

ADVANCED WEB APPLICATION DEVELOPMENT WEEK 12 ASSIGNMENT

Differentiate between Angular and AngularJS

Angular

Angular is a web framework that is open-source and completely free to use. While it is considered to be a JS-based framework, its primary programming language is TypeScript. Developed by Microsoft, TypeScript is a superset of JavaScript, which simply means that TypeScript has all the capabilities that JS has plus some additional features. Angular is primarily used for developing fully-functional web apps.

Developed by the tech giant Google, Angular was first released for public use in September 2016. The base version of Angular is Version 2, and its current edition is Angular 12 or Version 12.

A popular framework is an ideal option for creating powerful web applications having modern design and highly dynamic behavior. Angular is modular in nature, which means that you can divide the whole application into small parts (called modules) that represent a particular functionality. Angular makes it possible to develop high-performance web applications with ease while sticking with the MVC architecture and offering two-way data binding.

Features of Angular

Angular is among the most powerful JavaScript web frameworks out there, all thanks to its wide range of features. The leading JS web framework facilitates the development of modern and high-performance applications and also makes the development process easier. Here are the most notable features of Angular that you should know about:

- **Cross-Platform:** With Angular, you can not only create stunning UIs for web applications but also for native mobile applications as well as desktop applications. Also, the framework comes in handy if you want to develop applications for Windows, macOS, and Linux operating systems.
- **Makes Use of TypeScript:** Angular makes use of TypeScript, which is better than JavaScript due to the fact that it is a statically-typed language. It means that there will be fewer errors during the compile time as the types of variables are defined beforehand. Also, any piece of JavaScript code is a valid TypeScript code. Moreover, if you know JavaScript, learning TypeScript would be fairly easy.
- **Angular CLI (Command Line Interface):** Angular CLI offers a great way to speed up the development process. From setting up the project to adding components and services, there are several tasks that you can do by simply using Angular's native CLI.
- **Data Binding and Dependency Injection:** The data binding feature is what allows you to add dynamic behavior to the web pages developed using Angular. In general,

two-way data binding occurs between the model and view components. In simple words, whenever you make some changes in the view or UI elements, the changes will be reflected in the model or domain logic in real-time. Also, the vice-versa holds true.

- On the other hand, the dependency injection feature makes it possible to create entities that can deal with the dependencies of components. For instance, services in Angular can perform certain tasks like fetching data from the server and applying validation rules to the user input. You can make these tasks available to multiple components, and the process of making a service available to a component is known as dependency injection.
- Advanced Animations: Angular comes with extensive support for complex animations. As a developer, you can easily add various animations to your application and that too without the need to write lengthy code. Its dedicated functional API for animations makes it fairly simple to introduce animations to different sections of the UI.
- Unit Testing Support: With Angular, it becomes possible to perform unit testing with relative ease and thus, ensure that your code has minimal bugs. The web framework utilizes the Karma test runner for quick and easy debugging.

Angular JS :

AngularJS is an open-source JavaScript framework suitable for front-end web development. Also developed by Google, the intent of AngularJS is to facilitate the development of single-page applications. [Instead of allowing a web server to load entire new pages, SPAs (single-page applications) make interaction with the user by dynamically rewriting the data by fetching the same from the web-server].

One of the most striking facts about AngularJS is that it is the first-ever version of Angular. To put simply, all the 1.XX versions belong to AngularJS, and it is also known as Angular 1. On the other hand, version 2 and subsequent versions are known as Angular.

Google introduced AngularJS in 2010 and it is created using JavaScript. Unlike Angular 2 and later versions, there's no use of TypeScript in AngularJS. It is a major point of distinction between Angular and AngularJS.

The framework is widely known for creating dynamic websites and web applications. Its support for writing code in the MVC (Model-View-Controller) architecture makes it possible for developers to add dynamic behavior to web applications. Also, the architecture comes in handy for easy management of the source code and enables fast development.

Features of AngularJS

Before the release of Angular 2, AngularJS was extensively adopted and used to create performant web applications. The reason is that AngularJS offers a wide variety of features that allows faster development and also ensure better code maintainability. Following are the noteworthy features of AngularJS:

- **Use of Plain JavaScript:** AngularJS makes use of JavaScript programming language and it has nothing to do with TypeScript. Also, the framework uses plain JavaScript, which means that the models in AngularJS are plain JS objects. This feature makes the code developed with AngularJS easy to test and maintain.
- **Controllers and Directives:** The directive and controllers in AngularJS give you the authority to decide the functionality and have complete control over the behavior of an application.

The controllers allow you to define the behavior of DOM (Document Object Model) elements. You can decide how DOM elements should act under specific circumstances. On the other hand, directives are added directly into the HTML code to integrate specific functionality within the application. It's important to note that controllers are created separately while the directives are used directly within the (HTML) templates.

- **Reusable Components:** With AngularJS, you can create reusable components that you can use multiple times within an application. For creating these components, you need to make use of directives. A component can represent a particular functionality.
- **Routing:** Routing is the feature that makes it possible to switch between different views of an application. In simple terms, routing allows users to navigate through different pages of a website or different sections of a web app. Single-page applications created with Angular allow users to switch between different views without the need to reload the whole app or the web page.