

# AWS VPC and Networking on AWS

## Course description

- This course delivers a comprehensive understanding of networking concepts and services within the Amazon Web Services (AWS) cloud environment. Intended for both new and experienced networking professionals, it explores essential topics, recommended best practices, and hands-on labs to help learners design, configure, and optimize AWS network architectures.
- Course level: Intermediate
- Duration: 2 day

## Course objectives

In this course, you will learn to:

- Design a scalable networking architecture for production workloads, evaluating trade-offs across AWS networking services.
- Configure AWS networking services to support highly available, resilient, and scalable applications.
- Implement and adapt network architectures to meet evolving business and technical requirements.
- Apply AWS networking best practices in alignment with the AWS Well-Architected Framework.

## Intended audience

This course is intended for:

- Newly hired cloud engineers
- On-premises IT engineers
- Cloud architects
- Cloud engineers
- Network engineers

## 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*

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## Course outline

### Module 0: Course Introduction

- Introductions
- Course overview
- Use case introduction

### Module 1: Networking on AWS

- IP addressing
- Amazon Virtual Private Cloud (Amazon VPC) fundamentals
- Subnets
- Amazon VPC IP Address Manager (IPAM)
- Elastic Network Interfaces
- Elastic IP addressing
- Route table
- Internet and NAT gateways
- Basic traffic filtering mechanisms for a VPC
- Knowledge check

### Module 2: Load Balancing and Scaling on AWS

- Elastic Load Balancing (ELB)
- Cross-zone load balancing
- Auto Scaling group (ASG) basics
- Knowledge check
- Use case part one
- Hands-on lab: Building a Multi-Availability Zone VPC Architecture

### Module 3: VPC Interconnectivity and Content Delivery

- VPC interconnectivity
- VPC peering
- VPC Transit Gateway
- VPC endpoints
- Edge locations
- AWS Global Accelerator
- Knowledge check
- Use case part two
- Hands-on lab: Accelerating Performance with Amazon CloudFront

### Module 4: High Availability with Amazon Route 53

- Amazon Route 53
- Knowledge check
- Use case part three

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- Hands-on lab: Achieving Fault Tolerance and Global Traffic Optimization

## Module 5: Hybrid Networking on AWS

- Hybrid cloud networking concepts and use cases
- Connecting on-premises networks to AWS
- AWS Site-to-Site VPN
- AWS Client VPN (overview and use cases)
- AWS Direct Connect fundamentals
- Choosing between VPN and Direct Connect
- Hybrid routing considerations (BGP basics)
- Knowledge check
- Demo: Establishing Hybrid Connectivity with AWS

## Module 6: Course Wrap-Up

- Course reflection
- Use case labs recap
- Use case conclusion