ANGULAR

Single Page Application

ES6-TYPESCRIPT

ANGULAR

A NEW WAY TO WEB DEVELOPMENT

ANGULARJS – 1.X

- AngularJS is a **JavaScript-based** open-source **front-end** web framework mainly maintained by **Google** and by a community of individuals and corporations to address many of the challenges encountered in developing single-page applications
- It aims to simplify both the **development** and the **testing** of such applications by providing a framework for client-side model–view–controller (**MVC**) and model–view – viewmodel (**MVVM**) architectures
- AngularJS is used as the frontend of the MEAN stack, consisting of **MongoDB** database, **Express.js** web application server framework, **AngularJS** itself (or Angular), and **Node.js** server runtime environment
- The AngularJS framework is on **LTS** until **December 31, 2021**

HOW ANGULARJS WORKS

- The AngularJS framework works by first reading the **HTML** page which has additional custom HTML attributes embedded into it
- Angular interprets those **attributes** as **directives** to bind input or output parts of the page to a **model** that is represented by standard **JavaScript variables**
- The values of those JavaScript variables can be manually set within the code, or retrieved from static or dynamic JSON resources
- To work with **Angularjs** knowledge of **JavaScript** is mandatory

ANGULAR – 2.X

- **Angular commonly referred to as "Angular 2+" or "Angular v2 and above"** is a **TypeScript-based** open-source web application framework led by the Angular Team at Google and by a community of individuals and corporations
- Angular is a **complete rewrite** from the same team that built AngularJS
- Angular is used as the **frontend** of the **MEAN stack**, consisting of **MongoDB** database, **Express.js** web application server framework, **Angular** itself (or AngularJS), and **Node.js** server runtime environment
- Stable release **12.0.1 ON** '19 May 2021'
- **Angular 2+** is written in **Type-Script** by **Microsoft**

ANGULAR VERSIONS

- **Angular 2** **September 14, 2016**
- Angular 4 March 23, **2017**
- Angular 5 November 1, **2017**
- Angular 6 May 4, **2018**
- Angular 7 October 18, **2018**
- **Angular 8** **May 28, 2019** **(TypeScript 3.4 support)**

- **Google pledged to do twice-a-year upgrades**

ANGULAR LATEST RELEASES

Version	Status	Released	Active Ends	LTS Ends
^12.0.0	**Active**	**May 12, 2021**	**Nov 12, 2021**	**Nov 12, 2022**
^11.0.0	LTS	Nov 11, 2020	May 11, 2021	May 11, 2022
^10.0.0	LTS	Jun 24, 2020	Dec 24, 2020	Dec 24, 2021
^9.0.0	**LTS**	**Feb 6, 2020**	**Aug 6, 2020**	**Aug 6, 2021**

HOW ANGULAR WORKS

- Angular does not have a concept of "**scope**" or "**controllers**"
- Works on the concept of **components**
- Angular uses **TypeScript** language
- Architecture **of** an Angular application contains **modules**, **components**, **templates**, **metadata**, **data binding**, **directives**, **services**, and **dependency injection**

ANGULAR INSTALLATION

- **Install Node.js**
- **Install NPM**
- **Install Angular CLI**
- **node -v and npm -v and ng --version**
- **npm install -g npm**
- **npm install -g @angular/cli**
- **npm install bootstrap@4 jquery --save**
- Angular uses **NPM** to install **libraries, packages** and also to execute scripts
- Angular CLI is used to **generate**, **build, run**, and **deploy** Angular application
- Install the Angular CLI globally using NPM

Angular cli update

- https://github.com/angular/angular-cli/blob/master/packages/angular/cli/README.md

