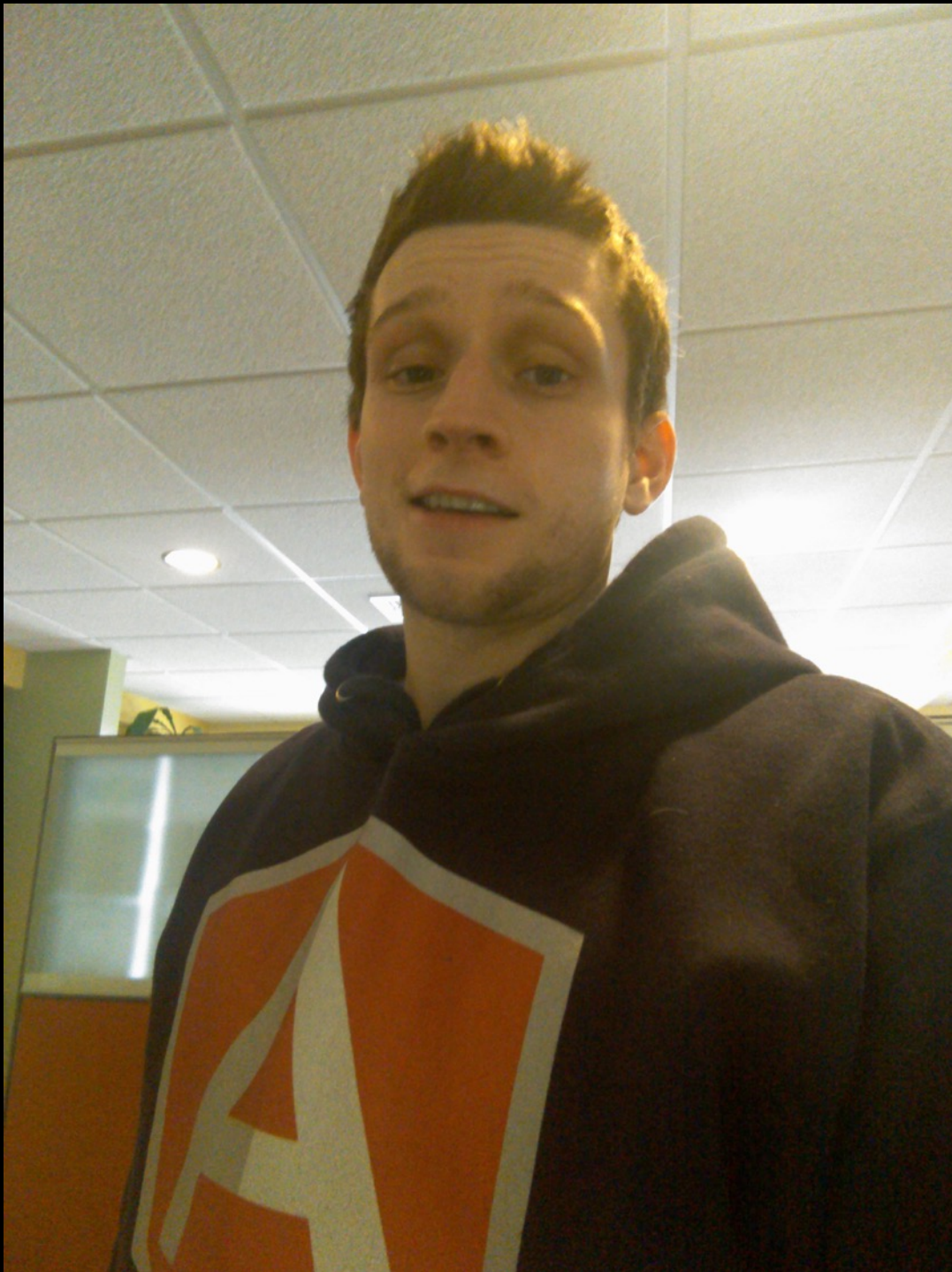# Getting Started With The Angular 2 CLI

by Jim Lynch

July 2016

Jim Lynch

Front-End Engineer at Altered Image

WebStorm Ambassador

@webWhizJim

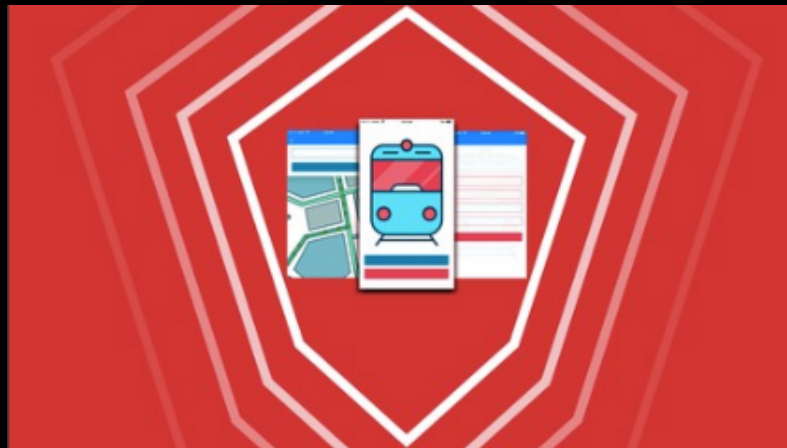"The BDD Angular Guy"

Slides available here:
http://www.slideshare.net/JimLynch22/getting-started-with-the-angular-2-cli

Resources for Learning Angular 2

1. Angular 2 Crash Course with TypeScript - Udemy

Free with the link below!

https://www.udemy.com/angular-2-crash-course/learn/v4/?
couponCode=blackhat&pmtag=CELEBRATE40
&utm_source=codek.tv

Resources for Learning Angular 2

2. Accelerating Through Angular 2 - CodeSchool.com

(First level free, then requires pro membership)

https://www.codeschool.com/courses/accelerating-through-angular-2

Resources for Learning Angular 2

3. Pluralsight Courses

(requires pluralsight membership)

Angular 2: Getting Started
By Deborah Kurata

Angular 2: First Look
By John Papa

Play by Play: Angular 2 Quick Start with John Papa and Ward Bell
By John Papa and Ward Bell

Resources for Learning Command Line / BASH

2 Free Code School Courses!

https://www.codeschool.com/

- Shell Productivity Elective Course

- Unix Basics Elective Course

Resources for Learning Command Line / BASH

Back End Development Certification

▶ **Automated Testing and Debugging**
(15 minutes)

▶ **Git**
(3 hours)

▶ **Node.js and Express.js**
(20 hours)

▶ **MongoDB**
(3 hours)

▶ **API Projects**
(150 hours)

