Developing Web Applications using Angular 2

Agenda

- Angular Modules and Dynamic Module Loading

- Creating New Angular Projects with Angular CLI

- Developing in Angular with Components and Services

- Configuring Angular Routing and Navigation

- Working with Observables & Asynchronous Data Retrieval

Angular Command Line Interface

Use angular cli (command line interface)

- https://github.com/angular/angular-cli
- Automatic change detection, can just change code while you are developing and your browser will automatically be refreshed
- Built in commands to create components, directives etc
- Run karma tests
- Run full project linting
- Automates build process

Why A Complete Rewrite of AngularJS?

- JavaScript is more matured now
  - Dynamic module loading
- Browsers are more matured now
- Performance improvements
- Saying bye to some of old friends
  - (scope, modules, controllers, jqLite)

Web Components

- Custom HTML Elements
  - Extensions to HTML through the use of custom tags
- HTML Imports
  - Packaging of resources (HTML, CSS, JS, etc)
- Template Elements
  - Inclusion of inert HTML inside a document
- Shadow Dom
  - Enables encapsulation of DOM and CSS

Core Change Detection

- Unidirectional tree based change detection
- Unidirectional flow is a win for performance
- Change detection works with:
- Plain JS Objects
- Immutable Objects
- Observable objects

Angular 2 Core: Dependency Injection

- Dependencies are not created, they are injected

- Single syntax for DI

- E.g. constructor(e: EventEmitter) or,

- Or, constructor(@Inject(EventEmitter) e: EventEmitter)

Angular 2 Core: Directives

- Three types of directives
- Component Directive
- Decorator Directive
- Template Directive

- Tells the framework when to start acting
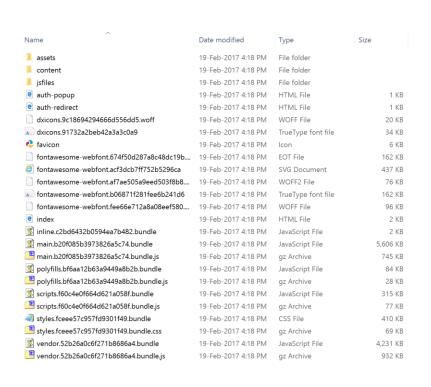- No need to call explicitly

Angular Cli Getting Started

npm install –g angular-cli

ng new new-app

cd new-app

ng serve

Other Commands

- ng generate …. (components, routes, services)
- ng build -- prod
- ng build -- dev

Angular Cli build output

Name	Date modified	Type	Size
assets	19-Feb-2017 4:18 PM	File folder	
content	19-Feb-2017 4:18 PM	File folder	
jsfiles	19-Feb-2017 4:18 PM	File folder	
auth-popup	19-Feb-2017 4:18 PM	HTML File	1 KB
auth-redirect	19-Feb-2017 4:18 PM	HTML File	1 KB
dxicons.9c18694294666d556dd5.woff	19-Feb-2017 4:18 PM	WOFF File	20 KB
dxicons.91732a2beb42a3a3c0a9	19-Feb-2017 4:18 PM	TrueType font file	34 KB
favicon	19-Feb-2017 4:18 PM	Icon	6 KB
fontawesome-webfont.674f50d287a8c48dc19b...	19-Feb-2017 4:18 PM	EOT File	162 KB
fontawesome-webfont.acf3dcb7ff752b5296ca	19-Feb-2017 4:18 PM	SVG Document	437 KB
fontawesome-webfont.af7ae505a9eed503f8b8....	19-Feb-2017 4:18 PM	WOFF2 File	76 KB
fontawesome-webfont.b06871f281fee6b241d6	19-Feb-2017 4:18 PM	TrueType font file	162 KB
fontawesome-webfont.fee66e712a8a08eef580...	19-Feb-2017 4:18 PM	WOFF File	96 KB
index	19-Feb-2017 4:18 PM	HTML File	2 KB
inline.c2bd6432b0594ea7b482.bundle	19-Feb-2017 4:18 PM	JavaScript File	2 KB
main.b20f085b3973826a5c74.bundle	19-Feb-2017 4:18 PM	JavaScript File	5,606 KB
main.b20f085b3973826a5c74.bundle.js	19-Feb-2017 4:18 PM	gz Archive	745 KB
polyfills.bf6aa12b63a9449a8b2b.bundle	19-Feb-2017 4:18 PM	JavaScript File	84 KB
polyfills.bf6aa12b63a9449a8b2b.bundle.js	19-Feb-2017 4:18 PM	gz Archive	28 KB
scripts.f60c4e0f664d621a058f.bundle	19-Feb-2017 4:18 PM	JavaScript File	315 KB
scripts.f60c4e0f664d621a058f.bundle.js	19-Feb-2017 4:18 PM	gz Archive	77 KB
styles.fceee57c957fd9301f49.bundle	19-Feb-2017 4:18 PM	CSS File	410 KB
styles.fceee57c957fd9301f49.bundle.css	19-Feb-2017 4:18 PM	gz Archive	69 KB
vendor.52b26a0c6f271b8686a4.bundle	19-Feb-2017 4:18 PM	JavaScript File	4,231 KB
vendor.52b26a0c6f271b8686a4.bundle.js	19-Feb-2017 4:18 PM	gz Archive	932 KB

- Creates file with guid names based on if content has changed
- Makes caching easy
- Splits up scripts (your code, reference libraries etc)
- Can make it include files as required
- Copy to server and it