How the Internet Works

The Complete Web Developer in 2018

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Zero to Mastery
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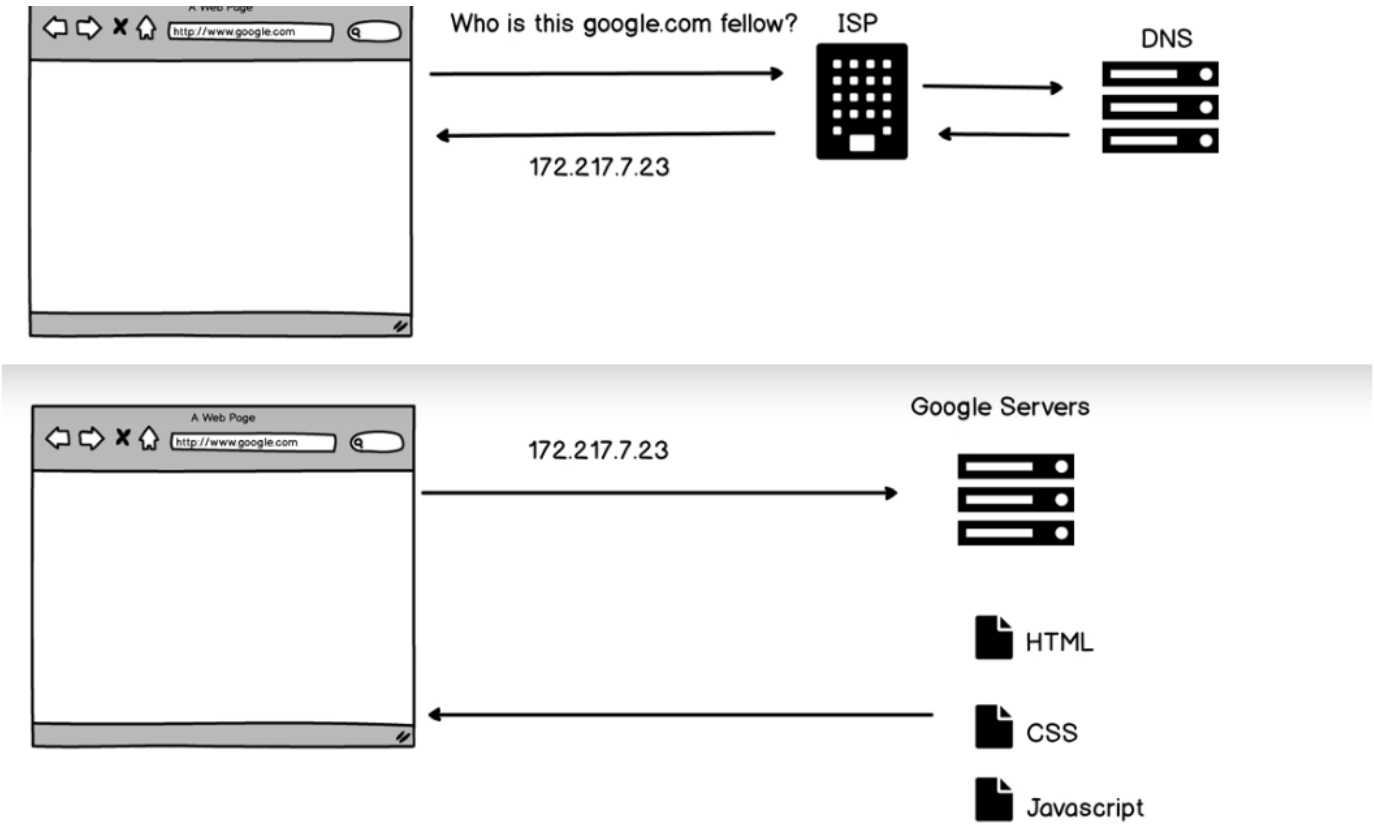
Lecture Notes by Stephanie

How the Internet Works



Google Chrome > Developer Tools

Select element (ctrl shift c)

