



IMPORTING DATA IN PYTHON II

The Twitter API and Authentication




Herein, you'll learn

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





Access the Twitter API



https://apps.twitter.com

Application Management

Create New App

Twitter Apps

Join Twitter today.

Full name

Phone or Email

Password

☒ Tailor Twitter based on my recent website visits. [Learn more.](#)

Sign up

By signing up, you agree to the [Terms of Service](#) and [Privacy Policy](#), including [Cookie Use](#). Others will be able to find you by email or phone number when provided.



Access the Twitter API

Hugo Bowne-Anderson

[Details](#)[Settings](#)[Keys and Access Tokens](#)[Permissions](#)

Application Settings

Keep the "Consumer Secret" a secret. This key should never be human-readable in your application.

Consumer Key (API Key)

[Redacted]

Consumer Secret (API Secret)

[Redacted]

Access Level

Read-only ([modify app permissions](#))

Owner

hugobowne

Owner ID

[Redacted]

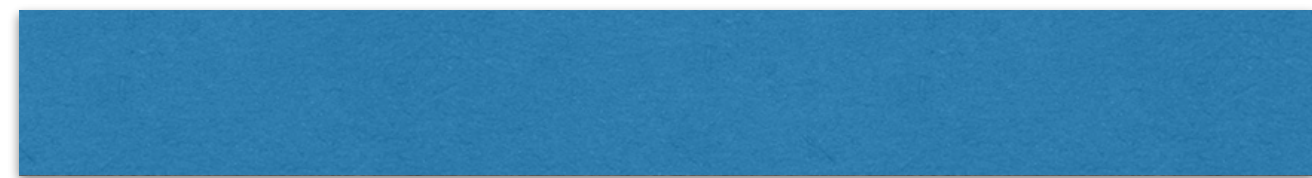


Access the Twitter API

Your Access Token

This access token can be used to make API requests on your own account's behalf. Do not share your access token secret with anyone.

Access Token



Access Token Secret



Access Level

Read-only

Owner

hugobowne

Owner ID





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.



Twitter has a number of APIs

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

Firehose

API Reference Documents

Streaming


[GET statuses/firehose](#)

This endpoint requires special permission to access.

Returns all public statuses. Few applications require this level of access. Creative use of a combination of other resources and various access levels can satisfy nearly every application use case.



Tweets are returned as JSONs

 <https://dev.twitter.com/overview/api/tweets>

Field Guide

The actual UTF-8 text of the status update. See [twitter-text](#) for details on what is currently considered valid characters.

Example:


text

String

```
"text": "Tweet  
Button, Follow  
Button, and Web  
Intents  
javascript now  
support SSL  
http:\\\\t.co\\/9f  
bA0oYy ^TS"
```



Tweets are returned as JSONs

 <https://dev.twitter.com/overview/api/tweets>

Field Guide

lang

String

Nullable. When present, indicates a [BCP 47](#) language identifier corresponding to the machine-detected language of the Tweet text, or “und” if no language could be detected.

Example:

```
"lang": "en"
```



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'])
```



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Let's practice!



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Final Thoughts



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



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Congratulations!