▶ **Dynamic Web Application Projects**
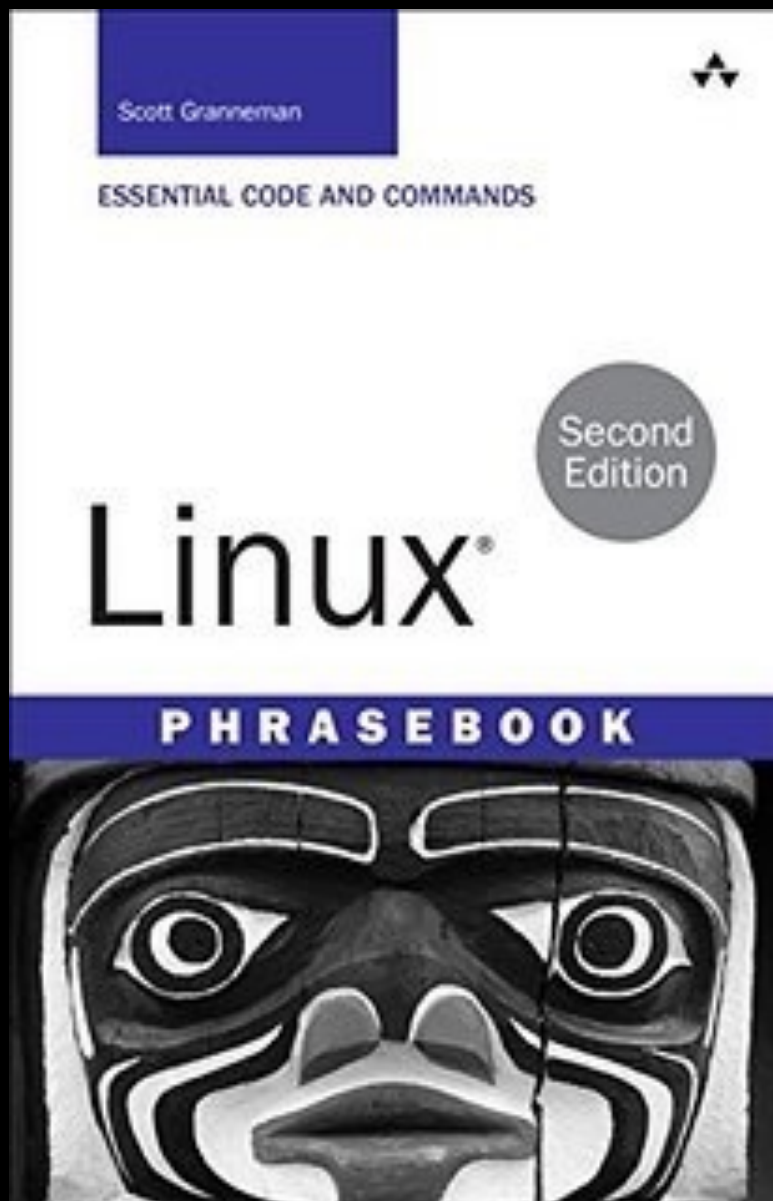(250 hours)

▶ **Claim Your Back End Development Certificate**
(5 minutes)

freeCodeCamp(🔥)

Free Code Camp
Backend Challenges

Free!

Resources for Learning Command Line / BASH

- Reference guide of the common Unix / Linux commands.

- Physically small book.

- Humorous yet informative and technical descriptions.

Resources Specifically For Learning Angular 2 CLI

- Angular CLI Reference PDF (https://cli.angular.io/reference.pdf)

- Angular 2 CLI Github Project Page (https://github.com/angular/angular-cli)

- Official Angular CLI Website (https://cli.angular.io/)

The Importance of Having a Pretty Command Line

- Your command line is a powerful tool. You should use it often and be comfortable with it.

- Make the background and font color easy on the eyes and increase the font size.

- Edit your ~/.bash_rc or ~/.bash_profile to make your text more colorful and change your BASH prompt.

- Install vim plugins for syntax highlighting.

So, What is Angular 2?

Angular 2: One framework.

https://angular.io/ ▼

Angular is a development platform for building mobile and desktop web applications.

What Is a SPA Framework?

Routing

- Illusion of Pages

- Deep Linking

- Layers of HTML

Components

- Ties HTML to JS

- Data Binding

- Modular Code

Angular 2 Building Blocks

(Eerily similar the building blocks of AngularJS)

- Components

- Directives

- Routes

- Services

- Pipes

- Controllers

- Directives

- Routes

- Services

- Filters

Differences From Angular 1

- No more "ng-" directives! New syntax for binding directly to events instead.

- Namespaced CSS / Sass

- Simpler concept of Directives, No link functions in ng2!

- Nice router with power and flexibility of UI-Router

- Crazy fast with Shadow DOM under the hood.

- Projects are written in TypeScript (usually).

- Observables to handle streams and cancel requests!

- And best of all, the Angular CLI!

If You Can't Beat Em', Join em'. (Or just copy 'em)

- Concept of "Shadow DOM" originally from React

- CLI tool ported from from Ember CLI.

- Took Microsoft's TypeScript and made it mainstream.

The Angular CLI!!

Are you as excited as this guy?

The Main Idea

Use the command line to generate folders and files for you.

…or even generate an entire starter project.

The Initiation Ceremony (Installing angular-cli)

This is where your Angular 2 CLI journey begins!

```
Jamess-MacBook-Pro:~ jim$ _
```

If You Get This Error:

You might get this error:

Error: EACCES: permission denied, open '/Users/jim/.config/configstore/ember-cli.json'
You don't have access to this file.

```
[Jamess-MBP:more-ng-2-tests jim$ ng --version
(node:1148) fs: re-evaluating native module sources is not supported. If you are using the graceful-fs module, please
update it to a more recent version.
/usr/local/lib/node_modules/angular-cli/node_modules/configstore/index.js:54
                        throw err;
                        ^

Error: EACCES: permission denied, open '/Users/jim/.config/configstore/ember-cli.json'
You don't have access to this file.

    at Error (native)
    at Object.fs.openSync (fs.js:634:18)
    at Object.fs.readFileSync (fs.js:502:33)
    at Object.create.all.get (/usr/local/lib/node_modules/angular-cli/node_modules/configstore/index.js:35:26)
    at Object.Configstore (/usr/local/lib/node_modules/angular-cli/node_modules/configstore/index.js:28:44)
    at clientId (/usr/local/lib/node_modules/angular-cli/node_modules/ember-cli/lib/cli/index.js:22:21)
    at module.exports (/usr/local/lib/node_modules/angular-cli/node_modules/ember-cli/lib/cli/index.js:65:19)
    at module.exports (/usr/local/lib/node_modules/angular-cli/lib/cli/index.js:106:10)
    at /usr/local/lib/node_modules/angular-cli/bin/ng:31:5
    at /usr/local/lib/node_modules/angular-cli/node_modules/resolve/lib/async.js:46:14
Jamess-MBP:more-ng-2-tests jim$ _
```

Give your current user ownership of ember-cli.json
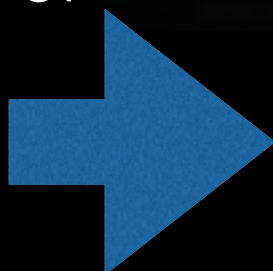
```
sudo chown jim /Users/jim/.config/configstore/ember-cli.json
```

ng new

```
Jamess-MacBook-Pro:another-ng2-test jim$ _
```

ng init

```
Jamess-MacBook-Pro:yet-another-ng2-test jim$ _
```

What Just Happened?

