud-sdk/platform/google_appengine/lib/webapp2-2.5.2/webapp2.py", line 570, in dispatch
    return method(*args, **kwargs)
  File "/Users/trinitycho/Desktop/Final-copy/main.py", line 177, in post
    self.genpage(chosenPlaylist)
  File "/Users/trinitycho/Desktop/Final-copy/main.py", line 154, in genpage
    searchResult = json.load(urllib2.urlopen(url))
  File "/System/Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/urllib2.py", line 154, in urlopen
    return opener.open(url, data, timeout)
  File "/System/Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/urllib2.py", line 437, in open
    response = meth(req, response)
  File "/System/Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/urllib2.py", line 550, in http_response
    'http', request, response, code, msg, hdrs)
  File "/System/Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/urllib2.py", line 475, in error
    return self._call_chain(*args)
  File "/System/Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/urllib2.py", line 409, in _call_chain
    result = func(*args)
  File "/System/Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/urllib2.py", line 558, in http_error_default
    raise HTTPError(req.get_full_url(), code, msg, hdrs, fp)
HTTPError: HTTP Error 403: Forbidden
```

After discussing it briefly with Sean, in order to get the program running (before the error crashes it eventually), we recommend doing the following:

1) **Setup Spotify.** Register an app and get a Client ID/Secret. Fill this into the file "secrets.py". Add the correct Redirect URI and make sure to click save. We've noticed that this can take 10-15 minutes to take effect. You will know it is not ready if you try to log in to your Spotify account and it gives you an invalid redirect URI error. (Instructions below!)

2) **Setup Youtube**. Create a new project, get an API Key, and fill it into the file "YouTube_Key.py". (Instruction below!)

3) **Run the program** on Localhost, put the http://localhost:8080 url in an incognito browser. Be cautious of how many times you change the playlist you run the program on, and expect it to crash after 7-10 runs. We predict running it many times will cause the 403 Error to stop the program sooner.

4) **Dealing with the 403 Error.** If you get the 403 Forbidden Error and you still want more time interacting with the program, you will need to reregister a project and create an API Key like in the steps below. It does not work to create a new API Key or regenerate your current API Key under the same project. If this doesn't work, you can try creating a new app on Spotify as well but you shouldn't have to do this.
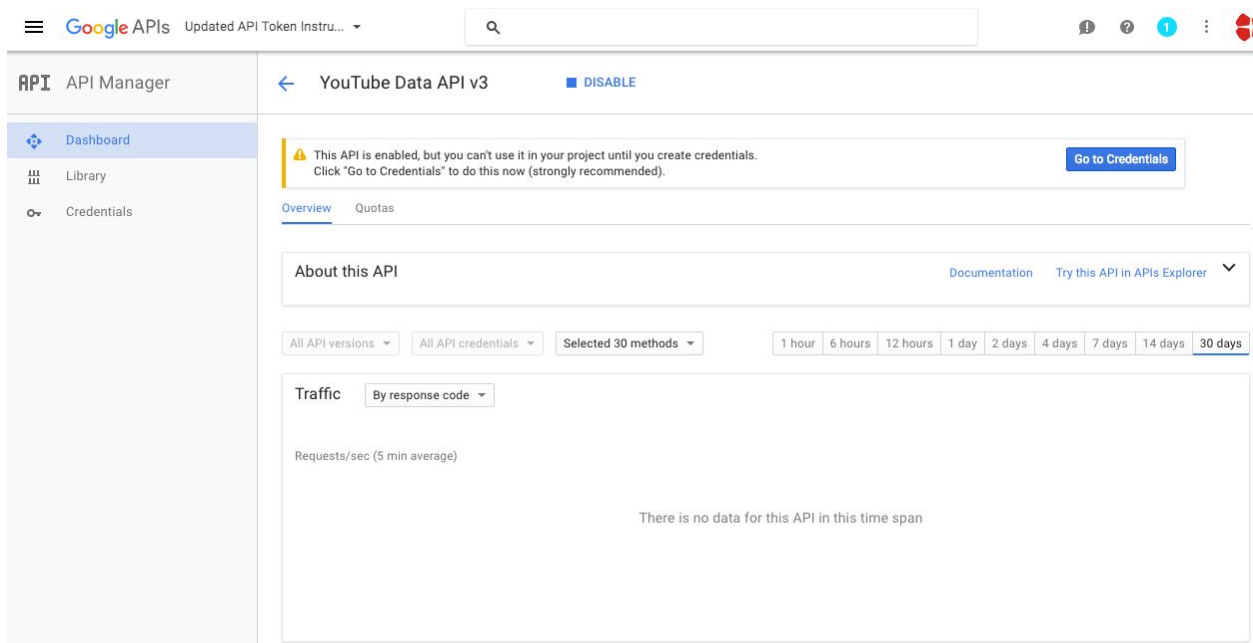
Technical Comments:
There were a couple changes we made to our code:

- We decided to pick the first ten songs of the Spotify playlist due to the danger of a long runtime in the case of a really long playlist. Also, due to the vast amount of video possibilities, it was difficult to accurately find a cover based on 'viewCount', so we changed the order to 'relevance' (an optional parameter in YouTube's video search method).
- For runtime again, the 'maxResults' is set to 5. We selected the video that had the word "cover" in it, but if the 5 most relevant videos for that search query is not a query, the program just selects the most relevant video for that search. For example, you would likely see this result if you selected an EDM playlist or a playlist of songs that are difficult to cover.

API- Keys:

YouTube
- Create a project on https://console.cloud.google.com/.
- On the left side hamburger icon, navigate to **API & Services: Dashboard**.
- Click "**Enable APIS and Services**" on the top and then scroll down to select "**Youtube API v3**" in the API library.
- Click "**Enable**" at the top of the Youtube Data API v3 page.
- Next click on the blue "**Go to Credentials**" button to the right.

- Choose the select option YouTube Data API v3 for the first select option and Web server(e.g. node js. Tomcat) for the second selection. Then choose Public data. Now click the blue button, "**What credentials do I need?**."
- Copy your API Key.

Spotify
- Create an account on https://developer.spotify.com/dashboard/login
- Click "**Create Client ID**", fill out the form about your project and your project summary will contain the Client ID and the Secret Client ID.
- On the same project summary (not your dashboard), click "**Edit Settings**" on the left.
- Add the Redirect URI http://localhost:8080/auth/login. Make sure to click "**Add**" then "**Save**" at the bottom. Note that this can take a bit to take effect. (When it wasn't working, I tried removing/adding the link, copying/pasting it in vs. typing, but I'm pretty sure it is just a matter of time.)