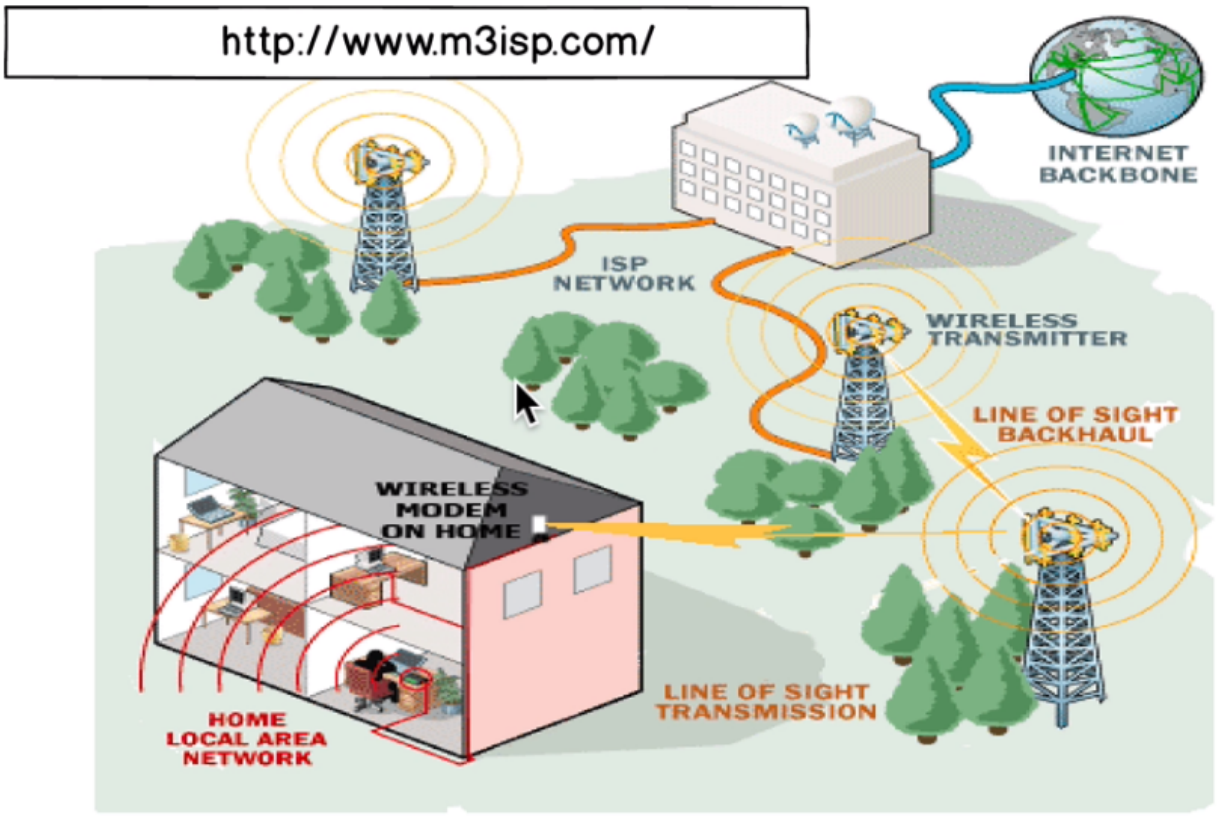
Can rewrite code to see it display live in the browser.

Elements tab is for the HTML
Style tab is for the CSS - can also see box model
Console tab is to enter javascript.

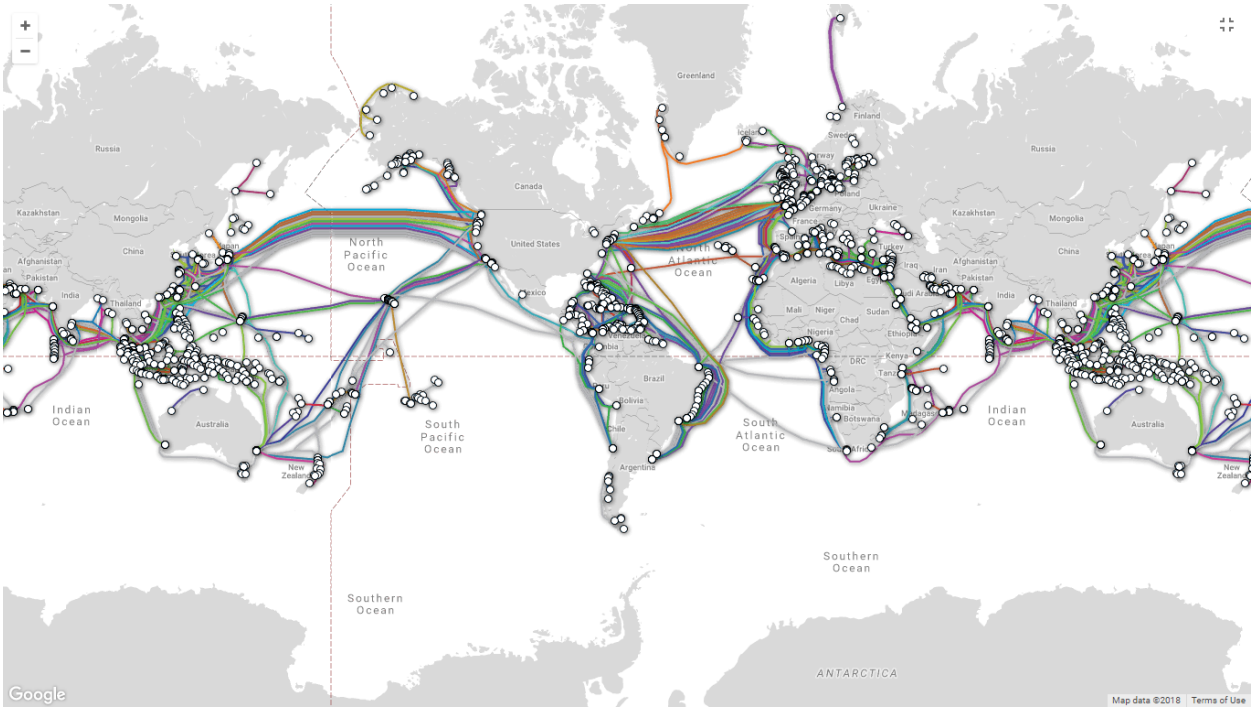
Also:

