Full-Stack Software Development and Application Design Course

6 – 10 June 2027
Muscat

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Training Center

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Ref: 1674_225932 **Date:** 6 – 10 June 2027 **Location:** Muscat **Fees:** 5700 Euro

Overview

Full-Stack Software Development and Application Design Course is a one-week course for developers, application designers and technical professionals, who leave with an Integrated Application Architecture and Delivery Blueprint. The course connects user interface design, API contracts, data models, application security, automated testing and deployment. Participants make traceable design and delivery decisions across front-end and back-end layers. Agile Leaders Training Center develops full-stack software development capability.

Who Should Attend

- Teams responsible for front-end interfaces and client-side behavior
- Teams responsible for server-side services and API integration
- Teams responsible for database design and data integrity
- Teams responsible for application security and software testing
- Teams responsible for build, release and deployment workflows

The course assumes participants can read and write software code and leaves out beginner programming syntax, vendor certification and production system administration.

Departments and Industries

The course supports departments and industries that design, build and operate integrated software applications.

- Software engineering and product development
- Financial services and digital commerce
- Healthcare technology and professional services
- Government technology and public-service platforms
- Manufacturing, logistics and operational technology

Learning Objectives

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

- Analyze application requirements and layer boundaries
- Build accessible user interfaces and component structures
- Apply OpenAPI contracts and data modeling rules
- Evaluate application security through OWASP ASVS requirements
- Use automated testing and release pipeline methods
- Design an integrated application architecture and delivery blueprint

Course Agenda

Day 1: Application Architecture and Stack Decisions

- Application Context and User Story Map
- Layered Architecture and Dependency Diagram
- Front-End, Back-End and Data Boundary Map
- Technology Selection Decision Matrix
- Version Control Branch and Review Workflow

Day 2: User Interface and Client Integration

- Responsive Interface Wireframe and Component Map
- WCAG 2.2 Accessibility Review Checklist
- Client State and Event Flow Diagram
- Form Validation and Error Message Pattern
- Front-End API Integration Contract

Day 3: API and Data Service Design

- OpenAPI 3.2 Contract Design
- Resource and HTTP Interaction Map
- Relational Data Model and Integrity Rules
- Authentication and Authorization Flow
- Error, Logging and Observability Schema

Day 4: Security, Testing and Deployment

- OWASP ASVS 5.0.0 Requirements Matrix
- Threat Model and Trust Boundary Diagram
- Unit, Integration and End-to-End Test Pyramid
- Build and Release Pipeline Map
- Deployment Configuration and Rollback Checklist

Day 5: Integrated Application Practice

- Exercise: Validate Layer Boundaries and Dependencies
- Exercise: Review Interface Accessibility and API Integration
- Exercise: Test Data, Security and Error Paths
- Exercise: Assess Release and Rollback Readiness
- Capstone: Integrated Application Architecture and Delivery Blueprint

Practical Exercises

Suggested activities use commerce, healthcare, logistics and internal-service application scenarios.

- Suggested activity: map user stories to interface, service and data responsibilities
- Suggested activity: inspect an OpenAPI contract and align it with validation and data rules
- Suggested activity: identify trust boundaries and select security and test evidence
- Suggested activity: build a release decision supported by pipeline and rollback checks

FAQs

Who should take full-stack software development training, and what does it assume?

Full-stack software development training suits developers and technical professionals who can read and write code and need to connect interface, service, data, testing and deployment decisions.

How does full-stack software development differ from front-end development training?

Full-stack software development connects user interfaces with server-side services, APIs, data models, security checks, testing and deployment, while front-end training concentrates on client-side presentation and interaction.

Why are API contracts important in full-stack application design?

API contracts define operations, inputs, outputs, errors and shared data structures, helping front-end and back-end work remain traceable and testable as an application changes.

How should teams integrate security into full-stack software development?

Teams should integrate security through architecture decisions, trust-boundary analysis, authentication and authorization design, input validation, data protection requirements, verification checks and release evidence.

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Conclusion

Participants take back an Integrated Application Architecture and Delivery Blueprint containing layer maps, interface patterns, API contracts, data rules, security requirements, tests and deployment checks. The blueprint makes technical dependencies and delivery evidence visible across the stack. It helps development teams coordinate application design, verification, release and rollback decisions.