

**Course Duration:** 32 hours (4 Days)

## **AWS Architect & DevOps**

The AWS Architect & DevOps course covers DevOps principles, practices, and tools to enhance development and operational efficiency on AWS. It explores CI/CD, infrastructure as code (IaC), microservices, monitoring, and logging, with hands-on labs using AWS CloudFormation templates and CI/CD pipelines. Participants will deploy applications on Amazon EC2, serverless, and container-based environments, while also learning about multi-pipeline workflows and multi-environment deployments. The course provides architectural best practices for building scalable, secure AWS solutions, covering networking, storage, databases, security, automation, containers, serverless architecture, edge services, and backup and recovery. Designed for solutions architects, engineers, and developers, it enables learners to apply their knowledge by designing and deploying real-world AWS-based solutions.

### **Course objectives**

In this course, you will learn to:

- Identify AWS architecting basic practices
- Summarize the fundamentals of account security
- Identify strategies to build a secure virtual network that includes private and public subnets
- Practice building a multi-tier architecture in AWS
- Identify strategies to select the appropriate compute resources based on business use cases
- Compare and contrast AWS storage products and services based on business scenarios
- Compare and contrast AWS database services based on business needs
- Identify the role of monitoring, load balancing, and auto scaling responses based on business needs
- Identify and discuss AWS automation tools that will help you build, maintain, and evolve your infrastructure
- Discuss hybrid networking, network peering, and gateway and routing solutions to extend and secure your infrastructure
- Explore AWS container services for the rapid implementation of an infrastructure-agnostic, portable application environment
- Identify the business and security benefits of AWS serverless services based on business examples

- Discuss the ways in which AWS edge services address latency and security
- Explore AWS backup, recovery solutions, and best practices to ensure resiliency and business continuity

## **Prerequisites**

- Completed AWS Cloud Practitioner Essentials, or AWS Technical Essentials
- Working knowledge of distributed systems
- Familiarity with general networking concepts
- Familiarity with IP addressing
- Working knowledge of multi-tier architectures
- Familiarity with cloud computing concepts

## **Course outline**

**Module 1:** AWS architecting fundamentals including benefits and global infrastructure

**Module 2:** AWS IAM basics and uses

**Module 3:** AWS VPC basics including subnets, IGW, NAT gateway, security groups, NACL, Hybrid networking

**Module 4:** AWS EC2 with features such as autoscaling, load balancing.

**Module 5:** Introduction to Devops

**Module 6:** Infrastructure automation (AWS Cloudformation)

**Module 7:** AWS toolset Cloud 9

**Module 8:** CI-CD toolset: code commit, code build, code deploy, code pipeline

**Module 9:** Microservices and ECS along with ECR

**Module 10:** Serverless services advantages including Lambda, Step functions, AWS SAM

**Module 11:** Configuration management with AWS Config, use of systems manager service

**Module 12:** Monitoring and observability services such as CloudWatch, AWS X-ray, Codeguru.