The Twitter API and Authentication

INTERMEDIATE IMPORTING DATA IN PYTHON

Hugo Bowne-Anderson
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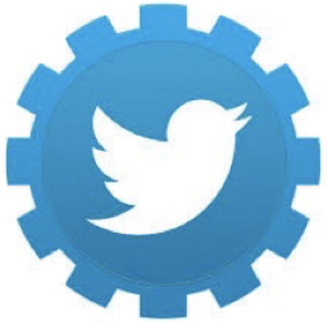
datacamp

Herein, you'll learn

- How to stream data from the Twitter API
- How to filter incoming tweets for keywords
- About API Authentication and OAuth



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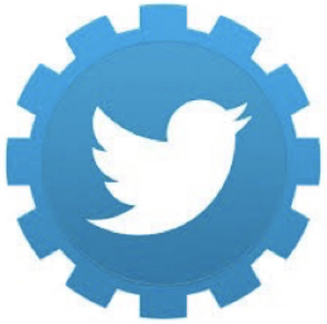
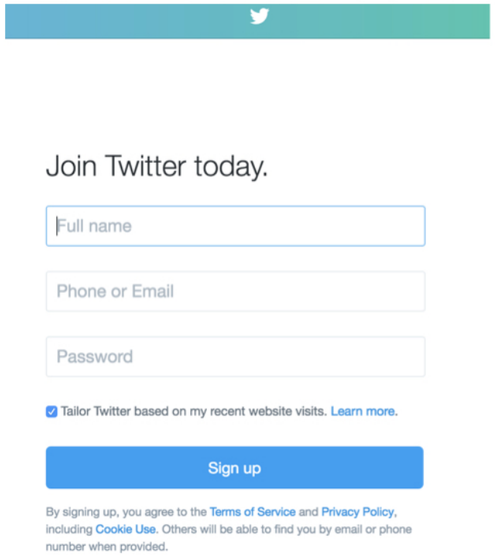
- How to use the Tweepy Python package



Access the Twitter API



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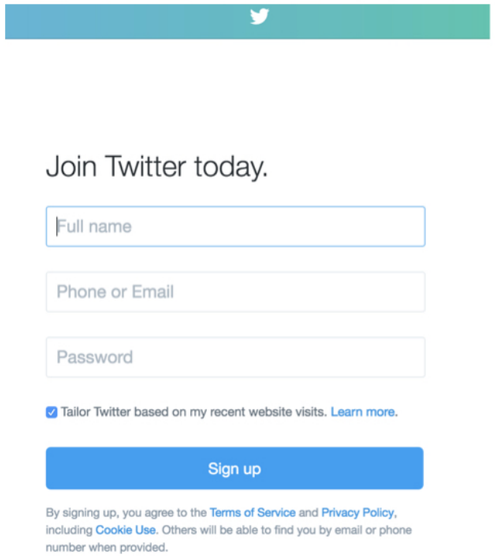

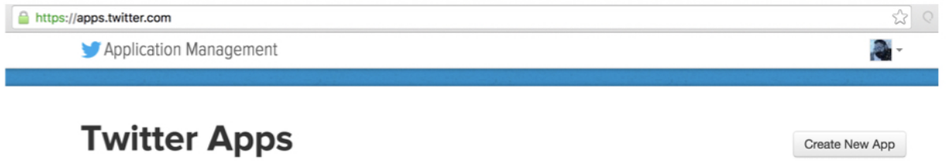

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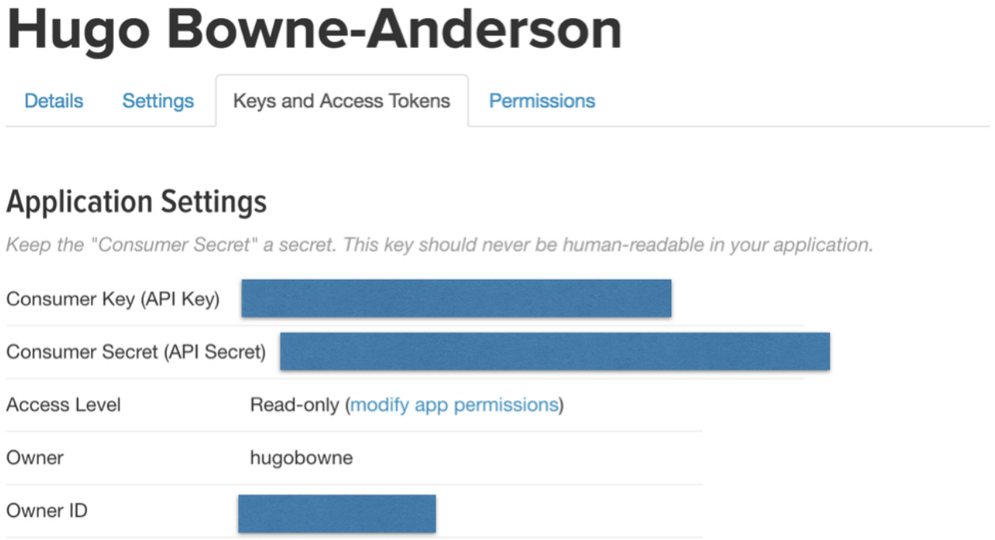

