

HCIP-Datacom-Advanced Routing & Switching Technology

Learn to configure advanced IGP, BGP, IPv6 routing, Ethernet security, MPLS VPNs and network troubleshooting and migration.

5 Days

40 HOURS

8

MODULES

12

TOPICS

COURSE 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.

WHO THIS COURSE IS FOR

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

What You Will Learn

- Configure advanced OSPF and IS-IS features for fast convergence
- Apply BGP route control and configure BGP route reflectors
- Configure IPv6 routing with OSPFv3, IS-IS and BGP4+
- Implement advanced VLAN technologies such as Super-VLAN and QinQ
- Apply Ethernet switching security measures such as DHCP Snooping
- Configure MPLS forwarding, LDP and MPLS VPN deployment
- Explain network operation and maintenance practices and tools
- Plan network migration processes and troubleshoot common faults

COURSE SYLLABUS

8 Modules, 12 Topics

01

Advanced IGP Features

TOPICS

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

02

Advanced BGP Features

TOPICS

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

03

IPv6 Routing

TOPICS

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

04

Advanced Ethernet Technologies

TOPICS

- **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

05

MPLS Technology

TOPICS

- **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

06

Network O&M

TOPICS

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

07

Troubleshooting

TOPICS

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

08

Network Migration

TOPICS

- **Network Migration:** Basic Concepts of Migration, Migration Process

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

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✉ info@koenig-solutions.com