Introduction to Twitter

Tweets, Retweets, Mentioning, Hashtag

Intro to Twitter Dev

Intro to HCDE user module

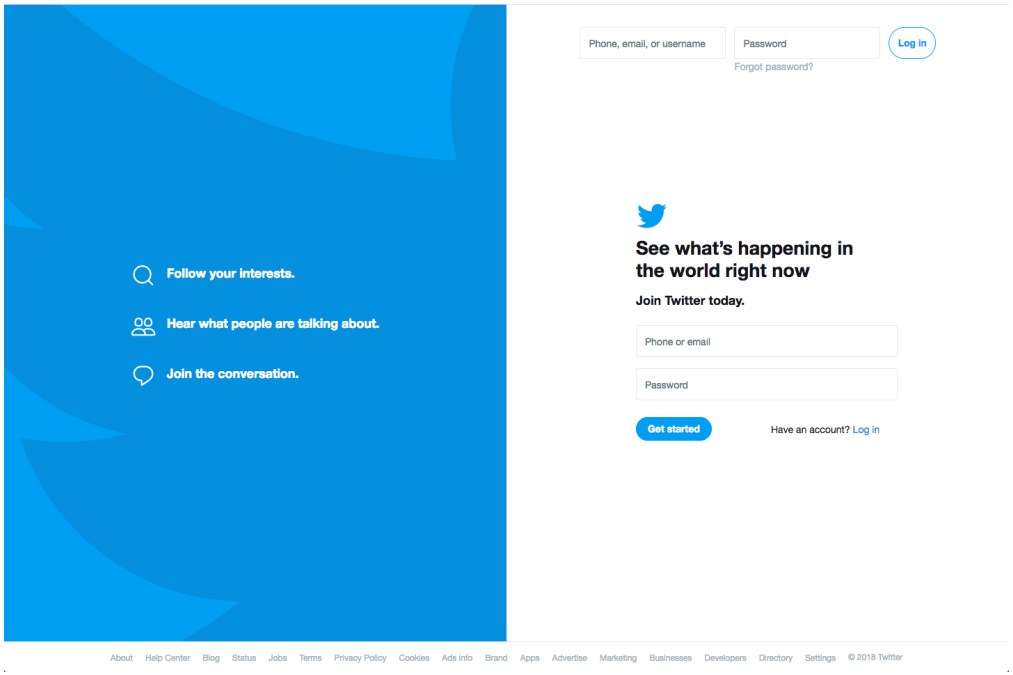
Outline

- What is Twitter?
  - UI and Interactions
- Twitter Dev
  - Reading the REST API specifications
- Installing HCDE python user module

What is Twitter?

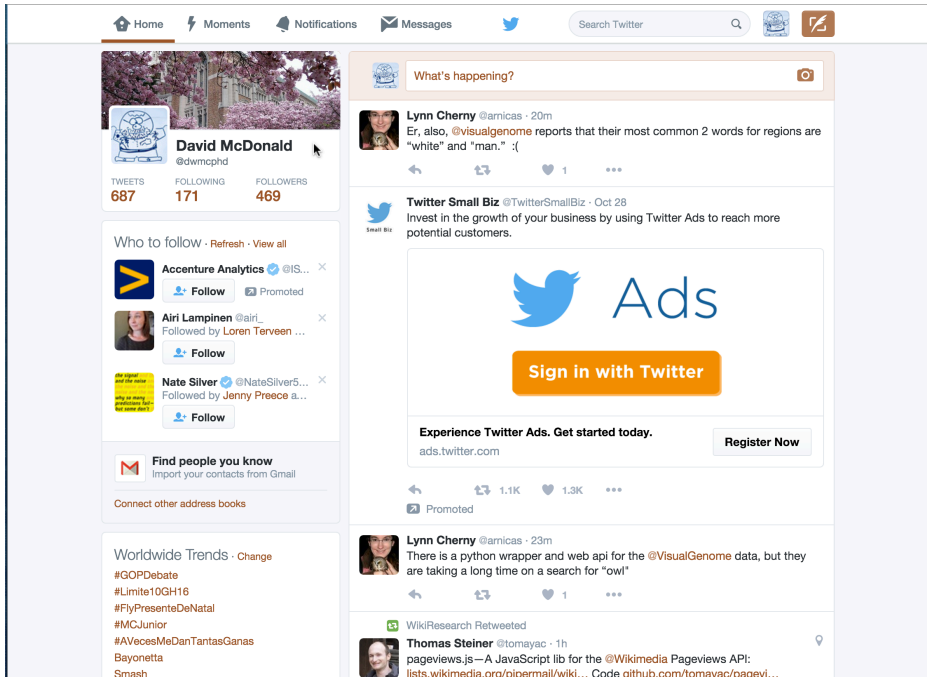
- Micro blog
  - Status messages
  - ~~140~~ 280 characters max
  - Links
- Social
  - Follow (be followed)
  - Groups

What is Twitter?



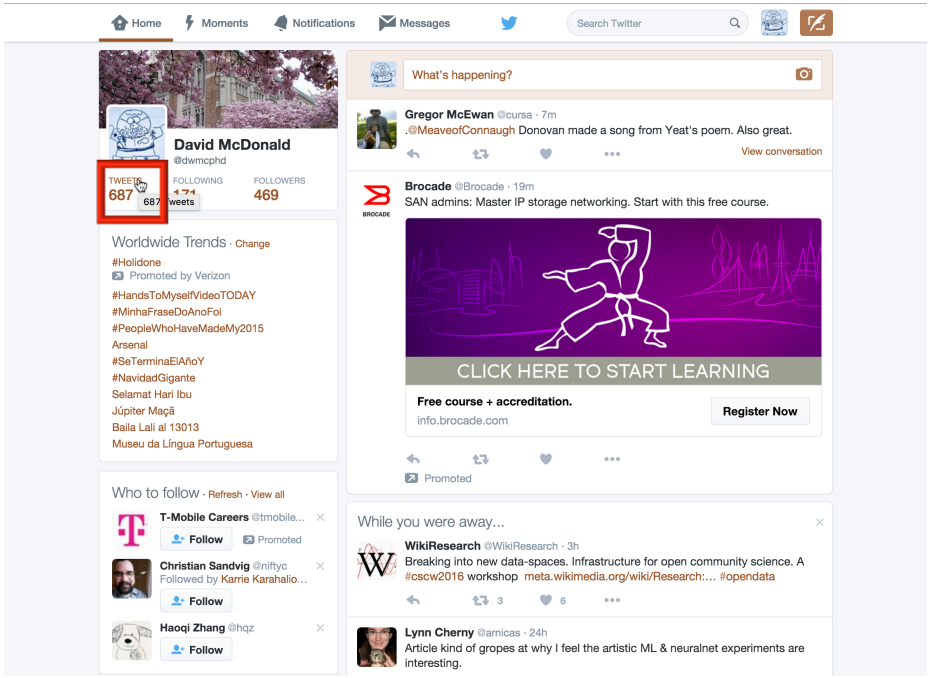
- Login screen
  - Create account

What is Twitter?



