Yeoman

http://yeoman.io/

Yeoman is a tool for scaffolding web applications. You can use Yeoman to create HTML5, CSS3, and JavaScript files that follow best practices. You can also use it to scaffold out pages and sections of your site for you. Yeoman comes with several different generators so you can install a variety of frameworks and starter projects.

Grunt

http://gruntjs.com/

Grunt is a command line building and task tool for front end development. Grunt can be used to compile and compress SASS,LESS, CoffeeScript, or even plain old CSS and JavaScript. Ghttp://gruntjs.com/runt is the build system for Yeoman. Grunt automates a lot of laborious tasks for you, so you can focus on actually building your system.

Bower

http://bower.io/

Bower is a package manager for the web. Bower manages installing and updating your libraries, frameworks, and utilities (such as the next two items on this list). List all of your dependencies in a single bower.json file, then all you have to do to install them is run `bower install` from the command line. You can even plug it in to Grunt.

AngularJS

https://angularjs.org/

AngularJS is a JavaScript framework made by Google for building complex client-side applications. Angular's killer feature is 'directives' which allow you to extend HTML by creating your own tags and attributes. Angular projects have a somewhat different structure than other JavaScript MVC frameworks, but it can be highly modular and easy to maintain once you understand the structure.

Foundation

http://foundation.zurb.com/

Foundation is a responsive CSS Framework built in SASS. Foundation gives you an entire suite of UI tools to iild your application, and multiple grids aimed at different screen sizes to

help you lay out your application. Foundation takes care of the basics of the application's visual layout so you don't have too. Foundation also has a great structure that takes advantage of SASS's variables, allowing you to quickly customize foundation right out of the box.

How It All Fits Together

Step 1: Install Yeoman and a Generator

We'll be using Yeoman to handle all of our scaffolding. Yeoman will create the initial files and folder structure for you, so that you don't have too. Yeoman uses generators, which are different templates it will use when creating your initial app. Yeoman is managed via npm. If you don't have node and npm installed, you can get the NodeJS installer here. I prefer building web applications with AngularJS, so we'll be installing a generator for an Angular application.

```
npm install -g yo
npm install -g generator-angular
```

Step 2: Create The Scaffolding

Now that we have our tools installed, it's time to create our initial application. We'll create a new directory and run the generator:

```
mkdir example-app
cd example-app
yo angular
```

If you have everything installed correctly, Yeomen should start building your application. Select 'yes' when it asks you if you want to install compass, then select no when it asks if you if you want to install Bootstrap. After a couple of minutes, you folder structure should look like this:

```
Gruntfile.js
/app
bower.json
bower_components
node_modules
package.json
/test
```

Step 3: Install Dependencies

Now we need to run our package managers to install dependencies. First, we will run NPM in order to install development dependencies, then Bower to install front end dependencies:

```
npm install
bower install
```

Step 4: Test The Servers

Run the server and make sure everything is working OK:

```
grunt serve
```

Once this runs, navigate to localhost:9000. You should see the yeoman placeholder page.

Step 5: Clean out the Crud.

Yeoman adds a lot of content that is not needed. For example, it has multiple routes, controllers, and views already created for you. You can leave this in or comment it out if

you want to keep an example, but I like to clear all of this out before I start working. Here is a quick checklist, so you don't miss anything.

app/index.html - Remove most of the code in the body, but be sure to leave the div with the ng-view property.
app/views/main.html - Remove the excess HTML.
app/scripts/app.js - Remove the routes that you aren't using. I get rid of the extra 'about' route, and delete all the related files.
remove app/controllers/about.js
remove app/views/about.html
remove spec/controllers/about.js
app/styles/main.scss - Remove all of the unused styles.

Step 6: Install Foundation

I prefer Zurb's Foundation to Twitter's Bootstrap. In my opinion, it's easier to use and has cleaner markup. Since we are using Bower, this process is very simple. Open the bower.json file, and add this to the dependencies object:

```
foundation: '~5.4.4'
```

Note: If you are reading this and it isn't September 2014, then you may want to double check the version.

Then, we run bower install again. Done!

Now you have a front end application ready for development, with a whole suite of tools and frameworks installed.