# **Facebook API Demo**

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**This document outlines the steps took to develop the Facebook API demo. In order** to extract data from Facebook using a python, you need to register as a developer on Facebook and then have an access token. For this demo, a Facebook test account was created. The steps can be divided into four parts; the first part is getting the access token, the second part is retrieving and exporting the data, third part is visualizing the data, and the fourth part is analyzing the data.

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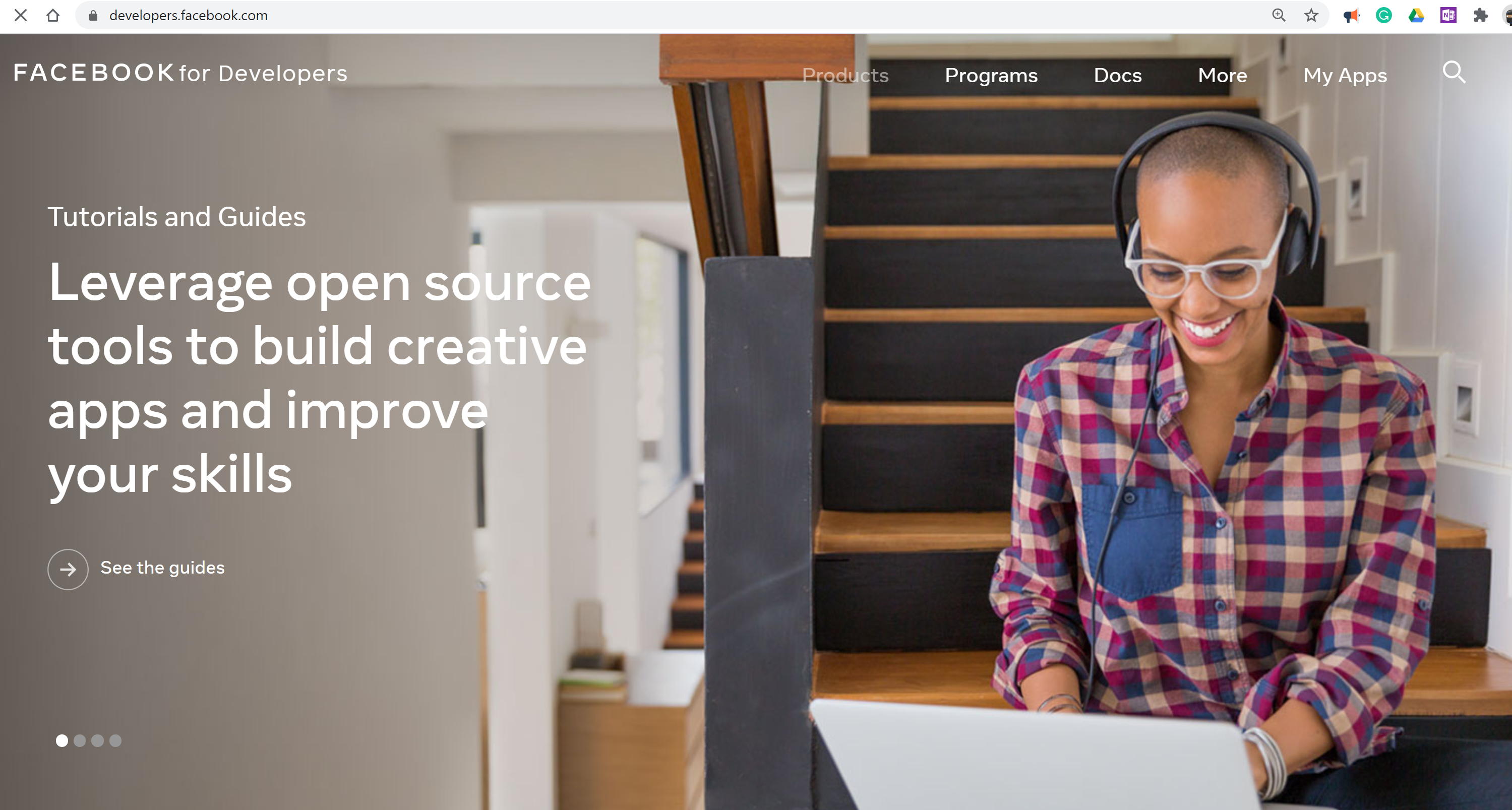
# **Facebook Test Login**