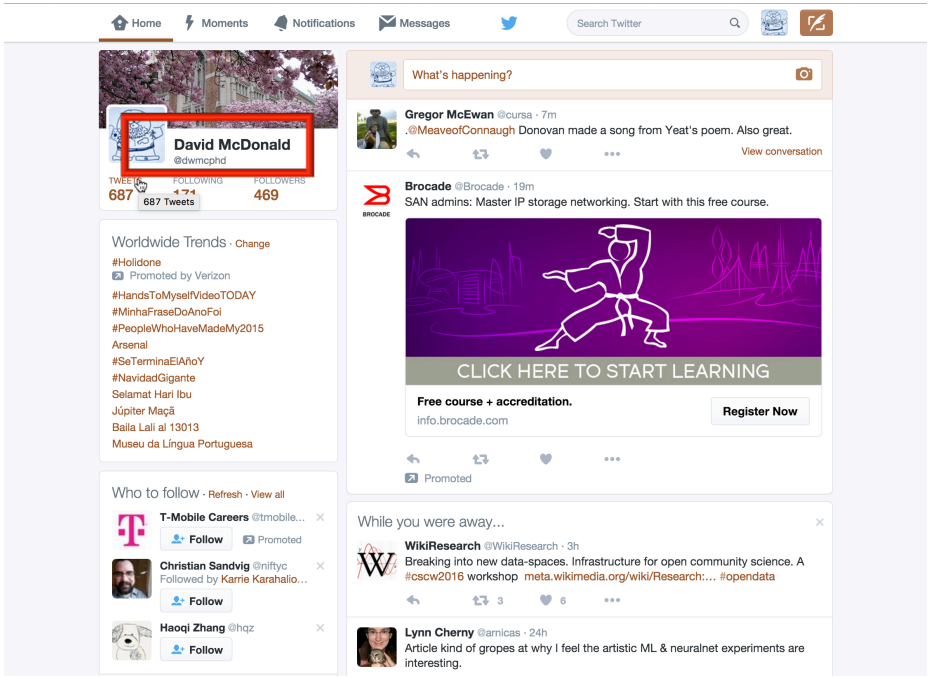
- Your main page
- "Public Timeline"
  - People you *follow*
  - Promoted content
    - Advertisements
- Trending topics
- Recommendations

What is Twitter?



- Getting to your tweet history

What is Twitter?



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What is Twitter?

- Your tweet history

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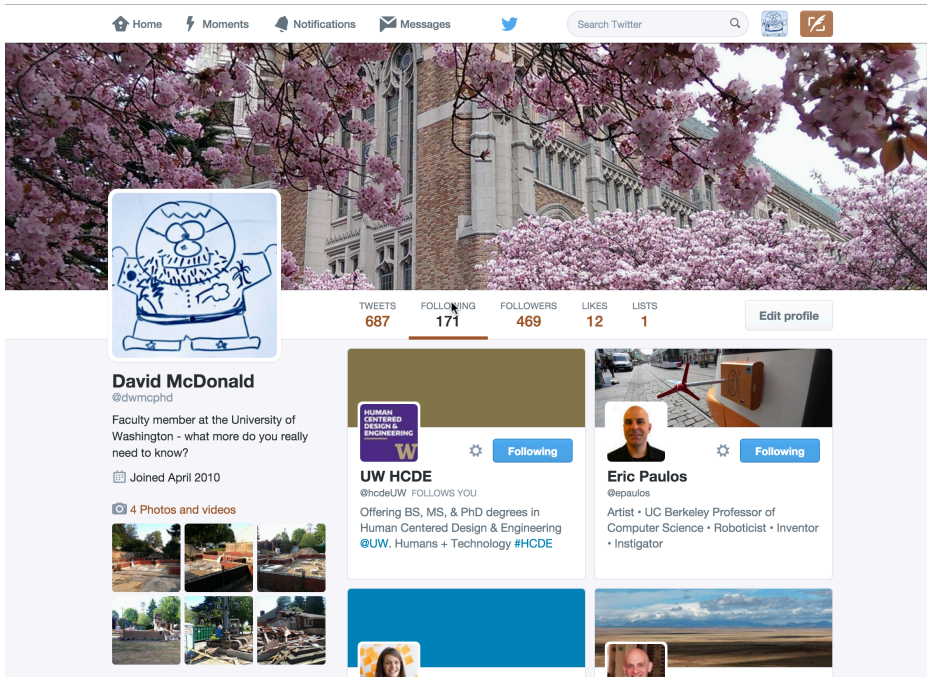
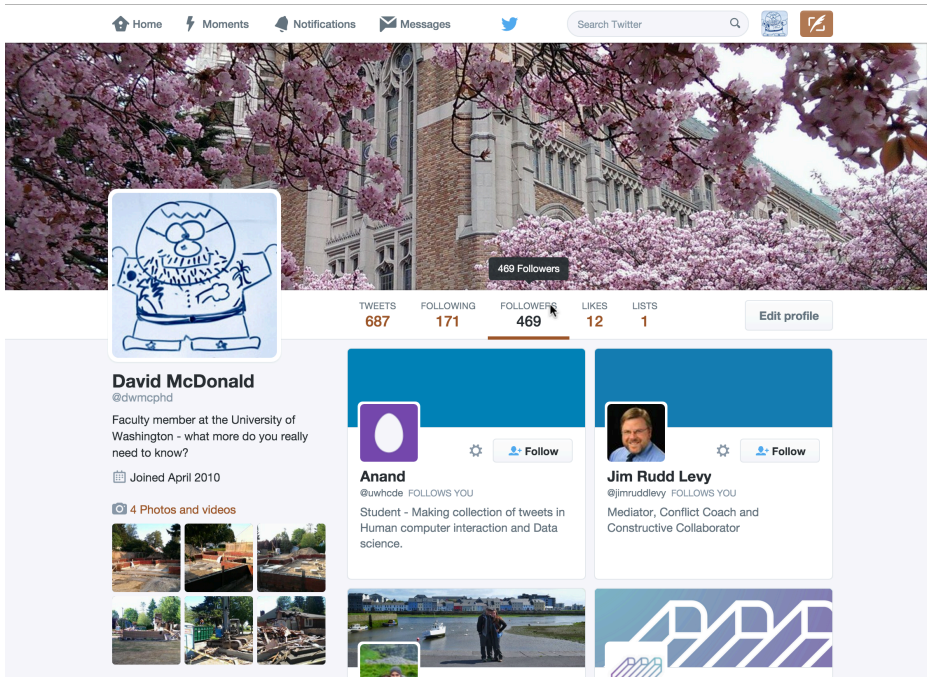


- Your "friends"
  - The people who you follow

What is Twitter?