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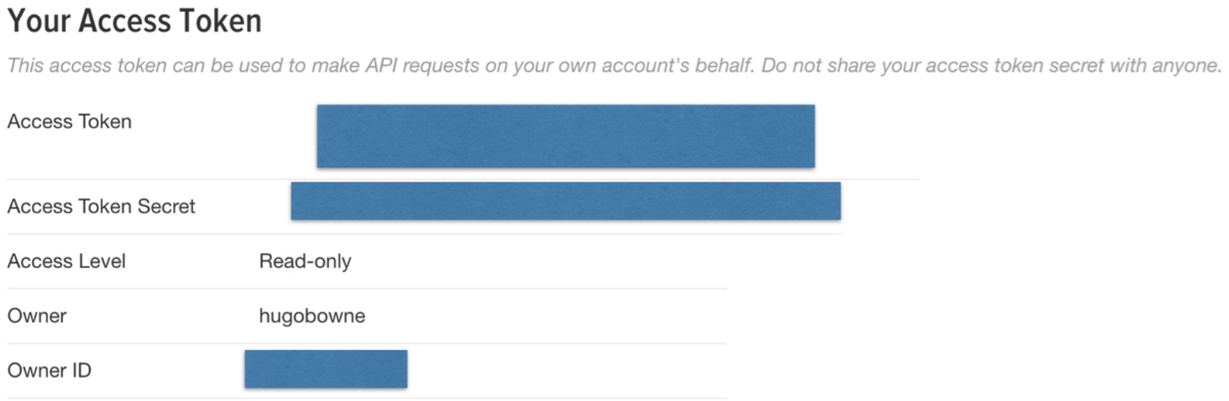

Twitter has a number of APIs

REST APIs

The REST APIs provide programmatic access to read and write Twitter data. Author a new Tweet, read author profile and follower data, and more. The REST API identifies Twitter applications and users using OAuth; responses are available in JSON.

If your intention is to monitor or process Tweets in real-time, consider using the Streaming API instead.

Twitter has a number of APIs

The Streaming APIs

Overview

The Streaming APIs give developers low latency access to Twitter's global stream of Tweet data. A proper implementation of a streaming client will be pushed messages indicating Tweets and other events have occurred, without any of the overhead associated with polling a REST endpoint.

If your intention is to conduct singular searches, read user profile information, or post Tweets, consider using the REST APIs instead.

Twitter offers several streaming endpoints, each customized to certain use cases.

Public streams	Streams of the public data flowing through Twitter. Suitable for following specific users or topics, and data mining.
User streams	Single-user streams, containing roughly all of the data corresponding with a single user's view of Twitter.
Site streams	The multi-user version of user streams. Site streams are intended for servers which must connect to Twitter on behalf of many users.

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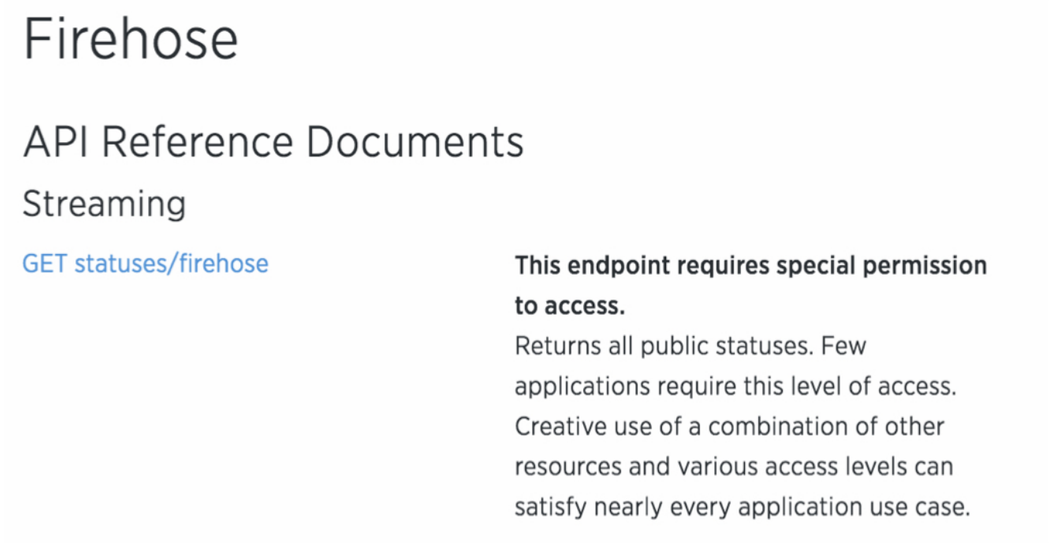
GET statuses/sample

