AWS Certified Advanced Networking – Specialty

Level: Specialty
Duration: 50–60 Hours

Course Overview

The **AWS Certified Advanced Networking – Specialty** certification validates a candidate's ability to design, implement, and manage complex networking architectures on AWS. This course is ideal for professionals working with hybrid IT network infrastructures and advanced AWS networking services.

Course Objectives

- Design and implement AWS and hybrid IT network architectures
- Configure core networking services and security
- Automate network management using AWS tools
- Prepare for the AWS Advanced Networking Specialty certification exam

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Course Outline

Module 1: Introduction and Exam Overview

- Overview of the Advanced Networking Specialty exam
- Understanding exam domains and expectations
- Review of AWS global infrastructure
- Core networking fundamentals in AWS

Module 2: Network Design and Architecture

- Designing scalable and highly available networks
- Multi-account and multi-VPC network design
- Transit Gateway and AWS Private Link
- Hybrid cloud connectivity planning

Module 3: Hybrid Connectivity

- AWS Direct Connect: setup and architecture
- VPN connections and site-to-site tunneling
- High availability and failover for hybrid connectivity
- Integrating on-premises data centers with AWS

Module 4: Advanced VPC Configurations

- Custom VPC design: CIDR, subnets, and routing
- VPC peering vs. Transit Gateway
- Security groups vs. Network ACLs
- Using AWS Network Firewall and traffic inspection

Module 5: Network Security

- Identity and Access Management (IAM) for networking
- AWS WAF and AWS Shield
- Traffic filtering and segmentation
- Data encryption in transit and compliance best practices

Module 6: Network Monitoring and Troubleshooting

- Amazon CloudWatch, CloudTrail, and VPC Flow Logs
- Network Performance Monitor and reachability analyzer
- Diagnosing and resolving DNS, connectivity, and latency issues
- Troubleshooting hybrid network failures

Module 7: Network Automation and Optimization

- Infrastructure as Code with AWS CloudFormation and Terraform
- Automating network deployment with Boto3, AWS CLI
- Optimizing bandwidth and reducing latency
- Load balancing: ALB, NLB, and Global Accelerator

Module 8: Content Delivery and DNS

- Amazon Route 53: DNS management and routing policies
- AWS Global Accelerator vs. CloudFront
- Performance tuning for global content delivery
- Domain registration and hosted zones

Module 9: Exam Preparation and Practice

- Domain-by-domain review
- Hands-on lab exercises and case studies
- Sample exam questions and detailed answers
- Final exam strategy and time management

Target Audience

- Network engineers, architects, and DevOps professionals
- IT professionals managing hybrid or cloud-native networks
- Anyone preparing for the **AWS Advanced Networking – Specialty** exam

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Prerequisites

- AWS Certified Solutions Architect – Associate (recommended)
- 5+ years of networking experience, including complex architectures
- In-depth knowledge of TCP/IP, VPNs, and network security