ANGULAR CLI

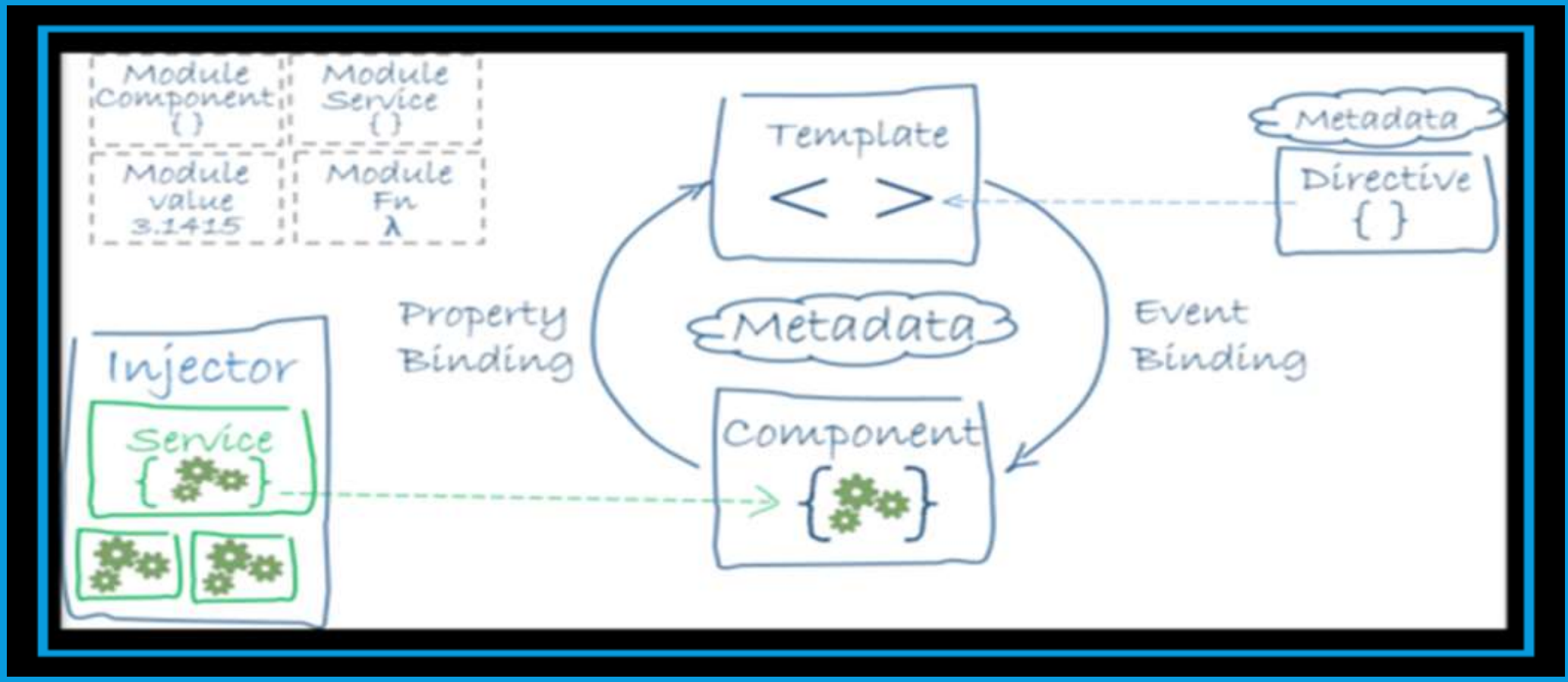
- Angular CLI helps us to set up a workspace and an initial application quickly which includes necessary **NPM** libraries and other **dependencies** for the application
- Create a folder where we want to create the application as below
- **c:\AngularApps> ng new FirstApp or**
- **ng new FirstApp -d or**
- **ng new FirstApp --skip-tests**
- **To open the folder in visual studio code use below command**
- **c:\AngularApps\FirstApp\>code .**
- **Use Angular CLI command ng serve -o or npm start to build an application**
- **The -o indicates to open it automatically in the default browser**
- **http://localhost:4200**