- Your followers
  - The people who follow you

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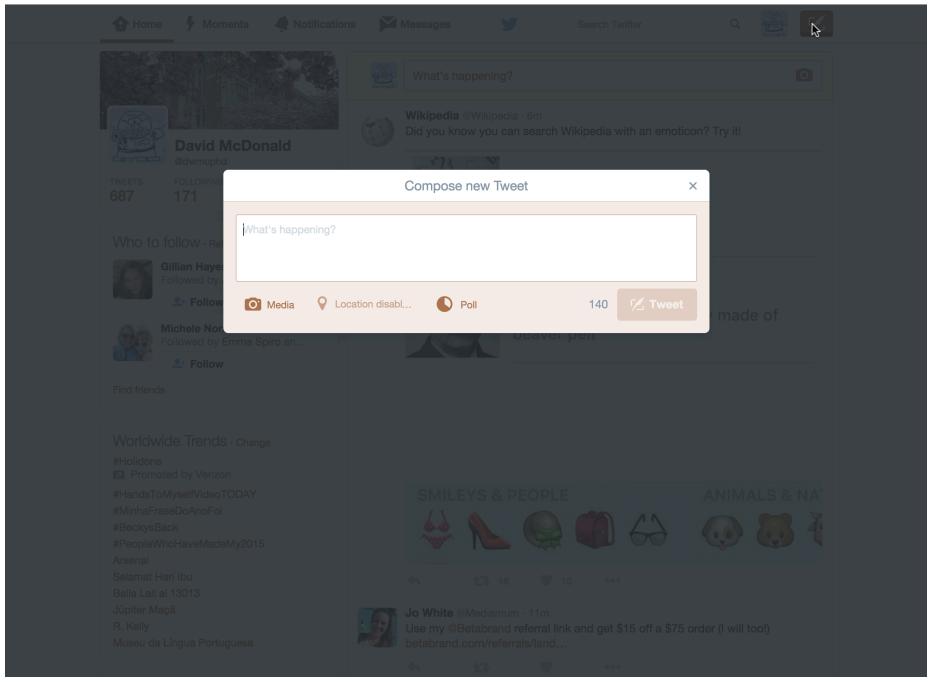
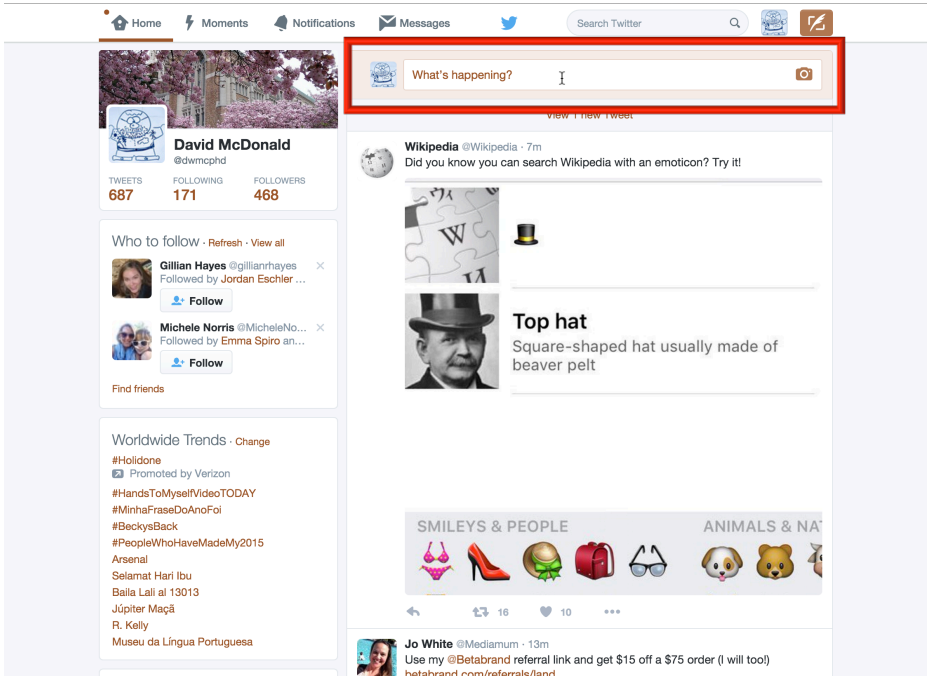


- Compose, write a tweet
- Write a status update

What is Twitter?



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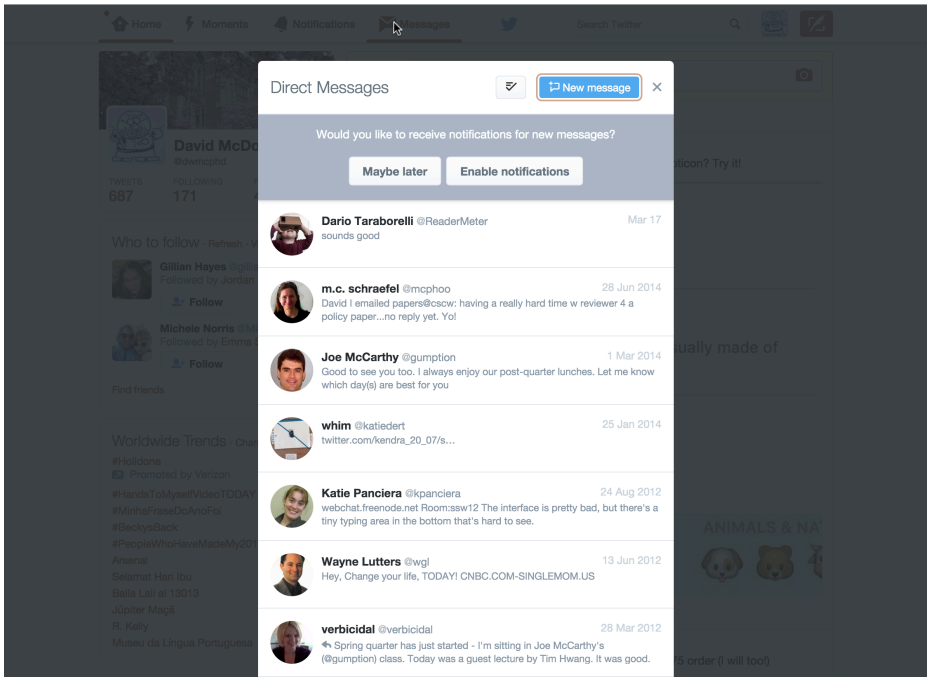
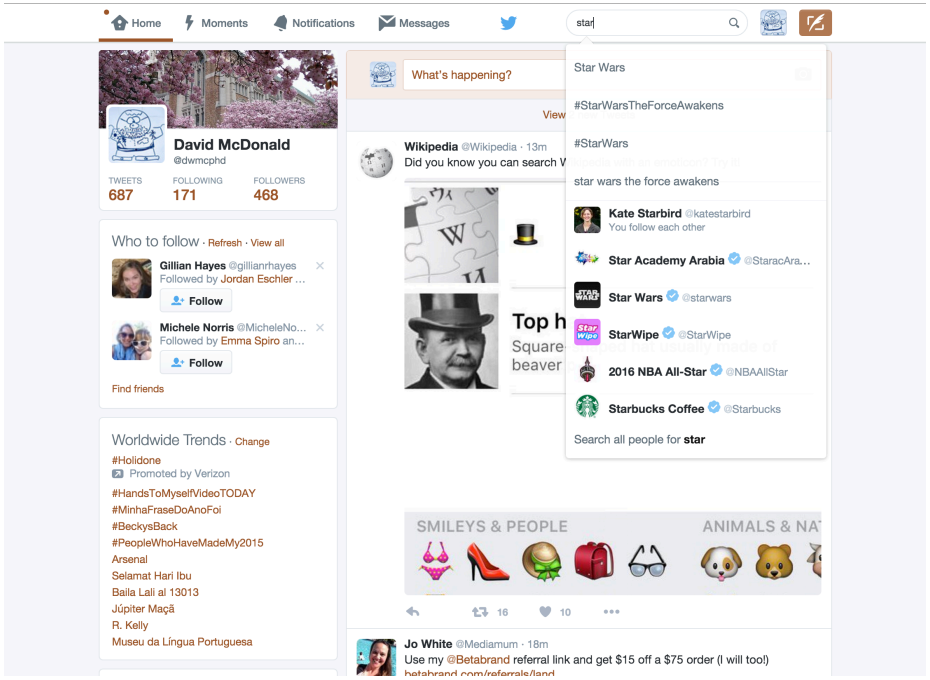


- You can direct message people who follow you
- To have a direct message conversation you need to have a reciprocal follow!

What is Twitter?



- Yes, you can search
  - Tweet content
  - People
  - Organizations
  - Lists

Twitter Conventions

- A “mention” or a directed tweet
  - @username (also see .@username)

Twitter Conventions

- A “mention” or a directed tweet
  - @username (also see .@username)
- A re-tweet
  - RT @username (or) rt @username
  - via @username
    - (very) old style – almost never see this
  - More and more tools automate "re-tweet"

Twitter Conventions

- Categorization, tagging
  - #category
- URL Shortening
  - URLs are long, too many characters
  - Services like bitly.com, tinyurl.com, …
  - Twitter has t.co

