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## CCIE 360 Routing and Switching Advanced Workshop 1

**Duration: 5 Days**    **Course Code: CIERS1**

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### Overview:

This 5 day course provides knowledge and hands-on experience related to both configuring and troubleshooting the following Cisco Routing and Switching topics: Cisco Catalyst 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). After completing the lectures on these technologies that include best practice you will complete labs based on that specific technology.

If you have purchased the CCIE 360 E-learning Packages, please do not attempt the 360RSW05-LAB-GA01 or 360RSW05-LAB-GA02 before attending this class.

Students booking this workshop as a standalone product, not bundled with e-learning will also receive access to preassessment lab, Workbook (20 labs) Reference Library 200 hours virtual rack rental

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### Target Audience:

This course is designed for: CCIE candidates who are preparing for the CCIE Routing and Switching Lab Exam.

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### Objectives:

- Upon completing this course, the learner will be able to meet these overall objectives:
  - Describe the Cisco 360 Learning Program for CCIE R&S and explain how it addresses expert-level networking issues
  - Discuss your baseline status for Cisco CCIE® lab readiness
  - Resolve expert-level Layer 2 and DMVPN task analysis, configuration and troubleshooting issues
  - Resolve expert-level core task analysis, configuration, and troubleshooting issues
  - Resolve expert-level BGP issues from both a configuration and troubleshooting perspective
  - Resolve expert-level MPLS L3 VPN configuration tasks.
  - Resolve expert-level multicast task analysis, configuration, and troubleshooting issues
  - Resolve expert-level IP connectivity issues regardless of whether they involve IPv4 or IPv6
  - Resolve expert-level router MQC QoS task analysis, configuration, and troubleshooting issues
  - Resolve expert-level Network Services task analysis, configuration, and troubleshooting issues
  - Resolve expert-level multitopic core and advanced task analysis, configuration, and troubleshooting issues
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### Prerequisites:

The knowledge and skills that a learner must have before attending this course are as follows:

- A valid CCNP or CCIP certification or equivalent understanding of configuring and troubleshooting data link layer technologies, IGP routing protocols, basic redistribution and BGP.
- Attained a passing score on the CCIE written exam 350-001

### Testing and Certification

#### Recommended as preparation for:

The Cisco CCIE Practical Exam.

The CCIE lab exam is an eight-hour, hands-on exam which requires you to configure and troubleshoot a series of complex networks to given specifications. Knowledge of troubleshooting is an important skill and candidates are expected to diagnose and solve issues as part of the CCIE lab exam. You will not configure end-user systems, but are responsible for all devices residing in the network (hubs, etc.). Point values and testing criteria are provided

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## Follow-on-Courses:

The following courses and program components are recommended for further study

- CCIERS2 - CCIE 360 R&S Advanced Workshop 2
- CCIE 360 R&S Exercise Workbook and Practice Labs

## Content:

### Cisco 360 Learning Program for CCIE R;S

- Introducing the Cisco 360 Learning Program for CCIE R;S
- Preparing for the Cisco CCIE Lab Exam

### Core Task Assessment

- Applying the Cisco 360 CCIE R;S Opening-Moves Strategy to Cisco CCIE Labs
- Lab 2-1: CIERSASSESS-1 - 9 hour Lab
- Analyzing the Cisco 360 CCIE R;S Assessment Results Report

### Core Task Analysis and Configuration

- Resolving DMVPN Tasks
- Resolving Layer 2 Tasks
- Resolving IGP Tasks
- Resolving Redistribution Tasks

### BGP Task Analysis and Configuration

- Reviewing Basic BGP Operations
- Resolving Advanced BGP Tasks
- Lab 4-1: Establishing Basic Connectivity for BGP
- Lab 4-2: Configuring BGP
- Lab 4-3: Filtering BGP Updates and Path Determination

### MPLS Layer 3 VPNs

- Reviewing Basic MPLS VPN Operations
- Lab 5-1: Establishing Basic Connectivity for MPLS Layer 3 VPNs
- Lab 5-2: Configuring the MPLS Core
- Lab 5-3: Creating VPNs and Enabling VPN Routing
- Lab 5-4: Adding a Backup Link in VPNA

### Multicast Task Analysis and Configuration

- Reviewing Basic Multicast Operations
- Lab 6-1: Establishing Basic Connectivity for Multicast
- Lab 6-2: Configuring Dense Mode IP Multicast Routing
- Resolving PIM Sparse Mode Multicast Tasks
- Lab 6-3: Configuring PIM Sparse Mode

### Router MQC QoS Task Analysis and Configuration

- Reviewing MQC QoS and DiffServ
- Using DiffServ Tools
- Using Congestion Management and Avoidance Tools
- Identifying Strategies for Router MQC QoS Tasks
- Lab 7-1: Classification and Marking
- Lab 7-2: Class Based Shaper
- Lab 7-3: Class Based Policier
- Lab 7-4: Congestion Avoidance and Management

### Cisco Network Services Task Analysis and Configuration

- Cisco Network Services per the CCIE R;S v5.0 Blue Print
- Cisco Network Troubleshooting
- Lab 8-1: Implementing FHRP for IPv4 and IPv6
- Lab 8-2: Implementing DHCP and DHCPv6
- Lab 8-3: Implementing NTP
- Lab 8-4: Implementing NAT

### Cisco Network Troubleshooting

- Core and Advanced Tasks Analysis

Lab 9-1: CIERSASSESS-2 - 9 hour Lab

## Further Information:

For More information, or to book your course, please call us on +254 713 027 191

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