



Interconnecting Cisco Networking Devices-Part 2

Course ICNDB-02 5 Days Instructor-led, Hands-on

Introduction

If you want to succeed as a technical person in the networking industry, you need to know Cisco, which is a major company in the router and switch arena. Achieving Cisco certification is a valuable asset to a network engineer.

For certifications announced in 2007, Cisco created the ICND1 (640-822) and ICND2 (640-816) exams and the CCNA (640-802) exam. To become CCNA certified, you can pass both the ICND1 and ICND2 exams or just pass the CCNA exam, which covers all the topics on the ICND1 and ICND2 exams. The two-exam path gives those people with less experience a chance to study for a smaller set of topics at a time.

The ICND1 and ICND2 exams cover different sets of topics, with minor overlap. The CCNA exam covers all the topics covered on both the ICND1 and ICND2 exams.

This course will cover the topics found in the ICND2 exam.

At Course Completion

After completing this course, students will be able to:

- Configure, verify and troubleshoot a switch with VLANs and interswitch communications
 - Describe how VLANs create logically separate networks and the need for routing between them
 - Configure, verify and troubleshoot
 - VLANS
 - Trunking on Cisco switches
 - InterVLAN routing
 - VTP
 - RSTP operations
 - Interpret the output of various show and debug commands to verify the operational status of a Cisco switched network
 - Implement basic switch security(including port security, unassigned ports, trunk access, etc)
- Implement an IP addressing scheme and IP services to meet network requirements in a medium-size enterprise branch office network
 - Calculate and apply a VLSM IP addressing design to a network
 - Determine the appropriate classless addressing scheme using VLSM and summarization to satisfy addressing requirement sin a LAN/WAN environment

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- Describe the technological requirements for running IPv6 (including protocols, dual stack, tunneling, etc)
- Describe IPv6 addresses
- Identify and correct common problems associated with IP addressing and host configuration
- Configure and troubleshoot basic operation and routing on Cisco devices
 - Compare and contrast methods of routing and routing protocols
 - Configure, verify and troubleshoot OSPF and EIGRP
 - Verify configuration and connectivity using ping, traceroute and telnet or SSH
 - Troubleshoot routing implementation issues
 - Verify router hardware and software operations using show and debug commands
 - Implement basic router security
- Implement, verify and troubleshoot NAT and ACLs in a medium-size enterprise branch office network
 - Describe the purpose and types of access control lists
 - Configure and apply access control lists based on network filtering requirements
 - Configure and apply an access control list to limit telnet and SSH access to the router
 - Verify and monitor ACLs in a network environment
 - Troubleshoot ACL implementation issues
 - Explain the basic operation of NAT
 - Configure Network Address Translation for given network requirements using CLI
 - Troubleshoot NAT implementation issues
- Implement and verify WAN links
 - Configure and verify Frame Relay on Cisco routers
 - Troubleshoot WAN implementation issues
 - Describe VPN technology (including important, benefits, role, impact, components)
 - Configure and verify PPP connection between Cisco routers

Prerequisites

Before attending this course, students must have attended Course ICNDB-01, Interconnecting Cisco Networking Devices—Part 1, or have equivalent knowledge and skills.

Course Materials

The student kit includes a comprehensive workbook and other required materials for this class.

Course Outline

Module 1: LAN Switching

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- Virtual LANS
- Spanning Tree Protocol
- Troubleshooting LAN Switching

Module 2: IP Routing

- IP Routing: static and connected routes
- Variable length subnet masks
- Route summarization
- Basic IP access control lists
- Advanced IP Access Control Lists
- Troubleshooting IP routing

Module 3: Routing Protocols

- Routing protocol theory
- OSPF
- EIGRP
- Troubleshooting routing protocols

Module 4: Wide-Area Networks

- Point-to-Point WANs
- Frame Relay concepts
- Frame Relay configuration
- Virtual Private Networks

Scaling the IP Address Space

- Network address translation
- IP Version 6