CONTINUE…

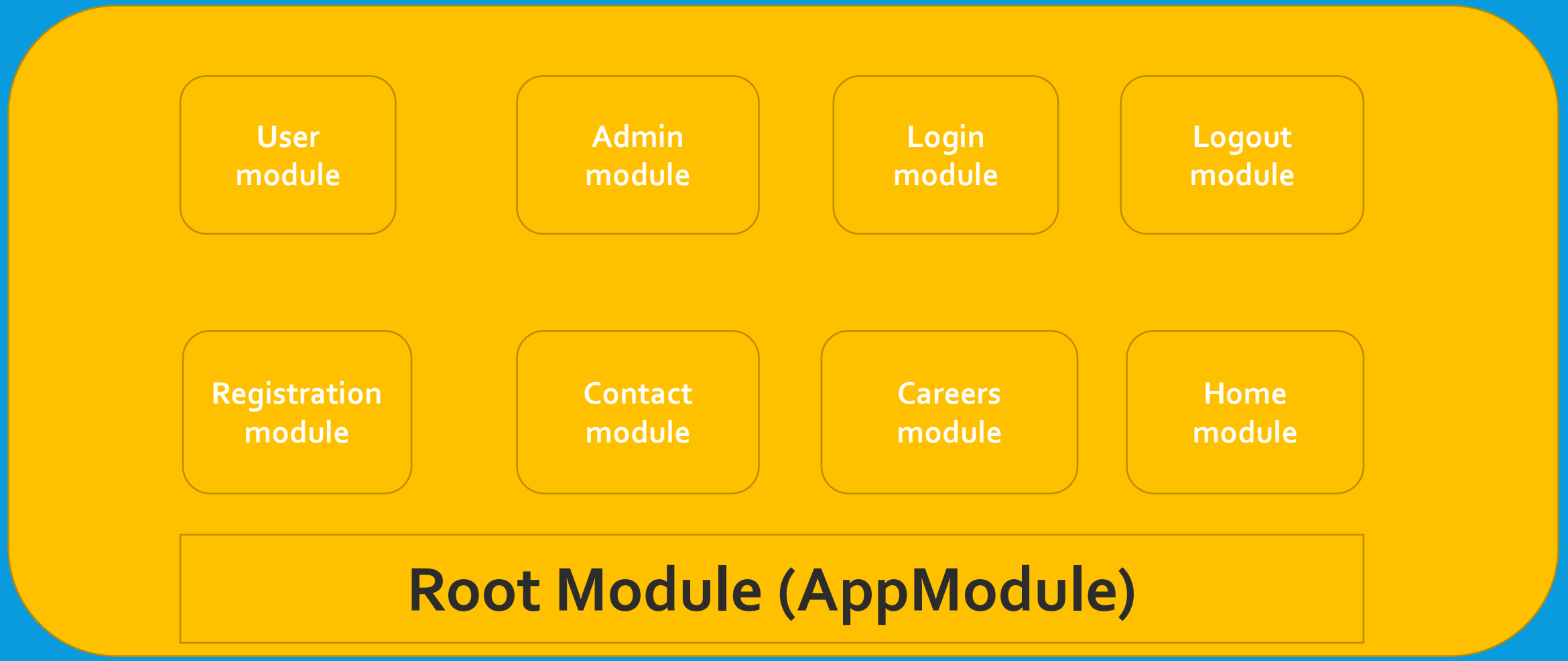
- **ng serve** command **builds** the app, **starts** the development server, **watches** the source files, and **rebuilds** the app as we make changes to the files
- **ng serve** command keep watching source files so if we make any changes in any file of the project it will **rebuild** it and **refresh** the browser automatically to reflect the changes

