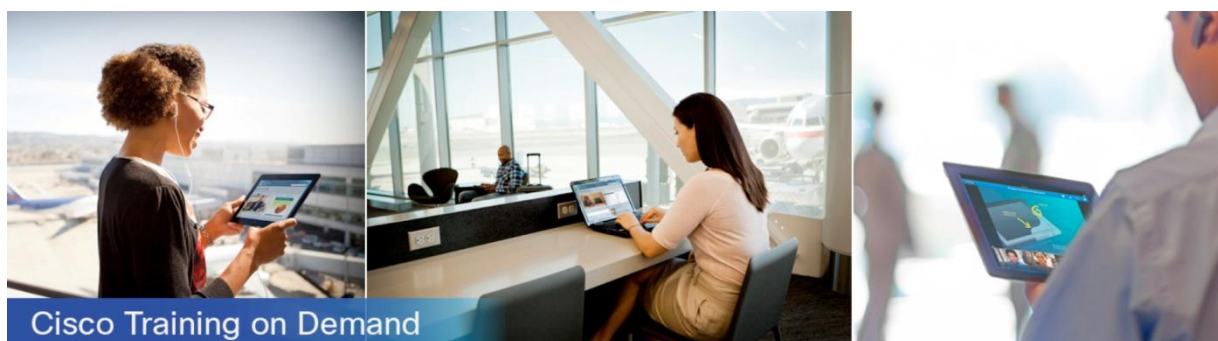


Learning Services

Cisco Training on Demand

Interconnecting Cisco Networking Devices, Part 1 (ICND1)



Overview

Interconnecting Cisco[®] Networking Devices Part 1 (ICND1) Version 3.0 is a Cisco Training on Demand course. It provides you with an understanding of network fundamentals, LAN switching technologies, basic routing technologies, network infrastructure services such as Domain Name System (DNS) and Dynamic Host Configuration Protocol (DHCP), and infrastructure management of network devices.

You also learn how to understand quality of service (QoS), virtualization and cloud services, and network programmability related to WAN access and core segments, as well as gain a foundational understanding of network Layers 1 to 3 that are applicable to core routing and switching, plus other advanced technologies. In addition, you gain an understanding of the interactions and network functions of firewalls, wireless controllers, and access points, along with additional focus on IPv6 and basic network security.

Interested in purchasing this course in volume at discounts for your company? Contact ctod-sales@cisco.com.

Duration

The ICND1 v3.0 Training on Demand course is a self-paced course based on the 5-day instructor-led training version. It consists of 32 sections of instructor video and text totaling more than 11 hours of instruction along with interactive activities, 48 hands-on lab exercises, content review questions, and challenge questions.

Target Audience

The primary audiences for this course are those preparing for the 100-105 ICND1 exam and individuals seeking the Cisco CCENT[®] certification or the Cisco CCNA[®] Routing and Switching certification.

Objectives

After completing this course, you should be able to:

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

Course Prerequisites

The knowledge and skills recommended before attending this course are:

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

Course Outline

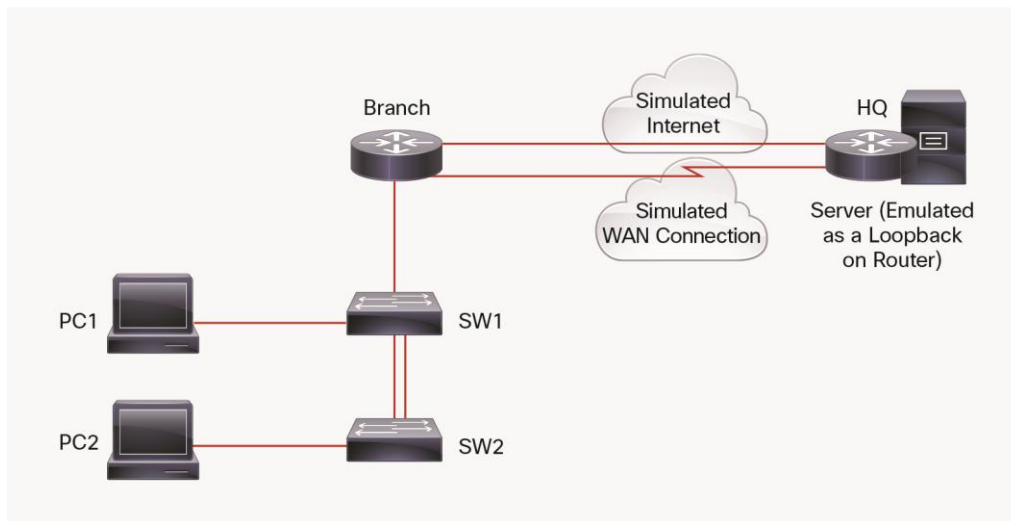
- Course Introduction
- Section 1: Explore the Functions of Networking
- Section 2: Understanding the Host-to-Host Communications Model
- Section 3: Introducing LANs
- Section 4: Operating Cisco IOS® Software
- Section 5: Starting a Switch
- Section 6: Understanding Ethernet and Switch Operation
- Section 7: Troubleshooting Common Switch Media Issues
- Section 8: Understanding the TCP/IP Internet Layer
- Section 9: Understanding IP Addressing and Subnets
- Section 10: Understanding the TCP/IP Transport Layer
- Section 11: Exploring the Functions of Routing
- Section 12: Configuring a Cisco Router
- Section 13: Exploring the Packet Delivery Process
- Section 14: Enabling Static Routing
- Section 15: Learning the Basics of ACL
- Section 16: Enabling Internet Connectivity
- Section 17: Establish Internet Connectivity
- Section 18: Troubleshooting Internet Connectivity
- Section 19: Implementing VLANs and Trunks
- Section 20: Routing between VLANs
- Section 21: Using a Cisco IOS Network Device as a DHCP Server

