

Interconnecting Cisco Networking Devices Part 1 (ICND 1) v3.0

Course Summary

Description

Interconnecting Cisco Networking Devices, Part 1 (ICND1) v3.0 is a five-day, instructor-led training course that teaches learners how to install, operate, configure, and verify a basic IPv4 and IPv6 network, including configuring a LAN switch, configuring an IP router, managing network devices, and identifying basic security threats.

Optionally, this course can be followed by the Interconnecting Cisco Networking Devices, Part 2 (ICND2) v3.0 course, which covers topics in more depth and teaches learners how to perform basic troubleshooting steps in enterprise branch office networks, preparing learners for Cisco CCNA certification.

Several topics have been added including; understanding the interactions and network functions of firewalls, wireless controllers, and access points, along with additional focus on IPv6 and basic network security.

All configuration commands are introduced through examples and supported with lab exercises. A full suite of labs have been developed using the virtual IOS environment with flexible topologies that reinforce concepts with hands-on, guided discovery and challenge labs that align to each lesson module.

The 100-105 Interconnecting Cisco Networking Devices Part 1 exam is a 90 minute, 45 - 55 question assessment that is associated with the Cisco Certified Entry Network Technician (CCENT) certification and is a tangible first step in achieving other Associate-level certifications. This exam tests a candidate's knowledge and skills related to network fundamentals, LAN switching technologies, routing technologies, infrastructure services, and infrastructure maintenance.

Objectives

After taking this course, students will be able to:

- Install, configure, and operate a small- to medium-sized network
- Describe network fundamentals and build simple LANs
- Establish Internet connectivity
- Manage and secure network devices
- Expand small to medium sized networks
- Describe IPv6 basics

Topics

- Building a Simple Network
- Establishing Internet Connectivity
- Summary Challenge
- Building a Medium-Sized Network
- Network Device Management and Security
- Summary Challenge
- Introducing IPv6

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Course Summary (cont'd)

Audience

Target candidates: Individuals seeking the Cisco CCENT certification, or Cisco CCNA Routing and Switching certification. The course is also appropriate for support technicians involved in the basic installation, operation, and verification of LAN networks.

This class is for these types of roles: Entry-level network engineer, network administrator, network support technician, and help desk technician

Certifications associated with this class:

- Cisco CCENT
- Cisco CCNA Routing and Switching
- Cisco CCDA
- Cisco CCNA Security
- Cisco CCNA Wireless

Prerequisites

The knowledge and skills that a learner must have before attending this course are as follows:

- Basic computer literacy
- Basic PC operating system navigation skills
- Basic Internet usage skills
- Basic IP address knowledge

Duration

Five days

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Course Outline

- I. Building a Simple Network**
 - A. Exploring the Functions of Networking
 - B. Understanding the Host-to-Host Communications Model
 - C. Introducing LANs
 - D. Operating Cisco IOS Software
 - E. Starting a Switch
 - F. Understanding Ethernet and Switch Operation
 - G. Troubleshooting Common Switch Media Issues
- II. Establishing Internet Connectivity**
 - A. Understanding the TCP/IP Internet Layer
 - B. Understanding IP Addressing and Subnets
 - C. Understanding the TCP/IP Transport Layer
 - D. Exploring the Functions of Routing
 - E. Configuring a Cisco Router
 - F. Exploring the Packet Delivery Process
 - G. Enabling Static Routing
 - H. Learning the Basics of ACL
 - I. Enabling Internet Connectivity
- III. Summary Challenge**
 - A. Establish Internet Connectivity
 - B. Troubleshoot Internet Connectivity
- IV. Building a Medium-Sized Network**
 - A. Implementing VLANs and Trunks
 - B. Routing Between VLANs
 - C. Using a Cisco IOS Network Device as a DHCP Server
 - D. Implementing RIPv2
- V. Network Device Management and Security**
 - A. Securing Administrative Access
 - B. Implementing Device Hardening
 - C. Configuring System Message Logging
- D. Managing Cisco Devices**
 - E. Licensing
- VI. Summary Challenge**
 - A. Implementing a Medium-Sized Network
 - B. Troubleshooting a Medium-Sized Network
- VII. Introducing IPv6**
 - A. Introducing Basic IPv6
 - B. Understanding IPv6 Operation
 - C. Configuring IPv6 Static Routes
- VIII. Labs:**
 - A. Get Started with Cisco CLI
 - B. Perform Basic Switch Configuration
 - C. Observe How a Switch Operates
 - D. Troubleshoot Switch Media and Port Issues
 - E. Inspect TCP/IP Applications
 - F. Start with Cisco Router Configuration
 - G. Configure Cisco Discovery Protocol
 - H. Configure Default Gateway
 - I. Exploration of Packet Forwarding
 - J. Configure and Verify Static Routes
 - K. Configure and Verify ACLs
 - L. Configure a Provider-Assigned IP Address
 - M. Configure Static NAT
 - N. Configure Dynamic NAT and PAT
 - O. Troubleshoot NAT
 - P. Configure VLAN and Trunk
 - Q. Configure a Router on a Stick
 - R. Configure a Cisco Router as a DHCP Server
 - S. Troubleshoot DHCP Issues
 - T. Configure and Verify RIPv2
 - U. Troubleshoot RIPv2
 - V. Enhance Security of Initial Configuration
 - W. Limit Remote Access Connectivity
 - X. Configure and Verify Port Security
 - Y. Configure and Verify NTP
 - Z. Configure Syslog

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Course Outline (cont'd)

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| AA. Configure Basic IPv6 Connectivity | KK. Implement Multiple VLANs and Basic Routing Between the VLANs |
| BB. Configure IPv6 Static Routes | LL. Implementing a DHCP Server in on a Cisco IOS Device |
| CC. Implementing the Initial Switch Configuration | MM. Implementing RIPv2 |
| DD. Implementing the Initial Router Configuration | NN. Securing Device Administrative Access |
| EE. Implementing Static Routing | OO. Implementing Device Hardening |
| FF. Implementing Basic Numbered and Named ACLs | PP. Configuring System Message Logging |
| GG. Implementing PAT | QQ. Summary Challenge Lab: 3 |
| HH. Summary Challenge Lab: 1 | RR. Summary Challenge Lab: 4 |
| II. Summary Challenge Lab: 2 | SS. Implement IPv6 Static Routing |
| JJ. Troubleshooting VLANs and Trunk | |