

Interconnecting Cisco Networking Devices--Part 1

Course ICND-01E 5 Days Instructor-led, Hands-on

Introduction

Interconnecting Cisco Networking Devices, Part 1 (ICND1) v2.0 is a five-day, instructor-led training course includes detailed discussion on IP data networks, IPv4 and IPv6 addressing, switching and routing, network security, and much more

At Course Completion

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

- Describe internetworking basics
- Ethernet networking and data encapsulation
- Introduction to TCP/IP
- Cisco's Internetworking Operating System (IOS)
- Managing a Cisco Internetwork
- Managing Cisco devices
- IP routing
- Layer 2 switching
- VLANs and inter-VLAN routing
- Security
- Network address translation (NAT)
- Internet Protocol Version 6 (IPv6)

Prerequisites

Before attending this course, students must have:

- A+ certification, or equivalent knowledge and skills, and Network+ certification, or equivalent knowledge and skills.

Course Materials

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

Associated Certifications

- CCENT

Contact ISInc for more information at 916.920.1700 or by visiting our website at <http://www.isinc.com>

Course Outline

Module 1: Internetworking

- Internetworking basics
- Internetworking models
- The OSI reference model

Module 2: Ethernet Networking and Data Encapsulation

- Ethernet networks in review
- Ethernet cabling
- Data encapsulation
- The Cisco three-layer hierarchical model

Module 3: Introduction to TCP/IP

- Introducing TCP/IP
- TCP/IP and the DoD model
- IP addressing
- IPv4 address types

Module 4: Easy Subnetting

- Subnetting basics

Module 5: VLSMs, Summarization and Troubleshooting TCP/IP

- Variable length subnet masks (VLSMs)
- Summarization
- Troubleshooting IP addressing

Module 6: Cisco's Internetworking Operating System (IOS)

- The IOS user interface
- Command-line interface (CLI)
- Administrative Configurations
- Router and switch interfaces
- View, saving and erasing configurations

Module 7: Managing a Cisco Internetwork

- The internal components of a Cisco router and switch
- Backing up and restoring the Cisco configuration
- Configuring DHCP
- Syslog
- Network Time Protocol (NTP)

- Exploring connected devices using CSP and LLDP
- Using Telnet
- Resolving Hostnames
- Checking network connectivity and troubleshooting

Module 8: Managing Cisco Devices

- Managing the configuration register
- Backing up and restoring the Cisco IOS

Module 9: IP Routing

- Routing basics
- The IP routing process
- Configuring IP routing in our network
- Dynamic routing
- Routing information protocol (RIP)

Module 10: Layer 2 Switching

- Switching services
- Configuring Catalyst switches

Module 11: VLANs and Inter-VLAN Routing

- VLAN basics
- Identifying VLANs
- Routing between VLANs
- Configuring VLANs

Module 12: Security

- Perimeter, firewall and internal routers
- Introduction to access lists
- Standard access lists
- Extended access lists

Module 13: Network Address Translation (NAT)

- When do we use NAT?
- Types of network address translation
- NAT names
- How NAT works
- Testing and troubleshooting NAT

Module 14: Internet Protocol Version 6 (IPv6)

- Why do we need IPv6?
- The benefits and uses of IPv6

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- IPv6 addressing and expressions
- How IPv6 works in an internetwork
- IPv6 routing protocols
- Configuring IPv6 on our internetwork
- Configuring routing on our internetwork