

Angular 17

Course Duration: 40 Hours

Course code: A-17

1. Course Overview

This course introduces learners to Angular 17, the latest version of Google's popular frontend framework. It covers fundamental concepts like components, templates, directives, services, and routing, while also introducing Angular 17's new features such as the modern control flow (@if, @for, @switch), Signals for reactivity, and deferrable views for lazy loading UI elements. Learners will also practice building real-world applications and prepare for junior Angular developer roles by mastering HTTP communication, forms, and state management basics.

2. What you'll learn?

By the end of this course, you will be able to:

- Understand Angular 17 architecture and its role in frontend development.
- Set up Angular 17 projects using the Angular CLI.
- Build and manage components, modules, and services.
- Use Angular 17's new control flow syntax (@if, @for, @switch).
- Implement Signals for reactive state management.
- Build forms using template-driven and reactive approaches.
- Configure routing, lazy loading, and deferrable views.
- Communicate with APIs using Angular's HttpClient.
- Apply RxJS Observables and operators for async programming.
- Style applications with Angular Material and best practices.
- Test, debug, and deploy Angular 17 applications.

3. Target Audience

- Beginners who want to start with Angular 17.

- Frontend developers switching from React, Vue, or Vanilla JS.
- Students, professionals, and freshers aiming for Junior Angular Developer roles.

4. Pre-Requisites

Familiarity with:

- HTML, CSS, and JavaScript basics
- ES6+ features (classes, modules, arrow functions)
- Basic knowledge of TypeScript (recommended but optional)

5. Course content

Module 1: Introduction to Angular and TypeScript

- Introduction to Angular
- Introduction to TypeScript
- Setting up the Development Environment and Running the Angular Initial Application
- Angular Directory Structure
- Angular Building Blocks

Module 2: Components and Data Binding

- Working with standalone Components
 - @Component Decorator and its Metadata
 - Generating a Component using the Angular CLI
 - Invoking Components
- Data Binding
 - Interpolation
 - Property Binding
 - Event Binding
 - Two-way Binding
- Control-flow grammar

- Conditionals:
 - ❖ @if
 - ❖ @else
- Loops:
 - ❖ @for
- Switch Statements:
 - ❖ @switch
 - ❖ @case
 - ❖ @default

Module 3: Dependency Injection and HTTP Communication

- Angular Forms
 - ❖ Template Driven Form and its validation
 - ❖ Reactive Form and its validation
 - ❖ model () function
- Interface
 - ❖ Dependency Injection
 - ❖ Working with Services
- Calling Backend APIs
 - ❖ Working with JSON Data
 - ❖ CRUD operations from a Rest API using HttpClient
 - ❖ Map, CatchError/ThrowError and Retry Operators

Module 4: Component Communication and Routing

- Angular Component Communication with @Input/@output decorator
 - ❖ Required Inputs
- Introduction to Routing

- ❖ Implementing Routing in an Angular App
 - ❖ Wildcard Route / Default Route
 - ❖ Navigate Programmatically
 - ❖ Implementing Child Routes
 - ❖ Named router outlets
 - ❖ multiple outlets in one view
 - ❖ Router Inputs
- Working with Route Guards in Angular

Module 5: Authentication

- Implement JWT Token for authentication (Demonstration with available Token Based Api)
- Functional Interceptors

Module 6: Pipes & Directive

- Attribute Directive
 - ❖ NgStyle, NgClass
- Pipes
 - ❖ Introduction to Pipes in Angular
 - ❖ Using Built-in Pipes
 - ❖ Creating Custom Pipes in Angular

Module 7: Angular Best Practice

- Lazy Loading components
- Standalone Components and Multi-Route Application

Module 8: Unit Testing

- Unit testing with Jasmine & Karma

- E2E testing with cypress

