INFOSOFT IT SOLUTIONS

Training | Projects | Placements

AZURE KUBERNETES SERVICES

Introduction to Kubernetes

1. Overview of Containerization
2. Introduction to Kubernetes
3. Key Concepts: Pods, Services, Deployments, ReplicaSets
4. Kubernetes Architecture Overview

Getting Started with Azure Kubernetes Services (AKS)

1. Introduction to AKS
2. Creating an AKS Cluster
3. Managing AKS Clusters
4. AKS Networking and Security

Kubernetes Core Concepts

1. Deploying Applications on Kubernetes
2. Managing Kubernetes Workloads
3. Networking in Kubernetes
4. Storage in Kubernetes

Advanced Kubernetes Features

1. Kubernetes Operators
2. Helm Charts
3. Custom Resource Definitions (CRDs)
4. Kubernetes Federation

Azure Integration and Services

1. Integrating AKS with Azure Monitor
2. Azure Container Registry (ACR) Integration
3. Azure Policy for AKS
4. Azure DevOps and AKS Integration

Monitoring, Logging, and Troubleshooting

1. Monitoring AKS Clusters with Azure Monitor
2. Logging with Azure Monitor Logs
3. Troubleshooting AKS Deployments
4. Implementing Kubernetes Best Practices

Scaling and Autoscaling

1. Scaling Applications on AKS
2. Autoscaling AKS Clusters
3. Implementing Cluster Autoscaler

CI/CD Pipelines for AKS

1. Setting up CI/CD Pipelines with Azure DevOps
2. Deploying Applications to AKS using GitOps
3. Blue/Green Deployments on AKS

Governance, Compliance, and Security

1. Governance Policies for AKS
2. Compliance and Security Best Practices
3. RBAC and Azure AD Integration

Advanced Kubernetes Architecture and Design

1. Advanced Kubernetes Architecture Patterns
2. Designing Highly Available AKS Clusters
3. Kubernetes Cluster Federation and Multi-cluster Management

Advanced AKS Networking and Security

1. Implementing Network Policies with Calico
2. Integrating Azure Firewall with AKS
3. Advanced AKS Networking with Azure CNI
4. Securing AKS Clusters with Azure Policy and Azure Security Center

Kubernetes Operators and Custom Resources

1. Understanding Kubernetes Operators
2. Creating Custom Controllers with Operator SDK
3. Implementing Custom Resource Definitions (CRDs)

Continuous Integration and Continuous Deployment (CI/CD) for AKS

1. Advanced CI/CD Pipelines with Azure DevOps and GitHub Actions
2. Blue/Green Deployments with Istio on AKS
3. Canary Deployments and A/B Testing Strategies

Kubernetes Monitoring and Observability

1. Implementing Advanced Monitoring with Prometheus and Grafana
2. Observability with Azure Monitor for Containers
3. Application Insights Integration for AKS

Kubernetes Performance Tuning and Optimization

1. Optimizing AKS Cluster Performance
2. Scaling Applications with Horizontal Pod Autoscaler (HPA)
3. Vertical Pod Autoscaling (VPA) and Cluster Autoscaler