

- Day 17

AJAX and APIs

The Coding Bootcamp

- March 2,
2017

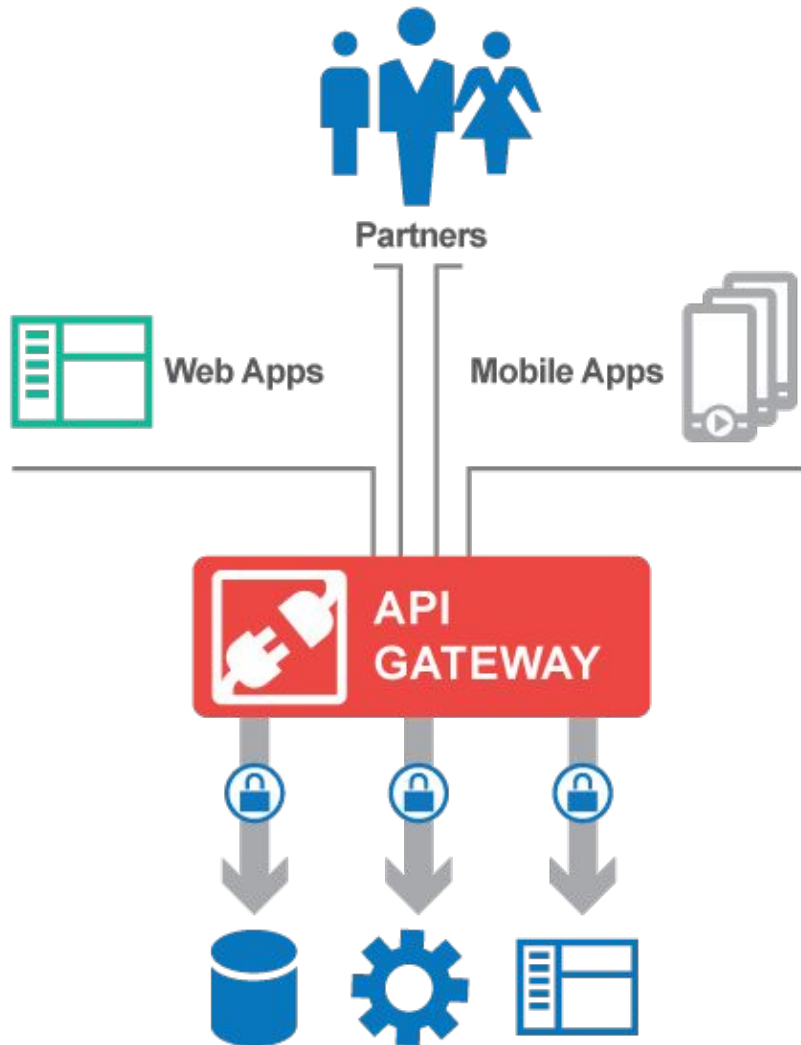
API Recap

What is an API?

What is an API?

“An Application Programming Interface (API) offers a set of pre-defined routines, code snippets, and tools for building software applications”

Recap Questions



In software development APIs are often the **bridge** between different components

API Use Cases

API Use Cases

Three Common Use-Cases for APIs:

1. To provide pre-built code for getting and sending data to a centralized database (e.g. Weather Data, IMDB Movie Data).
2. To provide pre-build code for creating or utilizing other software components (e.g. Google Maps, Spotify Tools).
3. To interface with physical sensors or hardware devices. (e.g. Nest Thermostat, Phillips Hue)

