

Angular Developer Course Curriculum

Module 1: Introduction to Angular

- What is Angular? Why Angular?
- Angular vs AngularJS vs React/Vue
- Angular Architecture Overview
- Setting up the Environment (Node.js, Angular CLI, VSCode)

Module 2: Angular Fundamentals

- Components & Modules
- Templates & Template Syntax
- Data Binding (Interpolation, Property, Event, Two-Way)
- Built-in Directives: *ngIf, *ngFor, [ngClass], [ngStyle]
- Component Communication (Input/Output)

Module 3: Services & Dependency Injection

- Creating and Injecting Services
- Singleton Pattern in Angular
- Hierarchical Injectors
- Observables with RxJS for Data Flow

Module 4: Routing & Navigation

- RouterModule and Route Configuration
- Route Parameters, Query Params
- Route Guards: CanActivate, CanDeactivate
- Lazy Loading & Preloading Modules

Module 5: Forms in Angular

- Template-Driven Forms
- Reactive Forms
- Form Validation (Built-in & Custom)
- Dynamic Form Controls

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Module 6: HTTP & API Integration

- Angular HttpClient Module
- Making GET/POST/PUT/DELETE Requests
- Handling Errors & Interceptors
- API Authentication (JWT basics)

Module 7: Component Deep Dive

- Component Lifecycle Hooks
- ViewChild, ContentChild, and ng-content
- Smart vs Dumb Components
- Structural vs Attribute Directives (Custom Directives)

Module 8: RxJS & Reactive Programming

- Observables, Subjects, BehaviorSubjects
- Operators: map, filter, switchMap, mergeMap, concatMap
- Managing async data with async pipe
- Debouncing and API search

Module 9: Angular State Management

- Local Component State vs App-wide State
- Service-based State
- Introduction to NgRx Store
- Actions, Reducers, Effects (NgRx basics)

Module 10: Testing Angular Apps

- Unit Testing with Jasmine & Karma
- TestBed Setup
- Testing Components, Services, and Pipes
- E2E Testing with Cypress / Protractor

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Module 11: Performance Optimization

- Change Detection Strategy
- Lazy Loading & OnPush Strategy
- Memoization and Pipe Optimization
- Bundle Size Reduction (Tree Shaking, AOT)

Module 12: Advanced Topics & Best Practices

- Angular CLI Schematics
- Reusable Libraries & Component Design
- Angular Universal (SSR)
- Accessibility (ARIA) & SEO Basics
- CI/CD Integration (GitHub Actions, Jenkins)

Bonus Module: Project + Interview Prep

- Real-world Mini Project (e.g. Expense Tracker, Task Manager)
- Git & Deployment (Netlify/Vercel/AWS)
- Interview Questions & MCQs
- Resume Tips for Angular Developers