Training: Huawei
# HCIP-Datacom - Advanced Routing & Switching Technology

## TRAINING GOALS:

Huawei Certified ICT Professional-Datacom-Advanced Routing & Switching Technology training and certificating senior engineers who possess advanced routing and switching knowledge and advanced skills in the datacom field.

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.
- Analyze 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.



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- 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 Center.
- Using Common Maintenance Tools
- Describe troubleshooting methods.
- Analyze the fault that the neighbor relationship of the routing protocol cannot be established. (31)Write the troubleshooting guide.
- Describe the operation procedure and specifications of the migration.
- Describe common migration scenarios.

Target Audience

- Who want to become senior Data Communication engineers.
- Who wants to obtain the HCIP-Datacom-Advanced Routing & Switching Technology Certification.

## CONSPECT:

- Advanced IGP Features
  - Advanced IGP Features: OSPF fast convergence, OSPF Route Control, Other OSPF Features, Advanced IS-IS Features
- Advanced BGP Features
  - Advanced BGP Features: BGP route control, Introduction to BGP Features, Networking of BGP RRs
- IPv6 Routing
  - IPv6 Routing: IPv6 static route, OSPFv3 Principles and Configuration, IS-IS (IPv6) Principles and Configuration, BGP4+ Principles and Configuration
- 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
- 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



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- MPLS VPN Deployment and Application: MPLS VPN Application and Networking Overview, Typical Application Scenarios and Deployment of MPLS VPN, OSPF VPN expansion

- Network O&M
  - Network O&M: Routine Maintenance, Information collection tool
- Troubleshooting
  - Troubleshooting: Structured troubleshooting process, Core Ideas and Methods of Network Troubleshooting, Troubleshooting Common Network Faults
- Network Migration
  - Network Migration: Basic Concepts of Migration, Migration Process

## REQUIREMENTS:

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

## Difficulty level



## CERTIFICATE:

The participants will obtain certificates signed by Huawei (course completion).

This course also helps you prepare for the HCIP-Datacom - Advanced Routing & Switching Technology exam.

- Exam Code: H12-831
- Exam Type: Written examination
- Exam Format: Single-answer Question,Multiple-answer Question,True or false,Short Response Item,Drag and Drop Item
- Time: 90min
- Passing Score/Total Score: 600/1000

Datacom certification focuses on the application of datacom technologies in industry scenarios. The core technology of HCIP-Datacom includes the general knowledge that must be mastered in all scenarios of the datacom industry. It is the basis for learning each sub-direction. Each sub-direction represents a network scenario. Trainees can select one or more sub-directions based on their interests and career development plans.

Obtaining any certificate in the HCIP-Datacom series certification requires passing the core exam and corresponding sub-direction exam, the order of the two exams is not required. If you pass the core exam first and then pass any of the sub-direction exams within the validity period of the core exam results can obtain the corresponding certificate. If you continuously pass multiple sub-direction exams



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and then pass the core exam within the validity period of the sub-direction exam results, you can obtain multiple corresponding certificates at the same time. Core exam does not need to be repeated.

To obtain HCIP-Datacom - Advanced Routing & Switching Technology certification is required passing two exams:

H12-821 - Core exam - HCIP-Datacom - Core Technology

H12-831 - Sub-direction exam - HCIP-Datacom - Advanced Routing & Switching Technology

## TRAINER:

Huawei Certified Trainer.



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