CCIE® Routing and Switching Workshop 1
(Cisco 360 Learning Program)

Duration 5 Days

COURSE CONTENT

This course provides knowledge and hands-on experience related to both configuring and troubleshooting the following Cisco CCIE® Routing and Switching topics:

- Frame Relay
- Cisco Catalyst 3560 Series Switch core configuration tasks
- Interior gateway protocols (IGPs): Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol
- (EIGRP), and Routing Information Protocol version 2 (RIPv2)
- Route redistribution
- Border Gateway Protocol (BGP)
- MPLS Layer 3 VPN's
- IP multicast
- Router and Cisco Catalyst quality of service (QoS)

Hands-on lab exercises comprise about 60 percent of the course, and instructor-led lectures comprise about 40 percent.

COURSE OBJECTIVE

Upon completion of this course, learners should be able to perform the necessary and invariant configuration and troubleshooting steps for the following key Cisco CCIE Routing and Switching technologies:

- Frame Relay
- Cisco Catalyst 3560 core operations
- IGPs (OSPF, EIGRP, RIPv2)
- Route redistribution
- BGP
- IP multicast
- MPLS Layer 3 VPN's
- Router and Cisco Catalyst QoS

TARGET AUDIENCE

This course is for technical professionals who are in their initial stages of preparing for the Cisco CCIE Routing and Switching lab. The target audience is CCIE candidates who are in Phase One of the Cisco 360 CCIE Preparation Roadmap.

COURSE PREREQUISITES

Learners who attend this course must have a Cisco CCNP® level of understanding of configuring and troubleshooting data link layer technologies, IGP routing protocols, basic redistribution, and BGP. It is also recommended that learners have a Cisco CCNP or CCIP® certification and a passing score on the CCIE Routing and Switching written lab before enrolling in this course.

In addition, learners who attend this course should complete the self-paced Cisco 360 Lesson Modules on these topics:

- Data link layer technologies
- Frame Relay
- IGPs
- BGP
- Troubleshooting
- MPLS Layer 3 VPN

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COURSE OUTLINE

The course outline is as follows:

- **Module 1:** Pursuing the Cisco CCIE
- **Module 2:** Graded Assessment Lab #1 (hands-on)
- **Module 3:** Data Link Layer Technologies and IGP Routing Protocols
- **Module 4:** BGP
- **Module 5:** MPLS Layer 3 VPN
- **Module 6:** Multicast
- **Module 7:** Router QoS
- **Module 8:** Cisco Catalyst QoS
- **Module 9:** Graded Assessment Lab #2 (hands-on)

LAB OUTLINE

Central to CIERS-1 are these hands-on, technology-focused labs:

- **Module 4:** BGP
- **Module 5:** MPLS Layer 3 VPN
- **Module 6:** IP Multicast
- **Module 7:** Router QoS
- **Module 8:** Cisco Catalyst QoS

In addition, learners perform these two graded assessment labs:

Module 2: Graded Assessment Lab #1
This hands-on lab challenges the issue-spotting skills of learners by using the following core technologies:

- Frame Relay
- Cisco Catalyst 3560
- OSPF
- EIGRP
- RIPv2
- Redistribution
- BGP

Module 9: Graded Assessment Lab #2
This setup is designed to end the course with the learner experiencing a hands-on lab that contains the same number of general topics as in the actual Cisco CCIE lab. The exam includes two basic sections: (1) a 25 point Troubleshooting section and (2) a 75 point Configuration section. The troubleshooting section is performed first followed by the configuration section.

The Troubleshooting section includes the following topics:

- Data Link Troubleshooting Section
- Network Layer Troubleshooting Section
- Network Application Troubleshooting Section
- Network Services Troubleshooting Section
- Network Security Troubleshooting Section

The configuration section includes the following topics:

- Frame Relay
- Cisco Catalyst 3560
- OSPF
- EIGRP
- RIPv2
- Redistribution
- BGP
- IPv6
- Security
- QoS
- IP multicast
- IP services
- BGP

All labs in this course are supported by the web-accessible and highly interactive Mentor Guide.

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Lab Topology

The following is the lab topology that is used in this course: