

## CCNAX

## Interconnecting Cisco Networking Devices: Accelerated v3.0

### Course Overview

Interconnecting Cisco Networking Devices: Accelerated (CCNAX) v3.0 is a 5-day instructor-led training course that teaches learners how to install, operate, configure, and verify a basic IPv4 and IPv6 network, including configuring a LAN switch, configuring an IP router, connecting to a WAN, and identifying basic security threats. Also covers topics in more depth and teaches learners how to perform basic troubleshooting steps in enterprise branch office networks, preparing learners for the Cisco CCNA certification.

### Who Should Attend

- Network Engineers
- Network Administrators
- Network Support Technicians
- Help Desk Technicians

### Prerequisites

- Basic computer literacy
- Basic PC operating system navigation skills
- Basic Internet usage knowledge
- Good understanding of network fundamentals

### Course Objectives

Upon completing the course, students will be able to meet the following objectives:

- Install, operate, and troubleshoot a medium-sized network, including connecting to a WAN and implementing network security.
- Describe the effects of new technologies such as IoE, IoT, IWAN, and SDN on network evolution.

### Course Outline

#### Module 1: Building a Simple Network

Lesson 1: Exploring Functions of Networking

Lesson 2: Understanding Host-to-Host Communications Model

Lesson 3: Introducing LAN

Lesson 4: Operation Cisco IOS Software

## CCNAX

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Lesson 5: Starting a Switch

Lesson 6: Understanding Ethernet and Switch Operation

Lesson 7: Troubleshoot Common Switch Media Issues

### **Module 2: Establishing Internet Connectivity**

Lesson 1: Understanding the TCP/IP Internet Layer

Lesson 2: Understanding IP Addressing and Subnets

Lesson 3: Understanding the TCP/IP Transport Layer

Lesson 4: Exploring Functions of Routing

Lesson 5: Configuring a Cisco Router

Lesson 6: Exploring Packet Delivery Process

Lesson 7: Enabling Static Routing

Lesson 8: Learning Basics of ACL

### **Module 3: Summary Challenge**

Lesson 1: Establishing Internet Connectivity

Lesson 2: Troubleshooting Internet Connectivity

### **Module 4: Implementing Scalable Medium Sized Network**

Lesson 1: Implementing and Troubleshooting VLANs and Trunks

Lesson 2: Building Redundant Switched Topologies

Lesson 3: Improving Redundant Switched Topologies with EtherChannel

Lesson 4: Routing between VLANs

Lesson 5: Using a Cisco ISO Network Device as a DHCP Server

Lesson 6: Understanding layer 3 Redundancy

Lesson 7: Implementing RIPv2

### **Module 5: Introducing IPv6**

Lesson 1: Introducing Basic IPv6

Lesson 2: Understanding IPv6 Operation

### **Module 6: Troubleshooting Basic Connectivity**

Lesson 1: Troubleshooting IPv4 Network Connectivity

Lesson 2: Troubleshooting IPv6 Network Connectivity

### **Module 7: Implementing Network Device Security**

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Lesson 1: Securing Administrative Access

Lesson 2: Implementing Device Hardening

Lesson 3: Implementing Advance Security

### **Module 8: Implementing an EIGRP-Based Solution**

Lesson 1: Implementing EIGRP

Lesson 2: Implementing EIGRP for IPv6

Lesson 3: Troubleshooting EIGRP

### **Module 9: Summary Challenge**

Lesson 1: Troubleshooting a Medium-Sized Network

Lesson 2: Troubleshooting a Medium-Sized Network

### **Module 10: Implement a Scalable OSPF-Based Solution**

Lesson 1: Understanding OSPF

Lesson 2: Multiarea OSPF IPv4 Implementation

Lesson 3: Implementing OSPFv3 for IPv6

Lesson 4: Troubleshooting Multiarea OSPF

### **Module 11: Implementing Wide-Area Networks**

Lesson 1: Understanding WAN Technologies

Lesson 2: Understanding Point-to-Point Protocols

Lesson 3: Configuring GRE Tunnels

Lesson 4: Configuring Single-Homed EBGp

### **Module 12: Network Device Management**

Lesson 1: Implementing Basic Network Device Management

Lesson 2: Evolution of Intelligent Networks

Lesson 3: Introducing QoS

Lesson 4: Managing Cisco Devices

Lesson 5: Licensing

### **Module 13: Summary Challenge**

Lesson 1: Troubleshooting Scalable Multiarea Network

Lesson 2: Implementing and Troubleshooting Scalable Multiarea Network

### **Lab Outline**

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## Interconnecting Cisco Networking Devices: Accelerated v3.0

