DevOpsSchool
Lets Learn, Share & Practice DevOps

Master in Azure Kubernetes Service (AKS)

Curriculum 3 Days

Day - 1

- **Concepts**
  - Clustersand workloads using AKS
  - Accessand identity using AKS
  - Security using AKS
  - Networking using AKS
  - Storage using AKS
  - Scale using AKS
- **Create an AKS Cluster**
  - Use the Azure CLI
  - Use the Azure portal
  - Use a Resource Manager template
- **Demo**
  - Prepare application for AKS
  - Create container registry
  - Create Kubernetes cluster
  - Run application
  - Scale application
  - Update application
  - Upgrade cluster
- **Best practices**
  - Overview
  - For cluster operators
  - Multi-tenancy and cluster isolation
  - Basic scheduler features
  - Advanced scheduler features
  - Authentication and authorization
  - Cluster security
  - Container image management
  - Networking
  - Storage
  - Business continuity (BC) and disaster recovery (DR)

Day - 2

- **Cluster operations**
  - Create an AKS cluster
  - Scale an AKS cluster
  - Upgrade an AKS cluster
  - Process node OS updates
  - Delete an AKS cluster
  - Integrate ACR with an AKS cluster
  - Create virtual nodes
  - Use the Azure CLI
  - Use the Azure portal
  - Use Virtual Kubelet
  - Use Cluster Autoscaler
  - Use Availability Zones
  - Use multiple node pools
  - Deploy AKS with Terraform
  - Use the Kubernetes dashboard

- **Configure datavolumes**
  - Azure Disk - Dynamic
  - Azure Disk - Static
  - Azure Files - Dynamic
  - Azure Files - Static
  - NFS Server - Static

Day - 3

- **Configure networking**
  - Create or use existing virtual network
  - Use kubenet
  - Use Azure-CNI
  - Create an internal load balancer
  - Use a Standard Load Balancer
  - Use astatic IP address
  - Ingress
    - Create a basic controller
    - Use HTTP application routing
    - Use internal network
    - Use TLS with your own certificates
    - Use TLS with Let's Encrypt
    - Use a dynamic public IP address
    - Use astatic public IP address
    - Egress traffic
  - Customize CoreDNS
  - Security and authentication
  - * Create service principal
  - Limitaccess to cluster configuration file
  - Secure pod traffic with network policies
  - Use pod security policies
  - Define API server authorized IP ranges
  - Control deployments with Azure Policy
  - Update cluster service principal credentials
  - Restrictand control cluster egress traffic
  - Enable Azure Active Directory integration
  - Use the Azure CLI
  - Use the Azure portal
  - Use Kubernetes RBAC with Azure AD integration
  - Authenticate with ACR