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MS-AZ204T00: DEVELOP SOLUTIONS FOR MICROSOFT AZURE

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	CERTIFICATION
5 Days	Intermediate	Azure	Instructor-led	AZ-204 Exam

INTRODUCTION

This course teaches developers how to create end-to-end solutions in Microsoft Azure. Students will learn how to implement Azure compute solutions, create Azure Functions, implement and manage web apps, develop solutions utilizing Azure storage, implement authentication and authorization, and secure their solutions by using KeyVault and Managed Identities. Students will also learn how to connect to and consume Azure services and third-party services and include event- and message-based models in their solutions. The course also covers monitoring, troubleshooting, and optimizing Azure solutions.

AUDIENCE PROFILE

Students in this course are interested in Azure development or in passing the Microsoft Azure Developer Associate certification exam.

PREREQUISITES

Before attending this course, delegates must have knowledge of the following:

- Proficiency in Azure-supported programming languages such as C#, Node.js, or Python
- Experience using Azure CLI, Azure PowerShell, or other Azure development tools.
- Hands-on experience working with Azure App Services, Azure Functions, storage, and other core Azure services.

COURSE OBJECTIVES

After completing this course, students will be able to:

- Deploy and update applications in Azure App Service, configure authentication/authorization, app settings, scaling, and deploy via slots
- Create and deploy Azure Functions, using bindings and triggers to integrate with other Azure services
- Develop solutions that interact with Azure Blob Storage, managing data through the lifecycle and working with containers/items via .NET SDK
- Integrate Azure Cosmos DB into solutions, handling data operations, consistency levels, and partitioning via .NET SDK
- Implement authentication and authorization using Microsoft Identity Platform, MSAL, shared access signatures, and integrate with Microsoft Graph
- Secure applications with Azure Key Vault, managed identities, and App Configuration
- Use Azure API Management to transform, secure, and publish APIs
- Build event-driven architectures using Azure Event Grid and Event Hubs
- Implement messaging solutions with Azure Service Bus and Queue Storage
- Monitor, troubleshoot, and optimize applications using Azure Monitor and Application Insights, including instrumentation and diagnostics
- Enhance performance and scalability by integrating Azure Cache for Redis and Azure CDN

COURSE CONTENT

Module 1: Implement Azure App Service web apps

Learn how Azure App Service functions and how to create and update an app. Explore App Service authentication and authorization, configuring app settings, scale apps, and how to use deployment slots.

Module 1.1: Explore Azure App Service

Learn about the key components of Azure App Service and how App Service can help you create, maintain, and deploy web apps more efficiently.

Module 1.2: Configure web app settings

Learn how to create and manage application settings, install SSL/TLS certificates to secure web traffic, enable diagnostic logging, create virtual app to directory mappings, and manage app features.

Module 1.3: Scale apps in Azure App Service

Learn how autoscale operates in App Service and how to identify autoscale factors, enable autoscale, and how to create sound autoscale conditions.

Module 1.4: Explore Azure App Service deployment slots

In this module you'll learn how slot swapping operates and how to perform a swap. You'll also learn how to route traffic to different slots manually and automatically.

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Module 2: Implement Azure Functions

Learn how to create and deploy Azure Functions. Explore hosting options, bindings, and triggers.

Module 2.1: Explore Azure Functions

Learn how Azure Functions can be a great solution for data processing, systems integration, and building simple APIs and microservices.

Module 2.2: Develop Azure Functions

Learn how to create and deploy Azure Functions.

Module 3: Develop solutions that use Blob storage

Learn how to create Azure Blob storage resources, manage data through the blob storage lifecycle, and work with containers and items by using the Azure Blob storage client library V12 for .NET.

Module 3.1: Explore Azure Blob storage

Learn the core features and functionality of Azure Blob storage.

Module 3.2: Manage the Azure Blob storage lifecycle

Learn how to manage data availability throughout the Azure Blob storage lifecycle.

