

Cisco® Certified Network Professional (CCNP) Accelerated

Days of Training: 10

Overview

Cisco Certified Network Professional (CCNP®) validates the ability to plan, implement, verify and troubleshoot local and wide-area enterprise networks and work collaboratively with specialists on advanced security, voice, wireless and video solutions. The CCNP certification is appropriate for those with at least one year of networking experience who are ready to advance their skills and work independently on complex network solutions. Those who achieve CCNP have demonstrated the skills required in enterprise roles such as network technician, support engineer, systems engineer or network engineer.

This Accelerated program is a 10-day fast track towards the CCNP certification and consists of topics from ROUTE, SWITCH and TSHOOT.

Note:

Some topics may not be covered extensively to allow a consistent and intensive pace for this accelerated program.

Prerequisites

Knowledge and skill level equal to Cisco CCNA® certification. Candidates must be very comfortable with the subject matter & have practical, on-the-job, experience on networking.

Lesson 1: Planning Routing Services to Requirements

Assessing Complex Enterprise Network Requirements
Common Maintenance Processes and Procedures
Lab 1-1: Assess Skills for Implementing Complex Networks

Lesson 2: Implementing an EIGRP based Solution

Planning Routing Implementations with EIGRP
Implementing and Verifying Basic EIGRP for the Enterprise LAN Architecture
Configuring and Verifying EIGRP for the Enterprise WAN Architecture
Implementing and Verifying EIGRP Authentication
Advanced EIGRP Features in an Enterprise Network
Lab 2-1: Configure and Verify EIGRP Operations
Lab 2-2: Configure and Verify EIGRP Circuit Emulation and Frame Relay Operations

Lesson 3: Implementing a Scalable Multiarea Network OSPF-Based Solution

Planning Routing Implementations with OSPF as Scalable Routing Protocol
How OSPF Packet Processes Work
Improving Routing Performance in a Complex Enterprise Network
Configuring and Verifying OSPF Routing
Configuring and Verifying OSPF Route Summarization
Configuring and Verifying OSPF Special Area Types
Configuring and Verifying OSPF Authentication
Lab 3-1: Configure and Verify OSPF to Improve Routing Performance
Lab 3-2: Implement and Verify OSPF Multiarea Routing
Lab 3-3: Configure and Verify OSPF Route Summarization for Interarea and External
Lab 3-4: Configure and Verify OSPF Special Area Types
Lab 3-5: Configure and Verify OSPF Authentication

Lesson 4: Implementing an IPv4-Based Redistribution Solution

Assessing Network Routing Performance and Security Issues
Operating a Network Using Multiple IP Routing Protocols
Configuring and verifying Route Redistribution
Lab 4-1: Configure Route Redistribution Between Multiple IP Routing Protocols

Lesson 5: Implementing Path Control

Assessing Path Control Network Performance Issues
References to additional Path Control in E-Learning
Lab 5-1: Configure and Verify Path Control Between Multiple IP Routing Protocols

Lesson 6: Connect an Enterprise Network to an ISP Networks

Planning the Enterprise-to-ISP Connection
Advantages of Using BGP
Comparing the Functions and Uses of EBGP and IBGP
Configuring and Verifying Basic BGP Operations
BGP Attributes and Path Selection Process
References to Training on IPv6 and Branch Office/Remote Workers in E-Learning
Lab 6-1: Configure BGP Operations
Lab 6-2: Manipulate EBGP Path Selections

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Lesson 7: Analyzing Campus Network Designs

Enterprise Campus Architecture
Cisco Lifecycle Services and Network Implementation
Lab 1-1: New Hire Test
Lab 1-1 Debrief

Lesson 8: Implementing VLANs in a Campus Network

Applying Best Practices for VLAN Topologies
Configuring Private VLANs
Configuring Link Aggregation with EtherChannel
Lab 2-1: Design and Implement VLANs, Trunks, and EtherChannel
Lab 2-1 Debrief
Lab 2-2: Troubleshoot Common VLAN Configuration and Security Issues
Lab 2-2 Debrief
Lab 2-3: Configure Private VLANs
Lab 2-3 Debrief

Lesson 9: Implementing Spanning Tree

Spanning Tree Protocol Enhancements
Describing STP Stability Mechanisms
Lab 3-1: Implement Multiple Spanning Tree
Lab 3-1 Debrief
Lab 3-2: Implement PVSRT+
Lab 3-2 Debrief
Lab 3-3: Troubleshoot Spanning Tree Issues
Lab 3-3 Debrief

