

Azure Kubernetes Service (AKS)

Course

Type:
Instructor
Led Training,
with Hands
on Lab

Course ID:
AKSECS2D

Duration:
2 Day

Why OneCloud?

OneCloud Consulting, a Cisco Learning Partner, is dedicated to providing exceptional technical education and professional services. Our team of experts combine skill, knowledge, and experience in implementing Data Center Architecture and Unified Computing technology. Our specializations include computer networking, technical training and IT consulting.

Course Description

This course provides an overview of Kubernetes with an Azure focus. The goal of this course is to understand how Azure Kubernetes works and how it can be used to maximize your deployments. This course will also include hands-on labs.

Learning Objectives

In this course we will focus on:

- + Azure Kubernetes (AKS) Overview and Design
- + AKS System Architecture and Concepts
- + Creating AKS Clusters
- + AKS Access and Identity
- + AKS and Network
- + AKS and Active Directory Integration
- + AKS and Load Balancing
- + AKS Capacity Analysis

Who Should Attend

- + Data Center Architects
- + Solution Architects
- + Network Engineers
- + System Administrators
- + Storage Administrators

Prerequisites

- + Previously taken Kubernetes Fundamentals Course or a Very Good Working Knowledge of Kubernetes and Micro Services Architecture
- + Understanding of Linux/ Unix system concepts
- + Familiarity with Basic Network Concepts (TCP/IP, Layer 2 and Layer 3 Networking)
- + Familiarity with Storage Concepts
- + Familiarity with Azure

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Module 1: Azure Kubernetes Service Overview

- + What is AKS
- + Managed vs self-managed comparison
- + Kubernetes Object Overview (PODs, Deployments, Services)

Module 2: Create an AKS Cluster

- + Before you begin
- + Azure Portal vs Azure CLI
- + Using Azure Portal

Lab

Module 3: AKS Network – Architecture

- + Overview
- + Kubenet (basic) vs Azure CNI (advanced)
- + Basic Load Balancer vs Standard Load Balancer

Module 4: AKS Network – Egress Traffic

- + Basic External Load Balancer with dynamic outbound IP
- + Basic External Load Balancer with static outbound IP
- + Standard External Load Balancer
- + Internal network egress
- + AKS Network - Egress traffic Quiz

Lab

Module 5: AKS Network – Ingress Traffic (Scott)

- + Ingress traffic from the Internet
- + HTTP Application Routing
- + Ingress traffic from internal network

Module 6: AKS Storage

- + Mapping Azure Disks
- + Azure File

Module 7: Azure Vault integration

- + Azure Secrets
- + Vault Integration

Module 8: AKS Capacity Analysis

- + Regions availability
- + Restricted Virtual Machine Sizes
- + Resource Group and Tags
- + Node Operating System
- + Kubernetes version
- + Network
- + Resources reservation
- + Azure subscription limits
- + Resource Group limits
- + AKS Dashboard

Module 9: AKS Access and Identity

- + AKS Authorization and Authentication
- + Generate kubeconfig for admins
- + Generate kubeconfig for users
- + Admin vs User - Security concerns

Module 10: Integrate AKS with Azure Active Directory

- + Integration architecture
- + Server Application
- + Client Application
- + Integrate AKS with Active Directory
- + Generate kubeconfig for AD users
- + Kubernetes RBAC for AD users and gr