Exam AZ-204: Developing Solutions for Microsoft Azure – Skills Measured

This exam was updated on March 26, 2021. Following the current study guide, we have included a table that compares the current study guide to the previous one by functional group.

Audience Profile

Candidates for the Azure Developer Associate certification should have subject matter expertise in designing, building, testing, and maintaining cloud applications and services on Microsoft Azure.

Responsibilities for this role include participating in all phases of cloud development from requirements, definition, and design; to development, deployment, and maintenance; to performance tuning and monitoring.

Azure developers partner with cloud solution architects, cloud DBAs, cloud administrators, and clients to implement solutions.

A candidate for this certification should have 1-2 years professional development experience and experience with Microsoft Azure. In addition, the candidate for this role should have the ability to program in a language supported by Azure and proficiency in Azure SDKs, Azure PowerShell, Azure CLI, data storage options, data connections, APIs, app authentication and authorization, compute and container deployment, debugging, performance tuning, and monitoring.

Skills Measured

NOTE: The bullets that appear below each of the skills measured are intended to illustrate how we are assessing that skill. This list is NOT definitive or exhaustive.

NOTE: Most questions cover features that are General Availability (GA). The exam may contain questions on Preview features if those features are commonly used.

Test takers will be able to select the code language (C# or Python) that is included in the questions when they launch the exam if the exam is taken through Person VUE. However, this option is not available on exams taken through PSI. Those questions will contain C# code.

Develop Azure compute solutions (25-30%)

Implement IaaS solutions

- provision virtual machines (VMs)
- configure, validate, and deploy ARM templates
- configure container images for solutions
- publish an image to the Azure Container Registry
- run containers by using Azure Container Instance

Create Azure App Service Web Apps

- create an Azure App Service Web App
- enable diagnostics logging
- deploy code to a web app
- configure web app settings including SSL, API settings, and connection strings
- implement autoscaling rules including scheduled autoscaling and autoscaling by operational or system metrics

Implement Azure functions

- create and deploy Azure Functions apps
- implement input and output bindings for a function
- implement function triggers by using data operations, timers, and webhooks
- implement Azure Durable Functions
- implement custom handlers

Develop for Azure storage (15-20%)

Develop solutions that use Cosmos DB storage

- select the appropriate API and SDK for a solution
- implement partitioning schemes and partition keys
- perform operations on data and Cosmos DB containers
- set the appropriate consistency level for operations
- manage change feed notifications

Develop solutions that use blob storage

- move items in Blob storage between storage accounts or containers
- set and retrieve properties and metadata
- perform operations on data by using the appropriate SDK
- implement storage policies, and data archiving and retention

Implement Azure security (20-25%)

Implement user authentication and authorization

- authenticate and authorize users by using the Microsoft Identity platform
- authenticate and authorize users and apps by using Azure Active Directory
- create and implement shared access signatures

Implement secure cloud solutions

- secure app configuration data by using App Configuration Azure Key Vault
- develop code that uses keys, secrets, and certificates stored in Azure Key Vault
- implement solutions that interact with Microsoft Graph

Monitor, troubleshoot, and optimize Azure solutions (15-20%)

Integrate caching and content delivery within solutions

- configure cache and expiration policies for Azure Redis Cache
- implement secure and optimized application cache patterns including data sizing, connections, encryption, and expiration

Instrument solutions to support monitoring and logging

- configure an app or service to use Application Insights
- analyze and troubleshoot solutions by using Azure Monitor
- implement Application Insights web tests and alerts

Connect to and consume Azure services and third-party services (15-20%)

Implement API Management

- create an APIM instance
- configure authentication for APIs
- define policies for APIs

Develop event-based solutions

- implement solutions that use Azure Event Grid
- implement solutions that use Azure Event Hubs

Develop message-based solutions

- implement solutions that use Azure Service Bus
- implement solutions that use Azure Queue Storage queues