An entire starter project was scaffolded!

```
▼ 📁 more-ng-2-tests ~/more-ng-2-tests
    ▶ 📁 config
    ▶ 📁 dist
    ▶ 📁 e2e
    ▶ 📁 node_modules
    ▶ 📁 public
    ▶ 📁 src
    ▶ 📁 tmp
    ▼ 📁 typings
        ▶ 📁 browser
        ▶ 📁 main
          📄 browser.d.ts
          📄 main.d.ts
      📄 .editorconfig
      📄 .gitignore
      📄 angular-cli.json
      📄 angular-cli-build.js
      📄 package.json
      📄 README.md
      📄 tslint.json
      📄 typings.json
```
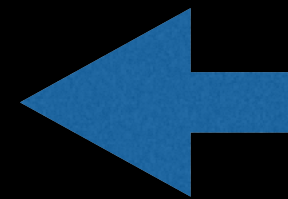
All these files and folders were generated by ng new!

A Closer Look

a What Was Created

Config

Environment files for setting *production* boolean environment variable.

Configuration files for automated test runners.
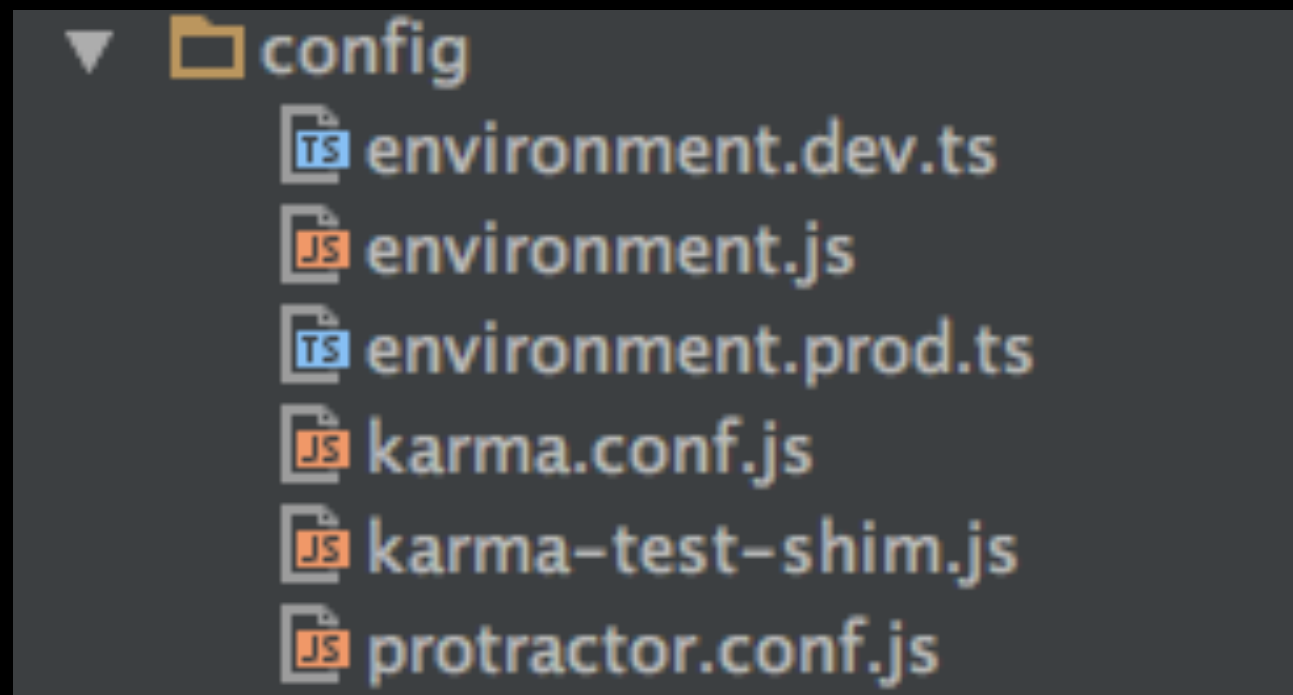
Dist

Folder that gets written to by build task

Contains final, minified files that get hosted
to be the final, live product.
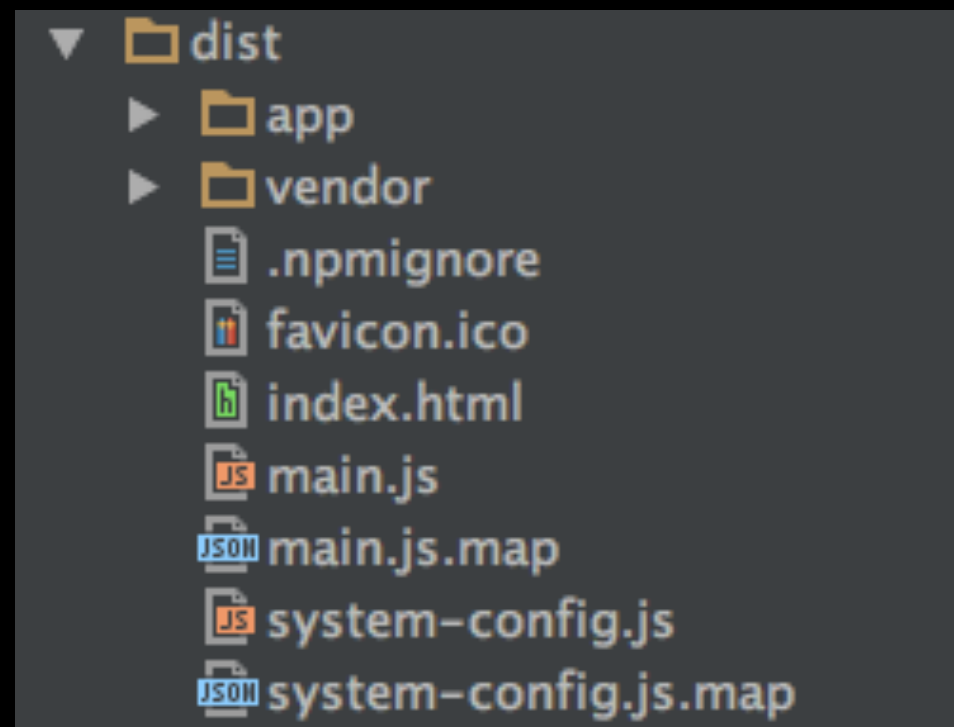
E2e

