Over 35 Years Of Technology Training

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Learning Style: Virtual Classroom

Provider: Microsoft

Difficulty: Intermediate

Course Duration: 1 Day

Deploy and manage containers using Azure Kubernetes Service (AI-1001)

About This Course:

In this learning path, you practice deploying containers, container orchestration, and managing clusters on Azure Kubernetes Service. The skills validated include deploying, configuring, and scaling an Azure Kubernetes Service cluster. Also, deploying an Azure

Container Registry instance and deploying an application into an Azure Kubernetes Service cluster.

Course Objectives:

- Plan an Azure Kubernetes Service deployment
- Deploy and use Azure Container Registry
- Deploy an Azure Kubernetes Service cluster
- Configure an Azure Kubernetes Service cluster
- Deploy applications to Azure Kubernetes Service
- Configure scaling in Azure Kubernetes Service

Audience:

- 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

Prerequisites:

- Fundamental knowledge of Azure services
- Basic understanding of containers and Kubernetes concepts
- Experience with Linux or Windows command line
- Familiarity with cloud computing concepts
- Hands-on experience with YAML and JSON configurations

Course Outline:

Plan an Azure Kubernetes Service deployment

- 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

Deploy and use Azure Container Registry

- Try-This exercise - Create a container registry
- Try-This exercise - Sign in to the container registry
- Try-This exercise - Push an image to the registry
- Try-This exercise - View container images

- Try-This exercise - Run an image from the registry
- Try-This exercise - Create a virtual network

Deploy an Azure Kubernetes Service cluster

- Azure Kubernetes Service cluster architecture
- Network topology
- Plan the IP addresses
- Configure compute for the base clusterv
- Integrate Microsoft Entra ID for the cluster
- Secure the network flow
- Node and pod scalability
- Try-This exercise - Create an Azure Kubernetes Service cluster

Configure an Azure Kubernetes Service cluster

- Understand Azure Policy for Kubernetes clusters
- Try-This exercise - Enable Azure Policy add on for Azure Kubernetes Service
- Try-This exercise - Assign a policy definition to an Azure Kubernetes cluster
- Host-based encryption on Azure Kubernetes Service
- Create a custom namespace for Azure Kubernetes clusters

Deploy applications to Azure Kubernetes Service

- Configure Azure Kubernetes pods using Azure Policy
- Try-This exercise - Apply Azure Kubernetes Service pod settings using Azure Policy
- Configure storage for applications running on Azure Kubernetes Service
- Deploy an application to an Azure Kubernetes Service cluster
- Try-This exercise - Configure storage for applications that run on Azure Kubernetes Service
- Try-This exercise - Deploy an application to Azure Kubernetes Service cluster

Configure scaling in Azure Kubernetes Service

- Scaling options in Azure Kubernetes Services
- Cluster autoscaler
- Burst to Azure Container Instances
- When to use cluster autoscaler
- Try-This exercise - Scale the node count in an Azure Kubernetes Service cluster
- Automatically scale a cluster on Azure Kubernetes Service

Guided Project - Deploy applications to Azure Kubernetes Service