

AZ-2009: Build Distributed Applications with .NET Aspire

Course Duration: 08 Hours

Course code: AZ-2009

1. Course Overview

The **AZ 2009: Build Distributed Apps with .NET Aspire** course equips developers with the skills to design, develop, and deploy scalable distributed applications using .NET technologies. Gain hands-on experience with microservices, APIs, cloud integration, and messaging frameworks to build high-performance, resilient, and maintainable enterprise-level applications.

2. What You'll Learn?

- Design and develop distributed applications using .NET.
- Implement microservices and service-oriented architecture.
- Integrate applications with REST APIs and messaging systems.
- Handle concurrency, state management, and scalability challenges.
- Deploy distributed applications on cloud platforms.
- Monitor and optimize application performance.

3. Target Audience

- .NET developers aiming to advance in distributed application development.
- Software engineers looking to implement microservices and cloud solutions.
- Architects and technical leads seeking best practices for scalable applications.

4. Pre-Requisites

- Basic knowledge of C# and .NET framework.
- Familiarity with object-oriented programming concepts.
- Understanding of web services and REST APIs.
- Basic experience with cloud platforms is a plus.

5. Course Content

- 1. Introduction to Distributed Applications**
 - Concepts, challenges, and architecture patterns
- 2. Microservices with .NET**
 - Service design, communication patterns, and implementation
- 3. API Development and Integration**
 - RESTful APIs, authentication, and versioning
- 4. Messaging and Event-Driven Architecture**
 - Queues, topics, and message brokers
- 5. State Management and Concurrency**
 - Distributed caches, databases, and concurrency handling
- 6. Deployment and Scalability**
 - Cloud deployment, load balancing, and monitoring
- 7. Performance Optimization**
 - Profiling, logging, and troubleshooting distributed apps