Angular 13 | 5 Days Hands on Workshop

Objectives	Understanding Angular Framework this training is a hands-on workshop, It will get you up and running with the Angular Framework, and best practices as you build an advanced web application.
Description	This course will get you up and running quickly by reinforcing the fundamentals of latest version of Angular architecture. It will take you on a journey through creating a fully equipped application, shedding light on some of the most complex processes on its way
Audience	Developers with knowledge of Objective JavaScript, JQuery, HTML and CSS syntaxes participants are also expected to understand the Ajax concepts and usage of libraries in JavaScript.
Classroom	Windows 8 or above with at least 4GB RAM. internet to download libraries. Visual Studio Code, NodeJS Browsers Chrome latest, Firefox with firebug
Software Hardware	Visual Studio Code (Download https://code.visualstudio.com/download) Google Chrome NodeJS (latest or greater than version 16.00) (Download https://nodejs.org/download/release/latest/win-x64/node.exe)
Tooling :	NPM packages (will be installed during session) Angular and dependencies eg: Angular, Nodemon, Express, Mongoose, MongoDB

NOTE : Participants must have admin privileges to install modules as and when needed both from npm and github.

Participants and trainer need internet to access exercises files and resources.

The training will use existing libraries but may create few as needed the exercises files used in the classroom will be made available to the participants at the end of the training only, It is recommended that the participants will participate in creating their own copy of the lessons covered in the training.

Each Participant must maintain their own github account to upload the assignments and queries.

Course Coverage

DAY 1

ECMAScript latest & Typescript
   ECMAScript or ES
   Keywords like let, const, class, extends, super
   Arrow Functions
   Template String Literals
   Optional Chain
   Typescript Introduction
   Types
   Typescript Compiler
   Short-cut initialization of constructor
Angular
   Overview of Single page Apps
   What is new in Angular 13
   The Angular CLI
   Commands of CLI
   Building blocks of Angular framework
   Why Angular 13 ?
   Working with NPM
   Setup Angular 13 project and application
   Introduction to Angular Module
   Root Component
   Writing Re-usable components
   Structure of a component
   Application bootstrapping process
   Annotations of @Module and @Component
   Template interpolation

The training is followed by a small assessment based on the topics and concepts discussed that day. The assessment activity shall not take more than 30 mins to 1 hour max.

DAY 2

Binding
   One way data binding concept
   Property Binding
   Event Binding
   Two way Binding
   Angular MVVM Pattern
   How MVVM pattern is mapped to Angular components
   Template variables

Directives

    Repeat elements with ngFor
    Conditional elements with ngIf
    Switch Conditions
    ngStyle, ngClass
    Custom Directives
    DOM Manipulation
    Element Ref
    @ViewChild
    @HostListener
    Lifecycle hooks

Pipes

    What are Pipes
    Built-In Pipes
    Chaining Pipes
    Custom Pipes

Component Communication

    Nested Components
    Using @input and @output

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DAY 3

Template

    Template Driven Forms
    Two way binding Input Fields
    Accessing the Form Object
    ngSubmit and submit events
    Displaying Form Validation State
    Displaying Field Validation State
    Displaying Validation State Using CSS Classes
    Overview of Model driven forms

Dependency Injection

    Need for Dependency Injection(DI)

Writing services with @Injectable
Registering providers
Inject services in components
Other provider configurations
Inject service within a service

The training is followed by a small assessment based on the topics and concepts discussed that day. The assessment activity shall not take more than 30 mins to 1 hour max.

DAY 4
RXJS
Observable pattern
Using the RxJS Library
Promises vs Observables
Observables and operators
HTTP calls using RxJs library
CRUD with MongoDB/JSON server
Routing
Routing and Navigation
Component Router Terminology
Setting up routes for an application
Set URL Links with RouterLink
Creating Routes with Route Parameters
Default routes
Child and children configuration
Filters for route
Route guards
Route Resolvers
Lazy loading feature
Lazy loading basics
Routing module for lazy loading

DAY 5
Change Detection
Resolving Zone pollution using Zone.js
Identifying unnecessary change detection calls
Optimizing slow computations with various techniques
Content Projection
Single slot content projection
Multi slot content projection

Conditional content projection
@ViewChild

AOT Compilation
How AOT works
Configurating AOT compilation
Compilation phases

Webpack
Configuring Webpack
Webpack bundler

The training is followed by a small assessment based on the topics and concepts discussed that day. The assessment activity shall not take more than 1 hour to 4 hour max.