

Implementing and Administering Cisco Solutions

Duration: 5 Days Course Code: CCNA Version: 1.0 Delivery Method: Company Event

Overview:

The Implementing and Administering Cisco Solutions course provides a broad range of fundamental knowledge for all IT careers. Through a combination of lecture and hands-on labs, 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 **200-301Cisco Certified Network Associate (CCNA)** exam.

Please note that this course is a combination of Instructor-Led and Self-Paced Study - 5 days in the classroom and approx 3 days of self study. The self-study content will be provided as part of the digital courseware that you receive at the beginning of the course and should be part of your preparation for the exam. Lab access is provided for both the class and the self-study sections, lab access is valid for 60 hours or 90 days whichever is the shorter, so please ensure you exit the lab exercises when not in use.

This course is worth 30 CE credits towards recertification

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

Target Audience:

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

Objectives:

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| <ul style="list-style-type: none"> ■ After completing this course you should 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 | <ul style="list-style-type: none"> ■ 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 |
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- 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
- 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

Prerequisites:

Attendees should meet the following prerequisites:

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

Testing and Certification

Recommended as preparation for the following exams:

- **200-301** - Cisco Certified Network Associate Exam (CCNA)

Follow-on-Courses:

This course covers network fundamentals, network access, IP connectivity, IP Services, security fundamentals and verification of Cisco Networks and is a great starting point for those starting their Cisco career certification journey. The following courses are recommended for further study.

- **CLFNDU** - Understanding Cisco Collaboration Foundations
- **DCFNDU** - Understanding Cisco Data Center Foundations
- **ENFNDU** - Understanding Cisco Enterprise Foundations
- **SFNDU** - Understanding Cisco Security Foundations
- **SPFNDU** - Understanding Cisco Service Provider Network Foundations
- **WLFNDU** - Understanding Cisco Wireless Foundations

Alternatively should you wish to progress to the professional level then you may wish to review

- **CLCOR** - Implementing and Operating Cisco Collaboration Core Technologies
- **DCCOR** - Implementing and Operating Cisco Data Center Core Technologies
- **ENCOR** - Implementing and Operating Cisco Enterprise Network Core Technologies.
- **SCOR** - Implementing and Operating Cisco Security Core Technologies
- **SPCOR** - Implementing and Operating Cisco Service Provider Network Core Technologies

Content:

Exploring the Functions of Networking	Introducing Basic IPv6	Explaining Wireless Fundamentals (Self-Study)
Introducing the Host-To-Host Communications Model	Configuring Static Routing	Introducing Architectures and Virtualization (Self-Study)
Operating Cisco IOS Software	Implementing VLANs and Trunks	Explaining the Evolution of Intelligent Networks
Introducing LANs	Routing Between VLANs	Introducing System Monitoring
Exploring the TCP/IP Link Layer	Introducing OSPF	Managing Cisco Devices
Starting a Switch	Building Redundant Switched Topologies (Self-Study)	Examining the Security Threat Landscape (Self-Study)
Introducing the TCP/IP Internet Layer, IPv4 Addressing, and Subnets	Improving Redundant Switched Topologies with EtherChannel	Implementing Threat Defense Technologies (Self-Study)
Explaining the TCP/IP Transport Layer and Application Layer	Exploring Layer 3 Redundancy (Self-Study)	Securing Administrative Access
Exploring the Functions of Routing	Introducing WAN Technologies (Self-Study)	Implementing Device Hardening
Configuring a Cisco Router	Explaining Basics of ACL	Labs:
Exploring the Packet Delivery Process	Enabling Internet Connectivity	■ Get Started with Cisco CLI ■ Observe How a Switch Operates ■ Perform Basic Switch Configuration ■ Inspect TCP/IP Applications ■ Configure an Interface on a Cisco Router ■ Configure and Verify Layer 2 Discovery Protocols ■ 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 ■ Configure VLAN and Trunk ■ Configure a Router on a Stick ■ Configure and Verify Single-Area OSPF ■ Configure and Verify EtherChannel ■ Configure and Verify IPv4 ACLs ■ Configure a Provider-Assigned IPv4 Address ■ Configure Static NAT ■ Configure Dynamic NAT and PAT ■ Log into the WLC ■ Monitor the WLC ■ Configure a Dynamic (VLAN) Interface ■ Configure a DHCP Scope ■ Configure a WLAN
Troubleshooting a Simple Network	Introducing QoS (Self-Study)	

- Define a RADIUS Server
- Explore Management Options
- Explore the Cisco DNA Center
- Configure and Verify NTP
- Create the Cisco IOS Image Backup
- Upgrade Cisco IOS Image
- Configure WLAN Using WPA2 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

Further Information:

For More information, or to book your course, please call us on 353-1-814 8200

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