

## HCIP Routing & Switching Fast Track

- **Formato do curso:** Presencial e Live Training
- **Localidade:** Porto
- **Data:** 13 Dez. 2021 a 17 Dez. 2021
- **Preço:** 2500€
- **Horário:** Laboral - das 09h00 às 17h00
- **Duração:** 35 horas

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 courses (HCIP-IERS + HCIP-IENP + HCIP-IEEP) to prepare for the HCIP-R&S (Composite Certification Training) exam.

This 5 day HCIP Routing & Switching fast track course prepares you for the H12-224 exam.

### Online Course

Enroll to access these online (MOOC) HCIP Routing & Switching courses - [IERS](#), [IENP](#), [IEEP](#) - that will help you prepare for the big training day. Make sure you take the time to work through as much of the content as possible to ensure a better instructor-led experience.

## Destinatários

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

## Pré-requisitos

Equivalent certification from another vendor, like Cisco Certified Network Professional

## Programa

### Ethernet Technology (hands-on)

- Ethernet evolution process,

- Port auto-negotiation technology,
- Port trunking,
- Port mirroring,
- Working principles of a Layer 2 switch
- 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
  - 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
- VRRP software features of Huawei switches

### **IP Basics (hands-on)**

- IPv4 address planning
  - Classless IP address planning
  - 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