APPLIED SKILLS

Deploy containers by using Azure Kubernetes Service (AKS)

Duration	SKILL LEVEL	DELIVERY METHOD	PRODUCT	TECHNOLOGY
1 Day	Intermediate	VILT/ILT	Azure Services	Azure

Course Overview

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.

Prerequisites

- Experience using the Azure portal to create resources.
- Basic knowledge of security concepts like identities, permissions, and encryption.
- Basic knowledge of networking concepts like virtual networks and subnetting.
- Basic knowledge of Azure Policy and Azure Kubernetes Service concepts.

Prepare for the assessment.

Module 1: Plan an Azure Kubernetes Service deployment

In this module, you learn about the core Kubernetes infrastructure components, including control plane nodes, node pools, and workload resources such as pods, deployments, and sets.

Learning objectives

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

- Describe control plane nodes, node pools, and workload resources like pods, deployments, and sets.

- Scheduling of fault-tolerant application workloads using Azure Kubernetes Service.

- Managing deployment and core management tasks, like upgrade coordination using Azure Kubernetes Service.

- Clustering of virtual or on-premises machines called nodes that share compute, network, and storage resources.

Module 2: Deploy and use Azure Container Registry

Learn how to create a private registry service for building, storing, and

managing container images and related artifacts.

Learning objectives

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

- Create an Azure container registry instance with the Azure portal.

- Sign-in to the registry instance using the Azure CLI on your local machine.

- Push an image to the registry instance.

- Remove the image from your local Docker environment. View the image in your registry.

- Pull and run the container image from your container registry.

Module 3: Deploy an Azure Kubernetes Service cluster

In this module, you learn how to create an Azure Kubernetes Service

cluster, configure its components, and connect to it using kubectl

commands.

Learning objectives

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

- Create an Azure Kubernetes Service cluster.

- Configure Azure Kubernetes Service Components.

- Connect to an Azure Kubernetes Service cluster.

- Configure Azure Active Directory Integration.

- Monitor an Azure Kubernetes Service cluster.

Module 4: Configure an Azure Kubernetes Service cluster

Use Azure Policy to enforce policies and safeguards on your Kubernetes clusters at scale. Azure Policy Ensures that your cluster is

secure, compliant, and consistent across your organization.

Learning objectives

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

- Enable and configure Azure Policy for Azure Kubernetes Service.

- Assign policy definitions to an Azure Kubernetes Service cluster.

- Use namespaces to logically isolate workloads and resources.
- Enable host-based encryption for Azure Kubernetes Service agent nodes.

Module 5: Deploy applications to Azure Kubernetes Service

This module covers how to provision an Azure Kubernetes Service cluster and validate the effect of Azure Policy.

Learning objectives

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

- Provision an AKS cluster.
- Install the Azure Policy add-on for Azure Kubernetes Service.
- Assign an Azure Policy initiative to an Azure Kubernetes Service cluster
- Validate the effect of Azure Policy

Module 6: Configure scaling in Azure Kubernetes Service

This module covers the scaling applications in Azure Kubernetes Service (AKS), including manually scaling pods or nodes and integrating with Azure Container Instances (ACI).

Learning objectives

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

- Manually scaling pods or nodes
- Using the Horizontal pod autoscaler
- Using the Cluster autoscaler
- Integrating with Azure Container Instances (ACI)

Module 7: Guided Project - Deploy applications to Azure Kubernetes Service
Welcome to this interactive skills validation experience. Completing this module helps prepare you for the Deploy and manage containers with Azure Kubernetes Service assessment.

Learning objectives

In this guided exercise, you practice creating and configuring an Azure Container Registry and an Azure Kubernetes Server cluster. The guided exercise combines both learning and hands-on practice. The skills validated include:

- Provisioning Azure Container Registry (ACR) and Azure Kubernetes Service (AKS).
- Building a Linux and Windows container images and store them in Azure Container Registry.
- Deploying container images to Azure Kubernetes Service. By the end of this guided exercise, you gain hands-on experience in creating and configuring these services in Azure.

Take the assessment.

You will have 2 hr to complete this assessment.

This assessment will use an interactive lab to evaluate your performance. It will take a few minutes to load the lab, and you may do other activities while it loads. After you launch the lab, you will need to wait 72 hours to launch it again. Your mouse movements and text entered during the lab will be recorded for quality purposes. Learn more.

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