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1 Training Description

1.1 H3C Certification Training

1.1.1 H3C Large-Scale Network Routing Technology V2.0 (V7)

Training Object

- Personnel who are interested in network technologies and H3C certification
- H3C's agent engineers
- H3C training partner's trainers
- H3C product O&M personnel and technical support personnel

Entry Requirements

- Personnel who have passed H3C Certified Network Engineer (H3CNE) certification, or have a comparable level of technology
- Personnel who have completed the *Building H3C High-Performance Campus Network V2.0 (V7)* course

Objectives

Upon completing this training, trainees will be able to:

- Master the requirements and applications of routing technologies in large-scale routing networks.
- Be proficient in the configurations and applications of OSPF routing protocols.
- Master the configurations and applications of IS-IS routing protocols.
- Master methods and configurations of route filtering, routing protocol import, and policy control.
- Master the configurations and applications of BGP routing protocols.
- Master basic concepts and configurations of IPv6.

Courses

Course ID	Course Name	Total Duration of Course (Working Days)	Practical Operation Duration (Working Days)
HM-040	Large-Scale Network Routing Overview	0.2	
HM-041	Routing Basics	0.5	0.2
HM-042	OSPF	1.1	0.5
HM-043	IS-IS	0.5	0.25
HM-044	IGP Route Control	0.7	0.35
HM-045	BGP-4	1.5	0.75
HM-046	IPv6 Basics	0.5	0.25
Total		5	2.3

Training Content

- Enterprise network architecture and technology applications in large-scale routing networks
- Principles and comparisons of routing protocols, route backup, and load balancing
- Principles, configurations, and maintenance of the OSPF routing protocol
- Principles, configurations, and maintenance of the IS-IS routing protocol
- Principles and configurations of route filtering, routing policy, and route import
- Principles, configurations, and maintenance of the BGP routing protocol
- IPv6 technologies

Training Mode

Class teaching and practical operation

Training Duration

5 working days, including 2.3 working days of practical operation

2 Course Description

HM-040 Large-Scale Network Routing Overview

Prerequisites

Personnel who have passed H3C Certified Network Engineer (H3CNE) certification, or have a comparable level of technology

Course Objectives

- Master the enterprise network models.
- Master technical requirements of large-scaled routing networks.

Course Content

- Enterprise network model
- Technical requirements of large-scaled routing networks

Training Mode

Class teaching

Maximum Number of Trainees

12

Course Duration

0.2 working days

HM-041 Routing Basics**Prerequisites**

Personnel who have completed course HM-040 or have a comparable level of technology

Course Objectives

- Master the concepts of routing control and forwarding planes.
- Master concepts of route load balancing, backup, route aggregation, and CIDR

Course Content

- Routing control and forwarding
- Principles of routing protocols
- Static route configurations and applications
- Features and comparisons of the dynamic routing protocol
- Route selection principles
- Route load balancing and backup
- Route aggregation and CIDR

Training Mode

Class teaching and practical operation

Maximum Number of Trainees

12

Course Duration

0.5 working days, including 0.2 working days of practical operation

HM-042 OSPF**Prerequisites**

Personnel who have completed course HM-041 or have a comparable level of technology

Course Objectives

- Master basic principles and configurations of the OSPF protocol.
- Master advanced principles and configurations of the OSPF protocol.

Course Content

- Working principles and hierarchical architecture of the OSPF protocol
- OSPF packets and state machines
- OSPF single-area configuration and maintenance
- OSPF multi-area configuration and maintenance
- OSPF virtual connections and LSA types
- OSPF special area configuration and maintenance
- Configurations and maintenance of OSPF security and aggregation

Training Mode

Class teaching and practical operation

Maximum Number of Trainees

12

Course Duration

1.1 working days, including 0.5 working days of practical operation

HM-043 IS-IS**Prerequisites**

Personnel who have completed course HM-042 or have a comparable level of technology

Course Objectives

- Master basic principles and configurations of the IS-IS protocol.
- Master advanced principles and configurations of the IS-IS protocol.

Course Content

- Basic concepts and terms of IS-IS
- IS-IS hierarchical structure
- OSI address structure
- IS-IS protocol packets
- IS-IS network type
- Basic configurations of IS-IS
- Advanced configurations of IS-IS

Training Mode

Class teaching and practical operation

Maximum Number of Trainees

12

Course Duration

0.5 working days, including 0.25 working days of practical operation

HM-044 IGP Route Control**Prerequisites**

Personnel who have completed course HM-043 or have a comparable level of technology

Course Objectives

- Master the configurations of the routing policy filter.
- Master the configurations and applications of route import.
- Master the configurations and applications of policy-based routing.

Course Content

- Overview of route filtering
- Configuring IP prefix list control routing
- Configuring filter-policy control routing
- Configuring route-policy control routing
- Deployment and configurations of route import
- Configurations and applications of policy-based routing

Training Mode

Class teaching and practical operation

Maximum Number of Trainees

12

Course Duration

0.7 working days, including 0.35 working days of practical operation

HM-045 BGP-4**Prerequisites**

Personnel who have completed course HM-044 or have a comparable level of technology

Course Objectives

- Master basic principles and configurations of BGP.
- Master the BGP control methods.

Course Content

- Basic principles and terms of BGP
- BGP messages and state machines
- BGP attributes and route selection rules
- Basic configurations and maintenance of BGP
- Configuring BGP attribute-controlled routing
- Configuring BGP filter-controlled routing
- Configuring BGP in large-scaled routing networks
- Configuring BGP community and aggregation
- Configuring BGP reflection and association
- Deploying multi-egress BGP networks

Training Mode

Class teaching and practical operation

Maximum Number of Trainees

12

Course Duration

1.5 working days, including 0.75 working days of practical operation

HM-046 IPv6 Basics**Prerequisites**

Personnel who have completed course HM-045 or have a comparable level of technology

Course Objectives

- Master basic concepts of IPv6.
- Master principles and configurations of IPv6 routing protocol.
- Master principles and configurations of the IPv6 transition technology.

Course Content

- Basic principles and configurations of the ND
- RIPng protocol configurations and maintenance
- OSPFv3 protocol configurations and maintenance
- Tunnel technology configurations and maintenance
- NAT-PT technology configurations and maintenance

Training Mode

Class teaching and practical operation

Maximum Number of Trainees

12

Course Duration

0.5 working days, including 0.25 working days of practical operation