WEB701

Assignment 3

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# Angular: What is it?

Angular is a free and open-source framework that consists of CSS, HTML, and TypeScript(JavaScript), and was initially released by google in 2010. Angular is written in TypeScript (which is then converted to JavaScript) and implements TypeScript libraries for use in web applications (Angular, n.d.).

There are currently 12 release of Angular with the latest active release in May of this year, and the latest stable release released in November of 2020, and all key releases are supported for eighteen months (Wikipedia, 2021).

Angular is used for creating the front end of a web application while also using MongoDB and Express.js server frameworks to create a full stack web app. Angular has a comprehensive website consisting of hundreds of components with examples and code for use in creating Client-side, single-page web applications.

# Implementation of Angular

For the implantation of Angular in my project I mainly used the “Angular 11 JWT Authentication example with Web Api” written by Bezkoder (bezkoder, 2021). This was a very helpful and interactive guide and implementing a basic angular front end that made use of the JSON Web Token Authentication framework.

Firstly, I used the terminal and ng to generate a few components and services such as login, register, profile to name a few. From there the app.module.ts file was created and modules were imported and declared for use in the wider project.

The next step was to create a services folder where the Authentication service, token storage service, and data service would be located. The authentication service is where signup and login requests are sent to the backend (Mongo DB). The token storage service is where user and token information are managed and makes use of the browser session storage function (bezkoder, 2021). From here a Http interceptor was added but needed changes made to it to ensure it was able to make use of the ‘Node.js + MongoDB’ backend, then Bootstrap was imported to the index.html file.

The next step, and a very important one, was to create the components to be authenticated such as register, login, profile, and home. Each of these components comprised of its own folder containing a CSS, html, typescript, and spec file. Each component had its own form of validation, for example the register component required a username to consist of at least 20 characters with a minimum of 3, a proper email format, and a minimum length of 6 characters for the password. The login component made use of the authentication and token storage services which were imported from their respective files. These components also implemented error checking and messages to inform a user of an error such as input of an incorrect password, or incorrect username length.

From here role-based components were created such as user, moderator, and admin. These roles give users of the website different privileges and access to certain information depending on their corresponding role. A user can only login, amend their information, and view general content on the website, whereas a user with an admin role is able to add and delete information to and from the website, and a moderator again has more privileges. On login each of the role types is presented with a board corresponding to their role such as a user board, moderator board, and admin bored of which in the implementation of these made use of the user service methods created earlier on.

The last steps consisted of ensuring all app routing is configured correctly, and that the app component of the project is implementing the correct components and services. From there ‘ng serve – port 8081’ is typed into the terminal to deploy the web app in conjunction with the previously created backend (bezkoder, 2021).

# Encountered Problems

Angular is a very complicated framework to learn as there are many different files even in a small project to navigate through so I was easily confused when it came to implementing different features into my project. I tried a few different tutorials and websites for guidance on implementing different features, as well as made use of the ‘inspect’ feature of google chrome to see where in the code I could make changes, but I was still rather confused on where to start in terms of changing components.

# The Future of Angular

Since its first release Angular has been immensely popular, being compared to the likes of React for years and even surpassing it as the most popular framework used for creating web applications. With its ability to reuse code and components, implement two-way data binding (Sebek, 2021). Many users took on learning typescript with enthusiasm to make use of the amazing new things that Angular could bring.

Although it is extremely popular and widely used, Angular is now coming second best to the Vue framework as it is more lightweight in comparison and has a easier learning curve (Sebek, 2021). Diehard fans will however continue to use Angular over other frameworks as it is a more mature and cohesive framework consisting of a large collection of libraries and documentation to make use of (Sebek, 2021).

Google is constantly releasing new versions of Angular to keep up to date with the tech world and new ways of implementing things. This will keep old and new users of Angular coming back for more and making use of the new components and upgrades that each release brings.

Web developers will continue to create lightweight and easy to interact with web applications with the use of Angular for many years to come. It is definitely not going anywhere any time soon.

# References

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