

Course Name	CI-CCNA Implementing and Administering Cisco Solutions
Course Duration	5 Days
Course Structure	Instructor-Led
Course Overview	<p>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, hands-on labs, and self-study, 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.</p> <p>The <i>Cisco® Solutions: Implementation and Administration (CCNA 200-301)</i> course builds on your existing user-level knowledge and experience with computing and networking to provide you with the knowledge and skills expected of an entry-level network administrator. It also addresses the content described in the exam objectives for the Certified Cisco Network Administrator (CCNA® 200-301). If you are pursuing a Cisco technical certification path, the CCNA 200.301 exam is your first step into the world of Cisco certification.</p> <p>Audience Profile</p> <ul style="list-style-type: none"> ● Entry-level network engineer ● Network administrator ● Network support technician ● Help desk technician <p>Prerequisites</p> <p>Before taking this course, you should have:</p> <ul style="list-style-type: none"> ● Basic computer literacy ● Basic PC operating system navigation skills ● Basic Internet usage skills ● Basic IP address knowledge <p>To ensure your success in this course, you should have experience with computer user skills, including the ability to complete tasks in a Microsoft Windows environment and the ability to search for and access information on the Internet. You can obtain this level of skill and</p>

	<p>knowledge by taking one of the following Logical Operations courses:</p> <ul style="list-style-type: none"> • <i>Introduction to Personal Computers Using Microsoft® Windows® 10</i> • <i>Using Microsoft® Windows® 10</i> • <i>Microsoft® Windows® 10: Transition from Windows® 7</i> <p>You should also have intermediate knowledge of computing and networking concepts. Any type of technology or system administration training or certification, or experience working in an IT environment, is strongly recommended. For instance, other industry certifications such as CompTIA®'s ITF+®, A+®, or Network+® may be especially helpful for students who are preparing for the CCNA 200-301 exam.</p>
<p>Course Outcome</p>	<p>After completing this course, students will be able to:</p> <ul style="list-style-type: none"> • 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 Internetwork Operating System (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 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

	<p>Path First (OSPF)</p> <ul style="list-style-type: none"> • 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
<p>Course Details</p>	<p>Lesson 1: Networking Fundamentals</p> <p>Topic A: Network Types Topic B: Network Components Topic C: Network Topologies Topic D: Network Models Topic E: Basic Networking Protocols Topic F: Transmission Media and Connectors Topic G: Introduction to Cisco Networks and Cisco IOS Commands</p> <p>Lesson 2: Configuring Switching</p> <p>Topic A: Switching Concepts Topic B: Configure Basic Switch Operation Topic C: Configure VLANs Topic D: Configure Interswitch Connectivity</p>

	<p>Lesson 3: Configuring IP Addressing</p> <p>Topic A: Configure IPv4 Addresses Topic B: Configure IPv4 Subnets Topic C: Configure IPv6 Addresses Topic D: Manage Network Addressing</p> <p>Lesson 4: Configuring Routing</p> <p>Topic A: Routing Basics Topic B: Interpret Routing Tables Topic C: Configure Static Routing Topic D: Configure Dynamic Routing</p> <p>Lesson 5: Configuring Wireless Connectivity</p> <p>Topic A: Wireless LANs Topic B: Manage WLAN Connections Topic C: Configure Clients for WLAN Access</p> <p>Lesson 6: Configuring IP Network Services</p> <p>Topic A: IP Network Services Topic B: Configure DHCP Topic C: Configure NAT Topic D: Configure NTP Topic E: Configure DNS Topic F: Perform Network Management</p> <p>Lesson 7: Security Fundamentals</p> <p>Topic A: Security Concepts Topic B: Manage Passwords Topic C: Configure Layer 2 Security Topic D: Configure Wireless Security Topic E: Remote Access Security</p> <p>Lesson 8: Automation and Programmability</p> <p>Topic A: Automation, Network Management, and Device Management Topic B: Controller-Based Networking and Software-Defined Networking Topic C: Programmability Concepts</p> <p>Lesson 9: Troubleshooting Network Issues</p> <p>Topic A: Troubleshooting Methodologies Topic B: Troubleshoot Interface and Cable Issues Topic C: Troubleshoot Switching Issues</p>
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