Current Technologies
Computer Learning Centers

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Implementing and Administering Cisco Solutions (CCNA)

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In this Implementing and Administering Cisco Solutions course provides a comprehensive foundation in networking concepts, Cisco IOS operations, and modern enterprise network technologies. It is designed for individuals who are new to networking as well as those seeking to strengthen their understanding of how networks are built, operated, secured, and monitored. The course progresses logically from basic communication models into advanced routing, switching, security, wireless, and software-defined networking concepts.

Students begin by exploring the functions of networking, host-to-host communication, and the TCP/IP model, gaining a clear understanding of how data moves across networks. The curriculum then covers Cisco IOS software, LAN switching, IPv4 and IPv6 addressing, routing fundamentals, VLANs, inter-VLAN routing, OSPF, and redundancy technologies such as EtherChannel and Layer 3 redundancy. Core security concepts, including ACLs, NAT, administrative access protection, and device hardening, are introduced alongside WAN technologies, QoS, and wireless fundamentals.

The course also introduces modern operational topics such as system monitoring, AI and ML in network operations, virtualization, software-defined networking, and network programmability. Extensive hands-on labs reinforce theoretical concepts through real-world configuration, verification, and troubleshooting tasks using Cisco routers, switches, and wireless controllers. By the end of the course, students are prepared to manage, secure, and troubleshoot enterprise networks and are well positioned for the Cisco 200-301 certification exam.

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
- Prepare for the 200-301 CCNA v1.1 exam
- 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
- Entry-level Network Administrators
- Entry-level Network Support Technicians
- Entry-level Help Desk Technicians

Course Duration
5 days

Course Price
$4,195.00 or 42 CLCs

Methods of Delivery
- Instructor Led
- Virtual ILT
- On-Site

Prerequisites

Before taking this course, you should have:

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

There are no formal prerequisites for CCNA certification, but you should make sure to have a good understanding of the exam topics.

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: Explaining the Basics of ACL

Module 21: Enabling Internet Connectivity

Module 22: Introducing AI and ML in Network Operations

Module 23: Introducing System Monitoring

Module 24: Managing Cisco Devices

Module 25: Securing Administrative Access

Module 26: Implementing Device Hardening

Module 27: Exploring Layer 3 Redundancy

Module 28: Introducing WAN Technologies

Module 29: Introducing QoS

Module 30: Explaining Wireless Fundamentals

Module 31: Introducing Architectures and Virtualization

Module 32: Explaining Software-Defined Networking

Module 33: Introducing Network Programmability

Module 34: Examining the Security Threat Landscape

Module 35: Implementing Threat Defense Technologies

LAB OUTLINE

- Lab 1: Get Started with Cisco CLI
- Lab 2: Observe How a Switch Operates
- Lab 3: Perform Basic Switch Configuration
- Lab 4: Inspect TCP/IP Applications
- Lab 5: Configure an Interface on a Cisco Router
- Lab 6: Configure and Verify Layer 2 Discovery Protocols
- Lab 7: Configure Default Gateway
- Lab 8: Explore Packet Forwarding
- Lab 9: Troubleshoot Switch Media and Port Issues
- Lab 10: Troubleshoot Port Duplex Issues
- Lab 11: Configure Basic IPv6 Connectivity
- Lab 12: Configure and Verify IPv4 Static Routes
- Lab 13: Configure IPv6 Static Routes
- Lab 14: Configure VLANs and Trunks
- Lab 15: Configure Inter-VLAN Routing
- Lab 16: Configure and Verify Single-Area OSPF

- Lab 17: Configure and Verify EtherChannel
- Lab 18: Configure and Verify IPv4 ACLs
- Lab 19: Configure a Provider-Assigned IPv4 Address
- Lab 20: Configure Static NAT
- Lab 21: Configure Dynamic NAT and PAT
- Lab 22: Configure and Verify NTP
- Lab 23: Create the Cisco IOS Image Backup
- Lab 24: Upgrade Cisco IOS Image
- Lab 25: Secure Console and Remote Access
- Lab 26: Enable and Limit Remote Access Connectivity
- Lab 27: Configure and Verify Port Security
- Lab 28: Log in to and Monitor the WLC
- Lab 29: Configure an Open Wireless Network
- Lab 30: Define a RADIUS Server and Enable SNMP and Syslog
- Lab 31: Configure a WLAN to Use WPA2 PSK