Contains files for e2e and integration tests run by Protractor.
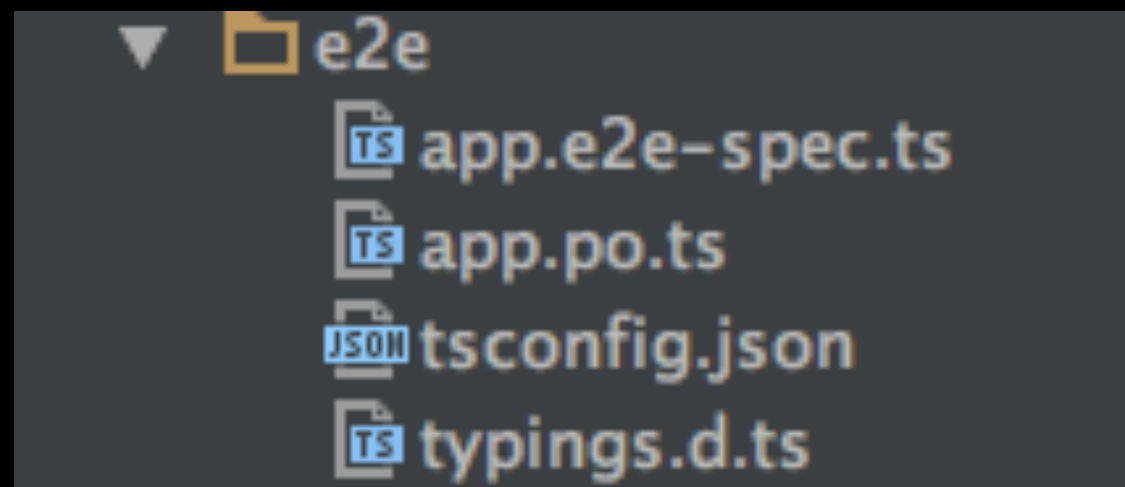
node_modules

Contains all the npm libraries that are dependencies for your application.
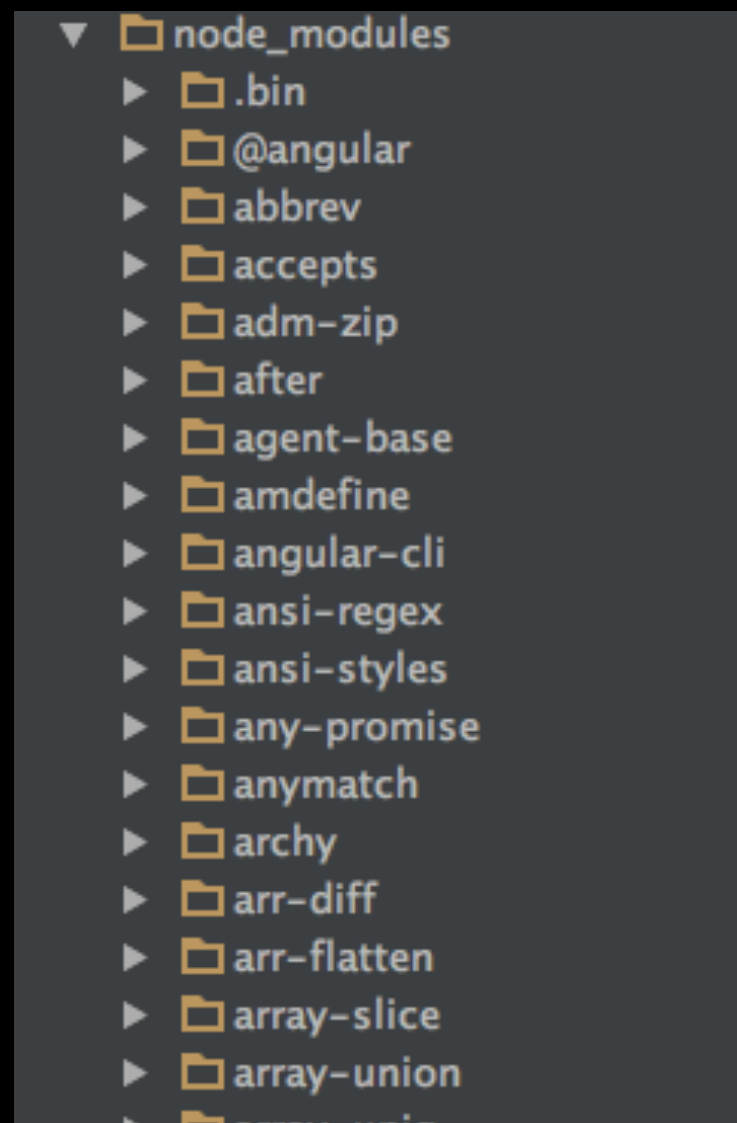
Public

Contains the .gitignore file.

A place for images and
other static assets.

Some people like to put manually added
libraries here.
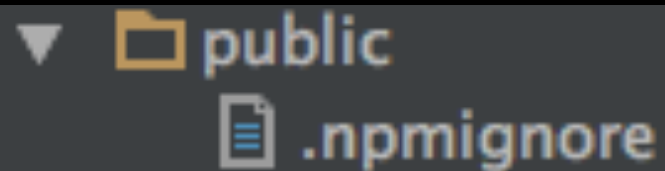
Src

