What is an API
The Iron Yard Crash Course

Outline

1. What is an API
2. Tools
3. Consuming APIs
4. Open APIs
5. API Keys
6. OAuth APIs
7. Inspiration
8. Demo

Don't Worry

Don't Worry

1. You won't understand all of the things that I write
2. You probably won't be able to follow
3. You will be given access to the code beforehand

What is an API

- APIs are Data
- Mobile apps need data
- Servers provide data
- Clients consume data

Tools

- Chrome
- JSONView: Chrome Webstoe
- Postman: http://getpostman.com/

Consuming API

- Browser makes request to URL
- Server returns a response
- Hopefully, with Data

OMDBAPI

- http://www.omdbapi.com/?t=The+Godfather
- the "t" is the key, with the value of "The Godfather"
- JSON Returned looks like this:

```
{
    Title: "The Godfather",
    Year: "1972",
    Rated: "R",
    Released: "24 Mar 1972",
    Runtime: "175 min",
    Genre: "Crime, Drama",
    Director: "Francis Ford Coppola",
    Writer: "Mario Puzo (screenplay), Francis Ford Coppola (screenplay), Mario Puzo (novel)",
    Actors: "Marlon Brando, Al Pacino, James Caan, Richard S. Castellano",
    Plot: "The aging patriarch of an organized crime dynasty transfers control of his clandestine empire to his
    reluctant son.",
    Language: "English, Italian, Latin",
    Country: "USA",
    Awards: "Won 3 Oscars. Another 23 wins & 27 nominations.",
    Poster: "http://ia.media-imdb.com/images/M/MV5BMjEyMjcyNDI4MF5BMl5BanBnXkFtZTcwMDA5Mzg3OA@@._V1_SX300.jpg",
    Metascore: "100",
    imdbRating: "9.2",
    imdbVotes: "1,140,778",
    imdbID: "tt0068646",
    Type: "movie",
    Response: "True"
}
```

API Keys

- Sometimes, APIs want to restrict access
- Generally, they'll require an API Key

NYTimes example:

https://api.nytimes.com/svc/search/v2/articlesearch.json?api-key=
[APIKEY]&q=Kirkpatrick&begin_date=18000101&end_date=19000

parameters:

- api-key
- q
- begin_date
- end_date

```
{
  - response: {
      - meta: {
            hits: 1702,
            time: 70,
            offset: 0
        },
      - docs: [
          - {
                web_url: "http://query.nytimes.com/gst/abstract.html?
                res=9904EFDC1638E233A25755C2A9649D94639ED7CF",
                snippet: "Christmas is making along stop at the Five Points House of Industry this
                year. The inmates began their celebration Friday night with a Christmas tree;
                Saturday they devoted their time to appreciating what they had got the night
                before, and yesterday...",
                lead_paragraph: "Christmas is making along stop at the Five Points House of
                Industry this year. The inmates began their celebration Friday night with a
                Christmas tree; Saturday they devoted their time to appreciating what they had got
                the night before, and yesterday they indulged in a special service of song and a
                Christmas dinner. To-day they will devote to unlimited nuts and fruits and kindred
                things.",
                abstract: "Christmas Celebration",
                print_page: "8",
                blog: [ ],
```

Notice the inputs (params) and output (JSON) change with every API.

You'll need to inspect how each API works before you can use them.

Oauth APIs

Some Services require more complicated authentication schemes

The most complex are OAuth systems. Facebook, Twitter, etc.

These require the application to have api-keys AND the user to have an auth-keys to personalize the data.

Inspiration

- Federal Open Government APIs
- State Open Government APIs
- Local City Open Government APIs
- Music APIs (Spotify)
- Location APIs (Google and Foursquare)
- Social: Twitter, Facebook, LinkedIn
- Purchasing credit cards. Transferring funds.

Thanks - Demo Time!