Module 3.3: Work with Azure Blob storage

Learn how to use the Azure Blob storage client library to create and update Blob storage resources.

Module 4: Develop solutions that use Azure Cosmos DB

Learn how to create Azure Cosmos DB resources with the appropriate consistency levels, and perform data operations by using the .NET SDK V3 for Azure Cosmos DB.

Module 4.1: Explore Azure Cosmos DB

Learn the core features and functionality of Azure Cosmos DB.

Module 4.2: Work with Azure Cosmos DB

Learn how to develop client and server-side programming solutions on Azure Cosmos DB.

Module 5: Implement containerized solutions

Learn how to create and deploy containerized solutions to Azure by using the Azure Container Registry, Azure Container Instances, and Azure Container Apps.

Module 5.1: Manage container images in Azure Container Registry

Learn how to use Azure Container Registry to store your container images and automate builds and deployments.

Module 5.2: Run container images in Azure Container Instances

Learn how Azure Container Instances can help you quickly deploy containers, how to set environment variables, and specify container restart policies.

Module 5.3: Implement Azure Container Apps

Learn how Azure Container Apps can help you deploy and manage microservices and containerized apps on a serverless platform that runs on top of Azure Kubernetes Service.

Module 6: Implement user authentication and authorization

Learn how to implement authentication and authorization to resources by using the Microsoft identity platform, Microsoft Authentication Library, shared access signatures, and use Microsoft Graph.

Module 6.1: Explore the Microsoft identity platform

Learn the core features and functionality of the Microsoft identity platform including authentication, libraries, and app management tools.

Module 6.2: Implement authentication by using the Microsoft Authentication Library

Learn how to implement authentication by using the Microsoft Authentication Library.

Module 6.3: Implement shared access signatures

Learn how to use shared access signatures to authorize access to storage resources.

Module 6.4: Explore Microsoft Graph

Learn how Microsoft Graph facilitates the access and flow of data and how to form queries through REST and code.

Module 7: Implement secure Azure solutions

Learn how to more securely deploy apps in Azure by using Azure Key Vault, managed identities, and Azure App Configuration.

Module 7.1: Implement Azure Key Vault

Learn how Azure Key Vault can help you keep your apps more secure, and how to set and retrieve secrets programmatically, and with Azure CLI.

Module 7.2: Implement managed identities

Learn how managed identities can help you deploy secure solutions on Azure without the need to manage credentials.

Module 7.3: Implement Azure App Configuration

Learn how to use Azure App Configuration service to centrally manage and secure your configuration settings, and to manage app features.

Module 8: Implement API Management

Learn how the API Management service functions, how to transform and secure APIs, and how to create a backend API.

Module 8.1: Explore API Management

Learn how the API Management service functions, how to transform and secure APIs, and how to create a backend API.

Module 9: Develop event-based solutions

Learn how to build applications with event-based architectures by integrating Azure Event Grid and Azure Event Hubs in to your solution.

Module 9.1: Explore Azure Event Grid

Learn how to integrate Azure Event Grid into your solution, implement access control to events, and how to route custom events to web endpoint by using Azure CLI.

Module 9.2: Explore Azure Event Hubs

Learn how Azure Event Hubs captures events and how to scale your processing application.

Module 10: Develop message-based solutions

Learn how to build applications with message-based architectures by integrating Azure Service Bus and Azure Queue Storage in to your solution.

Module 10.1: Discover Azure message queues

Learn how to integrate Azure Service Bus and Azure Queue storage into your solution, and how to send and receive message by using .NET.

Module 11: Troubleshoot solutions by using Application Insights

Learn how to instrument apps to enable Application Insights to monitor performance and help troubleshoot issues.

Module 11.1: Monitor app performance

Learn how to use the tools offered in Application Insights to enhance the performance and stability of your applications.

ASSOCIATED CERTIFICATIONS & EXAM

This course will prepare delegates to write the AZ-204 Microsoft Certified: Azure Developer Associate