Discovery 1: Get Started with Cisco

Discovery 2: Perform a Basic Switch Configuration

Discovery 3: Observe How Switch Operates

Discovery 4: Troubleshoot Switch Media and Port Issues

Discovery 5: Inspect TCP/IP

Discovery 6: Start with Cisco Router Configuration

Discovery 7: Configure Cisco Discovery Protocol

Discovery 8: Configure Default Gateway

Discovery 9: Exploration of Packet Forwarding

Discovery 10: Configure and Verify Static Routes

Discovery 11: Configure and Verify ACLs

Discovery 12: Configure a Provider-Assigned IP Address

Discovery 13: Configure Static NAT

Discovery 14: Configure Dynamic NAT and PAT

Discovery 15: Troubleshoot NAT

Challenge 1: Summary Challenge: 1

Challenge 2: Summary Challenge: 2

Discovery 16: Configure VLAN and Trunk

Discovery 17: Troubleshooting VLANs and Trunks

Discovery 18: Configure Root Bridge and Analyze STP Topology

Discovery 19: Troubleshoot STP Issues

Discovery 20: Configure and Verify EtherChannel

Discovery 21: Configure a Router on a Stick

Discovery 22: Configure a Cisco Router as a DHCP Server

Discovery 23: Troubleshoot DHCP Issues

Discovery 24: Configure and Verify HSRP

Discovery 25: Troubleshoot HSRP

Discovery 26: Configure and Verify RIPv2

Discovery 27: Troubleshoot RIPv2

Challenge 3: Implementing RIPv2

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Discovery 28: Configure Basic IPv6 Connectivity

Discovery 29: Configure IPv6 Static Routes

Challenge 4: Implementing IPv6 Static Routing

Discovery 30: Use Troubleshooting Tools

Discovery 31: Configure and Verify IPv4 Extended Access Lists

Discovery 32: Troubleshoot IPv4 Network Connectivity

Challenge 5: Troubleshooting IPv4 Connectivity

Discovery 33: Configure and Verify IPv6 Extended Access Lists

Discovery 34: Troubleshoot IPv6 Network Connectivity

Challenge 6: Troubleshooting IPv6 Network Connectivity

Discovery 35: Enhance Security of Initial Configuration

Discovery 36: Limit Remote Access Connectivity

Challenge 7: Secure Device Administrative Access

Discovery 37: Configure and Verify Port Security

Discovery 38: Configure and Verify NTP

Challenge 8: Implementing Device Hardening

Discovery 39: Configure External Authentication Using RADIUS and TACACS+

Discovery 40: Configure and Verify EIGRP

Discovery 41: Configure and Verify EIGRP for IPv6

Discovery 42: Troubleshoot EIGRP

Challenge 9: Troubleshooting EIGRP

Challenge 10: Summary Challenge: 3

Challenge 11: Summary Challenge: 4

Discovery 43: Configure and Verify Single-Area

Discovery 44: Configure and Verify Multiarea OSPF

Discovery 45: Configure and Verify OSPFv3

Discovery 46: Troubleshoot Multiarea OSPF

Challenge 12: Troubleshooting OSPF

Discovery 47: Configure Serial Interface and PPP

Discovery 48: Configure and Verify MLP

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Discovery 49: Configure and Verify PPPoE Client

Discovery 50: Configure and Verify GRE Tunnel

Discovery 51: Configure and Verify Single Homed EBGP

Challenge 13: Implementing Single-Homed EBGP

Discovery 52: Configure Syslog

Discovery 53: Configure SNMP

Module 13: Summary Challenge

Challenge 14: Summary Challenge: 5

Challenge 15: Summary Challenge: 6

To register or get more information, contact our sales office via email at [sales@NterOne.com](mailto:sales@NterOne.com) or call 709-972-2288.