
CISCO INTERCONNECTING NETWORK DEVICES ACCELERATED V3.0 / CCNAX

(200-125)

Who Should Attend

This course is a derivative works consisting of ICND1 and ICND2 content in its entirety, but with the content merged into a single course.

Before taking the course, learners should be familiar with:

- Basic computer literacy Basic Internet usage skills
- Basic PC operating system navigation skills
- Basic IP address knowledge
- Understand network fundamentals
- Implement local area networks
- Implement Internet connectivity
- Manage network devices
- Secure network devices
- Implement basic IPv6 connectivity

Course Objectives

Upon completing this course, you will be able to meet these objectives:

- Describe network fundamentals and build simple LANs
- Establish Internet connectivity
- Manage network device security
- Describe IPv6 basics
- Troubleshoot VLAN issues, explain how STP works, configure EtherChannel, and understand the idea behind Layer 3 redundancy
- Troubleshoot IP connectivity
- Define the characteristics, functions, and components of a WAN Configure and troubleshoot EIGRP in an IPv4 environment, and configure EIGRP for IPv6
- Configure, verify, and troubleshoot multi-area OSPF
- Describe SNMP, syslog and NetFlow, and manage Cisco device configurations, IOS images, and licenses

Course Outline

1 - BUILDING A SIMPLE NETWORK

- Exploring the Functions of Networking
- Understanding the Host-to-Host Communications Model
- Introducing LANs
- Operating Cisco IOS Software
- Starting a Switch
- Understanding Ethernet and Switch Operation
- Troubleshooting Common Switch Media Issues
- Lab 1-1: Performing Switch Startup and Initial Configuration
- Lab 1-2: Troubleshooting Switch Media Issues

2 - ESTABLISHING INTERNET CONNECTIVITY

- Understanding the TCP/IP Internet Layer
- Understanding IP Addressing and Subnets
- Understanding the TCP/IP Transport Layer
- Exploring the Functions of Routing
- Configuring a Cisco Router
- Exploring the Packet Delivery Process
- Enabling Static Routing
- Managing Traffic Using ACLs
- Enabling Internet Connectivity
- Lab 2-1: Performing Initial Router Setup and Configuration
- Lab 2-2: Connecting to the Internet

3 - MANAGING NETWORK DEVICE SECURITY

- Securing Administrative Access
- Implementing Device Hardening
- Implementing Traffic Filtering with ACLs
- Lab 3-1: Enhancing the Security of the Initial Configuration
- Lab 3-2: Device Hardening
- Lab 3-3: Filtering Traffic with ACLs

4 - INTRODUCING IPV6

- Introducing Basic IPv6
- Understanding IPv6

- Configuring IPv6 Routing
- Lab 4-1: Configure and Verify Basic IPv6
- Lab 4-2: Configure and Verify Stateless Autoconfiguration
- Lab 4-3: Configure and Verify IPv6 Routing

5 - BUILDING A MEDIUM-SIZED NETWORK

- Implementing VLANs and Trunks
- Routing Between VLANs
- Using a Cisco Network Device as a DHCP Server
- Troubleshooting VLAN Connectivity
- Building Redundant Switched Topologies
- Improving Redundant Switched Topologies with EtherChannel
- Understanding Layer 3 Redundancy
- Lab 5-1: Configuring Expanded Switched Networks
- Lab 5-2: Configuring DHCP Server
- Lab 5-3: Troubleshooting VLANs and Trunks
- Lab 5-4: Optimizing STP
- Lab 5-5: Configuring EtherChannel

6 - TROUBLESHOOTING BASIC CONNECTIVITY

- Troubleshooting IPv4 Network Connectivity
- Troubleshooting IPv6 Network Connectivity
- Lab 6-1: Troubleshooting IP Connectivity

7 - WIDE AREA NETWORKS

- Understanding WAN Technologies
- Configuring Serial Encapsulation
- Establishing a WAN Connection Using Frame Relay
- Introducing VPN Solutions
- Configuring GRE Tunnels
- Lab 7-1: Configuring and Troubleshooting a Serial Connection
- Lab 7-2: Establishing a Frame Relay WAN Lab
- 7-3: Establishing a GRE Tunnel

8 - IMPLEMENTING AN EIGRP-BASED SOLUTION

- Implementing EIGRP
- Troubleshooting EIGRP

- Implementing EIGRP for IPv6
- Lab 8-1: Implementing EIGRP
- Lab 8-2: Troubleshooting EIGRP
- Lab 8-3: Implementing EIGRP for IPv6

9 - IMPLEMENTING A SCALABLE OSPF-BASED SOLUTION

- Implementing OSPF
- Multiarea OSPF IPv4 Implementation
- Troubleshooting Multiarea OSPF
- Examining OSPFv3 Lab 9-1: Implementing OSPF
- Lab 9-2: Configuring Multiarea OSPF
- Lab 9-3: Troubleshooting Multiarea OSPF
- Lab 9-4: Configuring OSPF for IPv6

10 - NETWORK DEVICE MANAGEMENT

- Configuring Network Devices to Support Network Management Protocols
- Managing Cisco Devices
- Licensing
- Lab 10-1: SNMP and Syslog Basic Configuration
- Lab 10-2: Analyzing NetFlow Data
- Lab 10-3: Managing Cisco Devices and Licensing