

# Microsoft Azure Developer Associate (AZ-204) Crash Course

O'REILLY MEDIA

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## Resources

Exam az-204: Developing Solutions for Microsoft  
Azure

<https://docs.microsoft.com/en-us/learn/certifications/exams/az-204>

<https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4oZ7B>

Provision virtual machines (VMs)

<https://docs.microsoft.com/en-us/azure/virtual-machines/>

<https://docs.microsoft.com/en-us/azure/azure-sql/virtual-machines/windows/create-sql-vm-portal>

<https://docs.microsoft.com/en-us/azure/azure-sql/virtual-machines/windows/create-sql-vm-powershell>

Configure, validate, and deploy ARM templates

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/template-tutorial-create-first-template>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/quickstart-create-templates-use-the-portal>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/overview>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/bicep-overview>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/template-specs?tabs=azure-powershell>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/deployment-tutorial-local-template?tabs=azure-powershell>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/deployment-tutorial-linked-template?tabs=azure-powershell>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/deployment-tutorial-pipeline>

Configure container images for solutions

<https://docs.microsoft.com/en-us/learn/modules/build-and-store-container-images/>

<https://docs.microsoft.com/en-us/learn/modules/deploy-run-container-app-service/>

Publish an image to the Azure Container Registry

<https://docs.microsoft.com/en-us/azure/container-registry/>

<https://docs.microsoft.com/en-us/azure/container-registry/container-registry-intro>

<https://docs.microsoft.com/en-us/azure/container-registry/container-registry-concepts>

<https://docs.microsoft.com/en-us/azure/container-registry/container-registry-get-started-docker-cli>

<https://docs.microsoft.com/en-us/azure/container-registry/container-registry-webhook>

Run containers by using Azure Container Instance

<https://docs.microsoft.com/en-us/learn/modules/run-docker-with-azure-container-instances/>

<https://docs.microsoft.com/en-us/azure/container-instances/container-instances-overview>

<https://docs.microsoft.com/en-us/azure/container-instances/container-instances-quickstart-portal>

Create an Azure App Service Web App

<https://docs.microsoft.com/en-us/azure/app-service/>

<https://docs.microsoft.com/en-us/azure/app-service/overview>

<https://docs.microsoft.com/en-us/azure/app-service/quickstart-dotnetcore?tabs=netcore31&pivots=s=development-environment-vs>

Enable diagnostics logging

<https://docs.microsoft.com/en-us/azure/app-service/troubleshoot-diagnostic-logs>

Deploy code to a web app

<https://docs.microsoft.com/en-us/azure/app-service/deploy-run-package>

<https://docs.microsoft.com/en-us/azure/app-service/deploy-zip>

<https://docs.microsoft.com/en-us/azure/app-service/deploy-local-git?tabs=cli>

<https://docs.microsoft.com/en-us/azure/app-service/deploy-complex-application-predictably>

Configure web app settings including SSL, API settings, and connection strings

<https://docs.microsoft.com/en-us/azure/app-service/configure-common>

<https://docs.microsoft.com/en-us/azure/app-service/configure-ssl-bindings>

Implement auto scaling rules including scheduled autoscaling and auto scaling by operational or system metrics

<https://docs.microsoft.com/en-us/azure/app-service/manage-scale-up>

Create and deploy Azure Functions apps

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-overview>

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-create-your-first-function-visual-studio>

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-create-first-function-resource-manager?tabs=visual-studio-code%2Cazure-cli>

Implement input and output bindings for a function

Implement function triggers by using data operations, timers, and webhooks

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-triggers-bindings?tabs=csharp>

<https://docs.microsoft.com/en-us/azure/azure-functions/add-bindings-existing-function?tabs=csharp>

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-return-value?tabs=csharp>

<https://docs.microsoft.com/en-us/learn/modules/execute-azure-function-with-triggers/>

Implement Azure Durable Functions

<https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-overview?tab=s=csharp>

<https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-create-first-csharp?pivot=code-editor-vscode>

<https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-sequence?tab=s=csharp>

<https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-cloud-backup?tab=csharp>

<https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-monitor?tab=csharp>

<https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-http-api#get-all-instances-status>

<https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-external-events?tab=csharp>

