Course Details

Course Code: AZ-204T00

Duration: 5 days

Notes:

- This course syllabus should be used to determine whether the course is appropriate for the students, based on their current skills and technical training needs.
- Course content, prices, and availability are subject to change without notice.
- Terms and Conditions apply

Elements of this syllabus are subject to change.

About this course

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.

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.

Learning objectives

After completing this module, you'll be able to:

- Describe Azure App Service key components and value.
- Explain how Azure App Service manages authentication and authorization.
- Identify methods to control inbound and outbound traffic to your web app.
- Deploy an app to App Service using Azure CLI commands.

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.

Learning objectives

After completing this module, you'll be able to:

- Create application settings that are bound to deployment slots.
- Explain the options for installing SSL/TLS certificates for your app.
- Enable diagnostic logging for your app to aid in monitoring and debugging.
- Create virtual app to directory mappings.

Scale apps in Azure App Service

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

Learning objectives

After completing this module, you'll be able to:

- Identify scenarios for which autoscaling is an appropriate solution.
- Create autoscaling rules for a web app.
- Monitor the effects of autoscaling.

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.

Learning objectives

After completing this module, you'll be able to:

- Describe the benefits of using deployment slots.
- Understand how slot swapping operates in App Service.
- Perform manual swaps and enable auto swap.
- Route traffic manually and automatically.

Explore Azure Functions

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

This module helps prepare you for Exam PL-400: Microsoft Power Platform Developer.

Learning objectives

After completing this module, you will be able to:

- Explain functional differences between Azure Functions, Azure Logic Apps, and WebJobs
- Describe Azure Functions hosting plan options
- Describe how Azure Functions scale to meet business needs

Develop Azure Functions

Learn how to create and deploy Azure Functions.

This module helps prepare you for Exam PL-400: Microsoft Power Platform Developer.

Learning objectives

After completing this module, you will be able to:

- Explain the key components of a function and how they are structured
- Create triggers and bindings to control when a function runs and where the output is directed
- Connect a function to services in Azure
- Create a function by using Visual Studio Code and the Azure Functions Core Tools

Explore Azure Blob storage

Learn the core features and functionality of Azure Blob storage.

Learning objectives

After completing this module, you'll be able to:

- Identify the different types of storage accounts and the resource hierarchy for blob storage.
- Explain how data is securely stored.
- Enable a storage account for static website hosting.

Manage the Azure Blob storage lifecycle

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

Learning objectives

After completing this module, you will be able to:

- Describe how each of the access tiers is optimized.
- Create and implement a lifecycle policy.
- Rehydrate blob data stored in an archive tier.

Work with Azure Blob storage

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

Learning objectives

After completing this module, you'll be able to:

- Create an application to create and manipulate data by using the Azure Storage client library for Blob storage.
- Manage container properties and metadata by using .NET and REST.

Explore Azure Cosmos DB

Learn the core features and functionality of Azure Cosmos DB.

Learning objectives

After completing this module, you'll be able to:

- Identify the key benefits provided by Azure Cosmos DB
- Describe the elements in an Azure Cosmos DB account and how they are organized
- Explain the different consistency levels and choose the correct one for your project
- Explore the APIs supported in Azure Cosmos DB and choose the appropriate API for your solution
- Describe how request units impact costs

- Create Azure Cosmos DB resources by using the Azure portal.

Manage container images in Azure Container Registry

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

Learning objectives

After completing this module, you'll be able to:

- Explain the features and benefits Azure Container Registry offers.
- Describe how to use ACR Tasks to automate builds and deployments.
- Explain the elements in a Dockerfile.
- Build and run an image in the ACR by using Azure CLI.

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.

Learning objectives

After completing this module, you'll be able to:

- Describe the benefits of Azure Container Instances and how resources are grouped.
- Deploy a container instance in Azure by using the Azure CLI.
- Start and stop containers using policies.
- Set environment variables in your container instances.
- Mount file shares in your container instances.

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.

