Angular Intro Notes

Angular is a platform not just a framework because you can build any type of application at scale right out of the box.

We write Angular code using TypeScript, also HTML/CSS
Good idea to know how to write npm and Node.js
Angular comes with full support for all modern web browser and modern operating system

Codespaces are secure dev environments hosted on GitHub with no need to download anything to your local machine. Easy to control access and share settings. Must set –host-0.0.0.0 and –disable-host-check

open terminal: npm start

<body class="container">

Go to 'index.html' => we load the actual Angular application using '<app-root>' element. Bootstrap works with Angular application but it is not required. Angular will work just fine without the Bootstrap. <app-root> selector is a custom selector Angular looks for when loading this application. We can call it anything we like, but we usually call as <app-root>. Go to source folder and click on 'main.ts' to open the file. Main.ts tells Angular which module to load first on application launch.
Styles.css file => this file is the main style sheet for the project. All pages and components have access to styles defined in this file. We are using 'styles.css' to override Bootstraps defaults with our custom fonts and colors, but you can put any valid CSS in here. We have mock data here, src/assets/mocks/players.json. This file has all static data for players in our app. We are using mock data in this file to avoid the need for real remote server. Same goes with messages.json file as well in the same folder. It has all the static data that represents all the unread messages. Then we have the 'app' folder this is where most of our custom application code lives. We spend most of the time in this folder while building an Angular project.

Angular started life at Google as a side project to help employees build internal web apps. What made Angular unique is, it focused on extending HTML markup with custom attributes and dynamic content, instead of using JavaScript to generate the HTML at runtime. It allowed to keep templates from controllers. Angular keeps HTML and JavaScript separate.

No matter how big the project is, the JavaScript framework should be stable and secure. Angular uses semantic versioning to track changes, and releases. Semantic versioning or SEM VER is both a strategy and a naming convention that helps you know exactly what to expect from each release. It lets everyone knows what to expect from each new release. There are always three types of Angular releases when using SEM VER: Major release, Minor release and Patch releases. Angular releases, Major release contain big new features, it is sometimes called a breaking change because you may need to learn new APIs, refactor code or update config files. Minor releases are usually small new features that are backwards-compatible with previous versions. Patch releases are low-risk fixes for bugs and security. NG update command upgrades all dependencies all at once.

Angular is released under a permissive license called the MIT license. The license gives you and your team to use the software free of charge as long as you include the copyright notice and license info.

Angular was originally designed to build Single-Page Applications (SPA). SPAs are websites where content updates dynamically without the need to refresh the browser. It makes the website feel like native App experience. What makes Angular unique is, on extending HTML markup with custom attributes and dynamic content. It allowed developers to keep templates out of controllers.

Angular comes with its own ecosystem of developer tools and workflow. Angular CLI is the official command-line tool for Angular projects, which is open-source and released under the MIT license. Usually, CLI version 15 works with Angular version 15. that makes it easy to upgrade all dependencies at once when needed.

Five important commands
ng build: to compile code and output files into a build directory.
ng serve: compile code, launch a dev server, and watch for file changes
ng generate: to add new files using Angular's built-in boilerplates
ng lint and ng test: to run Angular's lint and unit testing tools

Angular language service
Tells code editors how to work with Angular code

Angular Dev Tools is a browser extension that gives detailed debugging information in real time when running your application in a browser.

Angular Schematics, which are collections of custom code to reuse across multiple projects. ng generate command uses Schematics under the hood to generate new files under the hood to populate new files with the correct boilerplate content.