Returns a small random sample of all public statuses. The Tweets returned by the default access level are the same, so if two different clients connect to this endpoint, they will see the same Tweets.

Resource URL

`https://stream.twitter.com/1.1/statuses/sample.json`

Twitter has a number of APIs



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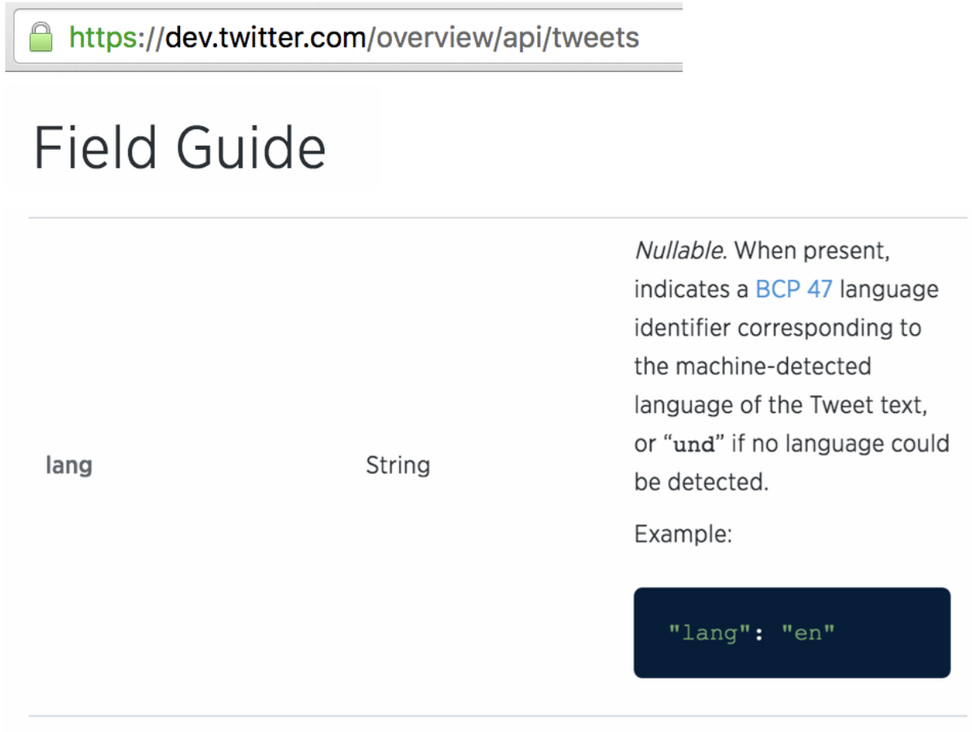

Using Tweepy: Authentication handler

`tw_auth.py`

```
import tweepy, json
access_token = "..."
access_token_secret = "..."
consumer_key = "..."
consumer_secret = "..."
auth = tweepy.OAuthHandler(consumer_key, consumer_secret)
auth.set_access_token(access_token, access_token_secret)
```

Tweepy: define stream listener class

`st_class.py`

```
class MyStreamListener(tweepy.StreamListener):
    def __init__(self, api=None):
        super(MyStreamListener, self).__init__()
        self.num_tweets = 0
        self.file = open("tweets.txt", "w")
    def on_status(self, status):
        tweet = status._json
        self.file.write(json.dumps(tweet) + '\\n')
        tweet_list.append(status)
        self.num_tweets += 1
        if self.num_tweets < 100:
            return True
        else:
            return False
        self.file.close()
```

Using Tweepy: stream tweets!!

`tweets.py`

```
# Create Streaming object and authenticate
l = MyStreamListener()
stream = tweepy.Stream(auth, l)
# This line filters Twitter Streams to capture data by keywords:
stream.filter(track=['apples', 'oranges'])
```

Let's practice!

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Final Thoughts

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What you've learned:

- Importing text files and flat files
- Importing files in other formats
- Writing SQL queries
- Getting data from relational databases
- Pulling data from the web
- Pulling data from APIs

Let's practice!

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