Contains all of your source code!
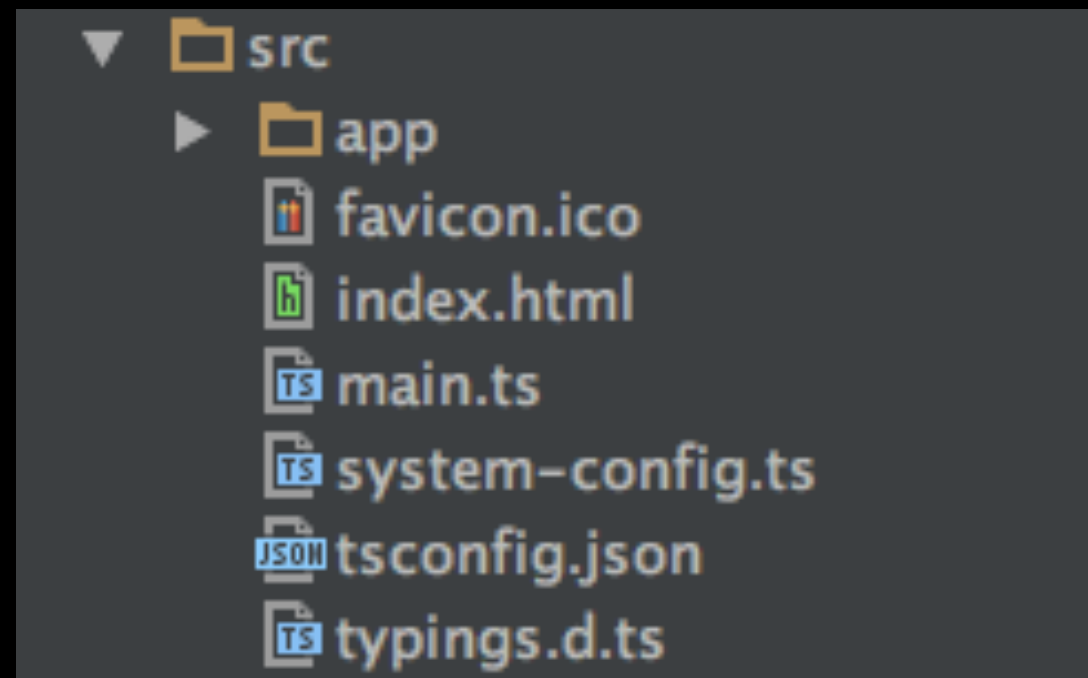
Tmp

Contains temporary files that Angular CLI generates and uses to runs its tasks.
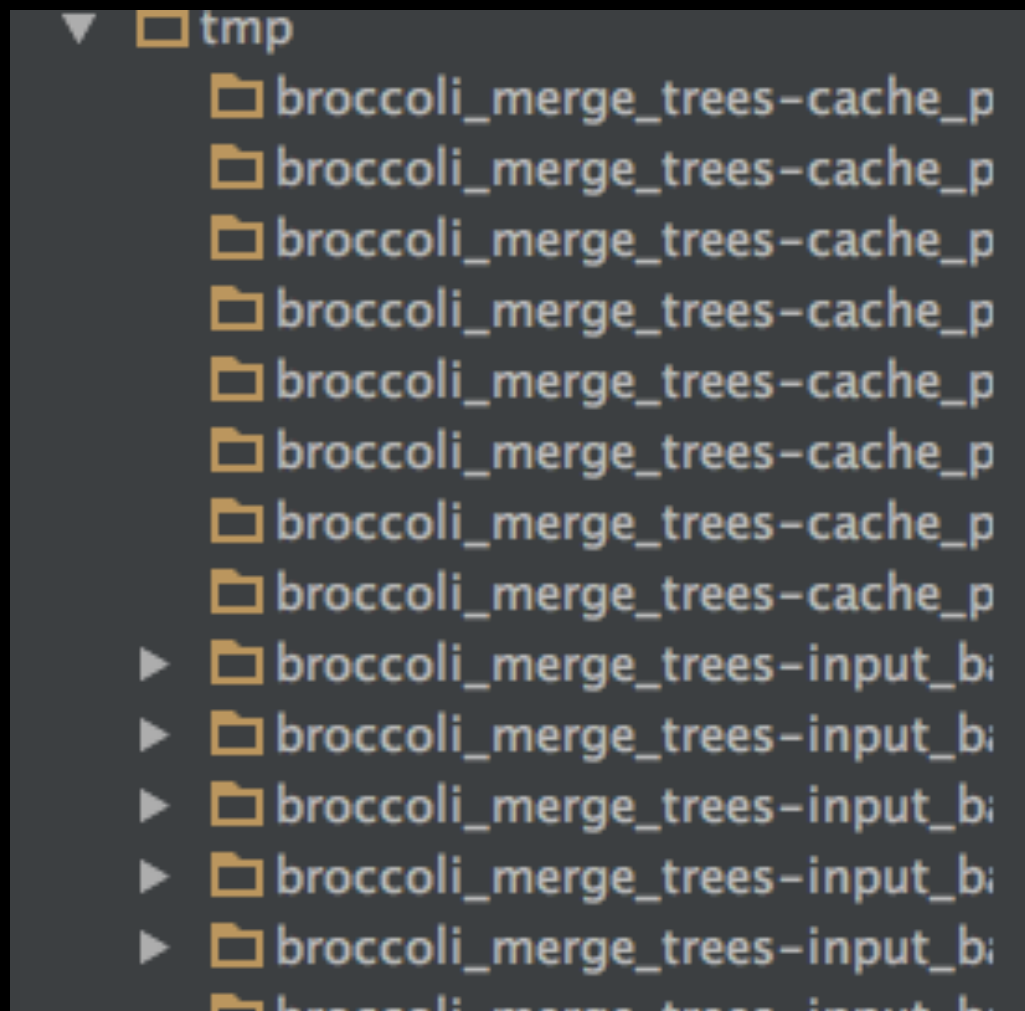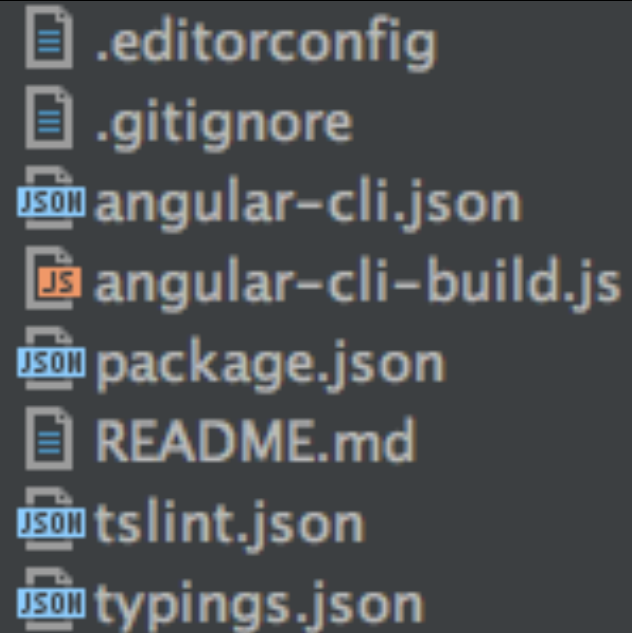
typings

