DS 420 Network Analytics

Intro. to Twitter API

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What is Twitter API

- The Twitter API is simply a set of URLs that take parameters.
- The URLs let you access many features of Twitter, such as posting a tweet or finding tweets that contain a keyword, etc.

• The API is documented here : <u>Documentation</u> | <u>Twitter Developers</u>

What We Can Do with Twitter API

Search Tweets

Use the Search API to find historical Tweets. Free to enterprise versions available.

Learn more

Account Activity API

Have 15+ account activities delivered to you in realtime via a webbook connection.

Learn more

Twitter for websites

Embed Tweets, Timelines, and more within your website.

Learn more

Filter realtime Tweets

Get only the Tweets you need by using advanced filtering tools with the realtime streaming API.

Learn more

Direct Message API

Build personalized customer experiences with our Direct Message platform.

Learn more

Ads API

Programmatically create and manage your ad campaigns.

Learn more

What We Can Do with Twitter API: Account Activity

Accounts and users

Subscribe to account activity

Manage account settings and profile

Follow, search, and get users

Follow, search, and Overview API Reference

Create and manage

User Profile Images

The following API endpoints can be used to programmatically follow users, search for users, and get user information:

Friends and followers	POST friendships	Get user info
 GET followers/ids GET followers/list GET friends/ids 	POST friendships/createPOST friendships/destroyPOST friendships/update	 GET users/lookup GET users/search GET users/show
 GET friends/list GET friend GET friend 	Yes	GET users/suggestions
 GET Requests / 15-mi friendships window (user aut GET friend 		
GET friend Requests / 15-mi window (app aut		

What We Can Do with Twitter API: Tweets

Tweets

Post, retrieve and engage with Tweets

Get T Overview

Curat

Optin Standard

Searc Returns public statuses that match one or more filter predicates. Multiple parameters may be specified which allows most clients to use a single connection to the Streaming API. Both GET and POST requests are supported, but GET requests with too many parameters may cause the request to be rejected for excessive URL length. Use a POST request to avoid long URLs.

Get b The track, follow, and locations fields should be considered to be combined with an OR operator. track=foo&follow=1234 returns Tweets matching "foo" OR created by user 1234.

Data The default access level allows up to 400 track keywords, 5,000 follow userids and 25 0.1-360 degree location boxes. If you need elevated access to the Streaming API, please use the enterprise streaming API,

Twee PowerTrack.

Tweet compliance

Tweet updates

What We Can Do with Twitter API: Example

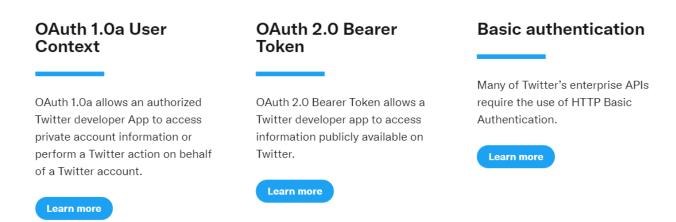
Example Requests

Example Response

Authentication with Twitter APIs

- Can I directly access Twitter Data with Twitter API?
 - No, you need permission/authentication

Authentication methods



- What's authentication
 - Essentially tokens/keys that let Twitter know that you have the permission/are authorized to access the data
 - https://developer.twitter.com/en/docs/basics/authentication/overview/oauth

How to Obtain Auth/Access key/token

- Register a Twitter Account
 - <u>https://twitter.com/</u>
- Apply for a Twitter Developer Account
 - https://developer.twitter.com/en/apply-for-access.html
- Create a Twitter app
 - https://developer.twitter.com/en/portal/projects-andapps
- Generate Access Token for the app
- See slides ``Introduction to Introduction to Twitter Developer Account"

Tweepy

• The Twitter API is simply a set of URLs that take parameters.

```
$ curl --request GET
--url 'https://api.twitter.com/1.1/search/tweets.json?q=nasa&result_type=popular'
--header 'authorization: OAuth oauth_consumer_key="consumer-key-for-app",
   oauth_nonce="generated-nonce", oauth_signature="generated-signature",
   oauth_signature_method="HMAC-SHA1", oauth_timestamp="generated-timestamp",
   oauth_token="access-token-for-authed-user", oauth_version="1.0"'
```

- Do you want to send the URL to access Twitter data? We need a more convenient way of doing this
- Tweepy is an easy-to-use Python library for accessing the Twitter API, which wraps the URLs into functions
- Documentation:
 - https://tweepy.readthedocs.io/en/latest/api.html#tw eepy-api-twitter-api-wrapper

Tweepy Example

```
import tweepy
# Authenticate to Twitter
auth = tweepy.OAuthHandler(consumer_key=CONSUMER_KEY, consumer_secret=CONSUMER_SECRET)
auth.set_access_token(ACCESS_TOKEN,ACCESS_TOKEN_SECRET)

# build a api object, and the introduction about the rate limit will be cover in next lab
api = tweepy.API(auth, wait_on_rate_limit=True, wait_on_rate_limit_notify=True)

# You can also input other user's id/user_id/screen_name to get their profile using this function
profile = api.get_user("juventusfcpt")
print(profile.screen_name)
```

```
# get firends with user_id/screen_name, the max count you can set is 200

screen_name = "juventusfcpt" # You can replace the id/user_id/screen_name to any user's screen_name friends = api.friends(screen_name=screen_name, count=200)
print("The number of the collected friends profiles is: {}".format(len(friends)))

# show the first 10 screen_name of the friends of juventus print("The first 10 collected friends' screen names are:")
for friend in friends[:10]:
    print(friend.screen name)
```