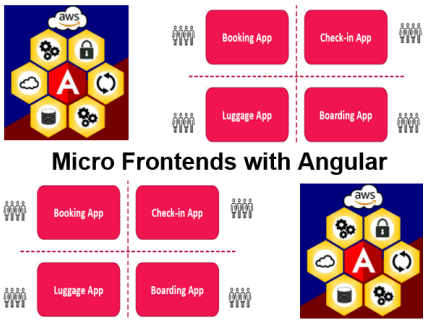
Micro Frontends with Angular

Duration: 3 days **Price: € 2299**

Open Schedule



Audience Course Micro Frontends with Angular

This course is intended for Angular developers, frontend engineers, and software architects who want to learn how to design applications using a micro frontend architecture.

Prerequisites Course Micro Frontends with Angular

Participants should have a good understanding of JavaScript, TypeScript, and Angular development. Familiarity with web components, modular architectures, and build tools is helpful.

Realization Training Micro Frontends with Angular

The course combines theoretical sessions with hands-on labs guided by an expert trainer. Real-world case studies are central to the training experience.

Micro Frontends with Angular Certificate

After completion, participants receive a certificate of participation in Micro Frontends with Angular.

Content Micro Frontends with Angular

The course Micro Frontends with Angular from SpiralTrain teaches you how to design and implement scalable frontend architectures using Angular. You will learn how to break large applications into manageable micro frontends, integrate them seamlessly, and apply techniques for independent deployment and team autonomy.

Introduction

The course Micro Frontends with Angular starts with an overview of the differences between monolithic applications and micro frontends. Benefits, key principles, and real-world examples of micro frontend architectures are discussed.

Angular Recap

Next a short recap of core Angular concepts is given, including components and templates, dependency injection, modules, routing, and change detection, as a foundation for building micro frontends.

Architecture

This module covers architectural patterns and design choices such as domain-driven design, component communication, the use of an event bus, lazy loading, and versioning strategies.

Module Federation

Here participants learn to work with Webpack Module Federation, including host and remote applications, dynamic imports, shared libraries, and best practices for runtime integration.

Integration

This part focuses on integrating micro frontends into a complete application. Topics include routing integration, UI composition, cross-app communication, the role of a shell application, and handling authentication and authorization.

State Management

State management is addressed with an emphasis on challenges of shared state and the use of NgRx. Key topics are store setup, selectors, and reducers for consistent and maintainable state handling.

Deployment

Deployment strategies are discussed with attention to CI/CD pipelines, independent deployments, containerization with Docker, and hosting options in Kubernetes and the cloud.

Testing

This module introduces essential testing approaches such as unit and integration testing, end-to-end testing with Cypress, contract testing, and automation with performance checks.

Advanced Topics

The course concludes with advanced subjects such as security and access control, error handling with error boundaries, performance optimization, and a hands-on project that ties everything together.

Modules Micro Frontends with Angular

Module 1 : Introduction	Module 2 : Angular Recap	Module 3 : Architecture
Micro Frontends Overview	Angular Fundamentals	Micro Frontend Concepts
Monolith vs Micro Frontends	TypeScript Essentials	Architecture Patterns
Benefits and Challenges	Components and Templates	Domain-Driven Design
Use Cases	Services and Dependency	Shared vs Isolated State
Key Principles	Angular CLI	Component Communication
Architecture Styles	Modules and Imports	Event Bus Pattern
Integration Approaches	Data Binding	Routing Strategies
Deployment Strategies	Directives Basics	Lazy Loading
Scaling Teams	Routing Essentials	Versioning Strategies
Real-World Examples	Angular Change Detection	Resilience Patterns
Module 4 : Module Federation	**Module 5 : Integration**	**Module 6 : State Management**
Webpack Module Federation	Routing Integration	State Management Intro
Host and Remote Apps	UI Composition	Local Component State
Dynamic Imports	Shared Navigation	Shared State Issues
Shared Libraries	Shared Services	NgRx Overview
Version Compatibility	Cross-App Communication	NgRx Store Setup
Exposing Components	Micro Frontend Shell	Selectors and Actions
Runtime Integration	Authentication Integration	Reducers and Effects
Configuration Files	Authorization Handling	Cross-App State Sharing
Error Handling	Performance Monitoring	State Synchronization
Best Practices	Testing Integration	State Debugging Tools
Module 7 : Deployment	**Module 8 : Testing**	**Module 9 : Advanced Topics**
Deployment Strategies	Unit Testing Angular	Micro Frontend Security
CI/CD Pipelines	Integration Testing	Authentication Patterns
Independent Deployments	E2E Testing Basics	Authorization Patterns
Version Management	Jest with Angular	Error Boundary Handling
Environment Configurations	Cypress Framework	Accessibility Concerns
Containerization Basics	Contract Testing	Performance Optimization
Docker with Angular	Test Automation	Caching Strategies
Kubernetes Deployments	Performance Testing	Future Trends
Cloud Hosting Options	Accessibility Testing	Case Studies
Rollback Strategies	Testing Best Practices	Hands-On Project