



HEROTEC
NETWORK PROFESSIONAL TRAINING

Implementing and Administering Cisco Solutions (CCNA)

Related Certificate	CCNA Certification
Course ID	CCNA
Related Exam	200-301
Audience	Entry-level network engineer - Network administrator- Network support technician - Help desk technician
Hours	100 Hours

Overview:

New CCNA – 200-301

Digital transformations - Multi-domain solutions

The Implementing and Administering Cisco Solutions (CCNA) v1.0

This Course covers a broad range of fundamentals based on the latest technologies, software development skills, and job roles, you will learn how to configure 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.

When you finish this course you will be ready for the 200-301 CCNA exam

Objectives:

- Recognize components of a computer network
- Recognize the model of host-to-host communication
- Describe the features and functions of the Cisco Internetwork Operating System (IOS®) software
- Understand 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
- Recognize 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)
- 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

Course Outline:

- Implementing VLANs and Trunks
- Routing Between VLANs
- Introducing OSPF
- Building Redundant Switched Topologies
- 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
- 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
- Securing Administrative Access
- Implementing Device Hardening

NE

Labs outline

- Get Started with Cisco Command-Line Interface (CLI)
- Observe How a Switch Operates
- Perform Basic Switch Configuration
- Implement the Initial Switch Configuration
- Inspect TCP/IP Applications
- Configure an Interface on a Cisco Router
- Configure and Verify Layer 2 Discovery Protocols
- Implement an Initial Router Configuration
- Configure Default Gateway
- Explore Packet Forwarding
- Troubleshoot Switch Media and Port Issues
- Troubleshoot Port Duplex Issues
- Configure Basic IPv6 Connectivity
- Configure and Verify IPv4 Static Routes
- Configure IPv6 Static Routes
- Implement IPv4 Static Routing
- Implement IPv6 Static Routing
- Configure VLAN and Trunk
- Troubleshoot VLANs and Trunk
- Configure a Router on a Stick
- Implement Multiple VLANs and Basic Routing Between the VLANs
- Configure and Verify Single-Area OSPF
- Configure and Verify EtherChannel
- Improve Redundant Switched Topologies with EtherChannel
- Configure and Verify IPv4 ACLs

- Implement Numbered and Named IPv4 ACLs
- Configure a Provider-Assigned IPv4 Address
- Configure Static NAT
- Configure Dynamic NAT and Port Address Translation (PAT)
- Implement PAT
- Log into the WLC
- Monitor the WLC
- Configure a Dynamic (VLAN) Interface
- Configure a DHCP Scope
- Configure a WLAN
- Define a Remote Access Dial-In User Service (RADIUS) Server
- Explore Management Options
- Explore the Cisco DNA™ Center
- Configure and Verify NTP
- Configure System Message Logging
- Create the Cisco IOS Image Backup
- Upgrade Cisco IOS Image
- Configure WLAN Using Wi-Fi Protected Access 2 (WPA2) Pre-Shared Key (PSK) Using the GUI
- Secure Console and Remote Access
- Enable and Limit Remote Access Connectivity
- Secure Device Administrative Access
- Configure and Verify Port Security
- Implement Device Hardening

Contacts:

Address:

1 Zaker Hussien st, 7th area, Nasr City, Cairo, Egypt

Phone Numbers:

Landline: +202 26709916 - +202 26709961

Fax: +202 26709957

General: 002 0164010004

E-mail:

info@herotec.net

Corporate@herotec.net



[for more details:](#)

<https://herotec.net/course/ccna-rs-course/>

www.herotec.net