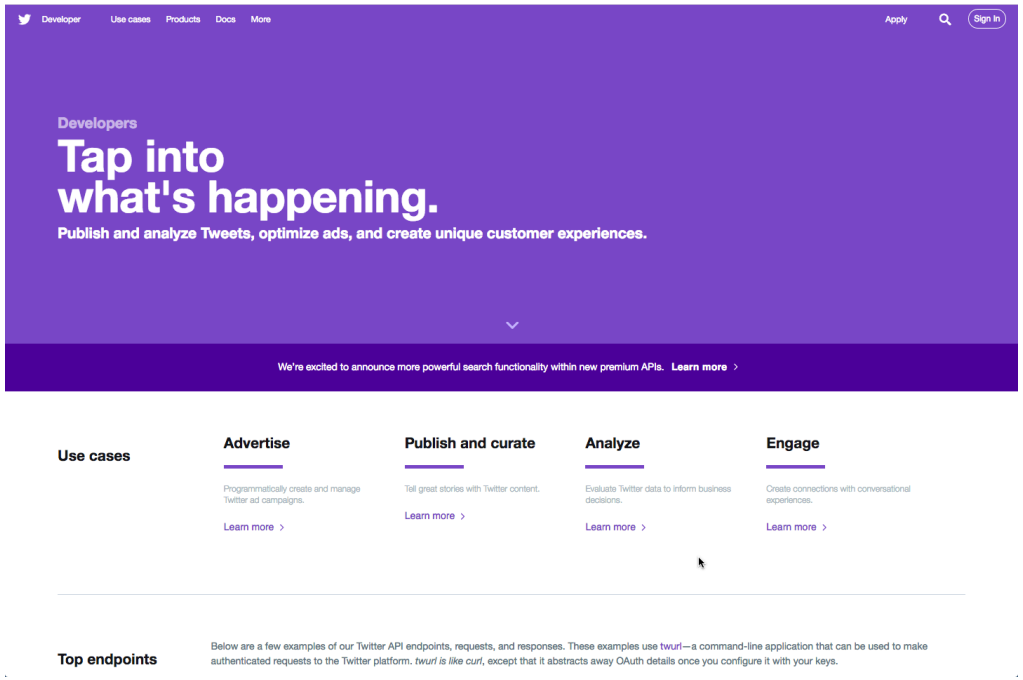
Intro to Twitter Development

How to read the specifications

Goals

- Set up things to develop Twitter Applications
- How to read and understand the way to interact with Twitter programmatically
  - REST – REpresentational State Transfer
    - Web model, where the state of the communication or the state of the communication/application is transferred each time a client interacts with a host
  - API – Application Programming Interface

Twitter Dev



- https://dev.twitter.com/

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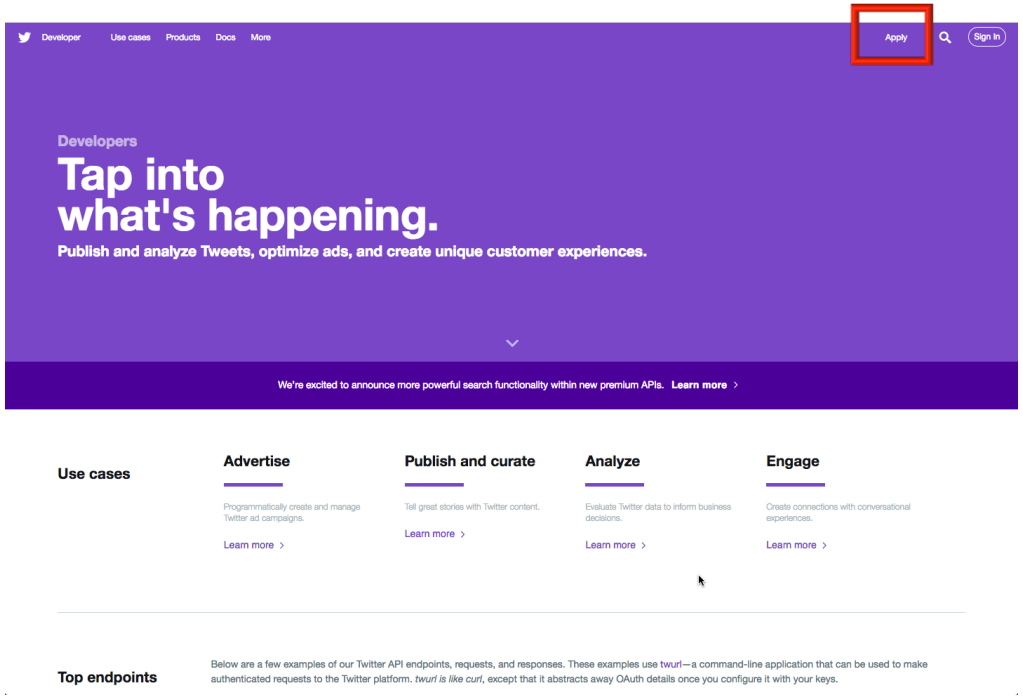
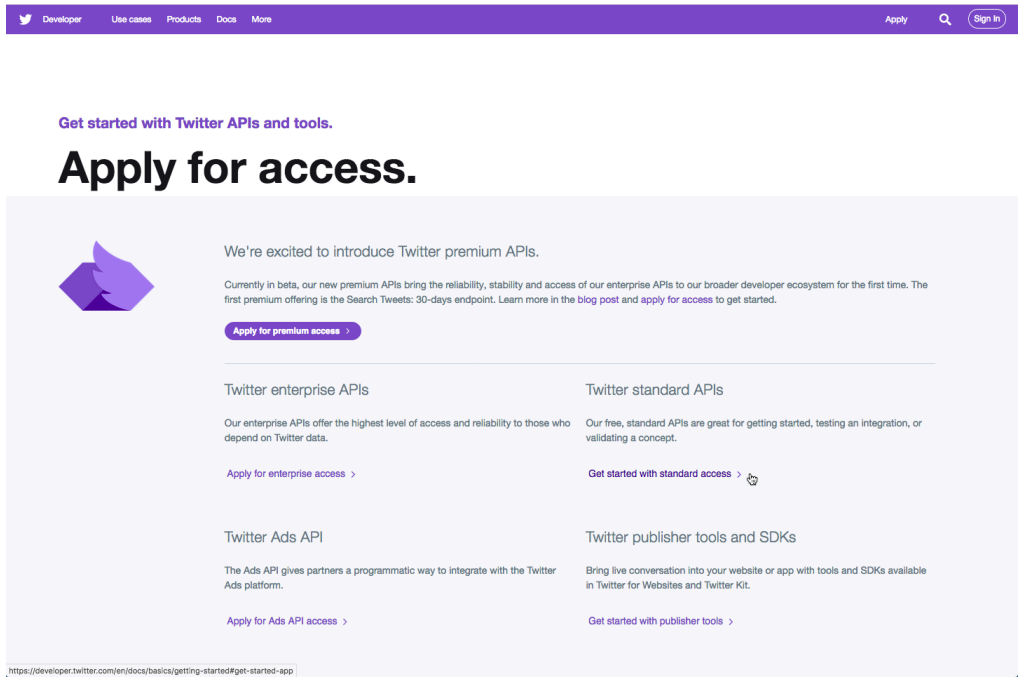


- https://dev.twitter.com/
- Your twitter account is your "dev" account

Twitter Dev



- Your twitter account is your dev sign in
- Allows you to create new twitter applications

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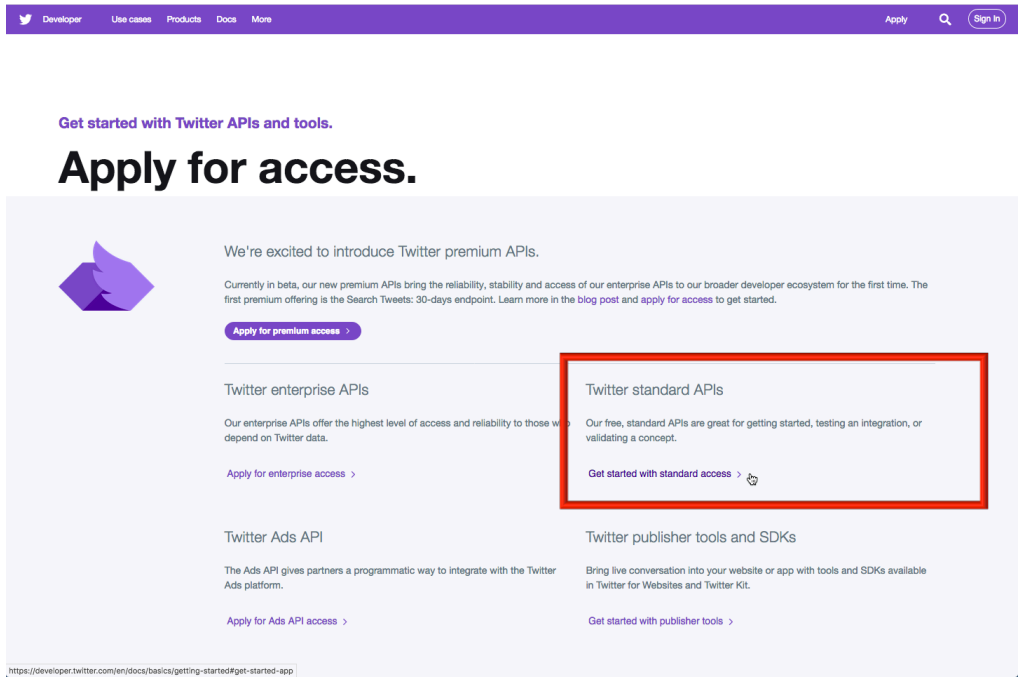