View Source (right click)
Inspect (right click) - to see code for highlighted element of webpage

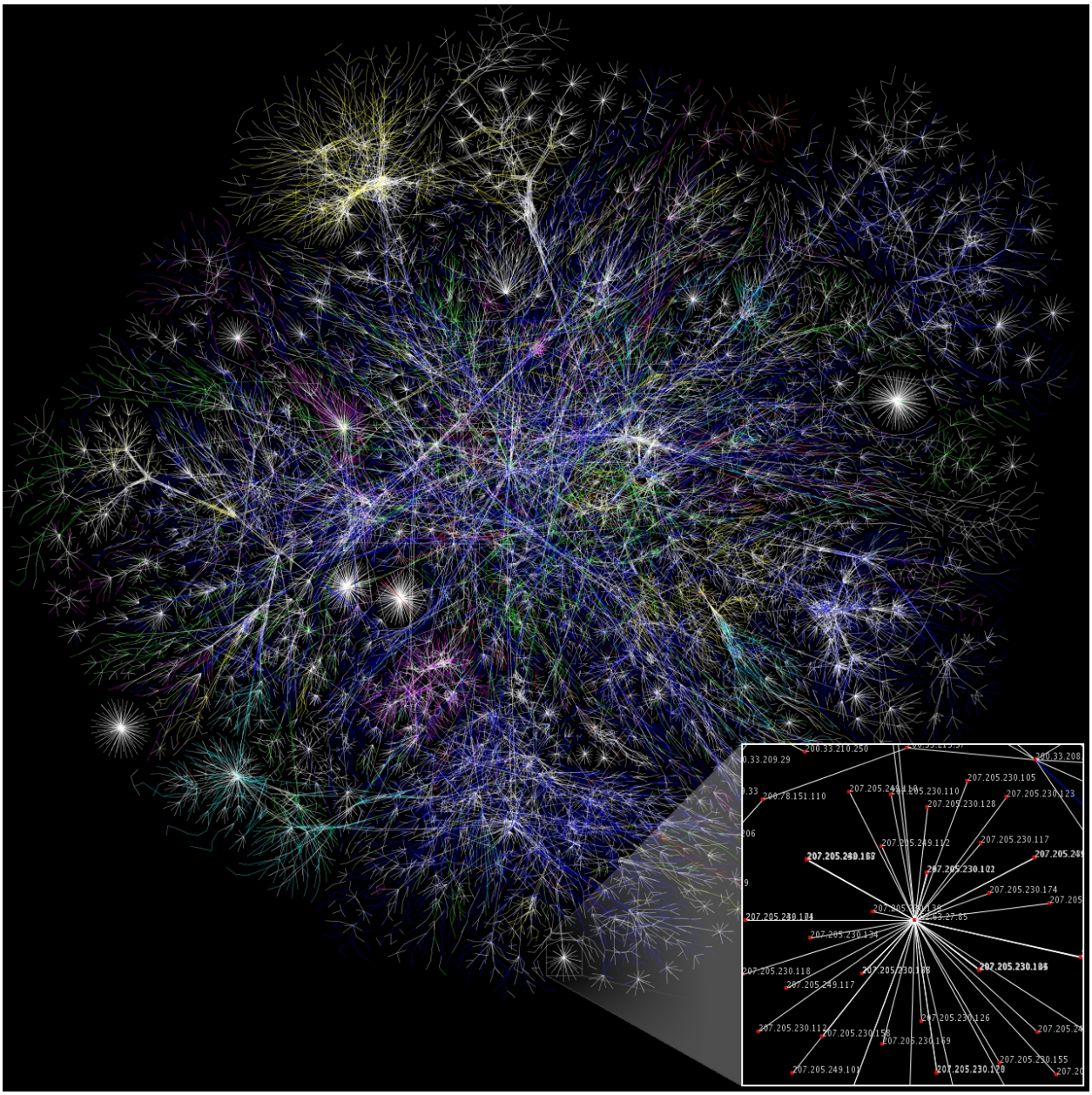
Internet Backbone



Internet Backbone - Physical Submarine Cables



Map of 30 Percent of Network



TraceRoute Exercise

Traceroute is a command which can show you the path a packet of information takes from your computer to one you specify. It will list all the routers it passes through until it reaches its destination, or fails to and is discarded. In addition to this, it will tell you how long each 'hop' from router to router takes.

- tracert in Windows will often return IPv6 addresses (like 2607:f8b0:4000:813::200e for instance). - We can use tracert -4 to return IPv4 results instead