Study Guide Comparison

Previous Study Guide	New Study Guide as of March 26, 2021
Develop Azure compute solutions (20-25%) **Implement IaaS solutions** • provision VMs • create ARM templates • create container images for solutions • publish an image to the Azure Container Registry • run containers by using Azure Container Instance **Create Azure App Service Web Apps** • create an Azure App Service Web App • enable diagnostics logging • deploy code to a web app • configure web app settings • implement autoscaling rules (schedule, operational/system metrics) **Implement Azure functions** • implement input and output bindings for a function • implement function triggers by using data operations, timers, and webhooks • implement Azure Durable Functions	**Develop Azure compute solutions (25-30%)** **Implement IaaS solutions** • provision virtual machines (VMs) • configure, validate, and deploy ARM templates • configure container images for solutions • publish an image to the Azure Container Registry • run containers by using Azure Container Instance **Create Azure App Service Web Apps** • create an Azure App Service Web App • enable diagnostics logging • deploy code to a web app • configure web app settings including SSL, API settings, and connection strings • implement autoscaling rules including scheduled autoscaling and autoscaling by operational or system metrics **Implement Azure functions** • create and deploy Azure Functions apps • implement input and output bindings for a function • implement function triggers by using data operations, timers, and webhooks • implement Azure Durable Functions • implement custom handlers
Develop for Azure storage (15-20%) **Develop solutions that use Cosmos DB storage**	**Develop for Azure storage (15-20%)** **Develop solutions that use Cosmos DB storage**

• select the appropriate API for your solution • implement partitioning schemes • interact with data using the appropriate SDK • set the appropriate consistency level for operations • create Cosmos DB containers **Develop solutions that use blob storage** • move items in Blob storage between storage accounts or containers • set and retrieve properties and metadata • interact with data using the appropriate SDK • implement data archiving and retention	• select the appropriate API and SDK for a solution • implement partitioning schemes and partition keys • perform operations on data and Cosmos DB containers • set the appropriate consistency level for operations • manage change feed notifications
Implement Azure security (15-20%) **Implement user authentication and authorization** • implement OAuth2 authentication • create and implement shared access signatures • register apps and use Azure Active Directory to authenticate users **Implement secure cloud solutions** • secure app configuration data by using the App Configuration and KeyVault API • manage keys, secrets, and certificates by using the KeyVault API • implement Managed Identities for Azure resources	**Implement Azure security (20-25%)** **Implement user authentication and authorization** • authenticate and authorize users by using the Microsoft Identity platform • authenticate and authorize users and apps by using Azure Active Directory • create and implement shared access signatures **Implement secure cloud solutions** • secure app configuration data by using App Configuration Azure Key Vault • develop code that uses keys, secrets, and certificates stored in Azure Key Vault • implement solutions that interact with Microsoft Graph
Monitor, troubleshoot, and optimize Azure solutions (10-15%) **Integrate caching and content delivery**	**Monitor, troubleshoot, and optimize Azure solutions (15-20%)** **Integrate caching and content delivery**

within solutions • develop code to implement CDN's in solutions • configure cache and expiration policies • store and retrieve data in Azure Redis cache **Instrument solutions to support monitoring and logging** • configure instrumentation in an app or service by using Application Insights • analyze and troubleshoot solutions by using Azure Monitor • implement Application Insights Web Test and Alerts • implement code that handles transient faults	**within solutions** • configure cache and expiration policies for Azure Redis Cache • implement secure and optimized application cache patterns including data sizing, connections, encryption, and expiration **Instrument solutions to support monitoring and logging** • configure an app or service to use Application Insights • analyze and troubleshoot solutions by using Azure Monitor • implement Application Insights web tests and alerts
Connect to and consume Azure services and third-party services (20-25%) **Develop an App Service Logic App** • create a Logic App • create a custom connector for Logic Apps • create a custom template for Logic Apps **Implement API Management** • create an APIM instance • configure authentication for APIs • define policies for APIs **Develop event-based solutions** Note: Creating event models is in scope • implement solutions that use Azure Event Grid • implement solutions that use Azure Notification Hubs • implement solutions that use Azure Event Hub	**Connect to and consume Azure services and third-party services (15-20%)** **Implement API Management** • create an APIM instance • configure authentication for APIs • define policies for APIs **Develop event-based solutions** • implement solutions that use Azure Event Grid • implement solutions that use Azure Event Hubs **Develop message-based solutions** • implement solutions that use Azure Service Bus • implement solutions that use Azure Queue Storage queues

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