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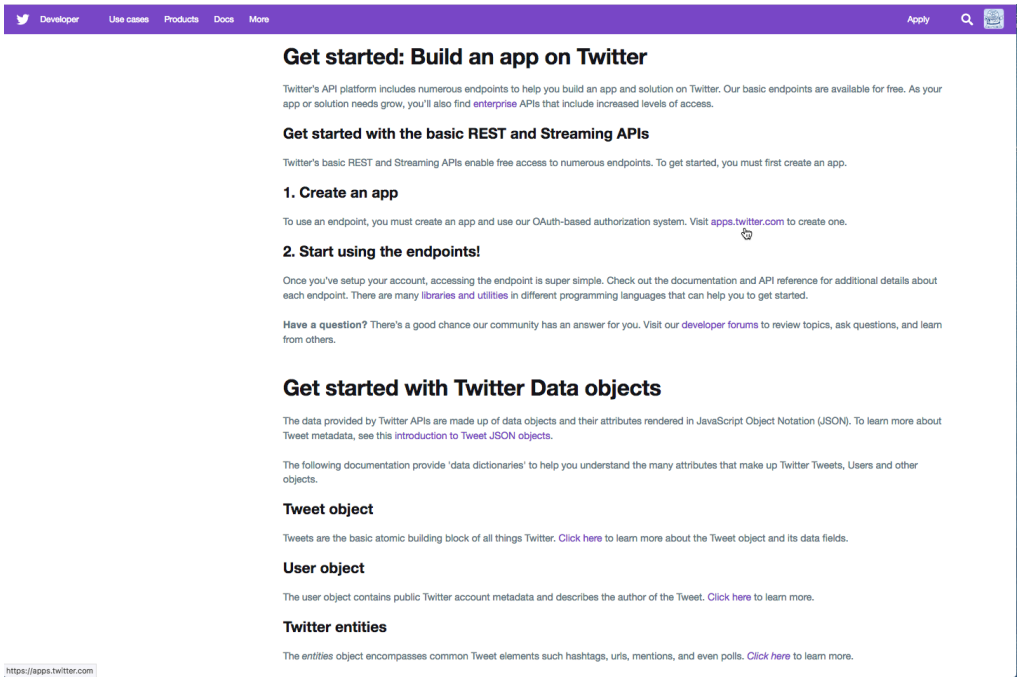

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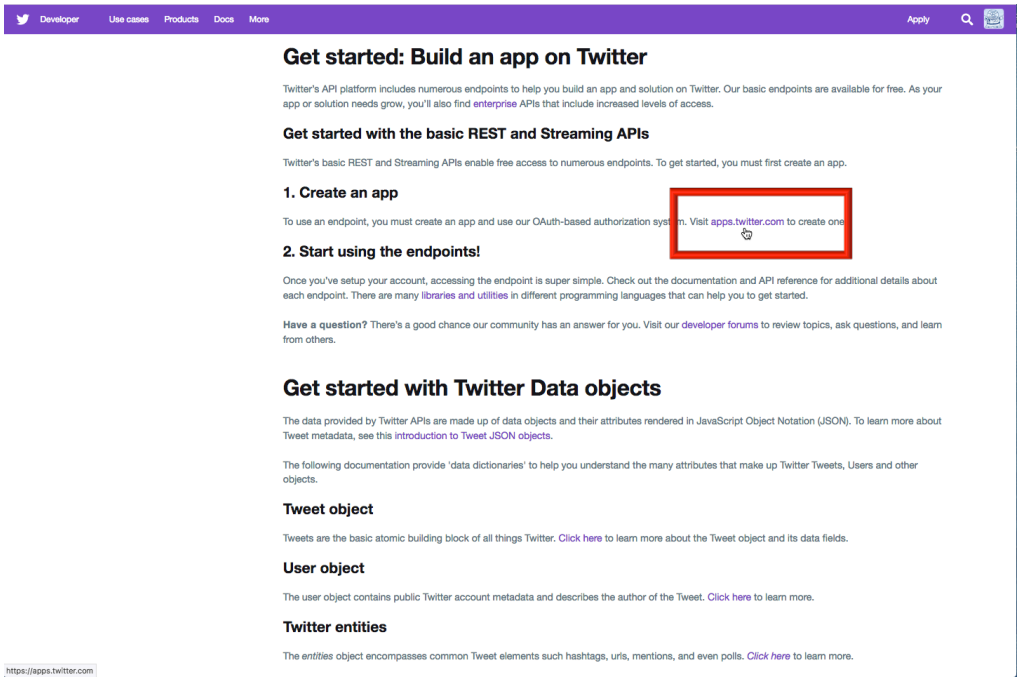

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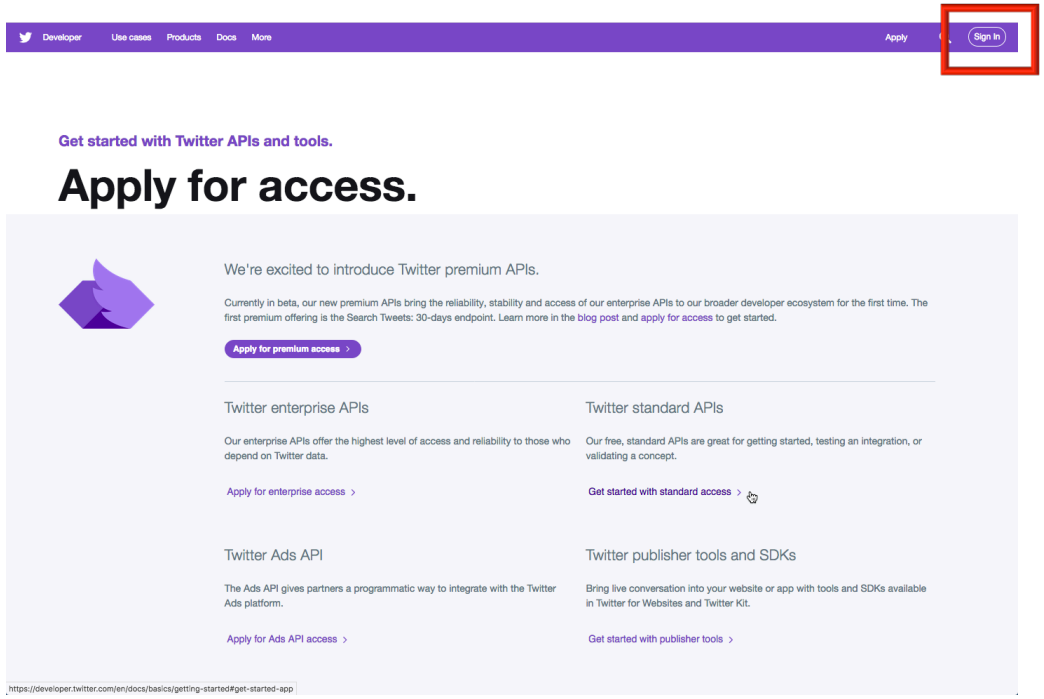

