

ANS-C01: AWS Advanced Networking – Specialty

Design and run complex AWS networks — hybrid connectivity, routing at scale and network security — prepared for the ANS-C01 exam.

DURATION

3 days · 24 hours

LEVEL

Advanced

CURRICULUM

9 modules · 6 labs

DELIVERYLive online, Onsite,
Corporate

Course overview

Networking is the part of AWS that most often decides whether an architecture is secure, fast and affordable. As organisations grow from a handful of VPCs to hundreds, connected to data centres and branch offices, they need engineers who understand routing, DNS, hybrid links and network security in depth. This three-day course is designed for network professionals taking that step on AWS.

Day one covers network design: VPC addressing at scale, IPv6, connectivity options between VPCs, edge networking with CloudFront and Global Accelerator, and hybrid DNS. Day two focuses on implementation: Direct Connect virtual interfaces and gateways, Site-to-Site VPN with BGP, Transit Gateway route tables for segmentation, and load balancing choices. Day three covers management, operations and security: monitoring and troubleshooting with Flow Logs, Reachability Analyzer and Network Access Analyzer, automation with infrastructure as code, and protection with Network Firewall, WAF and centralised inspection.

Labs simulate an enterprise network: several VPCs, a simulated on-premises site connected by VPN with dynamic routing, segmented routing domains and centralised egress. You will break and fix routes, investigate asymmetric traffic and design for failover between links.

Exam questions at this level combine networking theory with AWS-specific behaviour, so the final session focuses on those patterns. This course is aligned to the ANS-C01 exam and prepares you for it; confirm the current exam guide on the AWS Certification site before booking.

Highlights

- 24 hours of advanced networking training
- Hybrid connectivity with Direct Connect and VPN
- Transit Gateway routing and segmentation labs
- Covers all four ANS-C01 domains
- Troubleshooting drills with AWS network tools

What's included

- Enterprise network built and troubleshot in class
- BGP-based VPN and Direct Connect design
- Transit Gateway segmentation and centralised egress
- Hybrid DNS with Route 53 Resolver
- Network security with Network Firewall and WAF
- Scenario-based practice questions
- Course completion certificate from Ace Skills Consulting

Who this course is for

Who should attend

- Network engineers moving into cloud networking
- Cloud and solutions architects responsible for connectivity
- Infrastructure engineers managing hybrid environments
- Network security engineers working with AWS

Prerequisites

- Strong networking fundamentals including routing, BGP and DNS
- Associate-level AWS knowledge or equivalent hands-on experience
- Familiarity with VPC concepts

Detailed curriculum — 3 days, 24 hours, 9 modules, 6 hands-on labs

Day 1 Network Design

8 hours

1.1 VPC design at scale

- IP address planning and IPAM
- VPC peering versus Transit Gateway versus PrivateLink
- IPv6 and dual-stack VPCs
- Shared VPCs

LAB Plan and allocate VPC CIDRs with Amazon VPC IPAM · 35 min

1.2 Edge and global networking

- CloudFront origins and behaviours
- Route 53 routing policies
- Global Accelerator
- Elastic Load Balancing selection

1.3 Hybrid DNS

- Route 53 private hosted zones
- Forwarding rules shared across accounts
- Resolver inbound and outbound endpoints
- DNSSEC basics

LAB Configure hybrid DNS resolution with Route 53 Resolver · 45 min

Day 2 Network Implementation

8 hours

2.1 Site-to-Site VPN

- VPN tunnels and BGP
- Route propagation and preference
- Accelerated VPN
- VPN as Direct Connect backup

LAB Connect a simulated data centre with BGP-based VPN · 60 min

2.2 AWS Direct Connect

- Connections, LAGs and virtual interfaces
- Resiliency models
- Direct Connect gateway
- MACsec and encryption options

2.3 Transit Gateway

- Attachments and route tables
- Inter-Region peering
- Segmentation with routing domains
- Centralised egress and inspection VPCs

LAB Segment production and development with Transit Gateway route tables · 55 min

Day 3 Operations, Security & Exam Readiness

8 hours

3.1 Monitoring and troubleshooting

- VPC Flow Logs analysis
 - Traffic Mirroring
- Reachability Analyzer and Network Access Analyzer
 - Diagnosing asymmetric routing

LAB Find and fix three broken network paths · 45 min

3.2 Network security and governance

- AWS Network Firewall policies
 - AWS WAF and Shield
- Security groups and NACL design
 - Firewall Manager across accounts

LAB Route egress traffic through Network Firewall · 40 min

3.3 Automation and exam readiness

- Network infrastructure as code
 - Timed practice set with review
- Cost of data transfer paths

Skills and tools

Skills you will build

Amazon VPC

IPv6

Transit Gateway

AWS Direct Connect

Site-to-Site VPN

BGP

Route 53 Resolver

CloudFront

Global Accelerator

AWS Network Firewall

Network troubleshooting

Tools used in class

AWS Management Console

AWS CLI

Amazon VPC IPAM

Reachability Analyzer

VPC Flow Logs

AWS CloudFormation

Certification exam

This course is aligned to the exam below and prepares you for it. The exam itself is booked and taken with the vendor.

Exam	AWS Certified Advanced Networking – Specialty
Exam code	ANS-C01
Questions	65
Duration	170 minutes
Passing score	750 / 1000 (scaled)
Format	Multiple choice, Multiple response
Delivery	Online proctored, Test centre
Validity	3 years
Official page	https://aws.amazon.com/certification/certified-advanced-networking-specialty/

Exam skill areas covered
Network Security, Compliance, and Governance

Exam details are pending verification. Confirm the current exam code, format and fee on the official vendor page before booking.

Frequently asked questions

Do I need CCNA-level networking knowledge?

It helps a great deal. You should be comfortable with routing, BGP concepts and DNS before joining.

Will we use a real Direct Connect link?

Direct Connect is covered through design exercises and console walkthroughs; hybrid labs use VPN to a simulated data centre, which follows the same routing principles.

Is this harder than Solutions Architect – Associate?

Yes. It assumes architect-level AWS knowledge and goes much deeper into routing, DNS and hybrid connectivity.

Does the course cover IPv6?

Yes. Dual-stack VPC design and IPv6 routing are included on Day 1.

Can you tailor the course for our network team?

Yes. Corporate batches can model your hybrid topology in the labs.

Book a batch or talk to an advisor

Course page: aceskillsconsulting.com/course/ans-c01-aws-advanced-networking-specialty · Email: info@aceskillsconsulting.com

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