Use Case #1 – Accessing and Sending Data

OMDb API

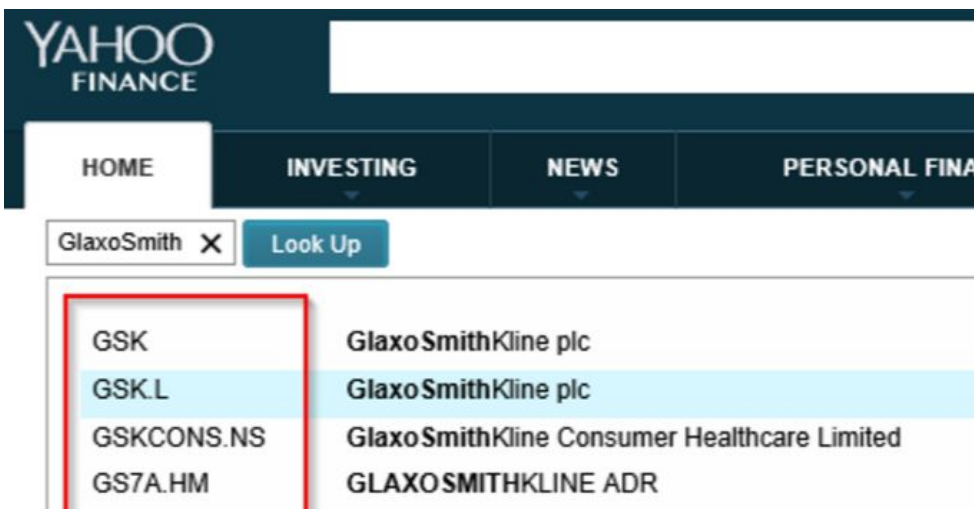
The Open Movie Database



DATA.GOV



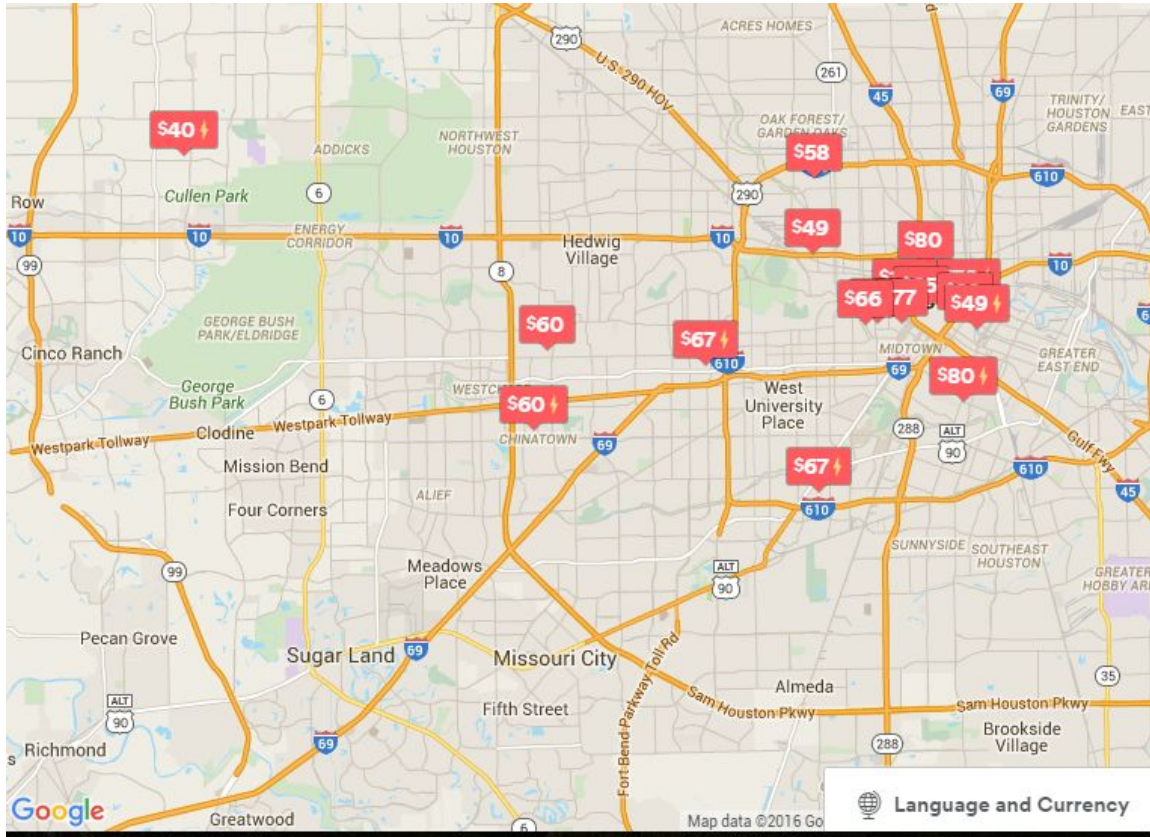
UN Data API



NYC OpenData

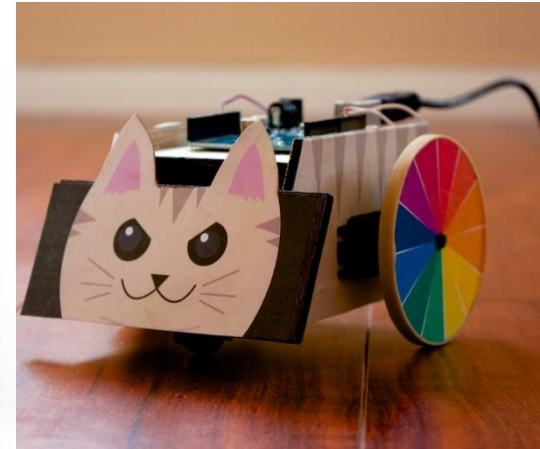
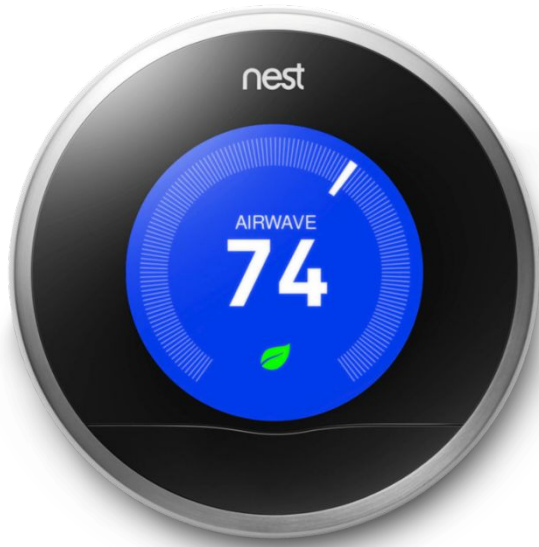


Use Case #2 – Utilizing Pre-Built Code



Example: AirBNB utilizes the Google Maps API to power its entire mapping service

Use Case #3 – Controlling Physical Hardware



Nest Smart Thermostat API: <https://developer.nest.com/>

Phillips Hue API: <http://www.developers.meethue.com/>

NodeBots (Ceylon) API: <https://cylonjs.com/>

Use Case #3 – Controlling Physical Hardware



HueCraft: <https://www.youtube.com/watch?v=ovYORLkO5bQ>

JSON Recap

What is a JSON?

What is a JSON?

JSON stands for Javascript Object Notation and is nothing more than simple Javascript Objects used as a “data interchange format”.

Recap Questions

```
1  "apiVersion":"2.0",
2  "data":{
3    "updated":"2010-01-07T19:58:42.949Z",
4    "totalItems":800,
5    "startIndex":1,
6    "items":[
7      {"id":"hYB0mn5zh2c",
8        "uploaded":"2007-06-05T22:07:03.000Z",
9        "updated":"2010-01-07T13:26:50.000Z",
10       "uploader":"GoogleDeveloperDay",
11       "category":"News",
12       "title":"Google Developers Day US - Maps API Introduction",
13       "description":"Google Maps API Introduction ...",
14       "tags":["GDD07","GDD07US","Maps"],
15       "duration":2840,
16       "rating":4.63,
17       "viewCount":220101,
18       "favoriteCount":201,
19       "commentCount":22
20     }
21   ]
22 }
```

- JSON is a lightweight **data-interchange format** used to correlate **keys** with **values**

Getting Data

Recap Questions

What jQuery method do we use to retrieve data from a URL database?

Recap Questions

What jQuery method do we use to retrieve data from a URL database?

AJAX!!!!!!