- Section 22: Implementing RIPv2
- Section 23: Securing Administrative Access
- Section 24: Implementing Device Hardening
- Section 25: Configuring System Message Logging
- Section 26: Managing Cisco Devices
- Section 27: Licensing
- Section 28: Implementing a Medium-Sized Network
- Section 29: Troubleshooting a Medium-Sized Network
- Section 30: Introducing Basic IPv6
- Section 31: Understanding IPv6 Operation
- Section 32: Configuring IPv6 Static Routes

Labs Outline

This course contains 48 hands-on virtual lab exercises.

Figure 1. Topology for All Labs in Interconnecting Cisco Networking Devices, Part 1



The labs included in this course are:

- Discovery Lab 4.5: Getting Started with Cisco CLI
- Discovery Lab 5.6: Perform Basic Switch Configuration
- Challenge Lab 5.7: Implementing the Initial Switch Configuration
- Discovery Lab 6.6: Observe How a Switch Operates
- Discovery Lab 7.7: Troubleshoot Switch Media and Port Issues
- Discovery Lab 7.8: Troubleshooting Port Duplex Issues
- Discovery Lab 10.8: Inspect TCP/IP Applications
- Discovery Lab 12.6: Start with Cisco Router Configuration
- Discovery Lab 12.9: Configure Cisco Discovery Protocol

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- Challenge Lab 12.11: Implementing the Initial Router Configuration
 - Discovery Lab 13.4: Configure Default Gateway
 - Discovery Lab 13.7: Exploration of Packet Forwarding
 - Discovery Lab 14.9: Configure and Verify Static Routes
 - Challenge Lab 14.10: Implementing Static Routing
 - Discovery Lab 15.9: Configure and Verify ACLs
 - Challenge Lab 15.13: Implementing Basic Numbered and Named ACLs
 - Discovery Lab 16.5: Configure a Provider-Assigned IP Address
 - Discovery Lab 16.11: Configure Static NAT
 - Discovery Lab 16.16: Configure Dynamic NAT and PAT
 - Discovery Lab 16.18: Troubleshoot NAT
 - Challenge Lab 16.19: Implementing PAT
 - Challenge Lab 17.2: Summary Challenge Lab 1
 - Challenge Lab 18.2: Summary Challenge Lab 2
 - Discovery Lab 19.9: Configure VLAN and Trunk
 - Challenge Lab 19.12: Troubleshooting VLANs and Trunk
 - Discovery Lab 20.4: Configure a Router on a Stick
 - Challenge Lab 20.5: Implement Multiple VLANs and Basic Routing Between the VLANs
 - Discovery Lab 21.5: Configure a Cisco Router as a DHCP server
 - Discovery Lab 21.7: Troubleshoot DHCP Issues
 - Challenge Lab 21.8: Implementing a DHCP Server on a Cisco IOS Device
 - Discovery Lab 22.7: Configure and Verify RIPv2
 - Discovery Lab 22.8: Troubleshoot RIPv2
 - Challenge Lab 22.9: Implement RIPv2
 - Discovery Lab 23.6: Enhance Security of Initial Configuration
 - Discovery Lab 23.9: Limit Remote Access Connectivity
 - Challenge Lab 23.10: Securing Device Administrative Access
 - Discovery Lab 24.6: Configure and Verify Port Security
 - Discovery Lab 24.11: Configure and Verify NTP
 - Challenge Lab 24.12: Implementing Device Hardening
 - Discovery Lab 25.5: Configure Syslog
 - Challenge Lab 25.6: Configuring System Message Logging
 - Discovery Lab 26.6: Change the Configuration Register
 - Discovery Lab 26.13: Create the Cisco IOS Image Backup
 - Discovery Lab 26.14: Upgrade Cisco IOS Image
 - Challenge Lab 28.2: Summary Challenge Lab 3
 - Challenge Lab 29.2: Summary Challenge Lab 4

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- Discovery Lab 31.6: Configure Basic IPv6 Connectivity
 - Discovery Lab 32.4: Configure IPv6 Static Routes
 - Challenge Lab 32.5: Implement IPv6 Static Routing

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