Interconnecting Cisco Network Devices Part 2

Length
5 days

Format
Lecture/lab

Track
CCNA

Version
1.0

ICND2

Course Description

ICND2 is a five-day course that on using Cisco Catalyst switches and Cisco routers that are connected in LANs and WANs and are typically found at medium-sized network sites.

This course covers concepts, configuration, and troubleshooting for a variety of intermediate-level topics, including VLANs, VLAN trunking and inter-VLAN routing, basic Spanning Tree, VLSM and CIDR, OSPF and EIGRP, access control lists (ACLs), address space management with NAT and PAT, IPv6, VPN solutions, PPP WAN connections, and Frame Relay.

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

- ICND1

Learning Objectives

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

- Review how to configure and troubleshoot a small network
- Expand the switched network from a small LAN to a medium-sized LAN with multiple switches, supporting VLANs, trunking, and spanning tree
- Describe routing concepts as they apply to a medium-sized network and discuss considerations when implementing routing on the network
- Configure, verify, and troubleshoot OSPF
- Configure, verify, and troubleshoot EIGRP
- Determine how to apply ACLs based on network requirements, and to configure, verify, and troubleshoot ACLs on a medium-sized network
- Describe when to use NAT or PAT on a medium-sized network and configure NAT or PAT on routers
- Identify and implement the appropriate WAN technology based on network requirements

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Learning Solutions

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Course Outline

Module 1: Small Network Implementation
Introducing the Review Lab

Module 2: Medium-Sized Switched Network Construction
Implementing VLANs and Trunks
Improving Performance with Spanning Tree
Routing Between VLANs
Securing the Expanded Network
Troubleshooting Switched Networks

Module 3: Medium-Sized Routed Network Construction
Reviewing Routing Operations
Implementing VLSM

Module 4: Single-Area OSPF
Implementation
Implementing OSPF
Troubleshooting OSPF

Module 5: EIGRP Implementation
Implementing EIGRP
Troubleshooting EIGRP

Module 6: Access Control Lists
Introducing ACL Operation
Configuring and Troubleshooting ACLs

Module 7: Address Space Management
Scaling the Network with NAT and PAT
Transitioning to IPv6

Module 8: LAN Extension into a WAN
Introducing VPN Solutions
Establishing a Point-to-Point WAN Connection with PPP
Establishing a WAN Connection with Frame Relay
Troubleshooting Frame Relay WANs

Course Labs

Lab 1-1: Implementing a Small Network (Review Lab)
Lab 2-1: Configuring Expanded Switched Networks
Lab 2-2: Troubleshooting Switched Networks
Lab 4-1: Implementing OSPF
Lab 4-2: Troubleshooting OSPF
Lab 5-1: Implementing EIGRP
Lab 5-2: Troubleshooting EIGRP
Lab 6-1: Implementing and Troubleshooting ACLs
Lab 7-1: Configuring NAT and PAT
Lab 7-2: Implementing IPv6
Lab 8-1: Establishing a Frame Relay WAN
Lab 8-2: Troubleshooting Frame Relay WANs