BLACKBIRD FOR TRAINING

Microsoft Certified Azure Developer Associate Comprehensive Course

28 June – 9 July 2027
Lyon (France)



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Introduction

In today's rapidly evolving technological landscape, cloud development has become a critical skill for developers seeking to build innovative, scalable, and secure solutions. With Microsoft Azure leading the way as a comprehensive cloud platform, developers now have unparalleled opportunities to create applications and services that meet the needs of modern businesses.

But what is Azure development? It's about leveraging Azure's powerful suite of compute, storage, security, and DevOps tools to build applications that are reliable, efficient, and adaptable to change—driving digital transformation and accelerating innovation.

This comprehensive training course is designed to empower developers of all levels—from early-career professionals seeking to enhance their technical skills, to senior developers and solution architects aiming to master Azure's full potential. Participants will learn how to design, build, test, and maintain cloud applications and services using proven best practices and real-world scenarios, aligned with the Microsoft Azure Developer Associate certification standards.

Course Objectives

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

- Develop Azure compute solutions, including Azure Functions and App Services.
- Integrate Azure storage, databases, and messaging systems into their applications.
- Implement Azure security features such as Key Vault and Managed Identities.
- Monitor, troubleshoot, and optimize applications hosted on Azure.
- Leverage DevOps tools and continuous integration/continuous deployment CI/CD pipelines to deploy and manage applications on Azure.

Course Outlines

Day 1: Introduction to Azure for Developers

- Overview of Microsoft Azure architecture and core services.
- Understanding Azure regions, resource groups, and subscriptions.
- Core development tools: Azure CLI, PowerShell, and Visual Studio.
- Exploring Azure SDKs and APIs for developers.
- Creating and managing Azure resources in real-world scenarios.



Day 2: Developing Azure App Service Web Apps

- Creating web applications using Azure App Services.
- Configuration, scaling, and deployment of web apps.
- Managing environment variables and app settings.
- Custom domains and SSL integration for secure access.
- Enhancing performance with Azure Front Door and Content Delivery Network CDN.

Day 3: Azure Functions and Serverless Solutions

- Introduction to Azure Functions and serverless architectures.
- Triggers and bindings: HTTP, Timer, Blob, and Queue.
- Building scalable serverless workflows.
- Local development and deployment practices.
- Monitoring and managing function apps in production.

Day 4: Azure Storage Integration

- Working with Azure Blob storage and file storage solutions.
- Implementing Azure Queue and Table storage for messaging and data.
- Securing data access with shared access signatures SAS.
- Handling file operations and metadata management.
- Using Azure Storage SDKs in application development.

Day 5: Azure Cosmos DB and Relational Databases

- Introduction to Azure Cosmos DB NoSQL database.
- Exploring SQL API, partitioning strategies, and consistency models.
- Performing CRUD operations using Azure SDKs.
- Overview of Azure SQL Database and its capabilities.
- Connecting, querying, and securing relational data in Azure.

Day 6: Implementing Azure Security

- Authentication and authorization using Microsoft Entra ID formerly Azure AD.
- Leveraging Managed Identities for secure resource access.
- Storing and managing secrets with Azure Key Vault.
- Secure coding practices for cloud applications.
- Implementing Role-Based Access Control RBAC.



Day 7: Integrating Caching and Messaging Services

- Implementing Azure Service Bus queues and topics for messaging.
- Leveraging Azure Event Grid and Event Hubs for event-driven applications.
- Using Azure Redis for distributed caching and performance.
- Handling messaging, retries, and fault tolerance.
- Building event-driven architectures using Azure's messaging services.

Day 8: Monitoring, Diagnostics, and Troubleshooting

- Setting up Application Insights for telemetry and monitoring.
- Using Azure Monitor and Log Analytics for deep insights.
- Exception handling and advanced logging practices.
- Debugging applications in cloud environments.
- Creating alerts and analyzing performance metrics.

Day 9: Using Azure DevOps and CI/CD

- Introduction to Azure DevOps services and tools.
- Managing source control with Git Repos.
- Building and automating pipelines for continuous integration and deployment.
- Deploying applications to App Services and Azure Functions.
- Integrating automated tests and implementing rollbacks for reliability.

Day 10: Real-World Scenarios and Solution Building

- Designing end-to-end application architectures on Azure.
- Hands-on project: building and deploying a complete cloud application.
- Best practices for secure, scalable, and maintainable development.
- Strategies for cost management and resource optimization.
- Final review and creating an implementation roadmap.

Why Attend This Course: Wins & Losses!

- Acquire practical, hands-on skills for developing cloud applications with Azure.
- Learn to build scalable, secure, and high-performance applications for the cloud.
- Understand Azure's core services and tools, from compute and storage to security and DevOps.
- Enhance your career prospects by aligning with Microsoft's Azure Developer Associate standards.
- Troubleshoot and optimize your applications for real-world deployments.
- Strengthen your DevOps capabilities and CI/CD pipeline integration.
- Learn from expert trainers and real-world case studies.
- Join a network of like-minded professionals and expand your technical community.



Conclusion

Azure development is the foundation for building innovative, reliable, and scalable applications that meet the demands of a cloud-first world. This course offers a structured and practical pathway to mastering Azure's tools and services, giving you the skills and confidence to build cutting-edge cloud solutions.

You'll gain hands-on experience in using Azure's compute, storage, security, and DevOps integrations, and learn to apply best practices that align with global standards. Start your journey today and become a leader in designing, building, and deploying high-performing cloud applications with Microsoft Azure.

