API

Week 06 - Day 03

HTTP protocol

Protocol used to run internet!

GET, POST, UPDATE, DELETE, PUT

GET example

https://www.theguardian.com

https://www.google.com.sg/search?dcr=0&source=hp&q=test&oq=test

https = protocol

www.google.com.sg = host

dcr=0&source=hpq=test&oq=test = parameters of the request

POST example

https://github.com/ - login

Interface to access/modify information

"Calling functions from the web"

Private APIs (e.g. mobile app)

Vs.

Public APIs (e.g. Twitter)

Restful API

Example: Twitter API

Example: [Stripe API](#)

HTTP protocol

+

Json (in most of the cases)

HTTP protocol = to make requests
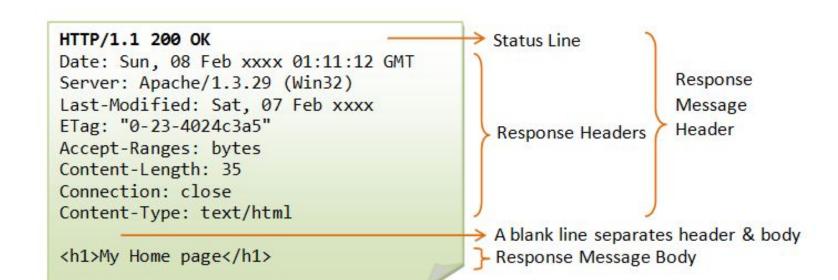
Json = to get responses

Example

https://swapi.co/api/people/?format=json&search=obi

HTTP Request Methods:

- **GET** => Retrieve a resource.
- **POST** => Create a resource.
- **PATCH** (*or **PUT**, but **PATCH** is recommended*) => Update an existing resource.
- **DELETE** => Delete a resource.
- **HEAD** => Retrieve the headers for a resource.

Of these, **GET** and **POST** are the most widely used.

```
HTTP/1.1 200 OK                              ────────────→  Status Line
Date: Sun, 08 Feb xxxx 01:11:12 GMT
Server: Apache/1.3.29 (Win32)                                  Response
Last-Modified: Sat, 07 Feb xxxx                                Message
ETag: "0-23-4024c3a5"                        Response Headers   Header
Accept-Ranges: bytes
Content-Length: 35
Connection: close
Content-Type: text/html

                                             ────────────→  A blank line separates header & body
<h1>My Home page</h1>                        ────────────→  Response Message Body
```
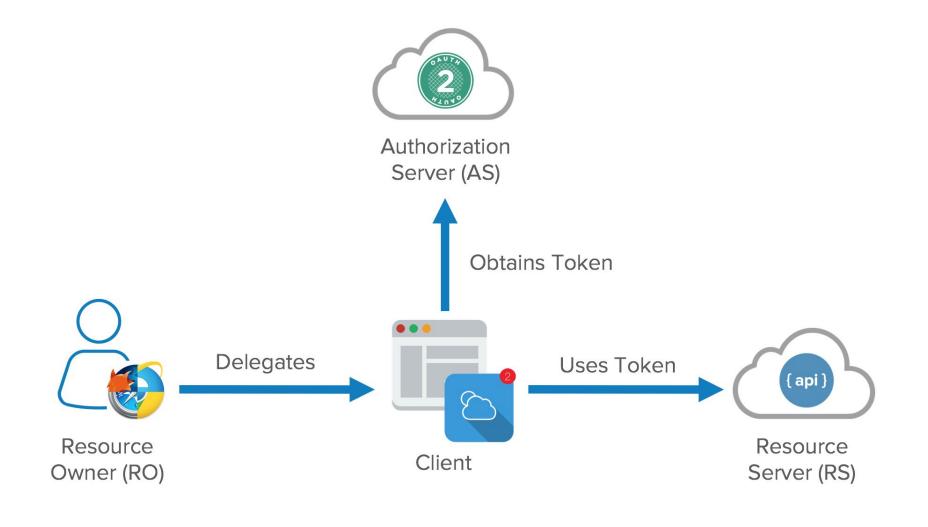
Code	Reason
200	OK
301	Moved Permanently
302	Moved Temporarily
307	Temporary Redirect
400	Bad Request
403	Forbidden
404	Not Found
500	Internal Server Error

API Access

1. Browser (only get)
2. Curl - for testing
3. Using a tool
4. Python - using request
5. Python - using a wrapper (example)

Authentication

OAuth

Question for you

API vs. Web Scraping?