- IPv4 addresses can take us to website when put directly into a browser instead of a URL, but IPv6 addresses do not.

Exercise: Running traceroute command yourself
Section 2, Lecture 12
Open up the Terminal (Mac), or Command Prompt (Windows) and run traceroute on any website you want. Keep in mind that on windows you will have to run tracert instead of traceroute

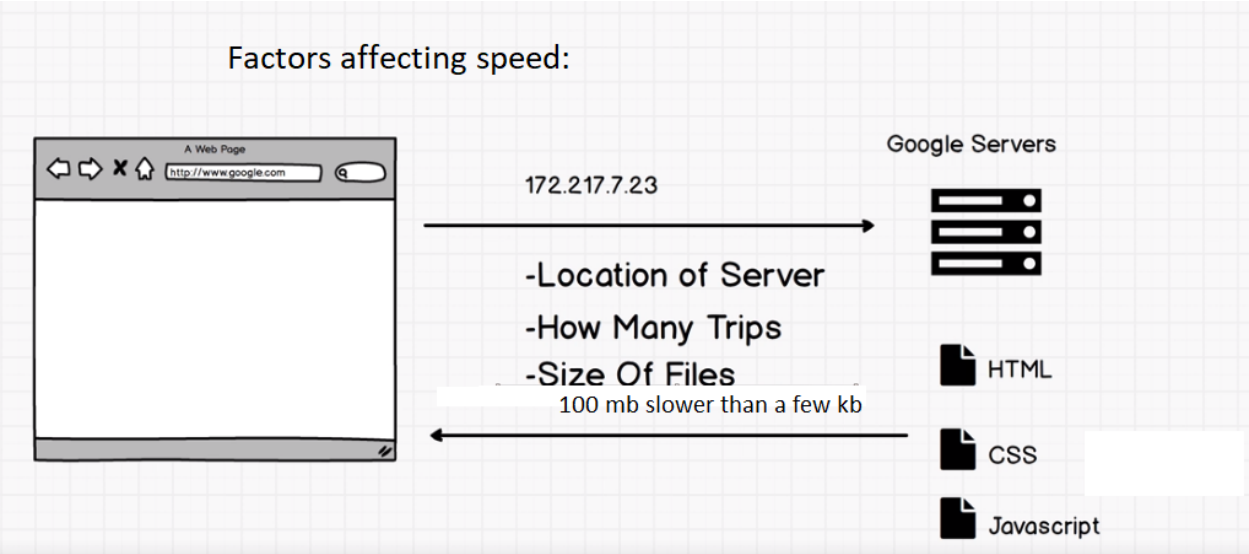
For Mac users you can open the terminal this way: Instructions
For Windows users you can open the command prompt this way: Instructions

For Windows users, to interpret tracert, check out this: https://www.inmotionhosting.com/support/website/how-to/read-traceroute.

