

CS454 Node.js & Angular.js

Cydney Auman
CSULA

Introduction to Node - Week 3

What is Node?

Node.js is a platform. It is built on Chrome's V8 JavaScript runtime.

The main idea is that Node.js uses an event-driven, non-blocking I/O model to remain lightweight and efficient

What Node Achieves

One of the more difficult problems in writing systems that communicate over a network is managing input and output — that is, the reading and writing of data to and from the network, the hard drive, DBs and other such devices.

Node was initially conceived for the purpose of making *asynchronous* I/O easy and convenient.

Where Node Excels

Any place where we can perform asynchronous I/O - reading and writing to network connections, reading/writing to the filesystem, and reading/writing to the database. All of these are common tasks in web apps and execute very fast in Node.

- JSON APIs
- Web Apps
- Command Line Utilities/Apps
- Chat Software

Modules

Node puts little functionality in the global scope. If you want to access other built-in functionality, you have to ask the module system for it.

The CommonJS module system, based on the `require` function, is built into Node and is used to load anything from built-in modules to downloaded libraries to files that are part of your own program.

Node Internal Modules

File System

- Handles File I/O

HTTP/HTTPS

- Interfaces designed to support features of the http or https protocol.

Crypto

- Offers a way of encapsulating secure credentials to be used as part of a secure connection.

NPM

npm (Node Package Manager) is the default package manager for Node.js.

npm is bundled and installed automatically with the node. npm manages dependencies for an application.

<https://www.npmjs.org/>

NPM Basics

```
npm init
```

// assist in creating the package.json.

```
npm install
```

// installs all modules in the package.json - installed in the node_modules directory.

```
npm install --save <module-name>
```

// installed the module by name and auto-magically adds it to package.json.

```
npm install -g <module-name>
```

// installs the module globally. allows you to use module outside of node project