CCNA - Implementing and Administering Cisco Solutions (CCNA v2.2)

Duration: *5 Day(s)*

Course Overview

The Implementing and Administering Cisco Solutions (CCNA) v1.0 course gives you 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 basic IPv4 and IPv6 networks. 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 you a foundation in network programmability, automation, and software-defined networking.

This course helps you prepare to take the 200-301 Cisco© Certified Network Associate (CCNA©) exam. By passing this one exam, you earn CCNA certification.

Please note, this class runs extended 10-hour days! **Effective 7/1, this class will run as an 8-hour day with recommended recorded self-study to be completed outside of normal class hours.**

Review this course online at https://www.alta3.com/courses/CCNA

Objectives

- Install and operate basic IPv4 and IPv6 networks
- Configure network components such as switches and routers
- Identify and mitigate basic security threats
- Understand network programmability and automation

Who Should Attend

- Entry-level network engineer
- Network administrator
- Network support technician
- Help desk technician

Prerequisites

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

Course Outline

Lecture

1. Exploring the Functions of Networking
2. Introducing the Host-to-Host Communications Model
3. Operating Cisco IOS Software
4. Introducing LANs

5. Exploring the TCP/IP Link Layer
6. Starting a Switch
7. Introducing the TCP/IP Internet Layer, IPv4 Addressing, and Subnets
8. Explaining the TCP/IP Transport Layer and Application Layer
9. Exploring the Functions of Routing
10. Configuring a Cisco Router
11. Exploring the Packet Delivery Process
12. Troubleshooting a Simple Network
13. Introducing Basic IPv6
14. Configuring Static Routing
15. Implementing VLANs and Trunks
16. Routing Between VLANs
17. Introducing OSPF
18. Building Redundant Switched Topologies
19. Improving Redundant Switched Topologies with EtherChannel
20. Exploring Layer 3 Redundancy
21. Introducing WAN Technologies
22. Explaining Basics of ACL
23. Enabling Internet Connectivity
24. Introducing QoS
25. Explaining Wireless Fundamentals
26. Introducing Architectures and Virtualization
27. Explaining the Evolution of Intelligent Networks
28. Introducing System Monitoring
29. Managing Cisco Devices
30. Examining the Security Threat Landscape
31. Securing Administrative Access
32. Implementing Device Hardening
33. Implementing Threat Defense Technologies

Lab Outline

34. Get Started with Cisco Command-Line Interface (CLI)
35. Observe How a Switch Operates
36. Perform Basic Switch Configuration
37. Implement the Initial Switch Configuration
38. Inspect TCP/IP Applications
39. Configure an Interface on a Cisco Router
40. Configure and Verify Layer 2 Discovery Protocols
41. Implement an Initial Router Configuration
42. Configure Default Gateway
43. Explore Packet Forwarding
44. Troubleshoot Switch Media and Port Issues
45. Troubleshoot Port Duplex Issues

46. Configure Basic IPv6 Connectivity
47. Configure and Verify IPv4 Static Routes
48. Configure IPv6 Static Routes
49. Implement IPv4 Static Routing
50. Implement IPv6 Static Routing
51. Configure VLAN and Trunk
52. Troubleshoot VLANs and Trunk
53. Configure a Router on a Stick
54. Implement Multiple VLANs and Basic Routing Between the VLANs
55. Configure and Verify Single-Area OSPF
56. Configure and Verify EtherChannel
57. Improve Redundant Switched Topologies with EtherChannel
58. Configure and Verify IPv4 ACLs
59. Implement Numbered and Named IPv4 ACLs
60. Configure a Provider-Assigned IPv4 Address
61. Configure Static NAT
62. Configure Dynamic NAT and Port Address Translation (PAT)
63. Implement PAT
64. Log into the WLC
65. Monitor the WLC
66. Configure a Dynamic (VLAN) Interface
67. Configure a DHCP Scope
68. Configure a WLAN
69. Define a Remote Access Dial-In User Service (RADIUS) Server
70. Explore Management Options
71. Explore the Cisco DNA Center
72. Configure and Verify NTP
73. Configure System Message Logging
74. Create the Cisco IOS Image Backup
75. Upgrade Cisco IOS Image
76. Configure WLAN Using Wi-Fi Protected Access 2 (WPA2) Pre-shared Key (PSK) Using the GUI
77. Secure Console and Remote Access
78. Enable and Limit Remote Access Connectivity
79. Secure Device Administrative Access
80. Configure and Verify Port Security
81. Implement Device Hardening