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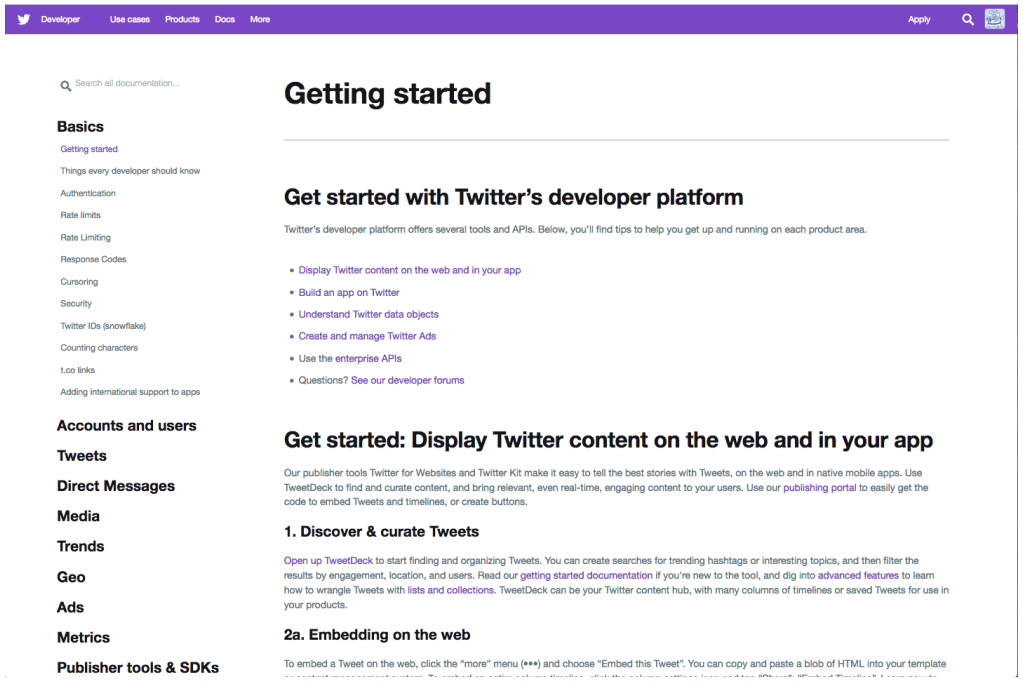

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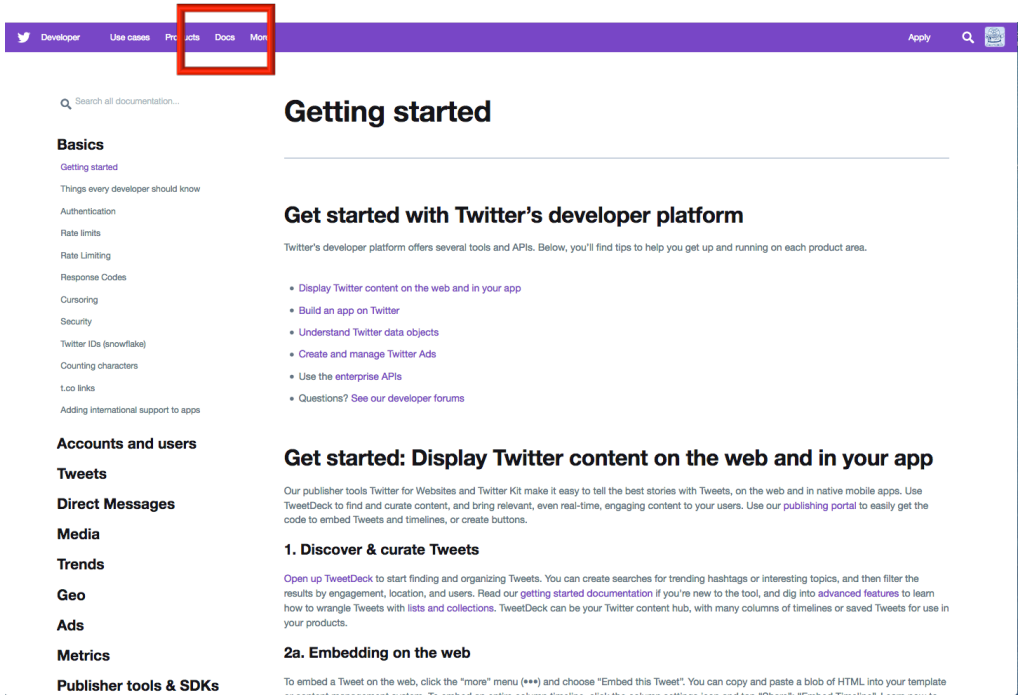
- Allows you to create new twitter applications
- Allows you to find the documentation

Twitter Dev



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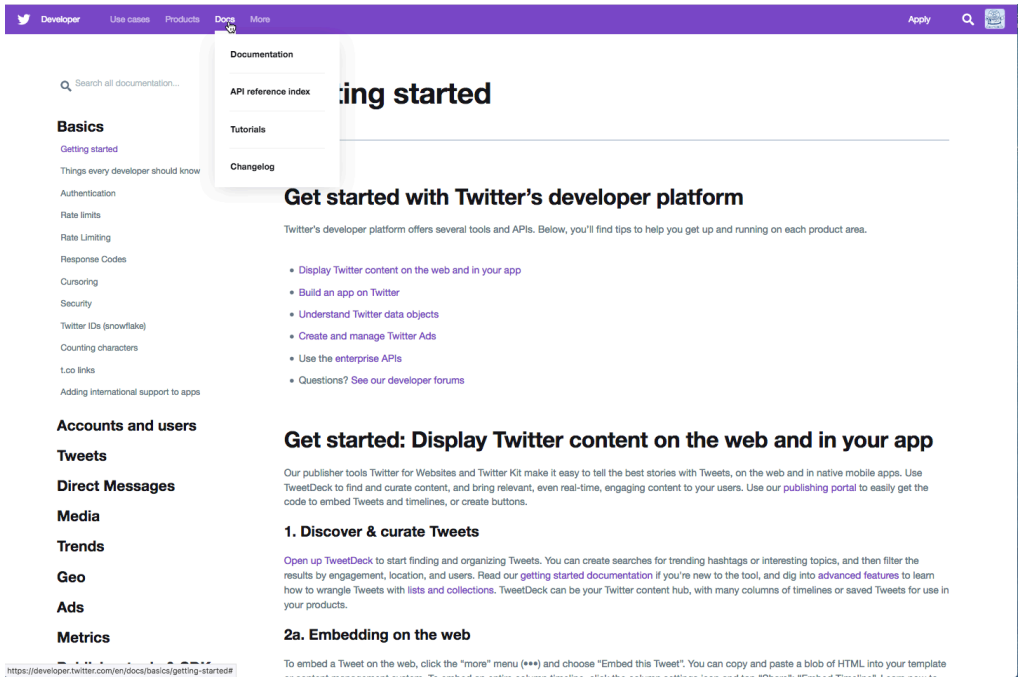