Contains TypeScript type definition files.
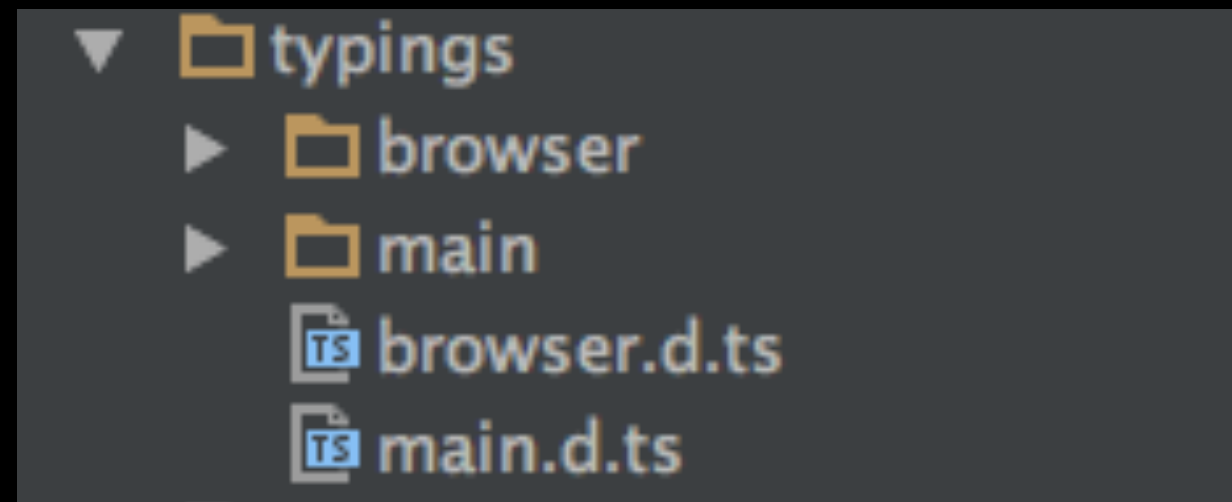
Other files

Other configuration files.

Workflow Commands

- ng serve

- ng test

- ng e2e

- ng build

ng serve

ng test
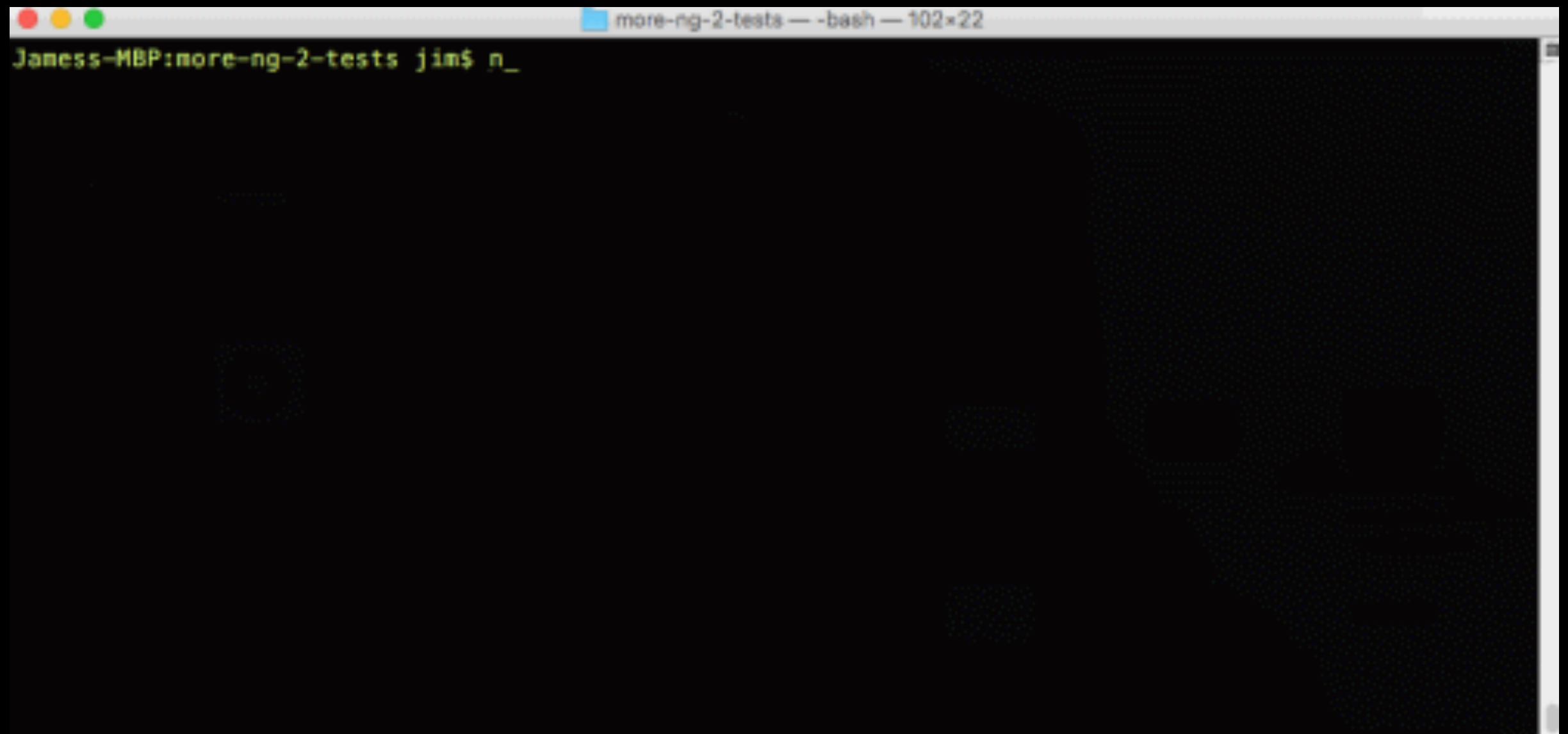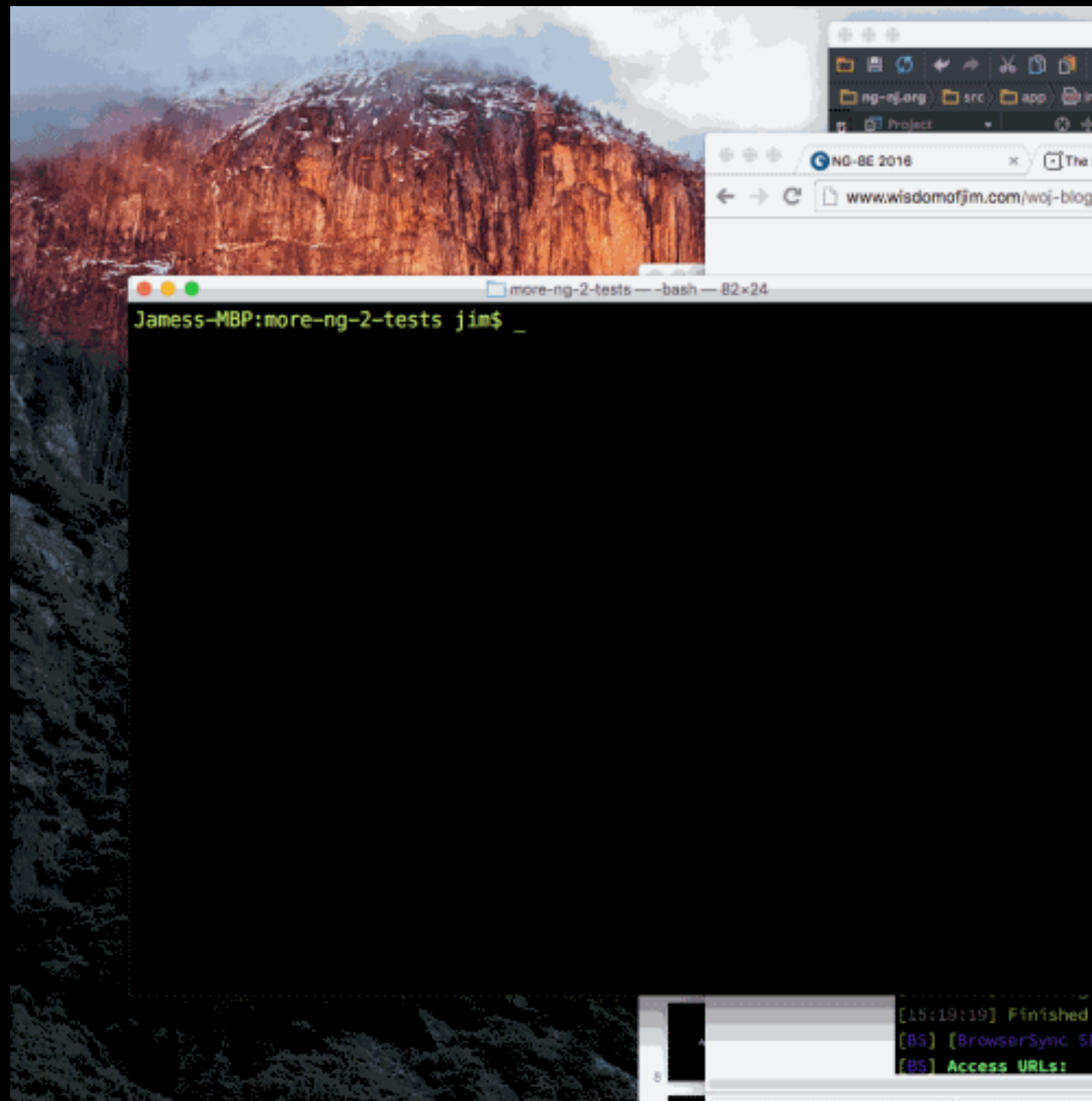
```
● ● ●                    more-ng-2-tests — -bash — 102×22
Jamess-MBP:more-ng-2-tests jim$ n_
```

