

KOENIG SOLUTIONS · COURSE OUTLINE

AZ-1001: Deploy and Manage Containers Using Azure Kubernetes Service

Learn to plan, deploy and manage containerized applications on Azure Kubernetes Service, from cluster architecture to scaling.

1 Day

8 HOURS

7

MODULES

52

TOPICS

11

HANDS-ON ACTIVITIES

COURSE OVERVIEW

The AZ-1001 certification, which seems to be a fictional or not officially recognized designation as of my last update, would hypothetically cover expertise in deploying and managing containers using Azure Kubernetes Service (AKS). AKS is Microsoft's managed container orchestration service that simplifies the Deployment, management, and scaling of containerized applications using Docker and Kubernetes. Professionals with such a certification would demonstrate their ability to streamline and automate application development and deployment processes. Industries would use this expertise to leverage the benefits of AKS, including seamless integration with Azure's ecosystem, High availability, and Security features to efficiently run their Cloud-native applications at scale.

WHO THIS COURSE IS FOR

IT professionals seeking to manage containerized applications on Azure

DevOps engineers focused on orchestration with Kubernetes on the Azure platform

System administrators aiming to scale deployments in the cloud

Cloud architects planning to design high-availability cluster environments using AKS

LEARNING OBJECTIVES

- Explain Azure Kubernetes Service cluster architecture and components
- Configure nodes, node pools and namespaces for AKS
- Deploy and use Azure Container Registry with AKS
- Plan network topology and IP addressing for a cluster
- Configure Azure Active Directory integration and network security
- Apply Azure Policy to govern pods and namespaces
- Configure storage and deploy applications to an AKS cluster
- Configure autoscaling options for nodes and pods

7 Modules, 52 Topics

Learning Path: Deploy and Manage Containers with Azure Kubernetes Service

01

Plan an Azure Kubernetes Service Deployment

TOPICS

- Introduction
- Azure Kubernetes Service
- Azure Kubernetes cluster architecture
- Azure Kubernetes Service pods
- Nodes and node pools for Azure Kubernetes Service
- Namespaces for Azure Kubernetes Service
- Access to Azure Kubernetes Service
- Monitoring and logging for Azure Kubernetes Service
- Knowledge check
- Summary

02

Deploy and Use Azure Container Registry

TOPICS

- Introduction
- Azure Kubernetes Service
- Azure Kubernetes cluster architecture
- Azure Kubernetes Service pods
- Nodes and node pools for Azure Kubernetes Service
- Namespaces for Azure Kubernetes Service
- Access to Azure Kubernetes Service
- Knowledge check
- Summary

03**Try-This Exercise**

Deploy an Azure Kubernetes Service Cluster

TOPICS

- Introduction
- Azure Kubernetes Service cluster architecture
- Network topology
- Plan the IP addresses
- Configure compute for the base cluster
- Integrate Azure Active Directory for the cluster
- Secure the network flow
- Node and pod scalability
- Knowledge check
- Summary

04**2 Try-This Exercises**

Configure an Azure Kubernetes Service Cluster

TOPICS

- Introduction
- Understand Azure Policy for Kubernetes clusters
- Host-based encryption on Azure Kubernetes Service
- Create a custom namespace for Azure Kubernetes clusters
- Knowledge check
- Summary

05**3 Try-This Exercises**

Deploy Applications to Azure Kubernetes Service

TOPICS

- Introduction
- Configure Azure Kubernetes pods using Azure Policy
- Configure storage for applications running on Azure Kubernetes Service
- Deploy an application to an Azure Kubernetes Service cluster
- Knowledge check
- Summary

06**Try-This Exercise**

Configure Scaling in Azure Kubernetes Service

TOPICS

- Introduction
- Scaling options in Azure Kubernetes Services
- Cluster autoscaler
- Burst to Azure Container Instances
- When to use cluster autoscaler
- Automatically scale a cluster on Azure Kubernetes Service
- Knowledge check
- Summary

07**4 Exercises**

Guided Exercise - Deploy Applications to Azure Kubernetes Service

TOPICS

Introduction · Knowledge check · Summary

Practise What You Learn

#	MODULE	ACTIVITY
03	Deploy an Azure Kubernetes Service Cluster	Try-This Exercise: Create an Azure Kubernetes Service cluster
04	Configure an Azure Kubernetes Service Cluster	TRY-THIS EXERCISE ■ Enable Azure Policy add on for Azure Kubernetes Service ■ Assign a policy definition to an Azure Kubernetes cluster
05	Deploy Applications to Azure Kubernetes Service	TRY-THIS EXERCISE ■ Apply Azure Kubernetes Service pod settings using Azure Policy ■ Configure storage for applications that run on Azure Kubernetes Service ■ Deploy an application to Azure Kubernetes Service cluster
06	Configure Scaling in Azure Kubernetes Service	Try-This Exercise: Scale the node count in an Azure Kubernetes Service cluster
07	Guided Exercise - Deploy Applications to Azure Kubernetes Service	EXERCISE ■ Exercise 1 - Provision Azure Container Registry and Azure Kubernetes Service ■ Exercise 2 - Build Linux and Windows container images to store in the registry ■ Exercise 3 - Deploy container images to Azure Container Registry ■ Exercise 4 - Review the deployment and remove resources

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com

✉ info@koenig-solutions.com