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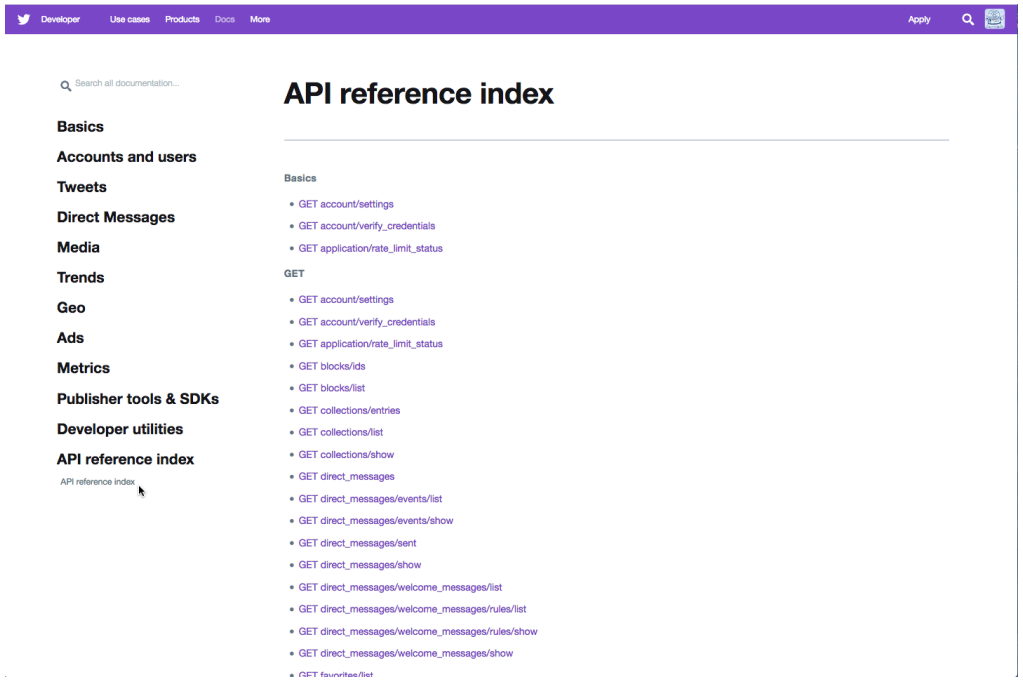

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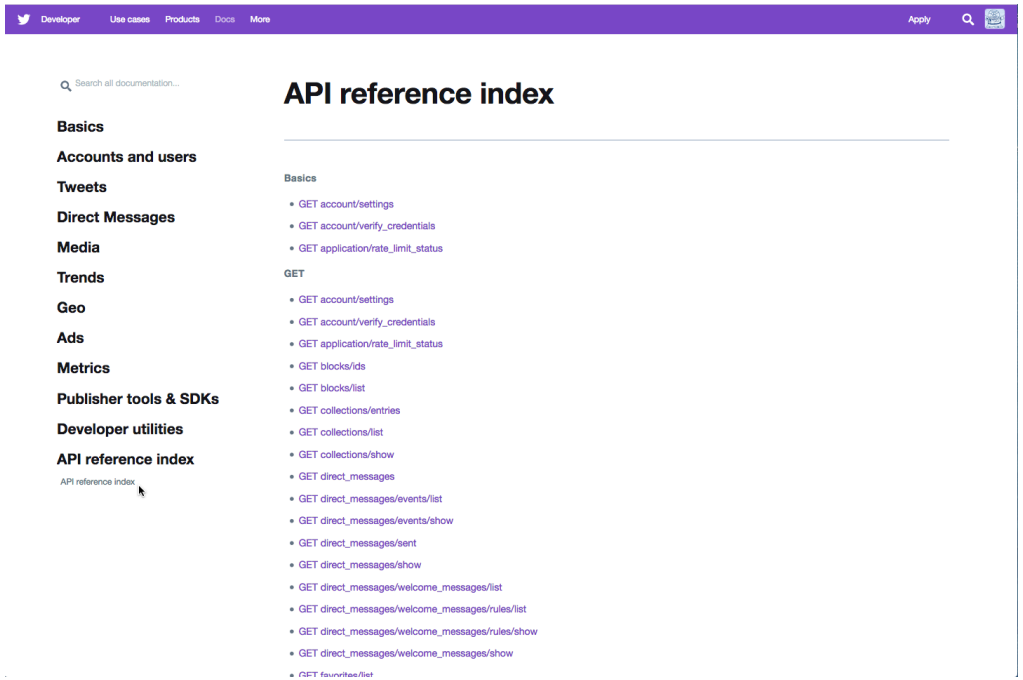
Twitter API Documentation

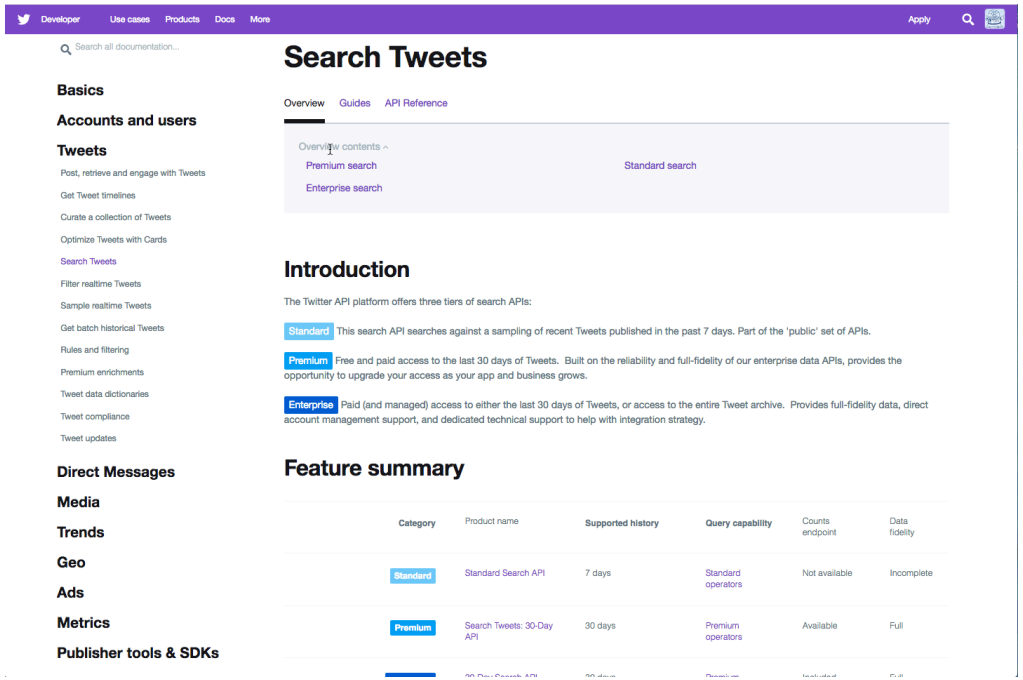
- This course focuses on the REST API
  - Documentation: https://developer.twitter.com/en/docs
  - More direct: https://developer.twitter.com/en/docs/api-reference-index
  - Data that you want to get is a “Resource”
    - Tweets, user profiles, friends, followers
- You access a "resource" through a URL
  - Almost like requesting a web page
    - All twitter resources require authentication (OAuth2)

Twitter API Documentation



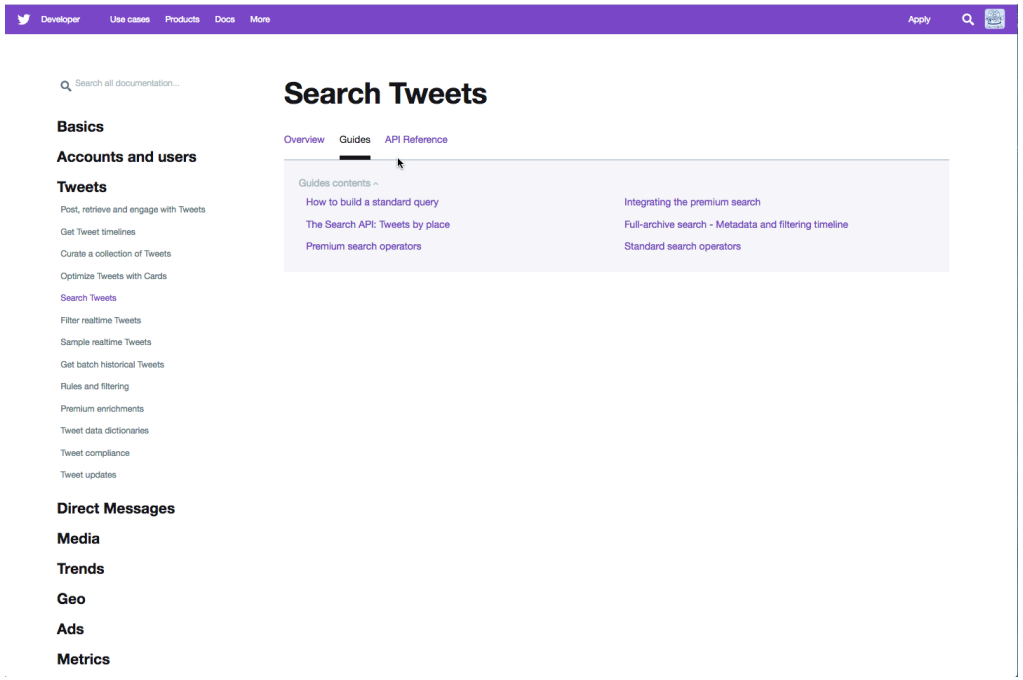
- Long list ways to get data from Twitter using their API
- Let's look at Search

