

Course Outline



Course Name: Huawei Certified ICT Professional Datacom Advanced Route and Switch

Course Code: HW-HCIP-DAR&S

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
5 Days	Intermediate	Datacom	VITL/In Class	Huawei Learning Vouchers

Introduction

HCIP-Datacom-Advanced Routing & Switching technology certification course covers advanced routing and switching knowledge in the data communication field, including advanced IGP features, advanced BGP features, IPv6 routing, advanced Ethernet technologies, MPLS technologies, Network O&M, Network Troubleshooting, and Network Cutover.

Target Audience

- Those who wants to be datacom campus network senior engineer.
- Those who wants to achieve HCIP-Datacom-Campus Network Planning and Deployment certification.

Prerequisites

- Be familiar with common operations of Huawei network devices.
- Have attended and acquired the knowledge and skills described in the HCIA-Datacom and HCIP-Datacom-Core Technology courses.

Course Objectives

After completing the HCIP-Datacom-Advanced Routing & Switching Technology training, you will be able to:

- Describe OSPF and IS-IS fast convergence technologies.
 - Configure OSPF and IS-IS equal-cost routes.
 - Describe the application scenarios of OSPF forwarding addresses.
 - Using regular expressions in AS Path filter and community filter configurations.
 - Configure BGP ORF and peer group functions.
 - Analyse the differences between OSPFv3 and OSPFv2.
 - Describe the IPv6 extensions of IS-IS. – Describe the IPv6 extensions of BGP.
 - Describe the working principle of VLAN aggregation.
 - Describe the application scenarios of MUX VLAN.
 - Describe the QinQ implementation mode.
 - Describe the types and configurations of port isolation.
 - Describe the technical principles of port security.
 - Implements MAC address flapping detection.
 - Expound the switch traffic suppression and storm control functions.
 - Describe the application scenarios of DHCP snooping.
 - Describe the working principle of IP Source Guard.
 - Describe the working principle of MPLS.
 - Describe the basic concepts and working mechanism of LDP.
 - Describe the basic concepts of MPLS VPN.
 - Describe route transmission and label distribution of MPLS VPN.
 - Describe the MPLS VPN data forwarding process.
 - MPLS VPN Deployment (Intranet Solution).
 - MPLS VPN Deployment (Hub&Spoke Solution).
 - Describe the extended functions and features of OSPF for MPLS VPN.
 - Describe routine maintenance items.
 - Describe the functions and features of Information Centre.
 - Using Common Maintenance Tools.
 - Describe troubleshooting methods.
 - Analyse the fault that the neighbour relationship of the routing protocol cannot be established.
 - Write the troubleshooting guide.
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- Describe the operation procedure and specifications of the migration.
- Describe common migration scenarios

Course Content

Module 1 : Advanced IGP Features

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

Module 2: Advanced BGP Features

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

Module 3: IPv6 Routing

- IPv6 static route, OSPFv3 Principles and Configuration, IS-IS (IPv6) Principles and Configuration, BGP4+ Principles and Configuration
- Module 4: Advanced Ethernet Technologies
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

Module 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

Module 6; Network O&M

- Routine Maintenance, Information collection tool

Module 7: Troubleshooting

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

Module 8: Network Migration

- Basic Concepts of Migration, Migration Process

ASSOCIATED CERTIFICATION AND EXAM

This course will prepare delegates to take the HCIO-Datacom-Advanced Routing & Switching Technology exam #H12-831 exam.

Passing HCIP-Datacom-Advanced Routing & Switching Technology V1.0 certificate indicates that you are competent for the position of network engineer in a medium-or large-sized enterprise, be capable of planning and designing, deploying and maintaining, and locating faults on a medium-or large-sized enterprise network by using Huawei datacom devices, and design solutions with high security, availability and reliability for network applications.