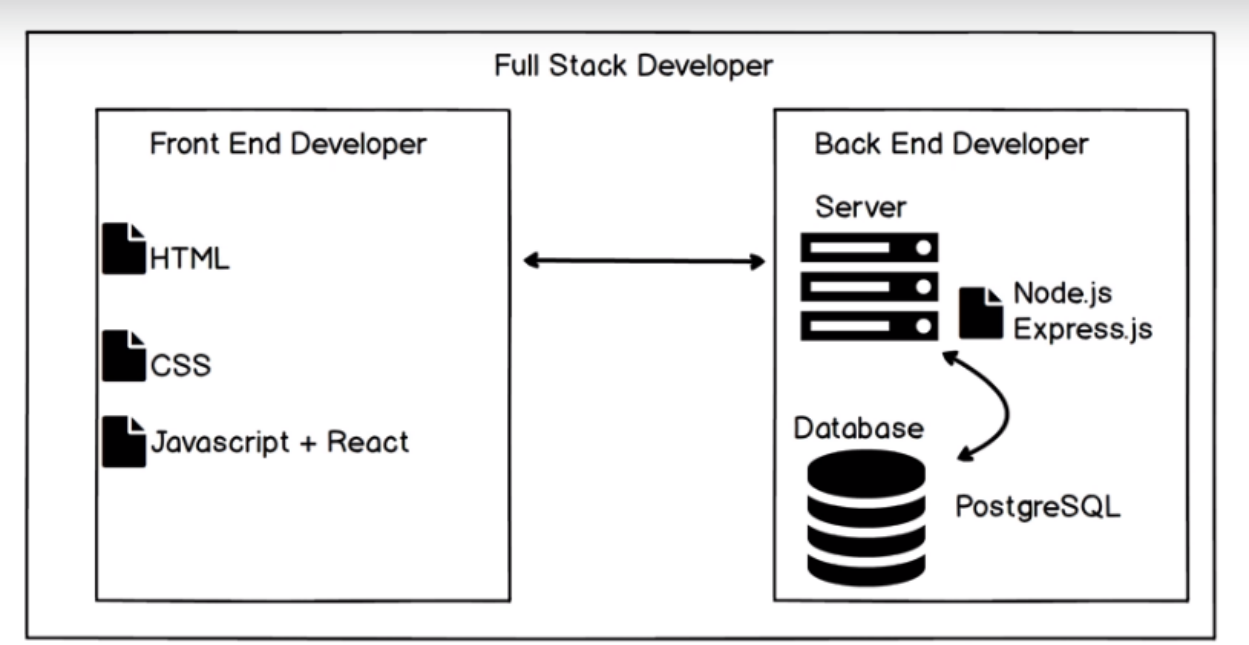
If you see the IP addresses a little bit different than in my videos or the links above: The IP addresses you see may be IPv6. In this case, you will have to run: tracert -4 google.com which forces IPv4 hops

If you see ***** (asterisk) in your output: If a packet is not acknowledged within the expected timeout (5seconds), an asterisk is displayed. Sometimes this can be due to your internet connection or traceroute may show **** because of widespread use of firewalls and other security practices by the company that owns that server.

