

<b>Course Name</b>	<b>CISCO - Implementing and Administering Cisco Solutions</b>
<b>Course Code</b>	200-301
<b>Course Duration</b>	5 Days
<b>Course Structure</b>	Instructor-Led
<b>Course Overview</b>	<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 Cisco® Solutions: Implementation and Administration (CCNA 200-301) 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>
<b>Audience Profile</b>	<ul style="list-style-type: none"> <li>• Entry-level network engineer</li> <li>• Network administrator</li> <li>• Network support technician</li> <li>• Help desk technician</li> </ul>
<b>Course Prerequisites</b>	<p>Before taking this course, you should have:</p> <ul style="list-style-type: none"> <li>• Basic computer literacy</li> <li>• Basic PC operating system navigation skills</li> <li>• Basic Internet usage skills</li> <li>• Basic IP address knowledge</li> </ul>
<b>Course Outcome</b>	After completing this course, students will be able to:

	<ul style="list-style-type: none"><li>• Identify the components of a computer network and describe their basic characteristics</li><li>• Understand the model of host-to-host communication</li><li>• Describe the features and functions of the Cisco Internetwork Operating System (IOS) software</li><li>• Describe LANs and the role of switches within LANs</li><li>• Describe Ethernet as the network access layer of TCP/IP and describe the operation of switches</li><li>• Install a switch and perform the initial configuration</li><li>• Describe the TCP/IP Internet layer, IPv4, its addressing scheme, and subnetting</li><li>• Describe the TCP/IP Transport layer and Application layer</li><li>• Explore functions of routing</li><li>• Implement basic configuration on a Cisco router</li><li>• Explain host-to-host communications across switches and routers</li><li>• Identify and resolve common switched network issues and common problems associated with IPv4 addressing</li><li>• Describe IPv6 main features and addresses, and configure and verify basic IPv6 connectivity</li><li>• Describe the operation, benefits, and limitations of static routing</li><li>• Describe, implement, and verify Virtual Local Area Networks (VLANs) and trunks</li><li>• Describe the application and configuration of inter-VLAN routing</li><li>• Explain the basics of dynamic routing protocols and describe components and terms of Open Shortest Path First (OSPF)</li><li>• Explain how Spanning Tree Protocol (STP) and Rapid Spanning Tree Protocol (RSTP) work</li><li>• Configure link aggregation using EtherChannel</li><li>• Describe the purpose of Layer 3 redundancy protocols</li><li>• Describe basic WAN and VPN concepts</li><li>• Describe the operation of Access Control Lists (ACLs) and their applications in the network</li><li>• Configure Internet access using Dynamic Host Configuration Protocol (DHCP) clients and explain and configure Network Address Translation (NAT) on Cisco routers</li></ul>
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	<ul style="list-style-type: none"> <li>• Describe basic Quality of Service (QoS) concepts</li> <li>• Describe the concepts of wireless networks, which types of wireless networks can be built, and how to use Wireless LAN Controllers (WLCs)</li> <li>• Describe network and device architectures and introduce virtualization</li> <li>• 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)</li> <li>• Configure basic IOS system monitoring tools</li> <li>• Describe the management of Cisco devices</li> <li>• Describe the current security threat landscape</li> <li>• Describe threat defense technologies</li> <li>• Implement a basic security configuration of the device management plane</li> <li>• Implement basic steps to harden network devices</li> </ul>
<b>Assessment/Evaluation</b>	<p>This course will prepare delegates to write the 200-301 Cisco Certified Network Associate (CCNA) exam.</p> <p>On successful completion of this course students will receive IT-IQ Botswana Attendance Certificate.</p>

<b>Course Details</b>	
Topic	<p><b>Lesson 1: Networking Fundamentals</b></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</p>

	<p>Topic G: Introduction to Cisco Networks and Cisco IOS Commands</p> <p><b>Lesson 2: Configuring Switching</b></p> <p>Topic A: Switching Concepts Topic B: Configure Basic Switch Operation Topic C: Configure VLANs Topic D: Configure Interswitch Connectivity</p> <p><b>Lesson 3: Configuring IP Addressing</b></p> <p>Topic A: Configure IPv4 Addresses Topic B: Configure IPv4 Subnets Topic C: Configure IPv6 Addresses Topic D: Manage Network Addressing</p> <p><b>Lesson 4: Configuring Routing</b></p> <p>Topic A: Routing Basics Topic B: Interpret Routing Tables Topic C: Configure Static Routing Topic D: Configure Dynamic Routing</p> <p><b>Lesson 5: Configuring Wireless Connectivity</b></p> <p>Topic A: Wireless LANs Topic B: Manage WLAN Connections Topic C: Configure Clients for WLAN Access</p> <p><b>Lesson 6: Configuring IP Network Services</b></p> <p>Topic A: IP Network Services Topic B: Configure DHCP Topic C: Configure NAT Topic D: Configure NTP</p>
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	<p>Topic E: Configure DNS Topic F: Perform Network Management</p> <p><b>Lesson 7: Security Fundamentals</b></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><b>Lesson 8: Automation and Programmability</b></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><b>Lesson 9: Troubleshooting Network Issues</b></p> <p>Topic A: Troubleshooting Methodologies Topic B: Troubleshoot Interface and Cable Issues Topic C: Troubleshoot Switching Issues Topic D: Troubleshoot IPv4 and IPv6 Addressing Issues Topic E: Troubleshoot Routing Issues Topic F: Troubleshoot WLAN Issues Topic G: Troubleshoot Network Services Issues Topic H: Troubleshoot Network Management Issues Topic I: Troubleshoot Security Issues</p>
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