DOM (Document Object Model)

* Documents object DOM is the tree of elements making up a web page
  + Connected nodes of the web page
* JS exists to manipulate the dom.
* This manipulation allow us to make web pages dynamic and responsive.
  + With just html CSS pages can’t really respond to users

AJAX

* Asynchronous JavaScript and XML
  + Almost no one uses this for xml anymore. Predates JSON.
* JavaScript is an asynchronous event drivel language.
* JS is single threaded and can only compute 1 thing at time.
  + If a piece of JS takes a while your application cannot do anything else.
* HTTP Requests are something that can take time.
  + Most processing of code is in the order of nanoseconds.
  + Getting a file or message from another computer on the other side of the world could take several seconds.
    - We do not want our JS to stop working while this is happening.
* Async await and promises
  + Syntactic sugar (abstraction of more complicated callbacks in my opinion)
  + Tell JS to delay processing something until is get the information from the back.

CORS

* Cross Origin Resource Sharing
* It is very, very easy to make JS just in a loop make an infinite amount of http requests to a server.
* It is also very easy to make malicious JS that could make requests that read your cookies and send them to hackers.
* The web has a standard that JS CANNOT make http requests and have them be processed unless the Server allows that to happen.
  + Servers can specify what origins (ip addresses) are allowed to send JS http requests to them.