Recap Questions

**What two parameters do we pass into
AJAX to retrieve data from online?**

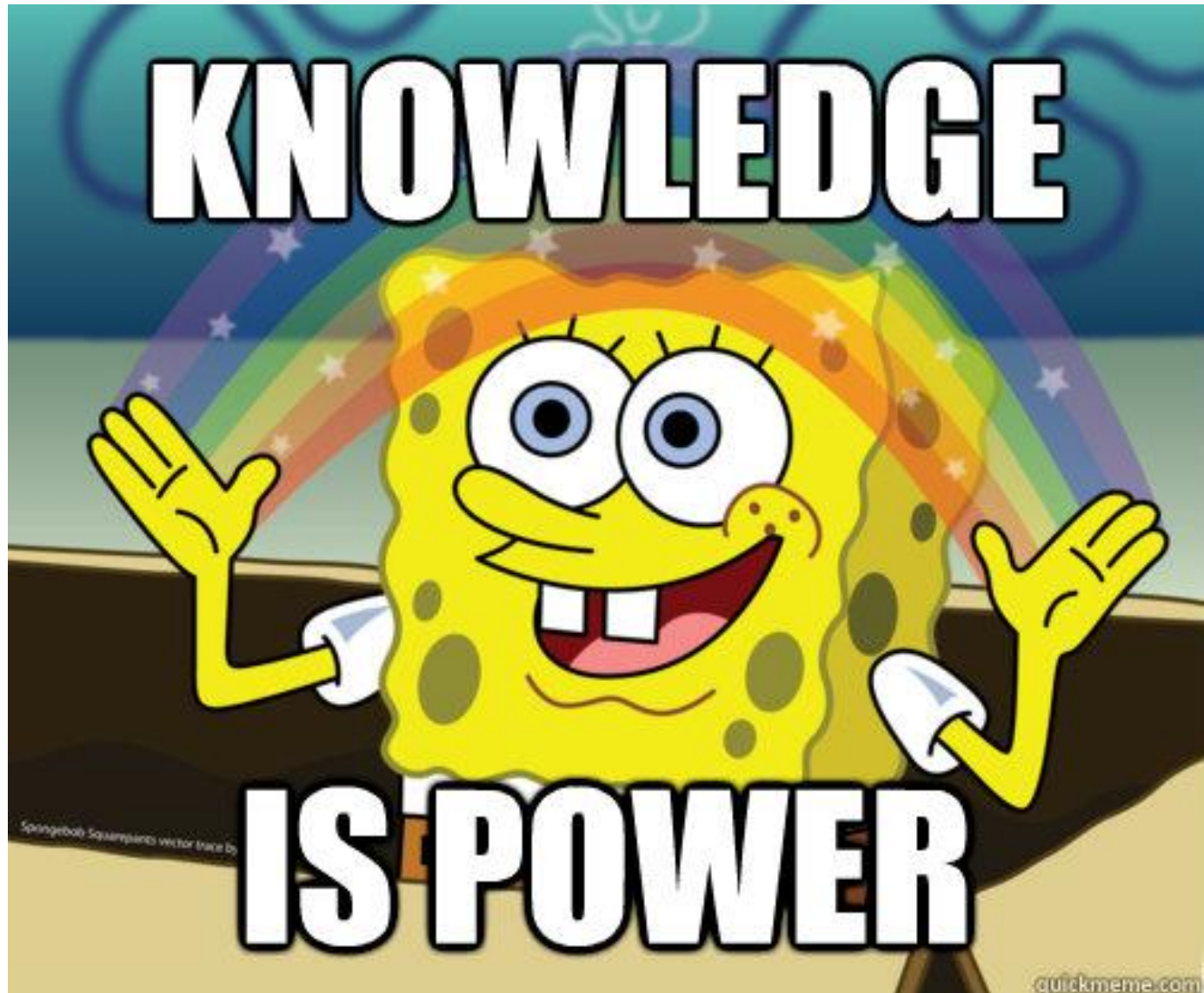
Recap Questions

What two parameters do we pass into AJAX to retrieve data from online?

