

Cisco Networks Building Scalable Cisco Internetworks (BSCI)

Course:ET911

Course Description

In this course, you will learn the complex concepts and commands necessary to configure Cisco routers for scalable operation in large and/or growing internetworks. Whether your goal is to take your Cisco routing skills to the next level or to achieve CCNP or CCIP certification, this is the right course for you.

Who should attend?

Network administrators, network specialists and technicians who configure and support large internetworks, and individuals seeking CCNP, CCIP, and CCDP certifications.

Pre-requisites

- Cisco Certified Network Associate (CCNA)

Course Objectives

- Converged network requirements of various network and networked applications within the Cisco network architectures
- Advanced IP address configuration techniques to optimize your network
- Implement and verify EIGRP operations
- Build a scalable multi-area network with OSPF
- Configure integrated IS-IS in a single area
- Manipulate routing and packet flow
- Implement and verify BGP for enterprise ISP connectivity
- Implement and verify multicast forwarding using PIM and related protocols
- Network reconfiguration to adapt to new technologies, including IPv6
- How IPv6 functions in order to satisfy the increasingly complex requirements of hierarchical addressing
- IPv6 Routing Protocols

Lab Equipments

Class Room Equipments

Cisco Router 7200

Student Equipments

Cisco Router 3640

Cisco Router 2610

Cisco Router 2514

Course Outline

1. Network Requirements
2. Configuring EIGRP
 - Introducing, Implementing, and Verifying EIGRP
 - Configuring Advanced EIGRP Options
 - Configuring EIGRP Authentication
 - Using EIGRP in an Enterprise Network

Hands-On Labs

*Basic Connectivity
Configuring and Tuning EIGRP*

3. Configuring OSPF
 - Introducing the OSPF Protocol
 - OSPF Packet Types • OSPF Network Types
 - Configuring OSPF Routing
 - Link State Advertisements
 - Configuring OSPF Route Summarization, Special Area Types, and Authentication

Hands-On Labs

*Configuring & Examining OSPF in a Single Area
Configuring OSPF for Multiple Areas and Frame Relay NBMA
Configuring OSPF for Multiple Areas and Frame Relay P2MP and P2P
OSPF Tuning*

4. The IS-IS Protocol
 - Introducing IS-IS and Integrated IS-IS Routing
 - IS-IS Routing Operation
 - Configuring Basic Integrated IS-IS

Hands-On Labs

Configuring Integrated IS-IS in Multiple Areas

5. Manipulating Routing Updates
 - Operating a Network Using Multiple IP Routing Protocols
 - Configuring and Verifying Route Redistribution
 - Controlling Routing Update Traffic
 - Implementing Advanced IOS Features

Hands-On Labs

*Configuring Basic Redistribution
Tuning Basic Redistribution With IOS Tools*

6. Configuring Basic BGP
 - Explaining BGP Concepts and Terminology
 - Explaining EBGP and IBGP
 - Configuring Basic BGP Operations
 - Selecting a BGP Path
 - Using Route Maps to Manipulate Basic BGP Paths

Hands-On Labs

*Configuring Multihome BGP
Manipulating BGP Path Selection with Route Maps*

7. Implementing IP Multicast
 - Explaining Multicast
 - IGMP and Layer 2 Issues
 - Explaining Multicast Routing Protocols
 - Multicast Configuration and Verification

Hands-On Labs

Configuring Multicast Routing

8. Implementing IPv6
 - Introducing IPv6 • Defining IPv6 Addressing
 - Implementing Dynamic IPv6 Addresses
 - Using IPv6 with OSPF and Other Routing Protocols
 - Using IPv6 with IPv4

Hands-On Labs

*Configuring IPv6 Addresses
Enabling IPv6 OSPF Routing
Configuring IPv6 Tunnels*

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