

Angular 18: Components, Routing & Signals

Learn to build, route and manage state in Angular 18 applications using components, services, forms and signals.

17

MODULES

69

TOPICS

COURSE OVERVIEW

This course covers the fundamentals of Angular 18, starting with the Angular CLI, project structure and TypeScript before moving into components, templates, directives and data binding. It then addresses services and dependency injection, template-driven and reactive forms, routing and navigation, pipes, and HTTP client integration with APIs. Later modules cover state management with RxJS, Signals and NgRx, Angular modules and lazy loading, progressive web apps, testing with Jasmine and Karma, security practices, and building an Angular application for production deployment.

WHO THIS COURSE IS FOR

Front-End Developers

Angular Developers

Web Developers

Full Stack Developers

UI Developers

LEARNING OBJECTIVES

- Explain Angular 18 features and set up a development environment
- Describe the Angular project structure and CLI commands
- Apply TypeScript features such as interfaces, classes and decorators
- Build components using lifecycle hooks, @Input and @Output
- Implement templates, directives and data binding techniques
- Create services with dependency injection for sharing data
- Develop template-driven and reactive forms with validation
- Configure routing, lazy loading and route guards

17 Modules, 69 Topics

01

Introduction to Angular

TOPICS

What is Angular? · Features of Angular 18 · Angular vs. React vs. Vue · Setting up Angular Development Environment · Creating an Angular Project (ng new) · Understanding Angular CLI Commands

02

Angular File Structure & Project Setup

TOPICS

- Overview of Angular Project Structure
- Understanding src/app folder
- Importance of angular.json, package.json, and tsconfig.json
- Running & Serving the Angular App (ng serve)

03

TypeScript for Angular

TOPICS

Introduction to TypeScript · TypeScript Data Types · Functions and Arrow Functions · Interfaces and Classes · Modules and Decorators

04

Components in Angular

TOPICS

Understanding Components · Creating Components using CLI · Component Lifecycle Hooks · Passing Data using @Input() and @Output() · ViewChild & ContentChild

05

Templates & Directives

TOPICS

- Angular Template Syntax
- Structural Directives (*ngIf, *ngFor, *ngSwitch)
- Attribute Directives ([ngClass], [ngStyle])
- Custom Directives

06

Angular Data Binding

TOPICS

Interpolation (`{{ }}`) · Property Binding (`[ ]`) · Event Binding (`( )`) · Two-Way Binding (`[(ngModel)]`)

07

Angular Services & Dependency Injection

TOPICS

- Creating Angular Services (ng generate service)
- Dependency Injection (DI)
- Singleton Services
- Sharing Data using Services

08

Angular Forms

TEMPLATE-DRIVEN FORMS

- Binding Form Fields
- Form Validation (Built-in Validators, Custom Validators)

REACTIVE FORMS

- Creating Reactive Forms
- Validating Reactive Forms
- Submitting Form Data

09

Angular Routing & Navigation

TOPICS

Setting up Routing in Angular · Configuring Routes (RouterModule) · Router Links (routerLink) · Route Parameters (ActivatedRoute) · Lazy Loading Modules · Route Guards (CanActivate, CanDeactivate)

10

Angular Pipes

TOPICS

- Built-in Pipes (DatePipe, UpperCasePipe, CurrencyPipe, etc.)
- Custom Pipes
- Using Pipes with Parameters

11

HTTP Client & API Integration

TOPICS

Setting up HttpClientModule · Making GET, POST, PUT, DELETE Requests · Handling API Errors using HttpInterceptor · Observables vs. Promises · Handling Authentication Tokens

12

State Management in Angular

TOPICS

Introduction to State Management · Using RxJS and Observables · Angular Signals · NgRx for Advanced State Management

13

Angular Modules & Lazy Loading

TOPICS

Understanding Angular Modules · Feature Modules vs. Core Modules · Lazy Loading Modules · Preloading Strategies

14

Progressive Web Apps (PWA) with Angular

TOPICS

- Introduction to PWAs
- Enabling PWA Support in Angular (ng add @angular/pwa)
- Understanding used cases of Service Workers and Caching

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Testing in Angular

TOPICS

Unit Testing with Jasmine & Karma · Component Testing · Service Testing

16

Security in Angular

TOPICS

Best Practices for Security · Handling JWT Authentication · Protecting Routes with Guards

Deploying Angular Applications

TOPICS

- Building Angular App for Production (ng build --prod)

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

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