

## Angular 19 Course

**Course Duration: 40 Hours**

**Course Code: ANG19**

### 1. Course Overview

The **Angular 19 Course** is designed to provide learners with the skills required to build modern, dynamic, and scalable single-page applications (SPAs) using the latest Angular 19 framework. This course covers everything from Angular basics to advanced features like standalone components, reactive programming with RxJS, state management with NgRx, server-side rendering, and deploying Angular applications. By the end of the course, learners will be confident in developing enterprise-level web applications with Angular 19.

### 2. What You'll Learn?

- **Fundamentals of Angular 19 and its architecture**
- **Standalone components, directives, and services**
- **TypeScript essentials for Angular**
- **Reactive forms and template-driven forms**
- **Routing and navigation strategies**
- **State management using RxJS & NgRx**
- **Building reusable components and modules**
- **Consuming REST APIs & GraphQL APIs in Angular**
- **Angular 19's latest features and improvements**



- **Performance optimization and lazy loading**
- Unit testing with **Jasmine & Karma**
- **Deployment of Angular apps** on cloud platforms

### 3. Target Audience

- Web developers looking to upskill with Angular 19
- Frontend developers working with earlier Angular versions
- Full-stack developers building enterprise applications
- Anyone with basic JavaScript/TypeScript knowledge

### 4. Pre-Requisites

- Knowledge of **HTML, CSS, and JavaScript**
- Basic understanding of **TypeScript**
- Familiarity with **frontend frameworks** (optional but helpful)

### 5. Course Content

#### **Module 1: Introduction to Angular 19**

- What is Angular?
- Evolution from AngularJS to Angular 19
- Angular 19 features and updates

#### **Module 2: Angular Project Setup**

- Installing Angular CLI
- Creating and running Angular 19 projects
- Project structure explained

### **Module 3: TypeScript Essentials**

- TypeScript basics (interfaces, classes, generics)
- Using TypeScript in Angular apps

### **Module 4: Components, Templates, and Data Binding**

- Creating standalone components
- Property binding, event binding, and two-way binding
- Directives (ngIf, ngFor, ngSwitch)

### **Module 5: Services and Dependency Injection**

- Creating and injecting services
- Hierarchical injector system
- Using HttpClientModule for API calls

### **Module 6: Angular Forms**

- Template-driven forms
- Reactive forms
- Form validation and error handling

### **Module 7: Routing and Navigation**

- Angular Router basics
- Route guards and lazy loading
- Nested routing

### **Module 8: RxJS and Observables**

- Introduction to RxJS
- Using Observables for async programming
- Operators and subjects

### **Module 9: State Management with NgRx**

- NgRx store setup

- Actions, reducers, and effects
- Best practices for state management

### **Module 10: Advanced Angular 19 Features**

- Standalone components vs modules
- Signals API and reactivity improvements
- Angular Material and UI components
- Internationalization (i18n)

### **Module 11: Testing Angular Applications**

- Unit testing with Jasmine & Karma
- End-to-end testing with Protractor / Cypress

### **Module 12: Performance Optimization**

- Lazy loading modules
- Change detection strategies
- Ahead-of-Time (AOT) compilation

### **Module 13: Deployment and Best Practices**

- Building Angular apps for production
- Deploying on Firebase, AWS, and Azure
- Best practices for scalable apps