

# Networking Essentials for Cloud Applications on AWS

## AWS Classroom Training

### Course description

The *Networking Essentials for Cloud Applications on AWS* course provides a comprehensive understanding of networking concepts and services within the Amazon Web Services (AWS) cloud environment. Designed for experienced and novice networking engineers, this course covers essential topics, best practices, and hands-on labs to equip learners with the knowledge and skills required to design, configure, and optimize network infrastructure on AWS.

- Course level: Intermediate
- Duration: 1 day

### Activities

This course includes presentations, demonstrations, a brief pre-assessment, knowledge checks and three hands on labs revolved around a use case story.

### Course objectives

In this course, you will learn to:

- Design a networking infrastructure for a scalable production application, considering design trade-offs between different networking services.
- Configure networking services for a highly available, resilient and scalable application.
- Implement the networking infrastructure according to evolving business requirements.
- Analyze and describe the stages of traffic flow through the networking infrastructure.
- Identify cost optimization strategies for networking services.
- Implement networking best practices to align towards AWS Well-Architected Framework.

### Intended audience

This course is intended for:

- Newly Hired Cloud Engineer
- On-premises IT Engineer
- Cloud Architect
- Cloud Engineer
- Network Engineer

### Prerequisites

We recommend that attendees of this course have:

- Basic knowledge of networking concepts
- Basic knowledge of AWS services
- *AWS Technical Essentials* or *Cloud Practitioner Essentials*

# Networking Essentials for Cloud Applications on AWS

## AWS Classroom Training

### Course outline

- Module 0: Course Introduction
  - Introductions
  - Course Overview
- Module 1: Introduction to AWS
  - Poll
  - Pre-Assessment
  - AWS Global Infrastructure
  - Demo: Regions and Availability Zones
  - Well-Architected Framework
  - Use Case Introduction
  - Labs Architecture Diagrams Overview
- Module 2: Networking on AWS
  - IPv4 and IPv6 Fundamentals
  - VPC Fundamentals
  - Subnets
  - IPAM
  - Security Groups
  - Network Access Control Lists
  - Route Table
  - Egress-only Internet gateway
  - Elastic IP addresses
  - Elastic public IP
  - Dynamic public IP
  - Elastic Network Interfaces (ENI)
  - Network Access Translation gateway
  - Knowledge Check
- Module 3: Load Balancing and Scaling on AWS
  - Elastic Load Balancer (ELB)
  - ELB Health Checks
  - NLB
  - Application Load Balancer (ALB)
  - Auto Scaling Group (ASG) Basics
  - Reachability Analyzer
  - Knowledge Check
  - Use Case Part 1
  - Hands-on-lab: Building a Multi-AZ VPC Architecture
- Module 4: Content Delivery and VPC Interconnectivity
  - CloudFront
  - Global Accelerator
  - Simple Storage Service (S3)

# Networking Essentials for Cloud Applications on AWS

## AWS Classroom Training

- VPC Endpoints
- VPC Peering
- VPC Transit Gateway
- Knowledge Check
- Use Case Part 2
- Hands-on-lab: Scaling an Optimizing a Multi-AZ 3-Tiered Deployment
- Module 5: High Availability with Route 53
  - R53 Fundamentals
  - Route 53 Hosted Zones
  - Route 53 Health Checks
  - Route 53 Routing Policy
  - Route 53 Application Recovery Controller and Routing Controls
  - ELB Zonal Shift
  - Knowledge Check
  - Use Case Part 3
  - Hands-on-lab: Achieving Fault Tolerance and Global Traffic Optimization
- Module 6: Course Close
  - Course Summary
  - Course Objectives Review
  - Use Case Labs Recap
  - Course feedback survey