

Angular Advanced Development

Target Audience: Experienced Angular developers building enterprise-scale applications.

Duration: 3 Days

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Day 1 – Enterprise Architecture & State Management

Topics

- Enterprise Angular Architecture
- Scalable Folder Structure
- Feature-based Architecture
- Advanced Dependency Injection
- Signals Deep Dive
- Signal-based State Management
- NgRx Store Fundamentals
- Actions
- Reducers
- Selectors
- Effects
- Component Store
- Feature Stores
- Environment Configuration Strategies

Hands-on Labs

- **Lab 1:** Build enterprise project architecture
- **Lab 2:** Implement application state using NgRx Store
- **Lab 3:** Manage asynchronous operations using NgRx Effects
- **Lab 4:** Build reusable feature modules with state isolation

Day 2 – Advanced Performance & Enterprise Features

Topics

- Server Side Rendering (SSR)
- Hydration Concepts
- Deferrable Views
- Signals Performance Optimization
- Zone-less Angular Concepts
- Advanced Routing Strategies
- Route Preloading
- Dynamic Component Loading
- Angular CDK
- Virtual Scrolling
- Drag & Drop
- Accessibility (A11Y)
- Security Best Practices
- XSS Prevention
- CSP
- Trusted Types

Hands-on Labs

- **Lab 1:** Implement Virtual Scrolling for large datasets
- **Lab 2:** Build Drag & Drop Kanban Board using Angular CDK
- **Lab 3:** Improve application performance using Deferrable Views
- **Lab 4:** Secure the application using Angular security best practices

Day 3 – Enterprise Development, Micro Frontends & Deployment

Topics

- Micro Frontend Architecture
- Module Federation Concepts
- Enterprise Authentication
- JWT Integration
- OAuth/OIDC Overview

- Advanced HTTP Strategies
- API Versioning
- Offline Support
- Progressive Web Apps (PWA)
- Angular Build Optimization
- CI/CD Best Practices
- Production Deployment
- Monitoring & Debugging
- Application Logging
- Performance Auditing

Hands-on Labs

- **Lab 1:** Create a Micro Frontend using Module Federation
- **Lab 2:** Integrate secure authentication with JWT
- **Lab 3:** Convert an Angular application into a Progressive Web App
- **Lab 4:** Optimize and deploy the application for production