Learning objectives

After completing this module, you'll be able to:

- Describe the benefits of Azure Container Instances and how resources are grouped
- Deploy a container instance in Azure by using the Azure CLI

- Start and stop containers using policies
- Set environment variables in your container instances
- Mount file shares in your container instances

Explore the Microsoft identity platform

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

Learning objectives

After completing this module, you'll be able to:

- Identify the components of the Microsoft identity platform.
- Describe the three types of service principals and how they relate to application objects.
- Explain how permissions and user consent operate, and how conditional access impacts your application.

Implement authentication by using the Microsoft Authentication Library

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

Learning objectives

After completing this module, you'll be able to:

- Explain the benefits of using Microsoft Authentication Library and the application types and scenarios it supports.

Instantiate both public and confidential client apps from code.

- Register an app with the Microsoft identity platform.
- Create an app that retrieves a token by using the MSAL.NET library.

Implement shared access signatures

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

Learning objectives

After completing this module, you'll be able to:

- Identify the three types of shared access signatures.

- Explain when to implement shared access signatures.
- Create a stored access policy.

Explore Microsoft Graph

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

Learning objectives

After completing this module, you'll be able to:

- Explain the benefits of using Microsoft Graph.
- Perform operations on Microsoft Graph by using REST and SDKs.
- Apply best practices to help your applications get the most out of Microsoft Graph.

Implement Azure Key Vault

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

Learning objectives

After completing this module, you'll be able to:

- Describe the benefits of using Azure Key Vault
- Explain how to authenticate to Azure Key Vault
- Set and retrieve a secret from Azure Key Vault by using the Azure CLI

Implement managed identities

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

Learning objectives

After completing this module, you'll be able to:

- Explain the differences between the two types of managed identities
- Describe the flows for user- and system-assigned managed identities
- Configure managed identities
- Acquire access tokens by using REST and code

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.

Learning objectives

After completing this module, you'll be able to:

- Explain the benefits of using Azure App Configuration
- Describe how Azure App Configuration stores information
- Implement feature management
- Securely access your app configuration information

Explore API Management

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

Learning objectives

After completing this module, you'll be able to:

- Describe the components (and their functions) of the API Management service.
- Explain how API gateways can help manage calls to your APIs.
- Secure access to APIs by using subscriptions and certificates.
- Create a backend API.

Explore Azure Event Grid

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

Learning objectives

After completing this module, you'll be able to:

- Describe how Event Grid operates and how it connects to services and event handlers.
- Explain how Event Grid delivers events and how it handles errors.
- Implement authentication and authorization.
- Route custom events to web endpoint by using Azure CLI.

Explore Azure Event Hubs

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

Learning objectives

After completing this module, you'll be able to:

- Describe the benefits of using Event Hubs and how it captures streaming data.
- Explain how to process events.
- Perform common operations with the Event Hubs client library.

Discover Azure message queues

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

Learning objectives

After completing this module, you'll be able to:

- Choose the appropriate queue mechanism for your solution.
- Explain how the messaging entities that form the core capabilities of Service Bus operate.
- Send and receive message from a Service Bus queue by using .NET.
- Identify the key components of Azure Queue Storage
- Create queues and manage messages in Azure Queue Storage by using .NET.

Monitor app performance

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

Learning objectives

After completing this module, you'll be able to:

- Explain how Azure Monitor operates as the center of monitoring in Azure.
- Describe how Application Insights works and how it collects events and metrics.
- Instrument an app for monitoring, perform availability tests, and use Application Map to help you monitor performance and troubleshoot issues.

Develop for Azure Cache for Redis

Learn how to configure Azure Cache for Redis, interact with the cache, and connect an application to Azure Cache for Redis by using .NET.

Learning objectives

After completing this module, you'll be able to:

- Explain the key scenarios Azure Cache for Redis covers and its service tiers.
- Identify the key parameters for creating an Azure Cache for Redis instance and interact with the cache.
- Connect an app to Azure Cache for Redis by using .NET Core.

Develop for storage on CDNs

Learn how the Azure Content Delivery Network (CDN) functions, how to control cache behaviour, and how to perform actions by using .NET.

Learning objectives

After completing this module, you'll be able to:

- Explain how the Azure Content Delivery Network works and how it can improve the user experience.
- Control caching behaviour and purge content.
- Perform actions on Azure CDN by using the Azure CDN Library for .NET.