REAL WORLD
TECHNOLOGY TRAINING & SOLUTIONS
"Training You Can Really Use"

Implementing and Administering Cisco Solutions v2.0

Duration: 5 Days

Method: Instructor-Led Training (ILT) | Live Online Training

Certification: *Cisco Certified Network Associate (CCNA®) —*
Exam: *200-301 CCNA*

Course Description

This course gives participants a broad range of fundamental knowledge for all IT careers. Participants will learn how to install, operate, configure, and verify basic IPv4 and IPv6 networks through a combination of lectures, hands-on labs, and self-study. 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 participants a foundation in network programmability, automation, and software-defined networking. This course helps participants prepare to take the certification exam. This course also earns participants thirty (30) Continuing Education (CE) credits towards recertification.

Target Audience

This course is intended for:

- Entry-Level Network Engineer
- Network Administrator
- Network Support Technician
- Help Desk Technician
- Persons seeking CCNA certification.

Prerequisites

To attend this course, candidates must have:

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

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Exam Details

Exam Code:	• 200-301
Length of Exam:	• 2 Hours
Number of Questions:	• 100 – 120
Passing Score:	• 80% – 85%
Question Format:	• Multiple Choice, Fill-in-the-Blank, Simulation, Simlet, Testler

Course Objectives

Upon successful completion of this course, attendees will 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 the components and terms of Open Shortest Path First (OSPF).
- Explain how Spanning Tree Protocol (STP) and Rapid Spanning Tree Protocol (RSTP) work.

Course Objectives *Continued*

- 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 defence technologies.
- Implement a basic security configuration of the device management plane.
- Implement basic steps to harden network devices.

Course Topics

Course Topics *Continued*

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

LABS INCLUDED