

# **Enterprise Computing Solutions - Education Services**

# **TRAINING OFFERING**

Puoi raggiungerci qui

Arrow ECS Srl - Via Lancia 6/a - 39100 Bolzano

Email: training.ecs.it@arrow.com Phone: +39 0471 099 134



# **HCIP-Routing & Switching (Fast-Track)**

CODE: LENGTH: PRICE:

HUA HCNP-RS-FT 40 Hours (5 days) Request Price

## **Description**

The "HCIP Routing & Switching Fast Track" course allows those who already have a knowledge of Routing & Switching equivalent to that provided by the courses listed in the prerequisites, to follow a shorter course than the full course (HCIP-IERS + HCIP-IENP + HCIP-IEEP) to prepare for the HCIP-R&S (Composite Certification Training) exam.

# **Objectives**

Ethernet Technology (hands-on)

• Ethernet evolution process, port auto-negotiation technology, port trunking, port mirroring, working principles of a Layer 2 switch, and working principles of a Layer 3 switch

VLAN (hands-on)

- 802.1Q encapsulation and implementation of VLAN in Huawei products
- Inter-VLAN routing, Super VLAN, MUX VLAN, ARP proxy, and VLAN mapping
- GVRP principles, configuration, and implementation
- · QinQ principles, configuration, and implementation

STP/RSTP/MSTP (hands-on)

- · STP principles and configuration
- · RSTP principles and configuration
- · MSTP principles and configuration

**Network Access Technology** 

- 802.1X access authentication techniques and principles
- · DHCP principles and extended switch feature, DHCP snooping

MPLS VPN (hands-on)

- MPLS principles and implementation: MPLS frame format and encapsulation, MPLS data forwarding process, LDP neighbor discovery and session establishment, LDP label management, and MPLS loop avoidance
- Basic principles and implementation of MPLS VPN: single-domain MPLS VPN principles; implementation and application of OSPF in MPLS VPN
- MPLS VPN fault diagnosis: troubleshooting roadmap and debugging methods of control plane faults; troubleshooting roadmap and debugging methods of data plane faults

Huawei Ethernet Switches (hands-on)

· Hardware structure and working principles of Huawei switches

VRP software features of Huawei switches

IP Basics (hands-on)

• IPv4 address planning: classless IP address planning and Classless Inter-Domain Routing (CIDR)

OSPF Routing Protocols (hands-on)

- · Basic principles of link state routing protocols
- OSPF principles, configuration, and implementation: neighbor and adjacency, protocol packet and LSA, database synchronization, intra-area route calculation, inter-area
- route calculation, and external route calculation
- · Principles and configuration of OSPF special areas: stub area, totally stub area, and not-so-stubby area (NSSA)
- Basic methods of OSPF fault diagnosis

BGP Routing Protocols (hands-on)

- · BGP principles: AS, BGP neighbor, route distribution methods, and route advertisement rules
- · BGP path selection
- BGP route aggregation
- BGP routing policy: common attributes and routing policies of BGP
- Basic principles and configuration of BGP route reflection and AS confederations for BGP
- · BGP multi-homing
- · BGP fault diagnosis methods

Routing and Routing Control (hands-on)

· Route filtering by using filtering tools such as ACL, route policy, IP-prefix, and AS-Path

- · Mutual route import between IP routing protocols and advertisement of default routes
- · Policy-based route

Multicast Protocols (hands-on)

- Basic principles and configuration of IGMPv1/v2/v3 and IGMP snooping
- · Basic principles and configuration of PIM-DM and PIM-SM

NE Routers (hands-on)

- Hardware structure and working principles of NE routers
- VRP software features of NE routers

Network Security (hands-on)

- · Basic concept of network security and basic functions and principles of firewall
- · Firewall NAT technology and anti-attack techniques
- · Dual-node cluster hot backup technique of firewall
- · Knowledge and networking application of Eudemon firewalls of Huawei

High Availability ,HA (hands-on)

- Bidirectional Forwarding Detection (BFD) principles
- · Basic principles of VRRP,IP Reroute,FRR
- · Principles and networking applications of NSF and GR

QoS (hands-on)

- IP QoS model and differentiated services (DiffServ) model
- Basic principles of classification and marking, traffic policing and shaping, congestion management, congestion avoidance, and link efficiency mechanisms

Class-based QoS principles

#### **Audience**

Those who hope to become a network professional

Those who hope to obtain HCIP-Routing&Switching certificate

Those who have obtained the same level technical certificate in the industry, and hope to obtain Huawei certificate

#### **Prerequisites**

The course is aimed at technicians who must take the HCIP certification exam having already acquired knowledge equivalent to that provided by a similar certification with other vendors

#### **Programme**

## **Session Dates**

Su richiesta. Contattaci al n.ro +39 0471 099134 oppure via mail a training.ecs.it@arrow.com

### Informazioni aggiuntive

Questa formazione è disponibile anche come formazione in loco. Per favore, contattaci per saperne di più.