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Implementing and Administering Cisco Solutions (CCNA) V2.0

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Course Duration

5 Days

Course Price

$4,195.00
42 CLCs

Methods of Delivery

In-Person ILT
Virtual ILT
Onsite ILT

About this Class

The Implementing and Administering Cisco Solutions (CCNA) v2.0 course gives you a broad range of fundamental knowledge for all IT careers. Through a combination of lecture, hands-on labs, and self-study, you will learn how to install, operate, configure, and verify basic IPv4 and IPv6 networks. The course covers configuring network components such as switches, routers, and wireless LAN controllers; managing network devices; and identifying basic security threats. The course also gives you a foundation in network programmability, automation, and software-defined networking.

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How you will benefit

This class will help you:

- Learn the knowledge and skills to install, configure, and operate a small- to medium-sized network
- Gain a foundation in the essentials of networking, security, and automation
- Earn 30 CE credits toward recertification

Why Attend with Current Technologies CLC

- Our Instructors are the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

This course is designed for anyone seeking CCNA certification.

The job roles best suited to the material in this course are:

- Entry-level Network Engineers
- Network Administrators
- Network Support Technicians
- Help Desk Technicians

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Objectives

After taking this course, you should be able to:

- Identify the components of a computer network and describe their basic characteristics
- Understand the model of host-to-host communication
- Describe the features and functions of the Cisco Internetwork Operating System (IOS®) software
- Describe LANs and the role of switches within LANs
- Describe Ethernet as the network access layer of TCP/IP and describe the operation of switches
- Install a switch and perform the initial configuration
- Describe the TCP/IP Internet layer, IPv4, its addressing scheme, and subnetting
- Describe the TCP/IP Transport layer and Application layer
- Explore functions of routing
- Implement basic configuration on a Cisco router
- Explain host-to-host communications across switches and routers
- Identify and resolve common switched network issues and common problems associated with IPv4 addressing
- Describe IPv6 main features and addresses, and configure and verify basic IPv6 connectivity
- Describe the operation, benefits, and limitations of static routing
- Describe, implement, and verify virtual local area networks (VLANs) and trunks
- Describe the application and configuration of inter-VLAN routing
- Explain the basics of dynamic routing protocols and describe components and terms of Open Shortest Path First (OSPF)

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Cont. Objectives

After taking this course, you should be able to:

- Explain how Spanning Tree Protocol (STP) and Rapid Spanning Tree Protocol (RSTP) work
- Configure link aggregation using EtherChannel
- Describe the purpose of Layer 3 redundancy protocols
- Describe basic WAN and VPN concepts
- Describe the operation of access control lists (ACLs) and their applications in the network
- Configure Internet access using Dynamic Host Configuration Protocol (DHCP) clients and explain and configure network address translation (NAT) on Cisco routers
- Describe basic quality of service (QoS) concepts
- Describe the concepts of wireless networks, which types of wireless networks can be built, and how to use Wireless LAN Controllers (WLCs)
- Describe network and device architectures and introduce virtualization
- Introduce the concept of network programmability and Software-Defined Networking (SDN) and describe smart network management solutions such as Cisco DNA Center™, Software-Defined Access (SD-Access), and Software-Defined Wide Area Network (SD-WAN)
- Configure basic IOS system monitoring tools
- Describe the management of Cisco devices
- Describe the current security threat landscape
- Describe threat defense technologies
- Implement a basic security configuration of the device management plane
- Implement basic steps to harden network devices

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Course Outline

Module 1: Exploring the Functions of Networking

Module 2: Introducing the Host-to-Host Communications Model

Module 3: Operating Cisco IOS Software

Module 4: Introducing LANs

Module 5: Exploring the TCP/IP Link Layer

Module 6: Starting a Switch

Module 7: Introducing the TCP/IP Internet Layer, IPv4 Addressing, and Subnets

Module 8: Explaining the TCP/IP Transport Layer and Application Layer

Module 9: Exploring the Functions of Routing

Module 10: Configuring a Cisco Router

Module 11: Exploring the Packet Delivery Process

Module 12: Troubleshooting a Simple Network

Module 13: Introducing Basic IPv6

Module 14: Configuring Static Routing

Module 15: Implementing VLANs and Trunks

Module 16: Routing Between VLANs

Module 17: Introducing OSPF

Module 18: Building Redundant Switched Topologies

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Course Outline

Module 10: Improving Redundant Switched Topologies with EtherChannel

Module 20: Exploring Layer 3 Redundancy

Module 21: Introducing WAN Technologies

Module 22: Explaining Basics of ACL

Module 23: Enabling Internet Connectivity

Module 24: Introducing QoS

Module 25: Explaining Wireless Fundamentals

Module 26: Introducing Architectures and Virtualization

Module 27: Explaining the Evolution of Intelligent Networks

Module 28: Introducing System Monitoring

Module 29: Managing Cisco Devices

Module 30: Examining the Security Threat Landscape

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Lab Outline

Lab 1: Get Started with Cisco Command-Line Interface (CLI)

Lab 2: Observe How a Switch Operates

Lab 3: Perform Basic Switch Configuration

Lab 4: Implement the Initial Switch Configuration

Lab 5: Inspect TCP/IP Applications

Lab 6: Configure an Interface on a Cisco Router

Lab 7: Configure and Verify Layer 2 Discovery Protocols

Lab 8: Implement an Initial Router Configuration

Lab 9: Configure Default Gateway

Lab 10: Explore Packet Forwarding

Lab 11: Troubleshoot Switch Media and Port Issues

Lab 12: Troubleshoot Port Duplex Issues

Lab 13: Configure Basic IPv6 Connectivity

Lab 14: Configure and Verify IPv4 Static Routes

Lab 15: Configure IPv6 Static Routes

Lab 16: Implement IPv4 Static Routing

Lab 17: Implement IPv6 Static Routing

Lab 18: Configure VLANs and Trunk

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Lab Outline Cont.

Lab 19: Troubleshoot VLANs and Trunk

Lab 20: Configure Inter-VLAN Routing

Lab 21: Implement Multiple VLANs and Basic Routing Between the VLANs

Lab 22: Configure and Verify Single-Area OSPF

Lab 23: Configure and Verify EtherChannel

Lab 24: Improve Redundant Switched Topologies with EtherChannel

Lab 25: Configure and Verify IPv4 ACLs

Lab 26: Implement Numbered and Named IPv4 ACLs

Lab 27: Configure a Provider-Assigned IPv4 Address

Lab 28: Configure Static NAT

Lab 29: Configure Dynamic NAT and Port Address Translation (PAT)

Lab 30: Implement PAT

Lab 31: Explore the Cisco DNA™ Center

Lab 32: Configure and Verify NTP

Lab 33: Configure System Message Logging

Lab 34: Create the Cisco IOS Image Backup

Lab 35: Upgrade Cisco IOS Image

Lab 36: Secure Console and Remote Access

Lab Outline Cont.

Lab 37: Enable and Limit Remote Access Connectivity

Lab 38: Secure Device Administrative Access

Lab 39: Configure and Verify Port Security

Lab 40: Implement Device Hardening

Lab 41: Log into and Monitor the WLC

Lab 42: Configure an Open Wireless Network

Lab 43: Define a RADIUS Server and Enable SNMP and Syslog

Lab 44: Configure a WLAN to Use WPA2 PSK