TechyEdz Solutions

A Blended Learning Approach

AWS DevOps Engineer

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AWS Certified DevOps Engineer – Professional (DOP-C01)

Course Overview:

The AWS Certified DevOps Engineer - Professional (DOP-CO1) examination validates technical expertise in provisioning, operating, and managing distributed application systems on the AWS platform. It is intended for individuals who perform a devops engineer role.

We will helps you learn the key concepts, latest trends, and best practices for working with the DevOps on AWS .You will master configuration management; continuous integration deployment, delivery and monitoring using DevOps tools such as Git, Docker, Jenkins, Cucumber, TeamCity, Ansible, in a practical, hands-on and interactive approach. You will also learn to implement Docker, version control systems, and many more. AWS platform before diving into its individual elements:, VPC, EC2, S3, Cloud Computing, Dynamo DB, and Security.

Course Outline:

Introduction

- Linux Basic Commands
- Define DevOps
- Why DevOps?
- Who can Learn DevOps?
- What is SDLC?
- Diff b/w agile & waterfall
- DevOps and agile
- DevOps Functionalities and tools
- What is meant by DevOps?
- What are the advantages to choose AWS DevOps?
- Difference Between Agile and DevOps Methodology

Source code management

- What is SCM
- What is a version control system
- Types of version controls

- Diff b/w CVS & DVS

Jenkins (Integration Tool)

- Installation of Jenkins
- How to create CI-CD pipeline
- Complete Lab Setup for Jenkins
- How to install and create Plugins.
- How to deploy into the Production
- How to analyze Whether Reports.

Installation of GIT

- Installation in windows
- Installation in centos
- Installation in Ubuntu

GIT command line

- Initialize GIT repository
- Clone Existing GIT Repo
- Code check-in & check-out

GITHUB

- Creating Projects
- Creating Users
- Creating Groups
- Branches
- Protecting Branches

Continuous integration

- Introduction to continuous integration
- Understanding continuous integration
- Introduction about Jenkins
- Jenkins architecture
- Creating Jenkins Jobs
- Manage Jenkins Plugins
- Jenkins Global Tool Configuration

- Setup Git with Jenkins
- Setup Maven in Jenkins
- Setup Nexus OSS in Jenkins
- Creating Jenkins CI/CD Flow using Pipelines
- Jenkins master slave configuration
- Introduction to Jenkins CLI

Build Tools OVERVIEW

- What is Maven?
- Maven Evolution
- Objective
- Convention over Configuration
- Features of Maven

ENVIRONMENT SETUP

- System Requirement

POM

- Super POM

BUILD LIFE CYCLE

- What is Build Lifecycle?
- Clean Lifecycle
- Default (or Build) Lifecycle
- Site Lifecycle

REPOSITORIES

- What is a Maven Repository?
- Local Repository
- Central Repository
- Remote Repository
- Maven Dependency Search Sequence

Configuration management

- What is cm
- What is Ansible
- Ansible Overview
- Installing Ansible on centos
- Inventory File setup
- Introduction to Ansible Playbooks
- Ansible Ad Hoc Commands
- Ansible Roles
- Ansible Galaxy

Containerization

- Introduction of Virtualization
- Introduction of Containerization
- Dockers vs. VMs

Docker Key Concepts

- Docker CLI
- Docker Daemon
- Docker Engine
- Docker Machine
- Docker Images
- Docker Container

Docker Architecture

- Dockers hub
- Downloading docker images
- Understanding the containers
- Docker Basic Workflow
- Running commands in container
- Docker Registry
- Docker Volumes
- Docker Networking

Container Orchestration

- Configure Dockers Swarm
- Adding Nodes to Dockers Swarm

- Deploy Hello-World Application in Dockers Swarm

Kubernetes

- Features of Kubernetes
- Architecture of Kubernetes
- Install and Configure Kubernetes ENV
- Introduction of Kubernetes Images
- Kubernetes Jobs
- Kubernetes Node
- Kubernetes Service
- Kubernetes Pod
- Kubernetes Volumes

EKS: (Elastic Kubernetes Service)

- How to build eks cluster platform
- How to Deploy Pod
- AWS CLI installation
- Cloud formation Deployment to build EKS Cluster
- Service POD
- Security
- Load Balancer
- Database Connectivity
- HPA
- Roll Back and Roll Out
- Helm
- Headless
- Elastic Search-Client
- Replication Controller
- Replicas Set
- Ingress Controller
- How to maintain Kubernetes Cluster (Workers Node)
- Stateful-Set

Cloud Computing

- Introduction to Cloud Computing
- Why Cloud Computing?

- Benefits of Cloud Computing
- Types of Cloud Computing

EC2 Instances

- Understanding AMI
- Launching your first AWS instance
- On-demand Instance pricing
- Reserved Instance pricing
- Spot instance pricing
- Setting up security
- Security groups
- Choosing the AMI
- Creating a new AMI
- Public and Private IP's
- Deploying a new instance from the created AMI
- Key Pairs
- Elastic IP's
- ELB (Elastic Load Balancer)

Amazon Virtual Private Cloud (VPC)

- What is VPC?
- VPC configuration
- VPC security
- Elastic IP's Inbound and outbound ACL's
- NAT gateway
- VPN Connection
- Peering Connection
- Direction Connection

S3

- S3 Buckets
- S3 durability and redundancy
- S3 Uploading Downloading
- S3 Permissions
- S3 Object Versioning
- Static Web hosting
- S3 Lifecycle Policies
- Replication

- Backup

Prerequisites:

- One or more years of hands-on experience in Linux and Networking Knowledge.
- 2 or more years of experience provisioning, operating, and managing AWS environments
- Experience developing code in at least one high-level programming language
- Experience building highly automated infrastructures
- Experience administering operating systems
- Understanding of modern development and operations processes and methodologies

Who can Attend:

- Developers / Tester / Administrators / Architect

Number of Hours: 50hrs

Certification: AWS Certified DevOps Engineer – Professional (DOP-C01)

Key Features:

- One to One Training
- Online Training
- Fastrack & Normal Track
- Resume Modification
- Mock Interviews
- Video Tutorials
- Materials
- Real Time Projects
- Virtual Live Experience
- Preparing for Certification