HCIP-Datacom-Advanced Routing & Switching Technology

Duration: 40 Hours (5 Days)

Overview

The HCIP-Datacom-Advanced Routing & Switching Technology course is a comprehensive training program designed for network professionals seeking in-depth knowledge and skills in advanced routing and switching technologies. It covers a broad spectrum of topics, from Advanced IGP Features such as OSPF and IS-IS optimizations, to Advanced BGP Features including Route control and BGP RRs networking. Learners will also delve into IPv6 Routing configurations, Advanced Ethernet Technologies for improved VLAN management and security, and MPLS Technology for understanding MPLS principles, VPNs, and their deployment. Essential skills in Network O&M and Troubleshooting are taught to ensure efficient network maintenance and problem-solving. The course concludes with Network Migration tactics, preparing learners for seamless transitions in network infrastructure.This course will empower participants with the expertise needed to design, implement, and manage complex datacom networks, thus enhancing their professional capabilities and job opportunities in the networking field.

Audience Profile

The HCIP-Datacom-Advanced Routing & Switching Technology course is designed for networking professionals seeking advanced skills in datacom networks.

- Network Engineers
- Systems Engineers
- Network Analysts
- IT Infrastructure Architects
- Network Operations Specialists
- Network Administrators
- Technical Support Engineers
- Network Consultants
- Data Center Operations Staff
- Network Security Engineers
- IT Professionals looking to upgrade routing and switching skills
- Telecom Operations Engineers
- Network Design Engineers
- Network Planning Engineers
- IT Managers overseeing network infrastructure

Course Syllabus

Training Content:

1. Advanced IGP Features

- Advanced IGP Features: OSPF fast convergence, OSPF Route Control, Other OSPF Features, Advanced
- IS-IS Features

2. Advanced BGP Features

- Advanced BGP Features: BGP route control, Introduction to BGP Features, Networking of BGP RRs

3. IPv6 Routing

- IPv6 Routing: IPv6 static route, OSPFv3 Principles and Configuration, IS-IS (IPv6) Principles and
- Configuration, BGP4+ Principles and Configuration

4. Advanced Ethernet Technologies

- Advanced VLAN Technology: Super-VLAN, MUX-VLAN, QinQ
- Ethernet Switching Security: Port Isolation , MAC Table Security, Port security , MAC Address Flapping
- Prevention and Detection , MACsec , Switch traffic control , DHCP Snooping , IP Source Guard

5. MPLS Technology

- MPLS Principles and Configuration: MPLS Overview, MPLS Forwarding, Static LSP
- MPLS LDP Principles and Configuration: Basic Concepts of LDP, Working Principle of LDP, Basic LDP
- Configurations
- MPLS VPN Principles and Configuration: MPLS VPN Overview, MPLS VPN route exchange, MPLS VPN
- packet forwarding, MPLS VPN Configuration and Implementation
- MPLS VPN Deployment and Application: MPLS VPN Application and Networking Overview, Typical
- Application Scenarios and Deployment of MPLS VPN, OSPF VPN expansion

6. Network O&M

- Network O&M: Routine Maintenance, Information collection tool

7. Troubleshooting

- Troubleshooting: Structured troubleshooting process, Core Ideas and Methods of Network Troubleshooting,
- Troubleshooting Common Network Faults

8. Network Migration

- Network Migration: Basic Concepts of Migration, Migration Process