* **Username: ITAISSSSIAG@cra-arc.gc.ca**
* **Password: #V2\*,t.m:=\_PzP=**

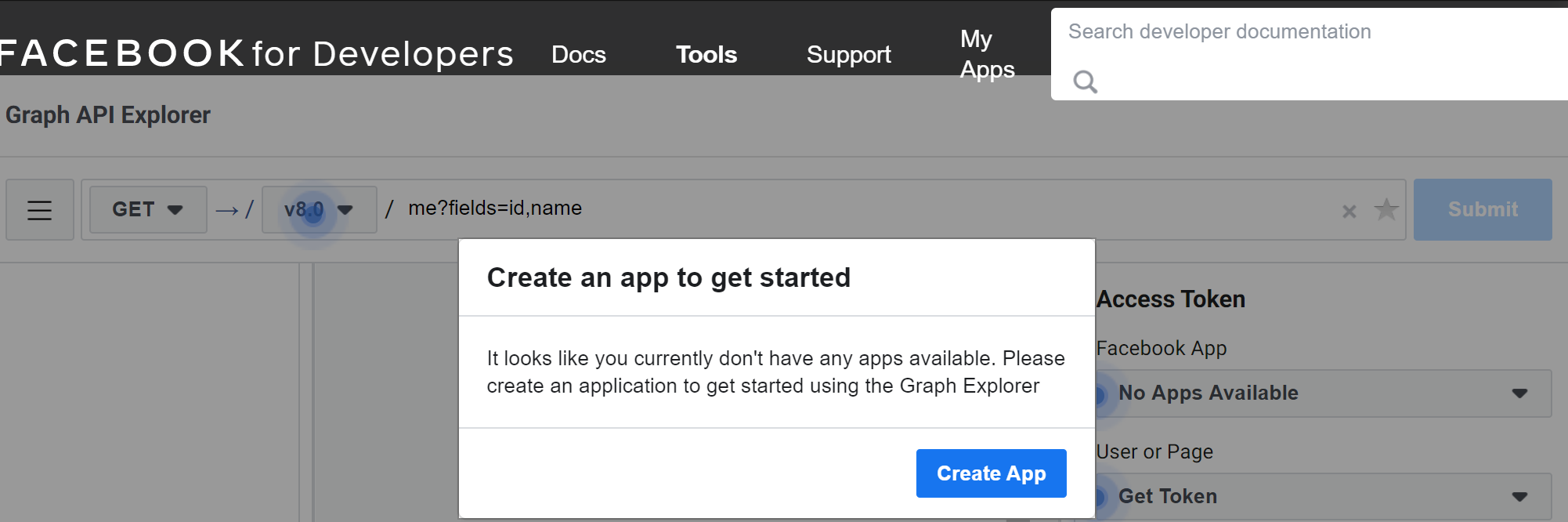
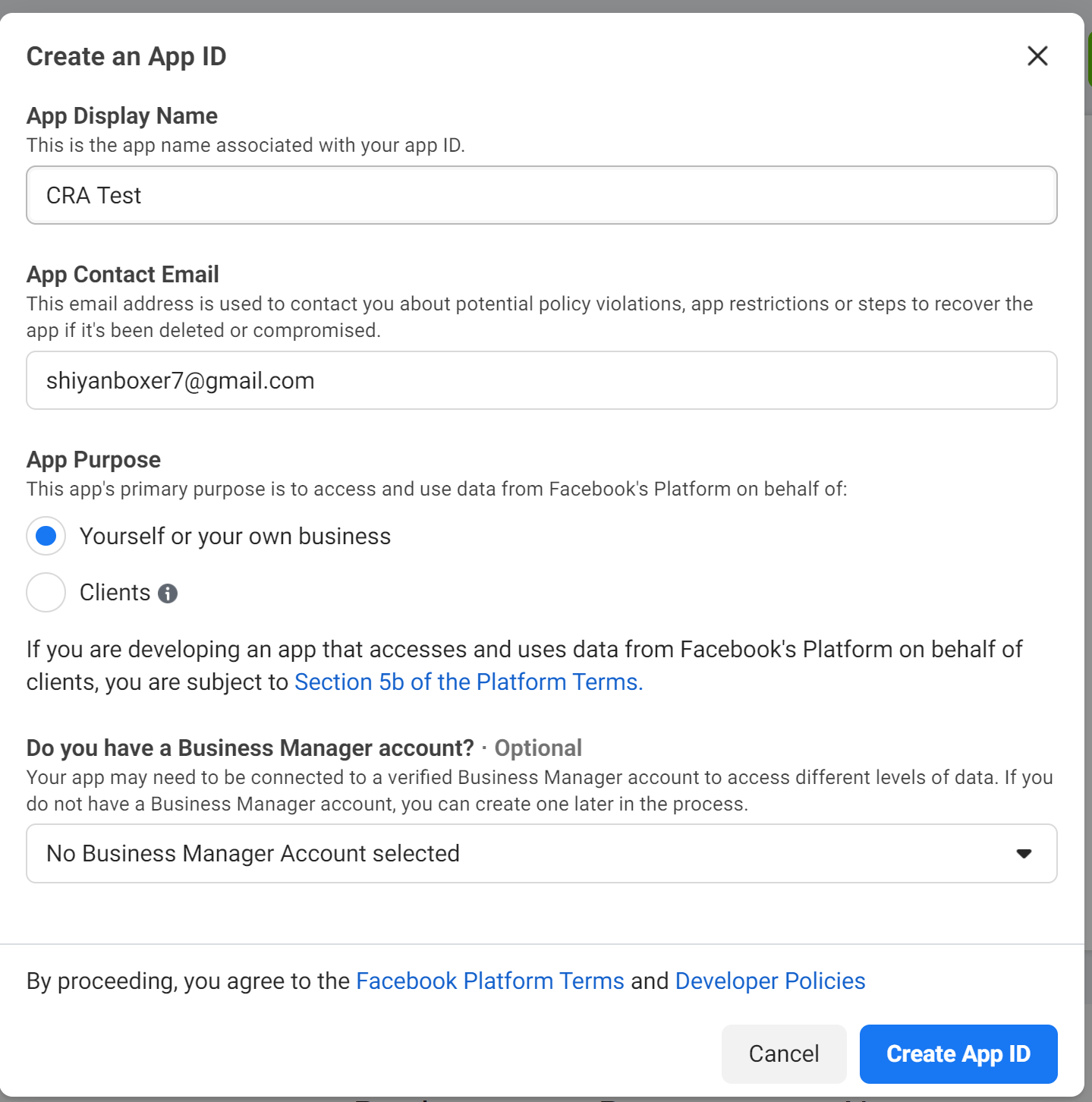
# **Steps**

