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## **Angular12**

### **Angular-(version 2 to 11)**

#### **TypeScript Framework**

Introduction to TypeScript  
Advantages of TypeScript  
Overview of Node and Node Environment Setup  
Installing and Configuring TypeScript Engine  
Understanding Transpilation

#### **TypeScript Variables and Data types**

Declaring and Defining Variables  
About “any”  
“var” Vs “let” keywords  
Static and Dynamic Type  
Data types : String, Number, Array, Object, Tuple, Enum, Void and NULL

#### **OOPS in TypeScript**

Defining Class and Creating Objects  
Property, Methods and Constructors  
Handling Inheritance  
Types of Inheritance in TypeScript  
Understanding Access Modifiers  
Static Methods in TypeScript  
Understanding Interfaces in TypeScript

### **Programming with Angular 7 / 8**

#### **Introducing Angular**

What is Angular  
Advantages of using Angular  
Understanding Differences between a Framework and a Library  
Understanding Single Page Applications (SPA)  
SPA Vs. Traditional Applications  
Understanding the MVC Architecture  
MVC in Client and Server Side  
Elements of Angular  
Modules  
Data Binding Directives  
Templates  
Metadata

Dependency Injection  
Angular Components

### **Angular 7 / 8 – Environment Setup**

Installing Node.js and understanding Node Package Manager ( NPM )  
What is Angular CLI  
Advantages of using Angular CLI to manage Projects  
Installing Angular CLI  
Create a Angular App with CLI  
Angular Application File Structure  
Executing Angular Application  
Code Linting  
Installing and Understanding Webpack

### **Angular Modules**

Understanding Angular Modules  
When to use Angular Modules  
Understanding NgModule  
Understanding Root Modules, Feature Modules, Shared Modules  
Using Providers, Managing Imports  
Bootstrapping Angular Application

### **Angular Components**

Understanding Components  
Understanding Components Structure  
Components Interaction and Component Lifecycle  
Using ngOnInit  
Exploring All Lifecycle Hooks  
Understanding Change Detection  
Working with Zone.js  
Working with Component Decorator and its Meta data  
Passing Data between Child and Parent

### **Angular – Data and Event Bindings**

Understanding Data Binding  
Explaining Two-way Data Binding  
Working with Style Binding and Class Binding  
Understanding and Exploring Event Binding  
Element Reference and Event Filtering

## **Understanding Different types of Angular Directives**

- Structural Directives Vs. Attribute Directives
- Exploring all the Angular Structural and Attribute Directives
- Creating Custom Attribute Directives
- Creating Custom Structural Directives
- Writing Attribute Directive Code
- Respond to User Initiated Events
- Pass and Receive property values

## **Angular Pipes**

- Understanding Pipes in Angular
- Uses of Pipes
- Parameterizing Pipes
- Pipes Vs. Directives
- Exploring Pipes : Uppercase, Lowercase, Number, Percent, Currency, Date, Slice, Json
- Difference between Pure Pipes and Impure Pipes
- The PipeTransform Interface
- Chaining Pipes
- Creating Custom Pipes
- Angular Services and Dependency Injection
- Understanding Services
- Purpose of using Services
- Creating Services in Angular
- Overview of Singleton Object
- Understanding Dependency Injection
- Injectors and Providers
- @Injectable() and Hierarchical DI

## **Angular Routing and Advanced Routing**

- Understanding the Essentiality of Routing
- Configuring and Defining Routing in Angular Application
- Understanding the Routing Parameters
- Understanding Static and Dynamic Routes
- Passing and Fetching Route Parameters
- Creating Child Route

## **Angular Template Driven Forms**

Introduction to Forms  
Overview of Template Driven Forms  
Setting up Forms in Angular and Forms Control  
Understanding ngForm  
Accessing Form Values and setting default form values  
Understanding Various Form States  
Form Validations  
Form Groups and Form Control Class  
Understanding One Way Data Binding in Angular Forms  
Angular Reactive Forms  
Understanding Reactive Forms  
Template Driven Forms Vs. Reactive Forms  
Reactive Form Control and Sync View  
Dynamic Validations in Reactive Forms  
Getting Reactive Form Values  
Angular Asynchronous Operations and Advanced HTTP  
Understanding Event Emitter  
Transferring Data with Event Emitter  
Creating Custom Events and Trigger  
ng-content and ng-container

## **Introduction to Async**

Understanding HTTP mechanism  
Handling HTTP Request and Response  
Introduction to Observable and Observer  
Call back Methods in Observable  
Creating Custom Observable  
Connecting backend and APIs

## **Angular Authorizations**

Understanding Client side Authorization and Server Side Authorization  
Creating Guard in Angular  
Understanding Route Guard  
Setting up Route Guard  
Understanding HTTP Interceptors

## **Angular Animations**

Introduction to Animations  
Animations Setup  
Understanding States & Transitions

Entering and Leaving from States  
Animatable Properties  
Animatable Units  
Automatic Property Calculations

Understanding Animation Timing  
Multistep Animation using Keyframes  
Testing Angular Applications  
Introduction to Testing  
Unit Testing  
Setup Jasmine Framework  
Basics to Test Components  
Components Test Scenarios  
Introduction to Karma  
E2E Testing and Protractor  
Angular Security and Internalization  
Importance of Security  
Security in Angular  
Sanitizing the Dangerous Value  
Trusting Values  
bypassSecurityTrustHtml  
bypassSecurityTrustScript  
bypassSecurityTrustStyle  
bypassSecurityTrustUrl  
bypassSecurityTrustResourceUrl  
Cross-site Request Forgery  
Pre-Compiled and runtime  
Using ng2-Translate

### **Angular Performance, Optimization and Deployment**

Change Detection Strategy  
Understanding Web Workers  
Precompiling (AoT)  
Lazy Loading  
Deployment Best Practices  
Production Mode

### **Real Time Project with Angular**

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