

## CCNA210: ICND1 - Interconnecting Cisco Networking Devices Part I

CCNA210: ICND1 is a comprehensive 5-day Authorized Cisco course, develop a practical understanding of the operation of modern TCP/IP networks built with Cisco hardware. Learn the commands and techniques used to troubleshoot host connections, interact with Cisco switches and routers, backup and restore configuration files, and manage network equipment. If you are new to networking, need a good understanding for management or sales responsibilities, or are starting along the path to achieve CCNA certification, this is the right course for you. This class prepares students for Cisco Exam: 640-822 ICND1 CCENT/CCNA certification. ICND 1 is also the primary class for those seeking Cisco Certified Entry Networking Technician (CCENT) certification.



### AUDIENCE

Network technicians who configure and support internetworks; Individuals seeking CCNA certification; Management and salespeople who need a working knowledge of modern networking.

### PREREQUISITES

We do not require previous Cisco experience although students should be comfortable navigating Microsoft Windows operating systems. Basic networking knowledge is helpful but not required.

### WHAT YOU WILL LEARN

- » How networks function
- » Network components and their functions
- » Open Systems Interconnection (OSI) reference model
- » Binary, decimal, and hexadecimal numbering
- » Switching operations and theory
- » Host-to-Host packet delivery process
- » TCP/IP network addressing and routing
- » IP subnetting
- » Providing Local Area Network (LAN), Wide Area Network (WAN), and remote access services
- » Advanced network theory, including Virtual Private Networks (VPN), Content Delivery Networks (CDN), Intranets and extranets, and wireless networking
- » Introduction to Cisco Internet Operating System (IOS)
- » Initial configuration of Cisco Catalyst Switches and Routers
- » Network discovery and management using Cisco Discovery Protocol (CDP), telnet, and Trivial FTP (TFTP)

“I was very pleased by the way this course was taught”

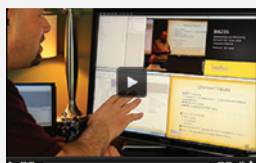
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- 5-day course
- CCNA Certification Course
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**QUESTIONS?**

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# COURSE OUTLINE

## CCNA210: ICND1 - Interconnecting Cisco Networking Devices Part1

### 1. Building a Simple Network

- » Exploring the Functions of Networking
- » Securing the Network
- » Host-to-Host Communication Model
- » TCP/IP's Internet Layer
- » TCP/IP's Transport Layer
- » Packet Delivery Process
- » Understanding Ethernet
- » Connecting to an Ethernet LAN

### 2. Ethernet LANs

- » Challenges of Shared LANs
- » Solving Network Challenges with Switched LAN Technology
- » Packet Delivery Process
- » Operating Cisco IOS Software
- » Starting the Switch
- » Understanding Switch Security
- » Maximizing the Benefits of Switching
- » Troubleshooting Switch Issues

### 3. Wireless Local Area Networks (WLANs)

- » Exploring Wireless Networking
- » Understanding WLAN Security
- » Implementing a WLAN

### 4. LAN Connections

- » Functions of Routing
- » Understanding Binary Basics
- » Construct a Network Address Scheme
- » Starting a Router
- » Configuring a Router
- » Packet Delivery Process
- » Understanding Router Security
- » Using Cisco Router and Security Device Manager
- » Using a Router as a DHCP Server
- » Accessing Remote Devices

### 5. Wide Area Networks (WANs)

- » WAN Technologies
- » Enabling the Internet Connection
- » Enabling Static Routing
- » Configuring Serial Encapsulation
- » Enabling Routing Info Protocol (RIP)

### 6. Network Environment Management

- » Discovering Neighbors on the Network
- » Manage Router Startup & Configuration
- » Managing Cisco Devices

#### Lab 1: Using Host-Based Tools

- » Utilize Windows applications and commands to investigate the IP configuration of your PC and the local network.

#### Lab 2: Observe the TCP 3-Way Handshake

- » Use a packet sniffer software app to observe the TCP initial 3-Way Handshake.

#### Lab 3: Observe Extended PC Network Info

- » Use PC Tools, such as ping, traceroute, & ipconfig to gather network-related info.

#### Lab 4: Building your Initial Pod using LIVE Cisco Hardware

- » Begin prep for the subsequent labs. Test and practice the connectivity for your assigned workgroup equipment that will be used for the remaining lab practice exercises.

#### Lab 5: Switch Startup & Initial Config

- » Connect to your workgroup switch and complete the initial configuration.

#### Lab 6: Enhancing Security of Switch Configuration

- » Increase the security of the initial switch configuration.

#### Lab 7: Operating and Configuring a Cisco IOS Device

- » Practice and demo the use of the Command Line Interface (CLI) features.

#### Lab 8: Convert Decimal to Binary

- » Test ability to convert numbers from binary to decimal & decimal to binary.

#### Lab 9: Classifying Network Addressing

- » Classify network addresses & convert addresses from decimal to binary format or binary to decimal format.

#### Lab 10: Computing Usable Subnetworks and Hosts

- » Determine how to create subnets from a given IP address, how many hosts per subnet, and how many subnets per IP address.

#### Lab 11: Calculating Subnet Masks

- » Determine the subnet mask used based on specific criteria provided. Determine the binary & decimal format of the mask, subnet address, number of host addresses, & the Directed Broadcast address.

#### Lab 12: Initial Router Startup

- » Connect to your workgroup router

- and examine the startup process.

#### Lab 13: Initial Router Configuration

- » Connect to your workgroup router and complete the initial configuration.

#### Lab 14: Enhancing Security of Initial Router Configuration

- » Increase the security of the initial router configuration.

#### Lab 15: Using Security Device Manager (SDM) to Configure DHCP Server Functions

- » Use the Cisco SDM to configure DHCP server functionality on your workgroup router.

#### Lab 16: Manage Remote Access Sessions

- » Utilize Telnet and SSH to create connections to your workgroup devices.

#### Lab 17: Connecting to the Internet

- » Configure the WAN Ethernet Interface to use a DHCP-obtained address and perform Port Address Translation to the inside network.

#### Lab 18: Connecting to the Main Office

- » Configure your workgroup router to connect to another device via a serial interface using PPP and provide a static route to that device.

#### Lab 19: Enable Dynamic Routing

- » Enable the workgroup router to use the dynamic routing protocol RIP.

#### Lab 20: Using CDP

- » Obtain info about your connected Cisco device using Cisco Discovery Protocol (CDP) & disable CDP from running on selected interfaces.

#### Lab 21: Manage Router Startup Operations

- » Make changes to control the router startup behavior, such as boot commands or configuration register settings.

#### Lab 22: Managing Cisco Devices

- » Understand how to use the IOS Copy and Debug commands.

#### Lab 23: SUPER LAB - Confirming the Re-Configuration of the Branch Network

Using the skills that you have learned, you will assume the management of an incorrectly configured network. You will need to reconfigure or correct the network & then test the new network configuration for accuracy.

Register by phone at 602-266-8585, or online at [www.InterfaceTT.com](http://www.InterfaceTT.com).

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