Angular 8

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INTRODUCTION

❖ The Angular is a development platform for building a Single Page Applications for mobile and desktop

❖ Angular 8 is a client-side TypeScript based structure which is used to create dynamic web applications

❖ Angular is from Google

❖ The Angular is written using the Typescript

❖ It comes with features like component, Directives, Forms, Pipes, HTTP Services, Dependency Injection, etc

❖ Before starting Angular, we must have a good understanding of JavaScript, HTML, CSS, AJAX, and TypeScript.

❖ Latest Version of Angular is 10

❖ Official WebSite : http://www.angular.io

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INTRODUCTION

What are the Challenges in the Modern Web?

- ❖ Unified UX
- ❖ Fluid UX
- ❖ Progressive Web Apps
- ❖ Single Page Application

Unified UX: User Experience Design (UXD or UX) is the process of enhancing user satisfaction by improving the usability, accessibility, and efficiency of user interaction with websites.

Fluid UX: The page components in a fluid page layout adjust to the user's screen size by using percentage widths rather than fixed pixel widths

INTRODUCTION

Progressive Web Apps

Progressive web apps are websites that look and feel like an app. This means users can access all information and capabilities without downloading a mobile app.

progressive web apps use modern web technology to deliver app-like experiences to users, right in their browsers.

Single Page Application

A single page application is a web application or a website which provides a fluid, reactive, and fast application same as a desktop application. It contains menu, buttons, and blocks on a single page and when a user clicks on them, it dynamically rewrites the current page without loading new pages from the server so that its speed is fast.

Features of Angular 8

Preview of Ivy

Differencial Loading

Router backward compatibilty

Web Worker Building

Bazel Support

Lazy loading

opt-in usage sharing

CLI workflow Improvement

Builders API

Service Workers

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Features of Angular 8

Web Workers

When executing scripts in an HTML page, the page becomes unresponsive until the script is finished.

A web worker is a JavaScript that runs in the background, independently of other scripts, without affecting the performance of the page. You can continue to do whatever you want: clicking, selecting things, etc., while the web worker runs in the background.

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Features of Angular 8

Service workers

Service workers augment the traditional web deployment model and empower applications to deliver a user experience with the reliability and performance on par with natively-installed code

Adding a service worker to an Angular application is one of the steps for turning an application into a Progressive Web App

Features of Angular 8

Builders API

A number of Angular CLI commands run a complex process on your code, such as linting, building, or testing. The commands use an internal tool called Architect to run CLI builders, which apply another tool to accomplish the desired task.

With Angular version 8, the CLI Builder API is stable and available to developers who want to customize the Angular CLI by adding or modifying commands. For example, you could supply a builder to perform an entirely new task, or to change which third-party tool is used by an existing command.

Features of Angular 8

Bazel Support

❖ Bazel is Google's open-source part of its internal build tool called Blaze
❖ The Angular framework itself is built with Bazel.
❖ Bazel is capable of doing incremental builds and tests
❖ Incremental build means that it will only build what has changed since the last build. Bazel does this by building a task graph based on the inputs and outputs set throughout the application and evaluating which ones need a rebuild. Therefore, the first build will take some time, but the subsequent builds should take much less time. This enables the application to scale without affecting the build times too much.
❖ Bazel supports multiple languages and platforms and makes it possible to build full-stack applications using the same tool.

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Features of Angular 8

Angular Router Backwards Compatibility

Latest version of Angular ensures backward compatibility. This means the latest version will still work with older versions of the framework, making it easier to migrate and transition to the newest Angular version.

TypeScript 3.4 Support

Angular 8 supports the TypeScript 3.4 or above version. So, if we want to use Angular 8 for our application, then we need to first upgrade the TypeScript to 3.4 or above.

Features of Angular 8

Angular Ivy

- ❖ Ivy is the code name for Angular's next-generation compilation and rendering pipeline.
- ❖ AOT compilation with Ivy is faster and should be used by default.
- ❖ Using Ivy Angular reaches better build times (with a more incremental compilation)
- ❖ Reach better build sizes (with a generated code more compatible with tree-shaking)

Differential loading

- ❖ Command Line Interface (CLI) will now produce separate bundles for modern JavaScript (ES2015+) and legacy JavaScript (ES5).
- ❖ It removes the overhead of browser compatibility. It also improves the page loading time and reduces the amount of time it takes for the page content to become interactive for users.

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What is Node JS

❖ Node.js is a server-side JavaScript run-time environment

❖ Node.js uses asynchronous programming!

❖ Node simply allows you to run JavaScript code on a machine such as your local computer or a server without having to go through a web-browser.

❖ Official Website:http://www.nodejs.org

What Can Node.js Do?

❖ Node.js can generate dynamic page content

❖ Node.js can create, open, read, write, delete, and close files on the server

❖ Node.js can collect form data

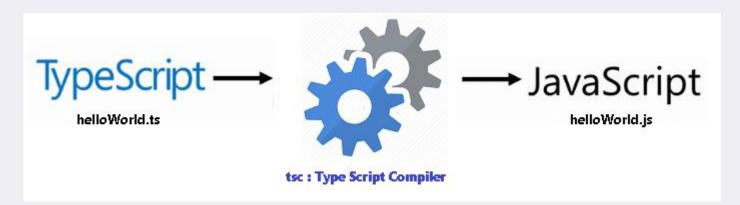❖ Node.js can add, delete, modify data in your database

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What is NPM

❖ NPM is a package manager for Java Script.

❖ www.npmjs.com hosts thousands of free packages to download and use.

❖ The NPM program is installed on your computer when you install Node.js

❖ npm makes it easy for JavaScript developers to share and reuse code, and it makes it easy to update the code that you're sharing.

npm -v

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What is TypeScript

➢ Type script is a superset of java script

➢ Typescript is an Open Source Programming Language maintained and Developed by Microsoft

➢ When compiled (or transpiled) it produces Javascript.

➢ TypeScript is a primary language used in Angular application development.

TypeScript → ⚙ **tsc : Type Script Compiler** → **JavaScript**

helloWorld.ts   helloWorld.js

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Angular CLI

- ❖ Angular CLI is known as Angular Command Line Interface
- ❖ It is a command-line tool for creating angular apps.
- ❖ It is mentioned to use angular CLI for creating angular apps as if we do not need to spend time to install and configure all the required dependencies and wiring everything together.
- ❖ Angular CLI is a helpful tool to create and work with Angular Applications efficiently.
- ❖ Official Website : http://www.cli.angular.io

Thank You

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