

Implementing and Administering Cisco Solutions (CCNA) V2.0

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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.

How you'll 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 in 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

The primary audience for this course is as follows:

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

Course Objectives

- 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

Course Duration

5 days

Course Price

\$4,195.00 or 42 CLCs

Methods of Delivery

- Instructor Led
- Virtual ILT
- On-Site

- 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)
- 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

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

Module 19: 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

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**
- **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 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**