Logistics

- DUES!!
  - Pay at https://www.paypal.com/cgi-bin/webscr?cmd=_s-xclick&hosted_button_id=DMJA2DLN7MGC6
- Is yarn installed?
  - Go to command line and run “npm install -g yarn”

Upcoming Events

- Our founder Spencer Ingram is coming Monday night at 7!

Monday, February 26, 7pm, #9

you're invited

a fireside chat with

HackCville's Founder Spencer Ingram

RSVP

Anonymous Feedback

- What can we do better?
  - “...maybe more examples from the teachers”
  - “More time going over the activities”
  - “We should have learned more JavaScript fundamentals”
  - “More sources for JavaScript syntax”
  - “Wifi upgrade”
- Anything to review?
  - “Functions as parameters”

JavaScript Resources

- https://developer.mozilla.org/en-US/docs/Web/JavaScript/A_re-introduction_to_JavaScript
  - Good, concise overview (while covering some things more in depth than we'll need)
  - Don't worry about the "Custom objects" and "Closures" bit unless you're interested
- More practice:
  - https://coderbyte.com/challenges

Functions As Parameters

- Functions tend to use one another as subroutines, but sometimes we know WHICH subroutine we'll call...

```
// this function checks if someone is legal, and returns true/false accordingly
function isLegal(person) {
  if (person.age >= 21) {
    return true;
  } else {
    return false;
  }
}

// this function modifies a person's isLegal field by CALLING the above function
function addIsLegalField(person) {
  // note here we're making use of the above subroutine
  person.isLegal = isLegal(person);
}
```

- ...but other times, we don't know which subroutine, so we pass it in as a parameter

```
// now, we'll write a function that takes in an array, and does something
// to the second element of that array.  however, this function won't know
// in advance WHAT will happen to that second element.  instead, it will
// take in a function as a parameter to apply to that second element.
function changeSecondElement(array, func) {
  // we assume that this function "func" takes in one parameter
  array[1] = func(array[1]);
}
```

Intro to Node

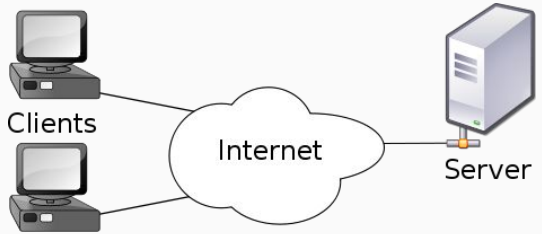
The Good Stuff

What Is Node.js?

- Released in 2009 using Google's V8 JavaScript engine for Chrome
- Two main purposes
  - Running JavaScript code server-side as opposed to the web browser
  - Modularize libraries/packages that anyone can import into their code

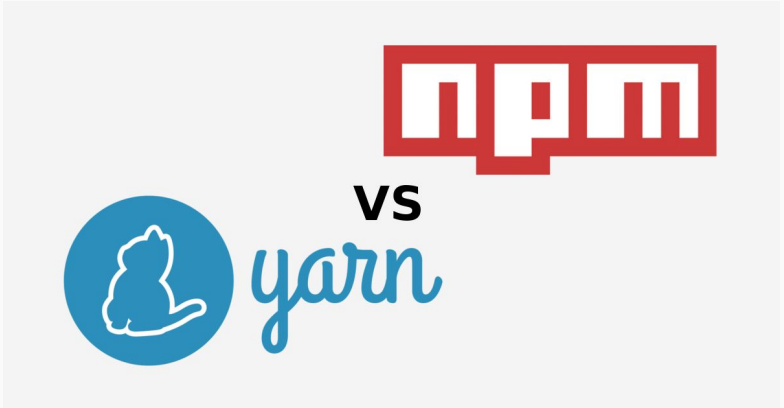
Server vs Client

- Typically, the client is your local machine and the code running on it
  - Once you load a webpage, that HTML/CSS is running locally on your machine
- However, clients will network with a SERVER, which is running its own code far far away
  - When you type Google.com, you're trying to connect to Google's server, which sends you the webpage
  - Could also handle behind-the-scenes operation we don't want running on your machine



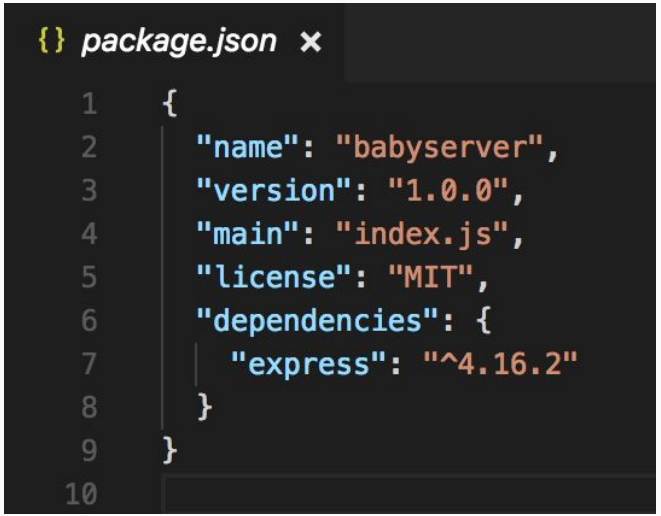
Node Packages + NPM

- Node comes with the Node Package Manager, or “npm,” which lets us easily download and use other people’s code in our own base
- We’ll be using “yarn” instead
  - A little faster, harder to make certain mistakes
  - Also fun emojis



Using Yarn

- Once we're in a directory, we can make it a node project by using "yarn init"
- This generates the package.json file, which keeps track of all the npm packages we've installed
- To add a package, use "yarn add [package name]"
  - I.e. "yarn add express"



Why package.json?

- We don’t want to upload all of the packages we’re using to places like GitHub, so instead we have a file that says which packages to install
- Running “yarn install” will look at package.json and install all the packages
  - These packages stored in folder called “node_modules”

Avoid Uploading node_modules to GitHub!!

- Need to create a (hidden) file called “.gitignore”
  - Tells git what NOT to upload to GitHub
  - Put “/node_modules” inside

Express: Our First Package

- Why go through the hassle of setting up a server when someone's already written the code to make it easy?

LIVE DEMO (code in repo)

Your Turn!

- In the feb21/library folder, you'll find a bunch of .txt files and a PDF with an assignment
- Copy these files into a folder OUTSIDE of the source repo!!
  - Complete the assignment in this new folder
  - Use the command line to connect this new folder to GitHub and upload it as a repo on your own account
  - Remember the .gitignore file! The node_modules folder should NOT be uploaded to GitHub