Implementing and Administering Cisco Solutions v3.X (CPLL-CCNA v3.X)

Duration: 180 days

Course Overview:

The Implementing and Administering Cisco Solutions (CCNA) Learning Path builds the skills needed to deploy, manage, secure, and troubleshoot modern Cisco network solutions. Combining foundational knowledge with hands-on practice, it covers enterprise networking, network management tools, and AI-assisted operations, along with cloud and hybrid collaboration environments built on Webex Suite, Webex Control Hub, and Cisco Unified Communications Manager (CUCM) Release 15. Learners will gain experience managing users, devices, and workspaces; securing Webex with single sign-on, compliance tools, and Hybrid Data Security; integrating hybrid calendar, messaging, and Webex Edge services; migrating from CUCM to Webex Calling; deploying redundant Local Gateways; and extending collaboration solutions with APIs, bots, and AI features.

This Learning Path prepares you for the 200-301 CCNA v2.0 exam. If passed, you earn the CCNA certification.

Skills You'll Learn:

- Deploy, manage, secure, and troubleshoot modern Cisco network solutions
- Use enterprise networking and network management tools in real-world environments
- Manage users, devices, and workspaces in Webex Suite and Webex Control Hub
- Secure Webex with single sign-on, compliance tools, and Hybrid Data Security
- Migrate from CUCM to Webex Calling and extend solutions with APIs, bots, and AI features

Learning Path Objectives:

1. Introduction to Networking: Gain a comprehensive overview of networking, including the OSI model, and the transmission control protocol and internet protocol (TCP/IP) stack. Additionally, you'll explore how protocols like Ethernet work and learn how to access and use the Cisco IOS software. Finally, you will develop the skills required to prepare and deploy Cisco switches.
2. IP Addressing: Learn about the fundamentals of IPv4 and IPv6 protocols, including addressing and subnetting.
3. Layer 2 Protocols and Technologies: Explore Layer 2 concepts related to virtual local area networks (VLANs), trunks, spanning-tree protocol, and EtherChannel.

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4. Routing Concepts: Understand the basics of network routing, including the functions of routing, and the packet delivery process. You will learn how to configure a Cisco router and troubleshoot a simple Cisco network. You will also explore how to implement IPv6 routing on Cisco routers.
5. Campus Routing and Services: Examine Layer 3 concepts, such as inter-VLAN routing, static routing and dynamic routing with OSPFv2 and OSPFv3. You will learn about first-hop redundancy protocols like hot standby router protocol (HSRP) and virtual router redundancy protocol (VRRP). You will discover how protocols like DNS and DHCP operate. You will also explore the fundamentals of wireless networking.
6. Network Security: Gain an overview of network security fundamentals, including the importance of access control lists and IPsec. Learn how to secure administrative access to your network devices using Secure Shell (SSH) and AAA, and how to enable device hardening features, such as port security. You will also explore public and private IPv4 addressing, as well as static and dynamic network address translation.
7. Network Management: Learn about the basics of network management, system monitoring, and the use of AI in network operations. Practice managing Cisco IOS image and configuration files, as well as how virtualization is used in today's modern networks.
8. Network Troubleshooting: Challenge yourself with this series of CCNA network troubleshooting labs. Each lab comes with four open trouble tickets that you must resolve. These labs cover the scope and breath of the exam topics, from switching and network access, to routing, network services and security. Hone your troubleshooting skills and get exam-ready.

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