Introduction to Angular Essentials Training

Duration: **3 Day**

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Overview

Get Started with Angular! Learn How to Construct Robust, Scalable, and Feature-Rich Web Applications using Angular 18

Geared for experienced web developers, Introduction to Angular 18 Essentials is a three-day hands-on program that explores the latest features and benefits Angular has to offer. It provides you with the practical “real-world” foundational and advanced Angular skills required to solve the usual challenges you might face when developing modern web applications with JavaScript. You’ll leave the course equipped with basic skills required to construct robust, scalable, and feature-rich web applications using the latest stable editions of Angular.

The course starts off with a solid introduction to the core features of the Angular CLI and TypeScript. You’ll then jump right into component-driven development with Angular components, covering data-binding, directives, services, SPA routing, the RxJS library, forms, unit testing, and HTTP/REST.

By the end of this course, you’ll have developed a streamlined yet feature-rich application. This application will integrate components for website structuring, directives for dynamic interactivity, custom pipes for content filtration and formatting, and reactive forms for enhanced user engagement. You'll also employ SPA routing for quick navigation, services for efficient data management, and REST APIs for modern, effective communication with web servers.

Who Should Attend?

The content is appropriate for experienced web developers new to Angular. In order to be successful in the course, you should have solid, current hands-on experience developing basic web applications, and be well versed in HTML5, CSS3 and JavaScript.

Prerequisites

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What You Will Learn

The course includes plenty of hands-on lab work designed to immerse you in the skills required to get you up and running with Angular right away. Guided by our engaging, highly-experienced instructor, you'll explore:

- What Angular is and why should you use it
- How Angular reduces the amount of code that you must write to add rich functionality to both existing and new web pages
- What TypeScript is, why it is useful, and how to use it with Angular
- How to facilitate development and deployment using Angular CLI
- How to work with the various aspects of the Angular architecture to implement clean, responsive web interfaces
- How Routers can support navigation within a Single Page Application
- What the best practices are for using Angular so that it works unobtrusively and performs well
- How to use Angular with HTTP to support JSON, REST, and other services

Outline

Getting Started with Angular

1. Overview of Angular Architecture

- Angular Versioning
- Data Binding
- Components and Dependency Injection
- Services and Events
- Common Component Lifecycles and Hooks

2. TypeScript

- Angular, ES6 and TypeScript
- Typing and Classes
- Abstract Classes and Interfaces
- Annotations
- Generics
- Optional Chaining
- Nullish coalescing
- Decorators
- Partial, Record, Union types

3. Bootstrapping with Angular CLI

- Angular CLI Overview
- New Projects with CLI
- Testing and Generating with CLI
- Angular Console – NX Console

4. Angular Basics

- Configuration Files

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- Working with angular.json
- Top-Level Directories
- Contents of app folder
- Angular DevTools

Working with Angular

5. Components and Events

- Data Binding and Components
- Event Binding
- Custom Events
- Parent/Child Events
- EventEmitter/emit()

6. Third Party Libraries

- Angular and the Need for Libraries
- Options for adding Libraries
- Working with npm install

7. Dynamic Views - Directives

- View Encapsulation
- Structural/Attribute Directives
- Conditional Styling

8. Pipes

- Overview of Pipes
- Built-in Pipes
- Formatting and Conversions
- Parameterizing Pipes
- Pure vs. Impure Pipes
- Customizing Pipes

Angular Forms

9. Forms and the Forms API

- Forms and NgModel
- NG Form Groups
- NG Form Validation
- Model-Driven Reactive Forms
- FormBuilder API
- Reactive Form Validation

Single Page Applications and Routes

10. Single Page Applications - Routing

- Overview of the SPA Concept
- Routing for Page Display
- Working with ActivatedRoute

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- Location Strategies
- Nested Routes

11. Services (Dependency Injection)

- Angular's DI Framework
- Components and Injectables
- Tree-shakeable providers
- Service Interfaces and DI
- Constructor Injection

12. Modules

- Overview of Modules
- Feature Modules
- Feature Module Routing
- Shared Modules

Using RESTful Services

13. Angular and REST

- REST in Angular
- Promises, Observables, Subject
- HttpClient and Observables
- async Pipes and HttpClient Interceptors