Twitter API Documentation



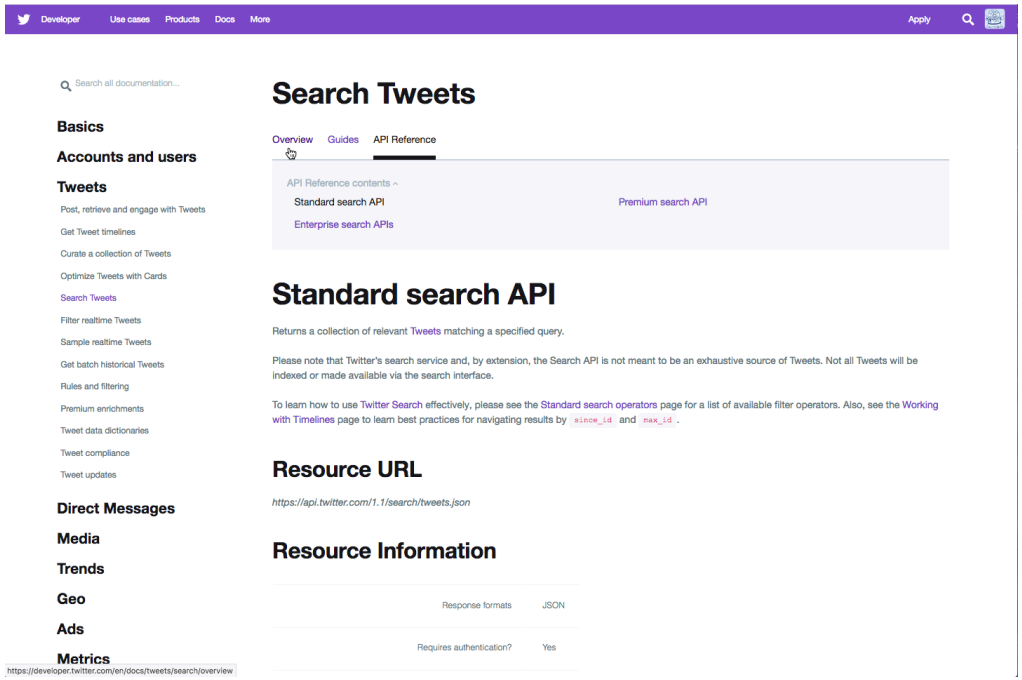
- GET search/tweets
- Overview

Twitter API Documentation



- GET search/tweets
- Guides
  - Examples, help …

Twitter API Documentation



- GET search/tweets
- API Reference
  - How it works

Twitter API Caveat

- All Resources have to be authenticated
  - In the best case this is just annoying
  - In the worst case this is frustrating to newcomers
- Open Authentication version 2 (OAuth2)
  - Great idea – in principle
  - Different implementations (versions) of the same specification

GET search/tweets Resource

- Resource access point
  - https://api.twitter.com/1.1/search/tweets.json

GET search/tweets Resource

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  - domain

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  - resource

GET search/tweets Resource

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  - domain
  - version
  - resource
  - data return type

GET search/tweets Resource

- Digression – Return Type JSON
  - JavaScript Object Notation (JSON)
  - Simple text based data structure
    - Collection of Key:Value pairs (like a python dictionary)
    - Lists (like a python list)
    - Keys are text (words)
    - Values are strings, int, real, collection, list
- Python has a json module – "slow"
  - There are several other json implementations - ultrajson

GET search/tweets Resource

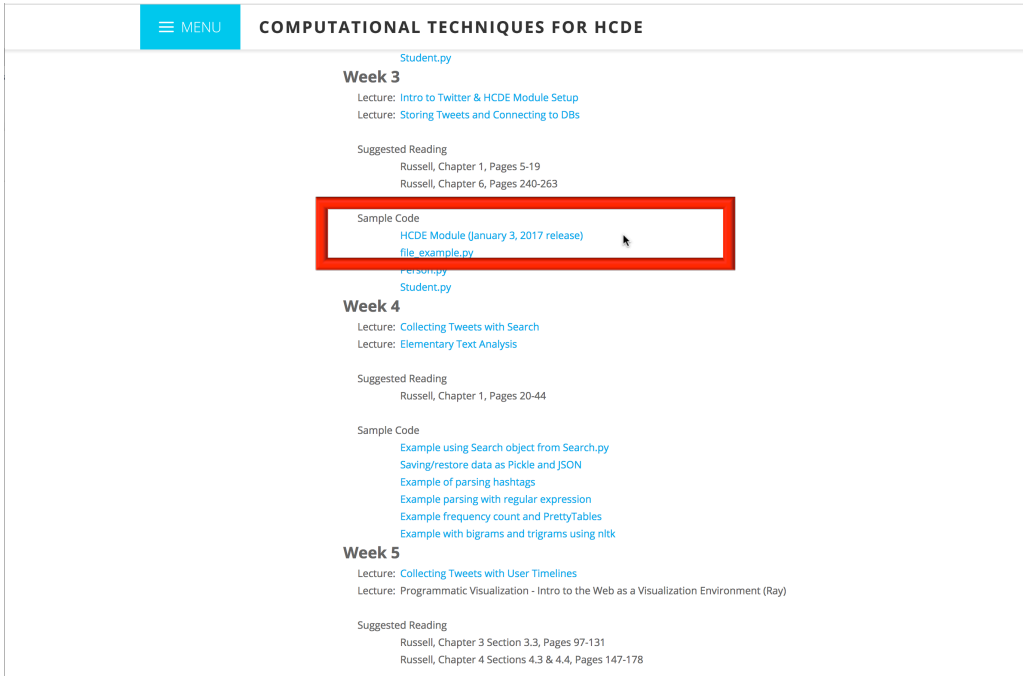
- Resource access point
  - https://api.twitter.com/1.1/search/tweets.json
- Parameters of the request
  - q – query parameter, term phrase
  - count – number of tweets to return
  - lang – restrict tweets to the indicated ISO 2 character code
  - result_type – popular, recent, mixed
  - since_id – return tweets more recent than the one given
  - max_id – return tweets older than the one given

Intro to HCDE User Module

Basic Steps

1. Install distribution modules:
   - pymysql, requests, oauthlib, requests_oauthlib
2. Download the HCDE python user module
3. Unzip
4. Copy into your python directory
   - The PYTHONPATH directory
5. Start using code
   - Authenticate both HCDE applications with your twitter user
   - Try some samples

Download the HCDE user module



- Visit the course web page
- Click on the "Meeting Schedule" menus
- In Week 3, Sample Code is a link to a zip file for the HCDE user module

Examples

- Authenticate Apps with Login.py
  - `python Login.py –auth HCDE530Test01 -user <your_twitter_user>`
- Finding Trending Topics with Trend.py
  - `python Trends.py -auth HCDE530Test01 -user <your_twitter_user> -place seattle`
  - `python Trends.py -auth HCDE530Test01 -user <your_twitter_user> -woeid 2514815`