## **Part 1: Get Access Token**

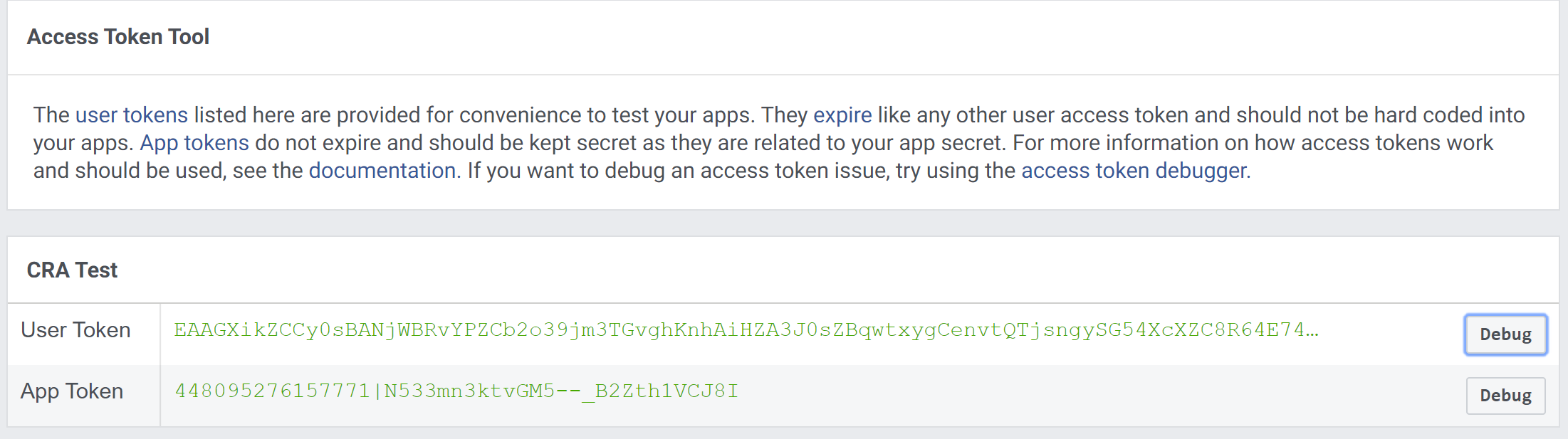
### **Step 1: Create an account**

* Go to link [developers.facebook.com](http://developers.facebook.com/), create an account there.
* 

### **Step 2: Create App ID**

* Go to link [developers.facebook.com/tools/explorer](https://developers.facebook.com/tools/explorer). Go to “My apps” drop down in the top right corner and select “Create App”. Choose a display name and a category “Manage Business Integration” and then “Create App ID”. Go to link [developers.facebook.com/tools/explorer](https://developers.facebook.com/tools/explorer). You will see “Graph API Explorer” below “My Apps” in the top right corner. From “Graph API Explorer” drop down, select your app.
* 
* 

### **Step 3: Get Access Token**

* Select “Get Token”. From this drop down, select “Get User Access Token”. Select permissions from the menu that appears and then select “Get Access Token.”. Go to link [developers.facebook.com/tools/accesstoken](https://developers.facebook.com/tools/accesstoken/). Select “Debug” corresponding to “User Token”. Go to “Extend Token Access”. This will ensure that your token does not expire every two hours.
* 

## **Part 2: Retrieving and Exporting the Data**

Go to link <https://developers.facebook.com/docs/graph-api> if want to collect data on anything that is available publicly. See <https://developers.facebook.com/docs/graph-api/reference/v2.7/>. From this documentation, choose any field you want from which you want to extract data such as “groups” or “pages” etc. Go to examples of codes after having selected these and then select “facebook graph api” and you will get hints on how to extract information. This blog is primarily on getting events data.

