

# **Deploy containers by using Azure Kubernetes Service (AKS)**

## content

### **Module 1: Plan an Azure Kubernetes Service Deployment**

- Describe control plane nodes, node pools, and workload resources like pods, deployments, and sets.
- Schedule fault-tolerant application workloads using Azure Kubernetes Service.
- Manage deployment tasks like upgrade coordination with Azure Kubernetes Service.
- Understand clustering of virtual or on-premises machines (nodes) that share compute, network, and storage resources.

### **Module 2: Deploy and Use Azure Container Registry**

- Create an Azure container registry instance via the Azure portal.
- Sign in to the registry instance using the Azure CLI.
- Push an image to the registry instance.
- Remove the image from your local Docker environment and view it in the registry.
- Pull and run the container image from the Azure Container Registry.

### **Module 3: Deploy an Azure Kubernetes Service Cluster**

- Create an Azure Kubernetes Service (AKS) cluster.
- Configure AKS components.
- Connect to an AKS cluster.
- Configure Azure Active Directory Integration for AKS.
- Monitor an AKS cluster.

### **Module 4: Configure an Azure Kubernetes Service Cluster**

- Enable and configure Azure Policy for AKS.
- Assign policy definitions to an AKS cluster.
- Use namespaces to logically isolate workloads and resources.
- Enable host-based encryption for AKS agent nodes.

### **Module 5: Deploy Applications to Azure Kubernetes Service**

- Provision an AKS cluster.
- Install the Azure Policy add-on for AKS.
- Assign an Azure Policy initiative to an AKS cluster.
- Validate the effects of Azure Policy on your cluster.

### **Module 6: Configure Scaling in Azure Kubernetes Service**

- Manually scale pods or nodes.
- Use the Horizontal Pod Autoscaler.

- Use the Cluster Autoscaler.
- Integrate with Azure Container Instances (ACI).

### **Module 7: Guided Project - Deploy Applications to Azure Kubernetes Service**

- Provision Azure Container Registry (ACR) and Azure Kubernetes Service (AKS).
- Build Linux and Windows container images and store them in Azure Container Registry.
- Deploy container images to AKS, gaining hands-on experience in creating and configuring these services.