Factors Affecting Speed

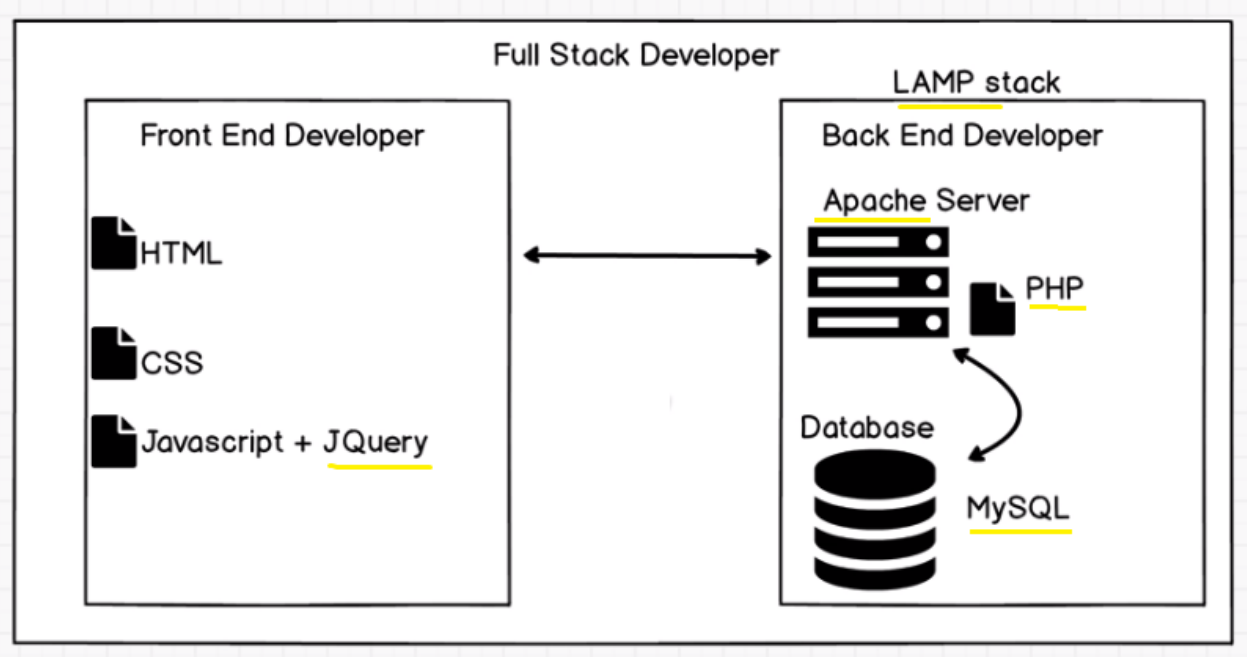


Full Stack Developer



History of the Internet: https://www.vox.com/a/internet-maps

Full Stack Dev - Old Tech



JQuery

A library that allowed javascript to be written in a simple, clean way,

Allows to not worry about how it would work across multiple browsers

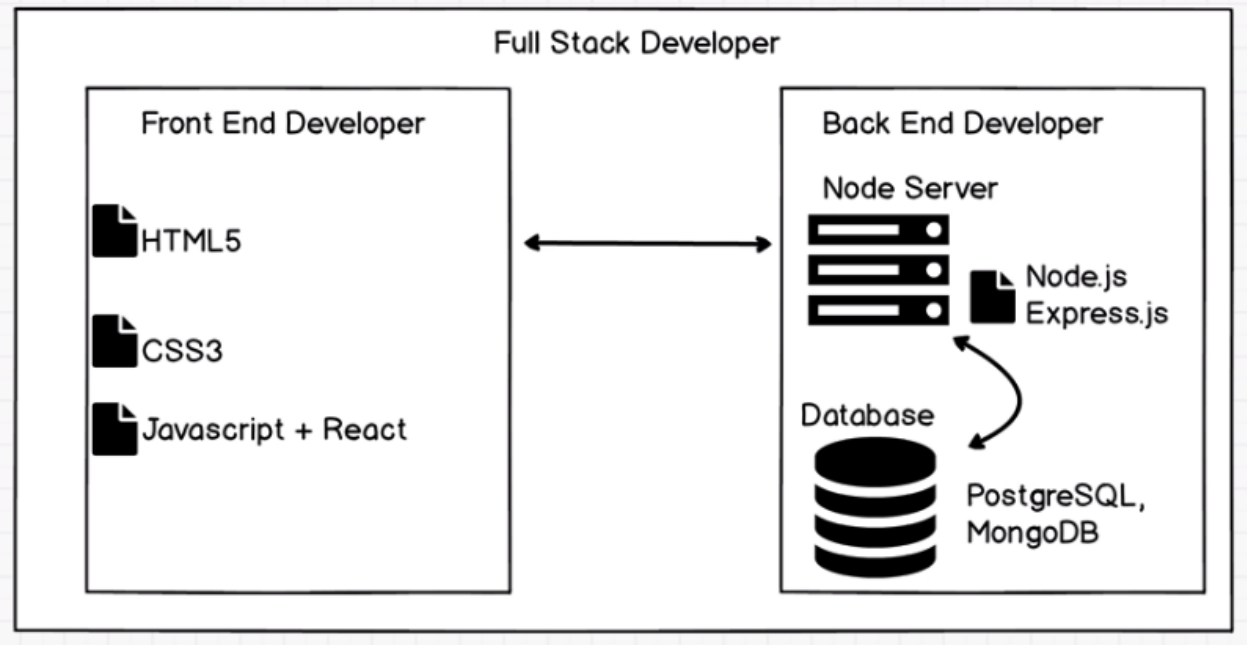
A bit outdated

LAMP - Linux, Apache, MySQL, PHP

PHP - language to write files that have logic on the servers, used for facebook because it was built in ealry 2000s, unpopular now in terms of job growth

MySQL - still used

Full Stack Dev - Current, 2018



HTML5

CSS3

Javascript

React - probably biggest and fastest growing library for javascript

Node server

Node.js

Express.js

PostgreSQL

MongoDB