Implement custom handlers

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-custom-handlers>

Select the appropriate API and SDK for a solution

<https://docs.microsoft.com/en-us/learn/modules/choose-api-for-cosmos-db/>

<https://docs.microsoft.com/en-us/azure/cosmos-db/introduction>

<https://docs.microsoft.com/en-us/azure/cosmos-db/relational-nosql>

<https://docs.microsoft.com/en-us/azure/cosmos-db/create-sql-api-dotnet>

<https://docs.microsoft.com/en-us/azure/cosmos-db/create-mongodb-nodejs>

<https://docs.microsoft.com/en-us/azure/cosmos-db/create-cassandra-dotnet>

<https://docs.microsoft.com/en-us/azure/cosmos-db/create-graph-dotnet>

<https://docs.microsoft.com/en-us/azure/cosmos-db/create-table-dotnet>

<https://docs.microsoft.com/en-us/azure/cosmos-db/sql-api-sdk-dotnet>

<https://docs.microsoft.com/en-us/azure/cosmos-db/change-feed>

Implement partitioning schemes and partition keys

<https://docs.microsoft.com/en-us/azure/cosmos-db/partitioning-overview>

<https://docs.microsoft.com/en-us/azure/cosmos-db/partitioning-overview#choose-partitionkey>

Perform operations on data and Cosmos DB containers

<https://docs.microsoft.com/en-us/azure/cosmos-db/account-databases-containers-items>

<https://docs.microsoft.com/en-us/azure/cosmos-db/sql-api-get-started>

Set the appropriate consistency level for operations

<https://docs.microsoft.com/en-us/azure/cosmos-db/consistency-levels>

Manage change feed notifications

<https://docs.microsoft.com/en-us/azure/cosmos-db/change-feed>

Move items in Blob storage between storage accounts or containers

<https://docs.microsoft.com/en-us/learn/modules/copy-blobs-from-command-line-and-code/>

Set and retrieve properties and metadata

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-properties-metadata?tabs=dotnet>

Perform operations on data by using the appropriate SDK

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-quickstart-blobs-dotnet>

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-quickstart-blobs-dotnet-legacy>

Implement storage policies, and data archiving and retention

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-lifecycle-management-concepts?tabs=azure-portal>

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-immutability-policies-manage?tabs=azure-portal>

Authenticate and authorize users by using the Microsoft Identity platform

<https://docs.microsoft.com/en-us/azure/active-directory/develop/>

<https://docs.microsoft.com/en-us/advertising/guides/authentication-oauth-identity-platform?view=bingads-13>

<https://docs.microsoft.com/en-us/azure/active-directory/develop/v2-oauth2-auth-code-flow>

<https://docs.microsoft.com/en-us/azure/active-directory/develop/authentication-vs-authorization>

[https://www.youtube.com/watch?v=y\\_fgJAatVhk](https://www.youtube.com/watch?v=y_fgJAatVhk)

[https://www.youtube.com/results?search\\_query=microsoft+identity+platform](https://www.youtube.com/results?search_query=microsoft+identity+platform)

Authenticate and authorize users and apps by using Azure Active Directory

<https://docs.microsoft.com/en-us/azure/app-service/configure-authentication-provider-aad>

<https://devblogs.microsoft.com/premier-developer/adding-authentication-to-your-app-easily-with-azure-ad/>

Create and implement shared access signatures

<https://docs.microsoft.com/en-us/azure/storage/common/storage-sas-overview>

<https://docs.microsoft.com/en-us/samples/azure-samples/storage-dotnet-sas-getting-started/storage-dotnet-sas-getting-started/>

Secure app configuration data by using App Configuration Azure Key Vault

<https://docs.microsoft.com/en-us/azure/app-service/app-service-key-vault-references>

Develop code that uses keys, secrets, and certificates stored in Azure Key Vault

<https://docs.microsoft.com/en-us/dotnet/api/overview/azure/security.keyvault.keys-readme>

<https://docs.microsoft.com/en-us/dotnet/api/overview/azure/security.keyvault.secrets-readme>

<https://docs.microsoft.com/en-us/dotnet/api/overview/azure/security.keyvault.certificates-readme>

Implement solutions that interact with Microsoft Graph

<https://docs.microsoft.com/en-us/graph/overview>

<https://docs.microsoft.com/en-us/learn/paths/m365-msgraph-associate/>

<https://docs.microsoft.com/en-us/graph/sdks/sdks-overview>

<https://docs.microsoft.com/en-us/graph/sdks/sdk-installation>

<https://docs.microsoft.com/en-us/graph/api/resources/azure-ad-overview?view=graph-rest-1.0>

