MS-AZ2003: DEPLOY CLOUD-NATIVE APPS USING AZURE CONTAINER APPS

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
1 Day	Intermediate	Azure	Instructor-led	NA

INTRODUCTION

Develop the skills necessary to configure a secure deployment solution for cloud-native apps. Learn how to build, deploy, scale, and manage containerized cloud-native apps using Azure Container Apps, Azure Container Registry, and Azure Pipelines.

AUDIENCE PROFILE

This course is designed for professionals who are involved in deploying and managing containerized applications in the cloud, which includes:

−   DevOps Engineers: Individuals responsible for automating and streamlining the deployment, scaling, and management of applications.
−   Cloud Developers: Professionals who develop applications intended to run in cloud environments and need to understand containerization and deployment strategies.
−   IT Professionals: Those involved in infrastructure management and looking to enhance their skills in deploying and managing containerized applications using Azure.

PREREQUISITES

Before attending this course, delegates must have:

−   Basic understanding of cloud computing concepts: Familiarity with cloud computing fundamentals, such as virtualization, scalability, and on-demand resource provisioning.
−   Knowledge of containers: Understanding the concept of containers, their benefits, and how they differ from traditional apps and virtual machines.
−   Familiarity with container orchestration: Basic understanding of container orchestration platforms like Kubernetes and their role in managing containerized applications.
−   Experience with Azure: Some familiarity with Microsoft Azure and its core container services, such as Azure Container Registry, Azure Kubernetes Service, and Azure Container Apps.
−   Experience with deployments: Some familiarity with Azure DevOps or similar CI/CD tools for application deployment.
−   Experience with networks: Some familiarity with networking concepts and Azure Virtual Networks.

COURSE OBJECTIVES

After completing this course, delegates will be able to:

−   Get Started with Cloud-Native Apps and Containerized Deployments: Understand the fundamentals of cloud-native applications and the benefits of containerized deployments.
−   Configure Azure Container Registry: Learn how to set up and manage Azure Container Registry for container app deployments.
−   Configure a Container App in Azure Container Apps: Gain skills in creating, configuring, and managing container apps using Azure Container Apps.
−   Configure Continuous Deployment for Container Apps: Learn to set up continuous integration and continuous deployment (CI/CD) pipelines using Azure Pipelines.
−   Scale and Manage Deployed Container Apps: Understand how to scale and manage containerized applications to meet varying workloads.

COURSE CONTENT

Module 1: Get started with cloud native apps and containerized deployments

This module provides an introduction to cloud-native applications, the benefits of containerized deployments, the options for containerized deployments on the Azure platform, and the features of Azure Container Apps.

Lessons

–   Introduction.
–   Examine cloud-native apps.
–   Examine deployment options for cloud-native apps.
–   Review an Azure Container Apps solution architecture and resources.
–   Knowledge check.

By the end of this module, you'll be able to:

–   Examine the concept of cloud-native applications.
–   Explore the benefits and challenges of containerized deployments.
–   Explore different deployment options and strategies for cloud-native applications.
–   Examine best practices for managing and scaling containerized deployments in Azure.

Module 2: Configure Azure Container Registry for container app deployments

This module teaching users how to set up and configure an Azure Container Registry for deploying containerized applications to Azure Container Apps.

Lessons

–   Introduction.
–   Review the Azure Container Registry service.
–   Create a container registry instance in the Azure portal.
–   Examine registry operations for image management.
–   Examine authentication with managed identity.
–   Examine Azure Container Registry roles and permissions.
–   Examine secure communications using virtual networks.
–   Knowledge check.

By the end of this module, you'll be able to:

–   Azure Container Registry and its role in container app deployments.
–   Learn how to create and configure an Azure Container Registry.
–   Examine the process of pushing container images to Azure Container Registry.
–   Explore different authentication methods and security features for Azure Container Registry.

Module 3: Configure a container app in Azure Container Apps

This module examines the features and capabilities of Azure Container Apps, and then focuses on how to create, configure, scale, and manage container apps using Azure Container Apps.

Lessons

–   Introduction.
–   Review the Azure Container Apps service.
–   Examine Azure Container Apps containers and containers registries.
–   Create a container app and container app environment.
–   Examine managed identities in Azure Container Apps.
–   Examine ingress in Azure Container Apps.
–   Examine the management of secrets in Azure Container Apps.
–   Examine the storage mounts in Azure Container Apps.
–   Examine cloud service connections in Azure Container Apps.
–   Knowledge check.

By the end of this module, you'll be able to:

–   Examine the features and capabilities of Azure Container Apps.
–   Learn how to create and configure an Azure Container App and Container Apps Environment using the Azure portal.
–   Examine how to define and manage environment variables for Azure Container Apps.
–   Learn how to configure ingress options for Azure Container Apps.
–   Explore the process of scaling and managing instances of Azure Container Apps.
–   Understand the security considerations and best practices for configuring Azure Container Apps.

Module 4: Configure continuous deployment for container apps

This module explores deployment options for containerized apps. It reviews the features of Azure DevOps and examines automated deployments to Container Apps using Azure Pipelines.

Lessons

–   Introduction.
–   Review continuous deployment options for container apps.
–   Examine Azure DevOps and Azure Pipelines.
–   Examine Azure Pipeline configuration and deployment tasks.
–   Examine agents and agent pools for pipelines.
–   Examine environment and secret variables for pipelines.
–   Knowledge check.

By the end of this module, you'll be able to:

–   Examine deployment options and strategies for containerized applications.
–   Examine the features and capabilities of Azure DevOps and Azure Pipelines.
–   Learn how to set up automated build and deployment pipelines for container apps using Azure DevOps.
–   Examine how to configure agent pools and secret variables for pipelines.

Module 5: Scale and manage deployed container apps

This module reviews the concept of revisions in Azure Container Apps and examines options for application lifecycle management. It also examines options for scaling and traffic splitting using Azure Container Apps.

Lessons

–   Introduction.
–   Examine revisions in Azure Container Apps.
–   Examine application lifecycle management in Azure Container Apps.
–   Examine scaling options in Azure Container Apps.
–   Examine ingress settings for traffic-splitting and blue-green deployments.
–   Knowledge check.

By the end of this module, you'll be able to:

- Examine the concept of revisions in Azure Container Apps.
- Examine the options for application lifecycle management in Azure Container Apps.
- Learn about the scaling options available for Azure Container Apps.
- Learn about the ingress settings and traffic-splitting for Azure Container Apps.

Module 6: Guided project - Deploy and manage a container app using Azure Container Apps
This module guides learners through the end-to-end process of building, deploying, and managing containerized applications using Azure Container Apps, Azure Container Registry, Azure Pipelines, and other tools and resources.

Lessons

- Introduction.
- Prepare your app deployment tools and resources.
- Exercise - Configure Azure Container Registry for a secure connection with Azure Container Apps.
- Exercise - Create and configure a container app in Azure Container Apps.
- Exercise - Configure continuous integration by using Azure Pipelines.
- Exercise - Manage revisions in Azure Container Apps.
- Knowledge check.

By the end of this module, you'll be able to:

- Configure Azure Container Registry, Azure Container Apps, and other resources required for an app deployment scenario.
- Configure Azure Pipelines for a continuous integration scenario.
- Configure Azure Container Apps for scaling and revision management.

ASSOCIATED CERTIFICATIONS & EXAM

There is no Associated certification & Exam for this course, however, there is an assessment to achieve your Applied Skills credential. (Assessment Link)