ANGULAR ARCHITECTURE

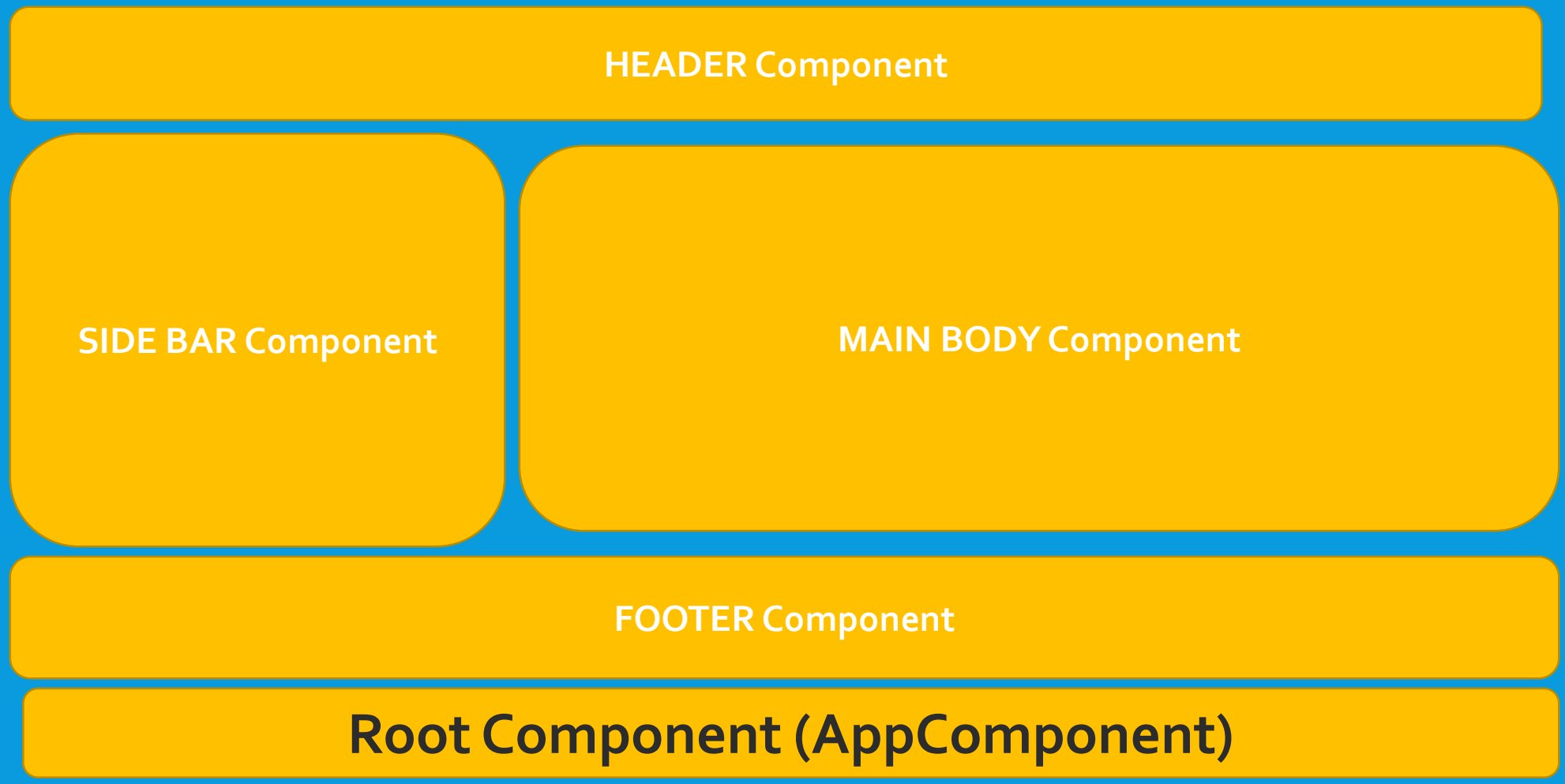
Official Angular Image: https://angular.io/guide/architecture