Configure cache and expiration policies

<https://docs.microsoft.com/en-us/azure/cdn/>

<https://docs.microsoft.com/en-us/azure/cdn/cdn-overview>

<https://docs.microsoft.com/en-us/azure/cdn/cdn-caching-rules>

<https://docs.microsoft.com/en-us/azure/cdn/cdn-manage-expiration-of-blob-content>

<https://docs.microsoft.com/en-us/azure/cdn/cdn-manage-expiration-of-cloud-service-content>

<https://docs.microsoft.com/en-us/azure/cdn/cdn-query-string-premium>

<https://docs.microsoft.com/en-us/azure/cdn/cdn-query-string>

<https://docs.microsoft.com/en-us/azure/cdn/cdn-caching-rules>

<https://docs.microsoft.com/en-us/azure/cdn/cdn-sas-storage-support>

Configure cache and expiration policies for Azure Redis Cache

<https://docs.microsoft.com/en-us/azure/azure-cache-for-redis/cache-configure>

<https://docs.microsoft.com/en-us/azure/azure-cache-for-redis/cache-configure#memory-policies>

Implement secure and optimized application cache patterns including data sizing, Connections, encryption, and expiration

<https://docs.microsoft.com/en-us/azure/architecture/best-practices/caching>

Configure an app or service to use Application Insights

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/cloudservices>

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/monitor-functions>

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-monitoring>

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/ilogger>

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/worker-service>

Analyze and troubleshoot solutions by using Azure Monitor

<https://docs.microsoft.com/en-us/azure/azure-monitor/insights/solutions?tabs=portal>

Implement Application Insights web tests and alerts

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/monitor-web-app-availability>

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/availability-alerts>

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/tutorial-alert>

Create an APIM instance

<https://docs.microsoft.com/en-us/azure/api-management/get-started-create-service-instance>

<https://docs.microsoft.com/en-us/azure/api-management/import-and-publish>

<https://conferenceapi.azurewebsites.net/?format=json>

Configure authentication for APIs

<https://docs.microsoft.com/en-us/azure/api-management/api-management-authentication-policies>

Define policies for APIs

<https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-policies>

Implement solutions that use Azure Event Grid

<https://docs.microsoft.com/en-us/azure/event-grid/overview>

<https://docs.microsoft.com/en-us/azure/architecture/solution-ideas/articles/application-integration-using-event-grid>

Implement solutions that use Azure Notification Hubs

<https://docs.microsoft.com/en-us/azure/notification-hubs/notification-hubs-push-notification-overview>

<https://docs.microsoft.com/en-us/azure/notification-hubs/create-notification-hub-portal>

<https://docs.microsoft.com/en-us/azure/notification-hubs/configure-notification-hub-portal-pns-settings?tabs=azure-portal>

<https://docs.microsoft.com/en-us/azure/notification-hubs/configure-notification-hub-portal-pns-settings?tabs=azure-portal>

<https://docs.microsoft.com/en-us/azure/notification-hubs/ios-sdk-get-started>

Implement solutions that use Azure Event Hub

<https://docs.microsoft.com/en-us/azure/event-hubs/>

<https://docs.microsoft.com/en-us/azure/event-hubs/event-hubs-about>

<https://docs.microsoft.com/en-us/azure/event-hubs/event-hubs-create>

<https://docs.microsoft.com/en-us/azure/event-hubs/event-hubs-samples>

<https://docs.microsoft.com/en-us/azure/event-hubs/event-hubs-features>

Import OpenAPI definitions

<https://docs.microsoft.com/en-us/connectors/custom-connectors/define-openapi-definition>

Implement solutions that use Azure Service Bus

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-messaging-overview>

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-queues-topics-subscriptions>

<https://docs.microsoft.com/en-us/azure/event-grid/compare-messaging-services>

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-quickstart-portal>

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-quickstart-topics-subscriptions-portal>

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-samples>

Implement solutions that use Azure Queue Storage queues

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-azure-and-service-bus-queues-compared-contrasted>

<https://docs.microsoft.com/en-us/azure/storage/queues/storage-dotnet-how-to-use-queues?tabs=dotnet>

## Course Repository

<https://github.com/zaalion/oreilly-az-204>

*Thank you!*

*Reza Salehi*

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