AWS Certified DevOps Engineer – Professional

Content

Day 1

Module 0: Course Overview

- Course objectives
- Suggested prerequisites
- Course breakdown

Module 1: Introduction to DevOps

- Overview of DevOps
- Amazon's journey to DevOps
- Foundations for DevOps

Module 2: Infrastructure Automation

- Introduction to Infrastructure Automation
- Exploring AWS CloudFormation templates
- Modifying AWS CloudFormation templates
- Demonstration: Structure, parameters, stacks, updates, importing resources, and drift detection in AWS CloudFormation

Module 3: AWS Toolkits

- Configuring the AWS CLI
- Overview of AWS SDKs, AWS SAM CLI, and AWS CDK
- Using AWS Cloud9
- Demonstration: AWS CLI and AWS CDK
- Hands-on Lab: Provisioning and managing basic infrastructure with AWS CloudFormation

Module 4: CI/CD with Development Tools

- Overview of CI/CD Pipeline and AWS Dev Tools
- Demonstration: AWS CodeCommit, AWS CodeBuild, AWS CodeDeploy, and AWS CodePipeline
- Hands-on Lab: Deploying an application to an EC2 fleet using AWS CodeDeploy

Day 2

Module 4: CI/CD with Development Tools (Continued)

- Deep dive into AWS CodePipeline

- Demonstration: AWS integration with Jenkins
- Hands-on Lab: Automating code deployments using AWS CodePipeline

Module 5: Introduction to Microservices

- Overview of Microservices architecture

Module 6: DevOps and Containers

- Deploying applications with Docker
- Exploring Amazon ECS, AWS Fargate, Amazon ECR, and Amazon EKS
- Demonstration: CI/CD pipeline deployment in a containerized application

Module 7: DevOps and Serverless Computing

- Overview of AWS Lambda, AWS Fargate, AWS SAM, and AWS Step Functions
- Demonstration: AWS Lambda characteristics and quick start in AWS Cloud9
- Hands-on Lab: Deploying a serverless application using AWS SAM and a CI/CD pipeline

Module 8: Deployment Strategies

- Continuous Deployment overview
- Deployments using AWS services

Module 9: Automated Testing

- Introduction to testing in CI/CD
- Types of tests: Unit, integration, fault tolerance, load, and synthetic
- Product and service integrations

Day 3

Module 10: Security Automation

- Introduction to DevSecOps
- Securing the CI/CD pipeline
- Threat detection tools
- Demonstration: AWS Security Hub, Amazon GuardDuty, AWS Config, and Amazon Inspector

Module 11: Configuration Management

- Introduction to configuration management processes
- AWS services and tools for configuration management
- Hands-on Lab: Performing blue/green deployments with CI/CD pipelines and Amazon ECS

Module 12: Observability

- Overview of observability in DevOps
- AWS tools for observability
- Hands-on Lab: Using AWS DevOps tools for CI/CD pipeline automation

Module 13: Reference Architecture (Optional)

- Overview of reference architectures

Module 14: Course Summary

- Review of DevOps components
- CI/CD pipeline recap
- Overview of AWS Certification options