MODULES

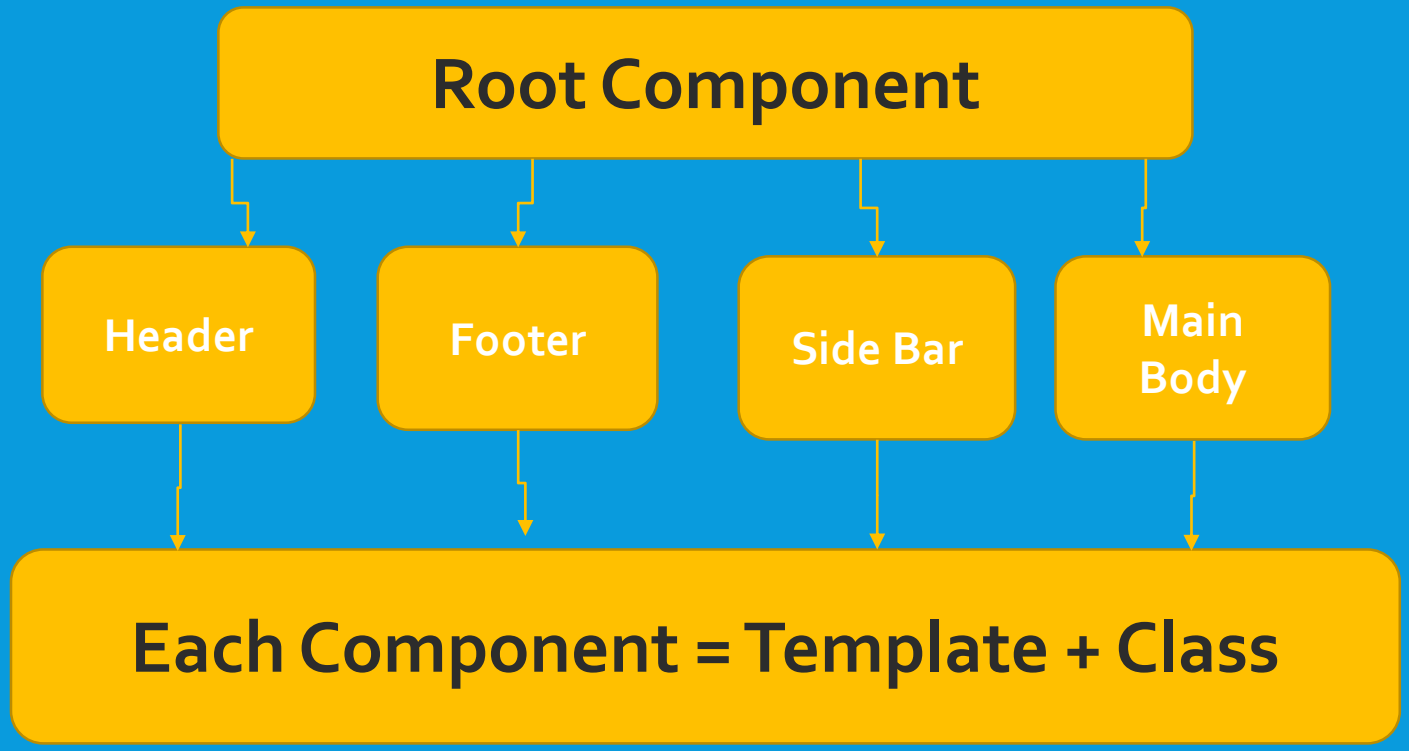

User module
Admin module
Login module
Logout module
Registration module
Contact module
Careers module
Home module
Root Module (AppModule)

COMPONENTS


HEADER Component
SIDE BAR Component
MAIN BODY Component
FOOTER Component
Root Component (AppComponent)

ROOT COMPONENT

- Nesting Of Components



API REFERENCES

- https://angular.io/guide/setup-local
- https://angular.io/cli
- https://en.wikipedia.org/wiki/ECMAScript
- https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Functions/Arrow_functions
- https://www.typescripttutorial.net/
- https://www.typescriptlang.org/docs/
- https://devdocs.io/typescript/
- https://angular.io/api
- https://www.typescripttutorial.net/

ANGULAR

THANK YOU