Web Applications

* What makes something a WEB application or a WEB service?
* You communicate with it via HTTP or HTTPS
* This is the main means of communication on the internet.

HTTP

* Hyper Text Transfer Protocol
* This is the main means of communication on the internet.
* It is a request-response based protocol
  + Anytime you send an HTTP request you are guaranteed to get an HTTP Response
    - 404
    - 403
* Anatomy of an HTTP Request
  + **HTTP version**
  + **URL** (Uniform Resource Locator)
    - <https://www.espn.com/nba/player/_/id/1966/lebron-james>
    - The location or place you want to send an HTTP request to
  + **Headers**
    - Key value pairs that give extra information about your request
    - Meta-information
      * Authorization information
      * Access Tokens
      * Type of data in body
  + **Body**
    - The main content of an http request
      * Often text in a JSON format
      * Anything
  + **Verb/Method**
    - The TYPE of HTTP Request you are sending.
      * **GET**
        + **Reading**
      * **POST**
        + **Creating**
      * **PUT**
        + **Updating**

Replace something

* + - * **DELETE**
        + **Deleting**
      * **PATCH**
        + **Updating**

Small edit

* Anatomy of an HTTP Response
  + **HTTP version**
  + **Headers**
    - Key value pairs containing meta-information
  + **Body**
    - Main content
  + **Status Code** 
    - Information on how your request was processed.
    - 100s
      * Information
    - 200s
      * Request was successfully processed.
    - 300s
      * Redirect
    - 400s
      * Client errors/ You made a bad request
        + 403

You requested something that you do not have permission to see.

* + - * + 404

You requested something that does not exist.

* + - * + 418

Could not be processed because the web server is a teapot

April fools joke that was incorporated into official documents.

* + - * + 451

Block by government censorship

Named for the book Fahrenheit 451

* + - 500s
      * Server side errors
      * The request was good.
        + However the server ran into errors while trying to process it.
        + Pretty bad.
        + Usually getting back 500 errors means the web application is not well written.