

NODE.JS/EXPRESS

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For those who know nothing...

- JavaScript is the *language* for which all browsers have an engine to run (1995)
- Node.js is the *platform* or *environment* built on Google Chrome's engine (2009)
- Express.js is the *framework*
- You will likely be running Node.js like this

```
Stevens-MacBook-Pro-5:~ stevenmazzari$ node hello.js  
hello
```

—

Downloading

- Those of you with homebrew – “brew install node”
- Everyone else - <https://nodejs.org/en/download/>
- Check with “node -v”
- Also check “npm -v”
- Then install “npm install express”

When/Why you should use Node.js

- Setting up HTTP servers for sending and receiving requests
- Ease of file I/O
- Advantages of being single threaded, eg. “asynchronous callbacks” or “Non-Blocking”
- A lot of documentation - <https://nodejs.org/en/docs/guides/>
- Good for - Data Streaming/Data Intensive Real Time Apps
- Bad for - CPU Intensive Apps

Basic HTTP Server

- Want to display message when URL is reached in browser

```
var http = require('http');

http.createServer(function (req, res) {
  res.writeHead(200, {'Content-Type': 'text/plain'});
  res.end('Hello World\n');
}).listen(8080);

console.log('Server running on port 8080.');
```

- <http://localhost:8080> - will now say “HelloWorld”
- Use the format “var something = require(‘some module’);”

Reading a file

- Node.js has a built in library called its File System

```
mod // Load the fs (filesystem) module
var fs = require('fs');

// Read the contents of the file into memory.
fs.readFile('example_log.txt', function (err, logData) {

// If an error occurred, throwing it will
// display the exception and end our app.
if (err) throw err;

// logData is a Buffer, convert to string.
var text = logData.toString();
});
```

- **IMPORTANT** - Notice that the text variable is made **INSIDE** of the readFile method

Node.js vs Express and others

- Higher level frameworks also in JavaScript
- More capabilities but more bugs

```
var express = require('express'),
    app = express();

app.use(express.static(__dirname + '/public'));

app.listen(8080);
```

- Install with NPM, ie “npm install express” also JSON

Using Express

- <http://expressjs.com/en/starter/installing.html>
- Simple GET call

```
var express = require('express')
var app = express()

// respond with "hello world" when a GET request is made to the homepage
app.get('/', function (req, res) {
  res.send('hello world')
})
```


That's it