ng e2e

ng build

```
Jamess-MacBook-Pro:Angular-2-Screencast-Example jim$ 
```

ng deploy gh:pages

```
Jamess-MacBook-Pro:Angular-2-Screencast-Example jim$ ▯
```

Creating a Github Token

It's easy!

ng Generate!

- Scaffold individual components, routes, directives, services, or pipes!

- Alias for the generate command is just the letter g.

- The generated component has its own directory, unless the --flat options is specified.

ng g component

```
Jamess-MacBook-Pro:more-ng-2-tests jim$ _
```

ng g service

```
Jamess-MacBook-Pro:TestProject jim$ _
```

ng g pipe

```
Jamess-MacBook-Pro:more-ng-2-tests jim$ []
```

ng g directive

```
Jamess-MacBook-Pro:TestProject jim$ _
```

ng g route

```
Jamess-MacBook-Pro:Angular-2-Screencast-Example jim$ _
```
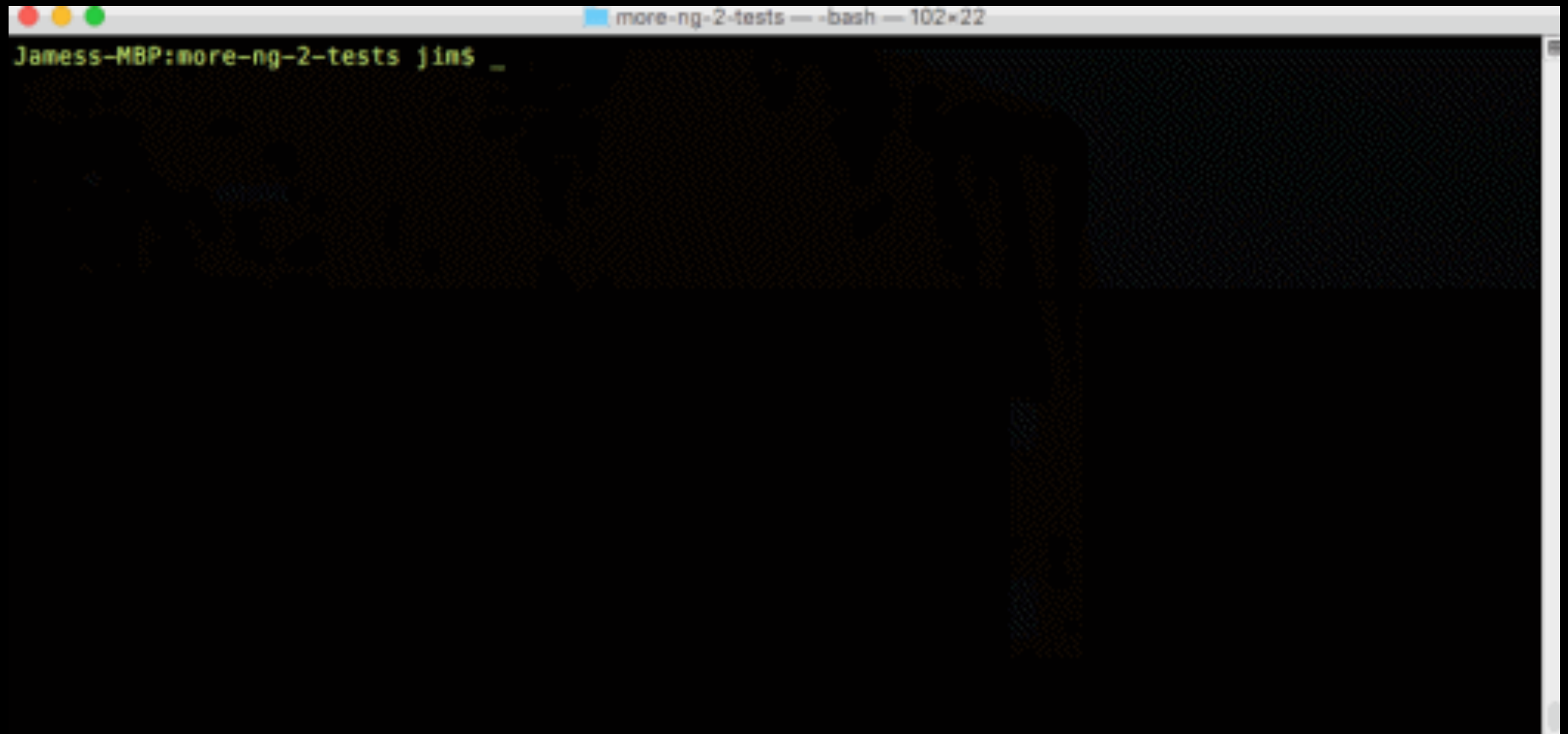
CLI Bonus Commands!

