ROUTE - Implementing Cisco IP Routing v2.0

Certification Programs and Certificate Tracks

This course is part of the following programs or tracks:

- CCNP Routing and Switching

Course Outline

1. Basic Network and Routing Concepts

- Differentiating Routing Protocols
- Understanding Network Technologies
- Connecting Remote Locations with the Headquarters
- Implementing RIPng

2. EIGRP Implementation

- Establishing EIGRP Neighbor Relationships
- Building the EIGRP Topology Table
- Optimizing EIGRP Behavior
- Configuring EIGRP for IPv6
- Discovering Named EIGRP Configuration

3. OSPF Implementation

- Establishing OSPF Neighbor Relationship
- Building the Link State Database
- Optimizing OSPF Behavior
- Configuring OSPFv3

4. Configuration of Redistribution

- Implementing Basic Routing Protocol Redistribution
- Manipulating Redistribution Using Route Filtering

5. Path Control Implementation

- Using Cisco Express Forwarding Switching
- Implementing Path Control

6. Enterprise Internet Connectivity

- Planning Enterprise Internet Connectivity
- Establishing Single-Homed IPv4 Internet Connectivity
- Establishing Single-Homed IPv6 Internet Connectivity
- Improving Resilience of Internet Connectivity
- Considering Advantages of Using BGP
- Implementing Basic BGP Operations
- Using BGP Attributes and Path Selection Process
- Controlling BGP Routing Updates
- Implementing BGP for IPv6 Internet Connectivity

7. Routers and Routing Protocol Hardening

- Securing Cisco Routers
- Describing Routing Protocol Authentication Options
- Configuring EIGRP Authentication
- Configuring OSPF Authentication
- Configuring BGP Authentication

Labs

The following discovery labs are included in this course:

- Discovery 1: Configuring RIPng
- Discovery 2: Configuring and Investigating Basic EIGRP
- Discovery 3: Building The EIGRP Topology Table
- Discovery 4: EIGRP Stub Routing
- Discovery 5: EIGRP Summarization
- Discovery 6: EIGRP Load Balancing
- Discovery 7: EIGRP for IPv6 Configuration

- Discovery 8: Discovering Named EIGRP Configuration
- Discovery 9: Basic OSPF Configuration Introduction
- Discovery 10: Building the Link-State Database
- Discovery 11: OSPF Path Selection
- Discovery 12: OSPF Route Summarization
- Discovery 13: OSPF Stub Areas
- Discovery 14: Implementing OSPFv3
- Discovery 15: Basic Redistribution
- Discovery 16: Manipulate Redistribution
- Discovery 17: Manipulate Redistribution Using Route Maps
- Discovery 18: Analyzing CEF
- Discovery 19: Implementing PBR
- Discovery 20: NAT Virtual Interface
- Discovery 21: Basic IPv6 Internet Connectivity
- Discovery 22: Basic BGP Configuration
- Discovery 23: Influencing BGP Path Selection
- Discovery 24: BGP for IPv6
- Discovery 25: Configuring EIGRP Authentication
- Discovery 26: OSPF Authentication Configuration

The following challenge labs are included in this course:

- Challenge 1: Configure RIPng
- Challenge 2: Configure EIGRP
- Challenge 3: Configure and Optimize EIGRP for IPv6
- Challenge 4: Implement EIGRP for IPv4 and IPv6 Through Named Configuration
- Challenge 5: Configure OSPF
- Challenge 6: Optimize OSPF
- Challenge 7: Configure OSPFv3
- Challenge 8: Implement Redistribution Using Route Filtering
- Challenge 9: Implement Path Control
- Challenge 10: Configuring BGP
- Challenge 11: Configure Authentication for EIGRP Routes
- Challenge 12: Configure BGP Authentication