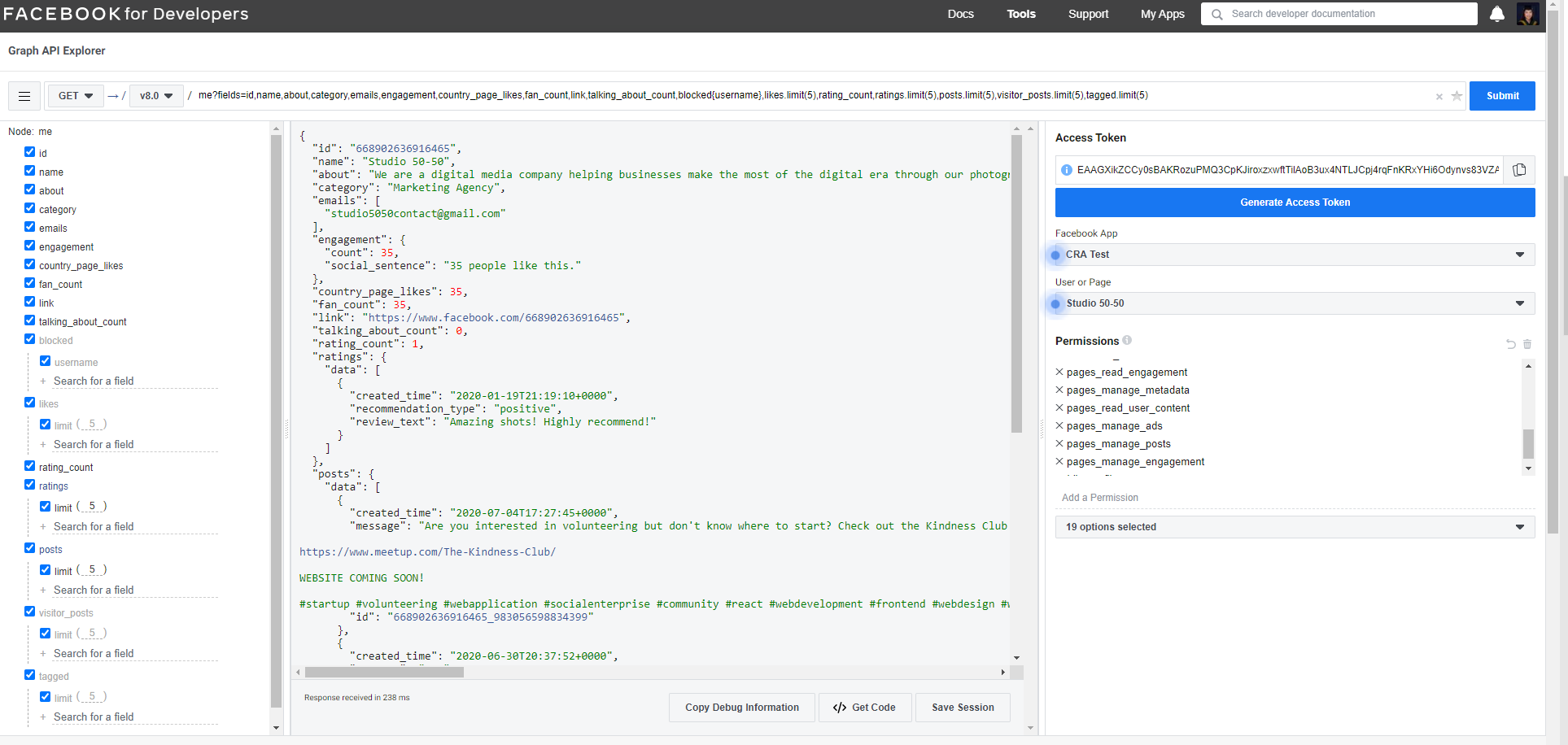
### **Step 1: Define Token Variable**

1. conda install -c hargup/label/pypi facebook-sdk
2. conda install -c anaconda requests
3. Import the Facebook module. import facebook
4. Define your user and access tokens at the top
5. userToken= “”
6. accessToken = “”

### **Step 2: Choose which type of data you want to extract (Event, Page, Video Feed, Photos)**

#### **Page**

1. Go to Graph API Explorer page <https://developers.facebook.com/tools/explorer/>
2. Search for fields you would like to extract. Use this link as a guide <https://developers.facebook.com/docs/graph-api/reference/page/>
3. On the right hand side, select the correct Facebook app, the correct Facebook page, and enable all the permissions.
4. On the left hand panel enter the fields you’re interested in, once complete press submit in the top right hand conner.
5. At the end the GET request should be “me?fields=id,name,about,category,emails,engagement,country\_page\_likes,fan\_count,link,talking\_about\_count,blocked{username},likes.limit(5),rating\_count,ratings.limit(5),posts.limit(5),visitor\_posts.limit(5),tagged.limit(5)”
6. Copy the access token code
7. Refer to code below for the following steps
8. Note: Next Iteration: add “insights”

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### **Code**

import facebook

import json

import pandas as pd

def facebookExtract():