Lesson 10: Implementing Inter-VLAN Routing

Describing Routing Between VLANs
Deploying Multilayer Switching with Cisco Express Forwarding
Lab 4-1: Implement Inter-VLAN Routing
Lab 4-1 Debrief
Lab 4-2: Troubleshoot Inter-VLAN Routing
Lab 4-2 Debrief

Lesson 11: Implementing a Highly Available Network

Understanding High Availability
Implementing High Availability
Implementing Network Monitoring
Lab 5-1: Implement High Availability in a Network Design
Lab 5-1 Debrief

Lesson 12: Implementing Layer 3 High Availability

Configuring Layer 3 Redundancy with HSRP
Configuring Layer 3 Redundancy with VRRP and GLBP
Lab 6-1: Implement and Tune HSRP
Lab 6-1 Debrief
Lab 6-2: Implement VRRP
Lab 6-2 Debrief

Lesson 13: Minimizing Service Loss and Data Theft in a Campus Network

Understanding Switch Security Issues
Protecting Against VLAN Attacks
Protecting Against Spoofing Attacks
Securing Network Services
Lab 7-1: Secure Network Switches to Mitigate Security Attacks
Lab 7-1 Debrief

Lesson 14: Accommodating Voice and Video in Campus Networks

Planning for Support of Voice in a Campus Network
Integrating and Verifying VoIP in a Campus Infrastructure
Working with Specialists to Accommodate Voice and Video on Campus Switches
Lab 8-1: Plan Implementation and Verification of VoIP in a Campus Network
Lab 8-1 Debrief

Lesson 15: Integrating Wireless LAN into a Campus Network

Comparing WLANs with Campus Networks
Assessing the Impact of WLANs on Campus Networks
Preparing the Campus Infrastructure for WLANs
Lab 9-1: Integrate Wireless in the Campus
Lab 9-1 Debrief

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Lesson 16: Planning Maintenance for Complex Networks

Applying Maintenance Methodologies
Common Maintenance Processes and Procedures
Network Maintenance Tools, Applications, and Resources
Lab 1-1: Lab Access

Lesson 17: Planning Troubleshooting Processes for Complex Enterprise Networks

Lab 2-1: Introduction to Troubleshooting
Lab 2-1 Debrief
Applying Troubleshooting Methodologies
Planning and Implementing Troubleshooting Procedures
Integrating Troubleshooting into the Network Maintenance Process

Lesson 18: Maintenance and Troubleshooting Tools and Applications

Assembling a Basic Diagnostic Toolkit
Using Cisco IOS Software
Using Specialized Maintenance and Troubleshooting Tools
Lab 3-1: Maintenance and Troubleshooting Tools
Lab 3-1 Debrief

Lesson 19: Maintaining and Troubleshooting Campus Switching-Based Solutions

Troubleshooting VLANs
Troubleshooting Spanning Tree
Lab 4-1: Layer 2 Connectivity and Spanning Tree
Lab 4-1 Debrief
Troubleshooting Switched Virtual Interfaces and Inter-VLAN Routing
Troubleshooting First Hop Redundancy Protocols
Lab 4-2: Layer 3 Switching and First-Hop Redundancy
Lab 4-2 Debrief
Troubleshooting Performance Problems on Switches
Preview E-Learning on Troubleshooting Performance Problems, Wireless, Voice, Video, and Multicast

Lesson 20: Maintaining and Troubleshooting Routing-Based Solutions

Troubleshooting Network Layer Connectivity
Troubleshooting EIGRP
Lab 5-1: Layer 3 Connectivity and EIGRP
Lab 5-1 Debrief
Troubleshooting OSPF
Troubleshooting Route Redistribution
Lab 5-2: OSPF and Route Redistribution
Lab 5-2 Debrief
Troubleshooting BGP
Lab 5-3: Border Gateway Protocol
Lab 5-3 Debrief
Troubleshooting Performance Problems on Routers
Lab 5-4: Router Performance
Lab 5-4 Debrief
Preview E-Learning on Troubleshooting NAT, DHCP, and Other Protocols

Lesson 21: Maintaining and Troubleshooting Network Security Solutions

Troubleshooting Security Features
Lab 6-1: Introduction to Network Security
Lab 6-1 Debrief
Security Features Review
Lab 6-2: Cisco IOS Security Features
Lab 6-2 Debrief
Preview of E-Learning products for Maintaining and Troubleshooting Network Applications Services and Troubleshooting Branch Office and Remote Worker Problems

Lesson 22: Maintaining and Troubleshooting Integrated, Complex Enterprise Networks

Troubleshooting Complex Environments
Lab 7-1: Troubleshooting Complex Environments
Lab 7-1 Debrief