Interconnecting Cisco Network Devices

Length
5 days

Format
Lecture/lab

Track
CCNA

Version
2.3

ICND

Course Description

Interconnecting Cisco Network Devices (ICND) is a five-day course that focuses on using Cisco Catalyst switches and routers connected in local-area networks (LANs) and wide-area networks (WANs) typically found at small to medium network sites. This course will teach you how to select, connect, configure, and troubleshoot Cisco networking devices.

In the lab, you will build a multirouter, multiswitch internetwork that uses LAN and WAN interfaces for the most commonly used protocols.

Who Should Attend

This course is designed for network designers, engineers, administrators, and managers who need to learn intermediate-level IP networking concepts and Cisco router and switch configuration. This is the second of two courses designed for individuals who are pursuing CCNA certification.

Recommended Prerequisites

- Introduction to Cisco Networking Technologies (INTRO), *or*
- Basic knowledge of IP networking and some hands-on experience with Cisco routers and switches

Learning Objectives

After you complete this course, you will be able to:

- Build a functional configuration to support a set of network operational requirements
- Configure VLANs and VLAN trunking
- Explain the purpose and operations of the Spanning-Tree Protocol
- Determine IP routes using static routing, RIP, IGRP, EIGRP, and OSPF
- Describe the features and operation of NAT and PAT
- Manage IP traffic with Access Control Lists
- Configure serial, Frame Relay, and ISDN interfaces
- Monitor network operational parameters and detect anomalies
- Execute adds, moves, and changes to the network configuration

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Course Outline

Module 1: Configuring Catalyst Switch Operations
Introducing Layer 2 Switching
Identifying Problems In Redundant Switched Topologies
The Spanning Tree Protocol
Configuring a Catalyst Switch

Module 2: Extending Switched Networks with VLANs
VLAN Operations
Configuring VLANs and the VLAN Trunking Protocol (VTP)

Module 3: Determining IP Routes
Distance Vector Routing
Link State and Hybrid Routing
Enabling RIP
Enabling IGRP
Enabling EIGRP
Enabling OSPF
Implementing Variable Length Subnet Masking

Module 4: Managing IP Traffic
Applications for Access Lists
Configuring Standard and Extended Access Lists
Scaling the Network with NAT and PAT

Module 5: Establishing Serial Point-to-Point Connections
Wide Area Networking Review
Configuring Serial Point-to-Point Encapsulation

Module 6: Establishing Frame Relay Connections
Frame Relay Overview
Configuring Frame Relay

Module 7: Completing ISDN Calls
Configuring ISDN BRI and PRI
Configuring Dial-on-Demand Routing
Troubleshooting ISDN