ng-lint

```
more-ng-2-tests — -bash — 102×22
Jamess-MBP:more-ng-2-tests jim$ _
```

ng help

ng doc <keyword>


```
Jamess-MacBook-Pro:~ jim$ _
```

ng version

```
Jamess-MacBook-Pro:~ jim$ _
```
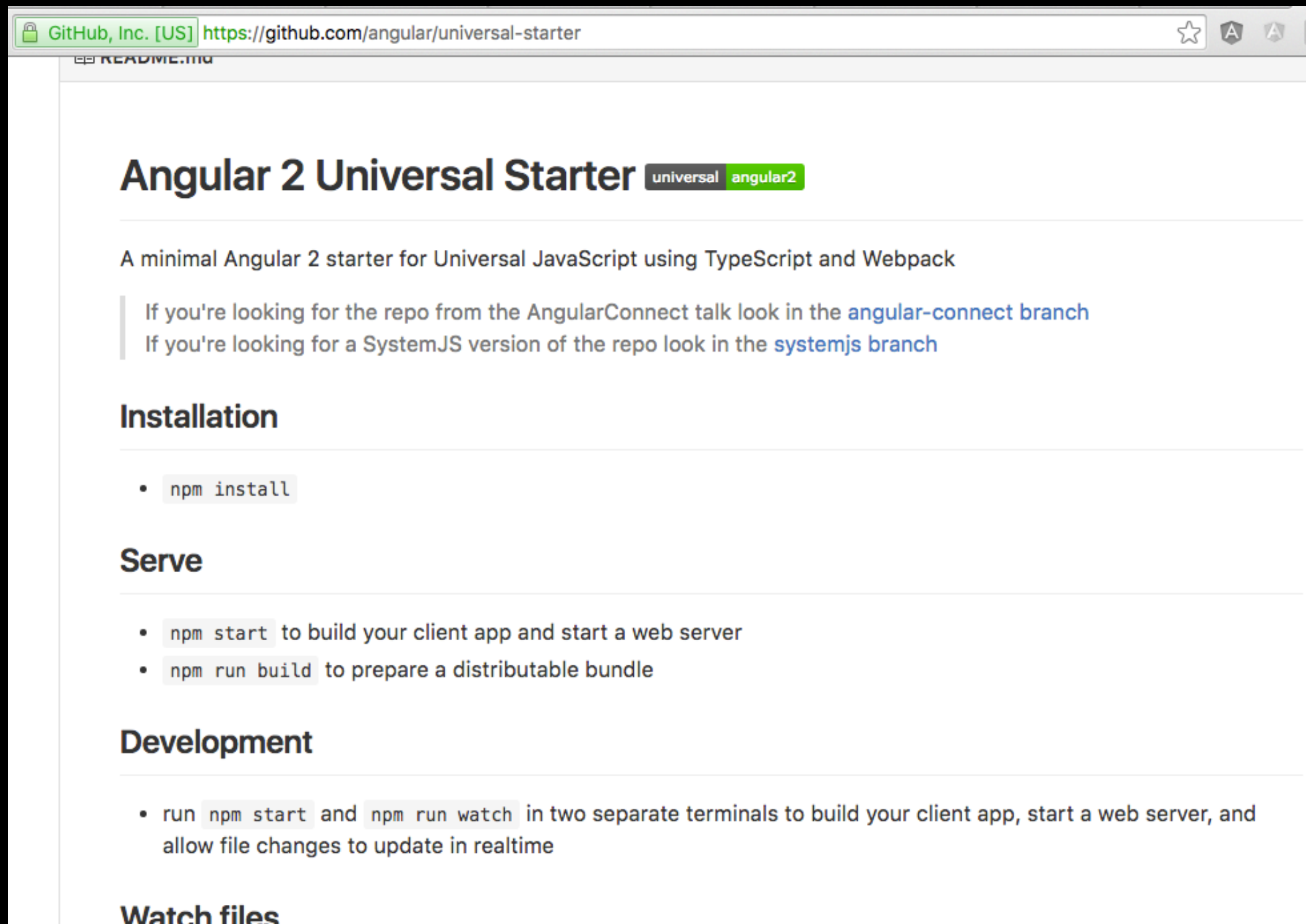
Things You Might Consider Adding to An Angular 2 Project

- CucumberJS / Acceptance tests

- Redux or any other Flux Store

- Angular Universal / App Shell

- Ionic / Angular for Native Apps

Other Generators

Do Exist!

Angular Universal Starter

GitHub, Inc. [US] | https://github.com/angular/universal-starter

README.md

Angular 2 Universal Starter `universal` `angular2`

A minimal Angular 2 starter for Universal JavaScript using TypeScript and Webpack

> If you're looking for the repo from the AngularConnect talk look in the angular-connect branch
> If you're looking for a SystemJS version of the repo look in the systemjs branch

Installation

- `npm install`

Serve

- `npm start` to build your client app and start a web server
- `npm run build` to prepare a distributable bundle

Development

- run `npm start` and `npm run watch` in two separate terminals to build your client app, start a web server, and allow file changes to update in realtime

Watch files

FountainJS

Questions?

🐦 twitter.com/webWhizJim

🐱 github.com/JimTheMan

📖 www.wisdomofjim.com

Slides available here:
www.slideshare.net/JimLynch22/getting-started-with-the-angular-2-cli

Thanks!