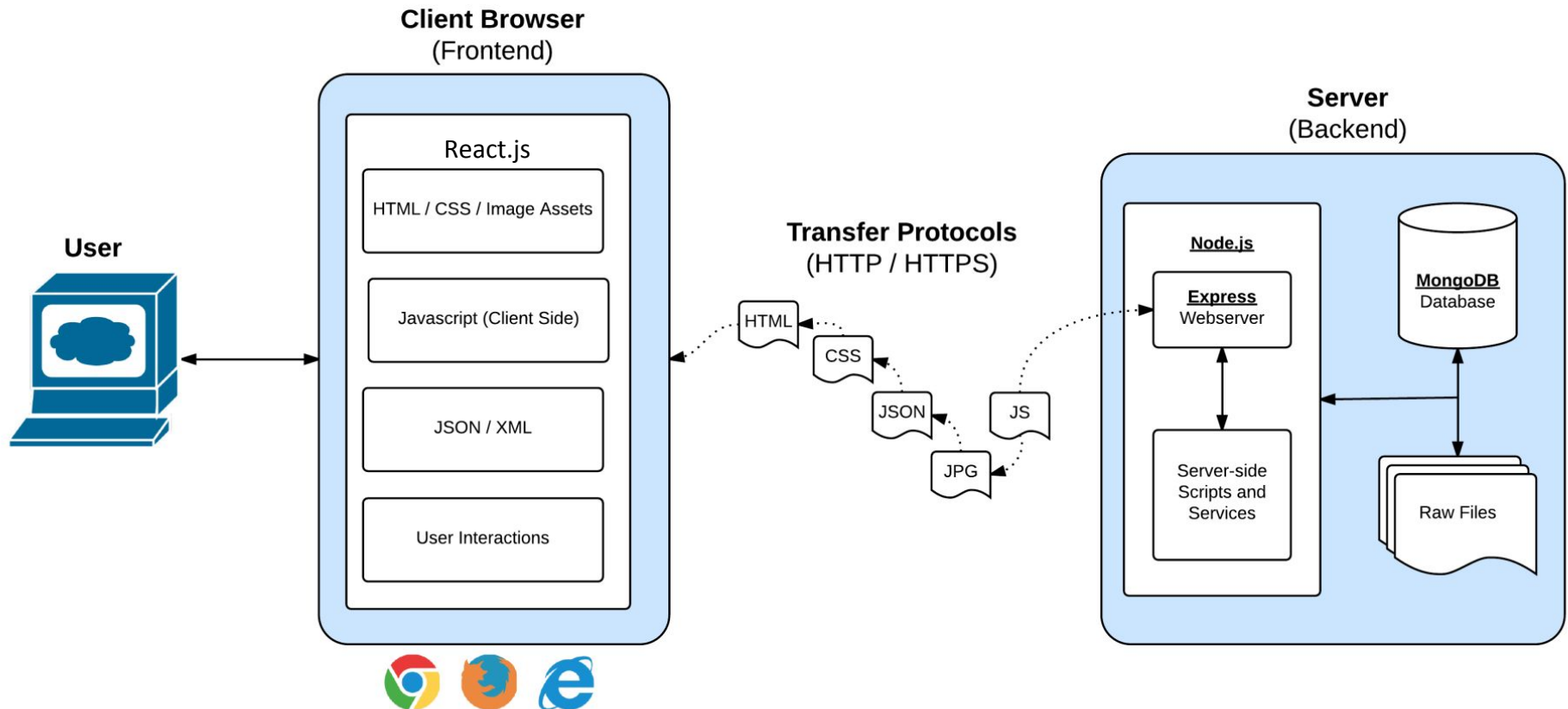
```
7 <script src='http://code.jquery.com/jquery-2.1.3.min.js'></script>
8 <script type="text/javascript">
9   var type = 'the+matrix';
10  var queryURL = "http://www.omdbapi.com/?t=" + type + "&y=&plot=short&r=json";
11
12  $.ajax({url: queryURL, method: 'GET'})
13    .done(function(response) {
14      console.log(response);
15    });
16
17 </script>
```

Url and method: 'get'

Recap Questions



Welcome to “Full-Stack” Development



- **Full-Stack Development** is the concept of building every aspect of the web application – from the visuals and interactions, to the data transfer and processing.

Overview

At this point, you should...

1. Understand what an API is.
2. Understand what JSON means.
3. Realize that AJAX Methods are used for retrieving data in databases.
4. Know how to create a basic AJAX GET Request using jQuery. (i.e. include URL and “GET”)

Questions
