

Node.js Crash Course Notes

What is Node.js?

- JavaScript Runtime (NOT a language or framework)
- Built on the V8 JavaScript engine (same as Google Chrome)
- Written in C++
- Essentially allows us to run JavaScript code on the server
 - Instead of running JavaScript on a browser

What You Should Know First:

- JavaScript Fundamentals (Objects, Arrays, Conditionals, etc)
- HTTP (status codes, headers, etc)
- JSON
- Arrow Functions
- Promises
- MVC Pattern

Why Use Node?

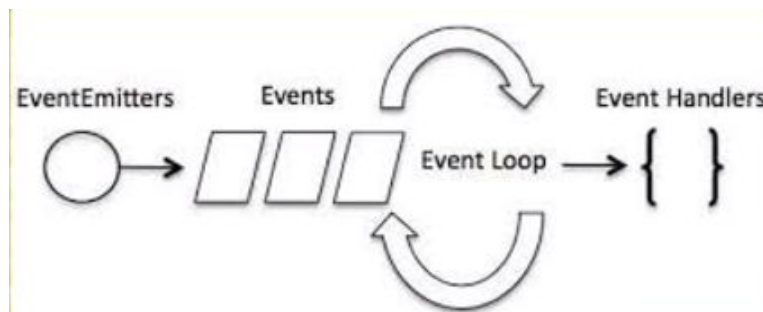
- Fast, efficient, and highly scalable
- Event driven, non-blocking I/O model
- Popular in the industry
- Same language on the front and back end (JS)

Non-Blocking I/O:

- Works on a single thread using non-blocking I/O calls
- Supports tens of thousands of concurrent connections
- Optimizes throughput and scalability in apps with many I/O operations
- All of this makes Node.js apps very fast and efficient

Node's Event Loop:

- Single threaded
- Supports concurrency via events and callbacks
- **EventEmitter** class is used to bind events and listeners



Best Types of Projects for Node:

- REST API & microservers
- Real time services (chat, live updates)
- CRUD apps - blogs, shopping carts, social networks
- Tools and utilities
- *Short answer: anything that is not CPU intensive*

Using Node.js:

- When creating a project, in terminal, input “npm init” to create a package.json file that includes your project’s information
- When installing dependencies that will work with your project, it will create a node_modules folder. When moving your project, no need to take this folder with you. Simply type “npm install” in the terminal for the new location of the project to install the node_modules
- Modules:
 - uuid - generate random ids
 - Nodemon - like live server
- Can run JS from node terminal: “node index.js” or “node index”
- Running a server
 - To be able to update the webpage without restarting the server, in package.json:
 - Under scripts:
 - “start”: “node index” //index is the .js file we want to run
 - “dev”: “nodemon index”
 - In terminal:
 - npm run dev
 - Running a server: localhost:500 in search bar