€TRAINING

Implementing and Administering Cisco Solutions (CCNA) v1.0

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Introduction

The Implementing and Administering Cisco Solutions course provides a broad range of fundamental knowledge for all IT careers. You will learn how to install, operate, configure, and verify a basic IPv4 and IPv6 network. The course covers configuring network components such as switches, routers, and Wireless LAN Controllers; managing network devices; and identifying basic security threats. Network programmability, automation, and software-defined networking are also covered at a foundational level.

This course helps you prepare to take the 200-301 Cisco Certified Network Associate CCNA exam

Course Objectives

At the end of this course, the participants 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 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, addresses and configure and verify basic IPv6 connectivity
- Describe the operation, benefits, and limitations of static routing
- Describe, implement and verify 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 OSPF
- Explain how STP and 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 ACLs and their applications in the network
- Configure internet access using DHCP clients and explain and configure NAT on Cisco routers
- Describe the basic QoS concepts
- Describe the concepts of wireless networks, which types of wireless networks can be built and how to use WLC
- Describe network and device architectures and introduce virtualization
- Introduce the concept of network programmability and SDN and describe the smart network management solutions like Cisco DNA Center, SD-Access and 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

Targeted Audience

Anyone looking to start a career in networking or wishing to achieve the Cisco CCNA Certification.

Course Outline

Unit 1:

- Exploring the Functions of Networking
- Introducing the Host-To-Host Communications Model
- Operating Cisco IOS Software
- Introducing LANs
- Exploring the TCP/IP Link Layer

Unit 2:

- Starting a Switch
- Introducing the TCP/IP Internet Layer, IPv4 Addressing, and Subnets
- Explaining the TCP/IP Transport Layer and Application Layer
- Exploring the Functions of Routing
- Configuring a Cisco Router
- Exploring the Packet Delivery Process

Unit 3:

- Troubleshooting a Simple Network
- Introducing Basic IPv6
- Configuring Static Routing
- Implementing VLANs and Trunks
- Routing Between VLANs
- Introducing OSPF
- Building Redundant Switched Topologies

Unit 4:

- Improving Redundant Switched Topologies with EtherChannel
- Exploring Layer 3 Redundancy
- Introducing WAN Technologies
- Explaining Basics of ACL
- Enabling Internet Connectivity
- Introducing QoS
- Explaining Wireless Fundamentals

Unit 5:

- Introducing Architectures and Virtualization

- Explaining the Evolution of Intelligent Networks
- Introducing System Monitoring
- Managing Cisco Devices
- Examining the Security Threat Landscape
- Implementing Threat Defense Technologies
- Implementing Device Hardening