# Access token

token = {"EAAGXikZCCy0sBAKRozuPMQ3CpKJiroxzxwftTilAoB3ux4NTLJCpj4rqFnKRxYHi6Odynvs83VZA9ucq4uUzUGepI7ZCChBu4y5T9Wi7wvHUXeZA8G043OZAqQkW7b48666PzQRkdrqJhXQCWgT65xlRZBaMvoJ4mOH3JmLlelaGobVd7ER6u8bD2lUNj5ytz45LSaTofiggZDZD"}

# Graph object

graph = facebook.GraphAPI(token)

# extract fields

fields = ["name, about, category, emails, engagement, country\_page\_likes, fan\_count, link,talking\_about\_count, blocked{username}, likes.limit(5), rating\_count, ratings.limit(5), posts.limit(5), visitor\_posts.limit(5), tagged.limit(5)”]

profile = graph.get\_object("me", fields = fields)

# print(json.dumps(profile, indent=4))

# export as csv

df = json.dumps(profile, indent=4))

export\_csv = df.to\_csv (r'C:\Users\Ron\Desktop\Test\New\_Products.csv', index = None, header=True)

# main potion of the program calling the extractFacebook method

if\_\_name\_\_ == "\_\_main\_\_":

facebookExtract()

#### **Events**

1. **To find information on events for any search term say “CRA” and limiting those events’ number to 10000:**
   1. graph = facebook.GraphAPI(access\_token=token, version = 2.7)  
      events = graph.request(‘/search?q=CRA&type=event&limit=10000’)
2. **This will give a dictionary of all the events that have been created on Facebook and has string “CRA” in its name. To get the list of events, do:**
   1. eventList = events[‘data’]
3. **Extracting all information for a event from the list of events extracted above. Get the EventID of the first event in the list by**
   1. eventid = eventList[1][‘id’]
4. **For this EventID, get all information and set few variables which will be used later by:**
   1. event1 = graph.get\_object(id=eventid,  
       fields=’attending\_count,can\_guests\_invite,category,cover,declined\_count,description,end\_time,guest\_list\_enabled,interested\_count,is\_canceled,is\_page\_owned,is\_viewer\_admin,maybe\_count,noreply\_count,owner,parent\_group,place,ticket\_uri,timezone,type,updated\_time’)  
      attenderscount = event1[‘attending\_count’]  
      declinerscount = event1[‘declined\_count’]  
      interestedcount = event1[‘interested\_count’]  
      maybecount = event1[‘maybe\_count’]  
      noreplycount = event1[‘noreply\_count’]
5. **Getting the list of all those who are attending an event and converting the response into json format:**
   1. attenders = requests.get(“<https://graph.facebook.com/v2.7/>"+eventid+"/attending?access\_token="+token+”&limit=”+str(attenderscount)) attenders\_json = attenders.json()
6. **Getting the admins of the event:**
   1. admins = requests.get(“<https://graph.facebook.com/v2.7/>"+eventid+"/admins?access\_token="+token)admins\_json = admins.json()

### **Part 3: Visualize the Data**

Data can be visualized using the following libraries:

* [**Matplotlib:**](https://matplotlib.org/)low level, provides lots of freedom
* [**Pandas Visualization:**](https://pandas.pydata.org/pandas-docs/stable/visualization.html)easy to use interface, built on Matplotlib
* [**Seaborn:**](https://seaborn.pydata.org/)high-level interface, great default styles
* [**ggplot:**](http://ggplot.yhathq.com/)based on R’s ggplot2, uses [Grammar of Graphics](https://www.amazon.com/Grammar-Graphics-Statistics-Computing/dp/0387245448)
* [**Plotly:**](https://plot.ly/python/)can create interactive plots

### **Part 4: Analyzing the Data**

# **Resources**

* <https://www.youtube.com/watch?v=Q6P6nVsor84>
* <https://medium.com/@DrGabrielHarris/python-how-getting-facebook-data-and-insights-using-facebook-sdk-9de14d3c12fb#9072>
* <https://github.com/shiyanboxer/Facebook-Graph-API-CRA-Demo/tree/main>
* <https://towardsdatascience.com/introduction-to-data-visualization-in-python-89a54c97fbed>