



INTERCONNECTING CISCO NETWORKING DEVICES, PART 2

DURATION: 5 DAYS

COURSE CODE: ICND2

FORMAT: LIVE/VIRTUAL

COURSE DESCRIPTION

Advance your career and learn how to manage an enterprise network. ICND2 helps you understand Quality of Service (QoS) elements and their applicability, how virtualized and cloud services will interact and impact enterprise networks, along with an overview of network programmability, and the related controller types and tools that are available to support software defined network architectures. ICND2 is also a requirement for the traditional path of the CCNA Routing and Switching certification.

Build core routing and switching skills to successfully operate a small to medium-size enterprise branch network and prepare for the CCNA Routing and Switching certification (200-105 ICND2).

In this course, you will learn how to install, configure, operate, and troubleshoot a small enterprise network.

WHO SHOULD ATTEND

- Network administrators
- Network support engineers
- Network engineer associate
- Network specialist
- Network analyst
- Cisco channel partners
- Individuals pursuing the CCNA Routing and Switching certification

PREREQUISITES

- An understanding of networking fundamentals
- Experience implementing local area networks and Internet connectivity
- Experience managing network devices and network device security
- Experience implementing WAN and basic IPv6 connectivity

LEARNING OBJECTIVES

- Operate a medium-sized LAN with multiple switches, supporting VLANs, trunking, and spanning tree

- Troubleshoot IP connectivity

- Configure and troubleshoot EIGRP in an IPv4 environment, and configure EIGRP for IPv6

- Configure and troubleshoot OSPF in an IPv4 environment and configure OSPF for IPv6

- Characteristics, functions, and components of a WAN

- How device management can be implemented using the traditional and intelligent ways

- Prepare for the CCNA Routing and Switching certification

- Operate a medium-sized LAN with multiple switches, supporting VLANs, trunking, and spanning tree

- Develop core routing and switching networking skills to configure, monitor, and troubleshoot Cisco networks for increased effectiveness and optimal performance within SMB and Enterprise settings

- Understand how device management can be implemented using traditional and intelligent ways

- Support Cisco network deployments and maintain these services in an on-going operational network

LIVE & ON-DEMAND COURSE OUTLINE

1. Implementing Scalable Medium-Sized Networks

- Troubleshooting VLAN Connectivity
- Building Redundant Switched Topologies
- Improving Redundant Switched Topologies with Layer 3 Redundancy

2. Troubleshooting Basic Connectivity

- Troubleshooting IPv4 Network Connectivity
- Troubleshooting IPv6 Network Connectivity

3. Implementing an EIGRP-Based Solution

- Implementing EIGRP
- Implementing EIGRP for IPv6
- Troubleshooting EIGRP

4. Summary Challenge

- Implementing and Troubleshooting Scalable Medium-Sized Network

5. Implement a Scalable OSPF-Based Solution

- OSPF
- Implementing Multi-area OSPF IPv4
- Implementing OSPFv3 for IPv6
- Troubleshooting Multi-area OSPF

6. Wide-Area Networks

- WAN Technologies
- Understanding Point-to-Point Protocols
- Configuring GRE Tunnels
- Configuring Single-Homed EBGp

7. Network Device Management

- Implementing Basic Network Device Management and Security
- Evolution of Intelligent Networks
- Introducing QoS

8. Summary Challenge

- Implementing and Troubleshooting Scalable Multi-area Network

LIVE & ON-DEMAND DISCOVERY LABS

- 1: Troubleshoot VLANs and Trunks
- 2: Configure Root Bridge and Analyze STP Topology
- 3: Troubleshoot STP Issues
- 4: Configure and Verify EtherChannel
- 5: Configure and Verify HSRP
- 6: Troubleshoot HSRP
- 7: Use Troubleshooting Tools
- 8: Configure and Verify IPv4 Extended Access Lists
- 9: Troubleshoot IPv4 Network Connectivity
- 10: Configure and Verify IPv6 Extended Access Lists
- 11: Troubleshoot IPv6 Network Connectivity
- 12: Configure and Verify EIGRP
- 13: Configure and Verify EIGRP for IPv6T
- 14: Troubleshoot EIGRP
- 15: Configure and Verify Single-Area OSPF
- 16: Configure and Verify Multi-Area OSPF
- 17: Configure and Verify OSPFv3
- 18: Troubleshoot Multi-Area OSPF
- 19: Configure Serial Interface and PPP
- 20: Configure and Verify MLP
- 21: Configure and Verify PPPoE Client
- 22: Configure and Verify GRE Tunnel
- 23: Configure and Verify Single Homed EBGp
- 24: Configure External Authentication Using RADIUS and TACACS+
- 25: Configure SNMP

LIVE & ON-DEMAND CHALLENGE LABS

- 1: Troubleshooting VLANs and Trunks
- 2: Building Redundant Switched Topologies
- 3: Improving Redundant Switched Topologies with EtherChannel
- 4: Implementing and Troubleshooting HSRP
- 5: Troubleshooting IPv4 Connectivity
- 6: Troubleshooting IPv6 Connectivity
- 7: Implementing EIGRP
- 8: Troubleshooting EIGRP
- 9: Summary Challenge Lab 1
- 10: Summary Challenge Lab 2
- 11: Implementing Multi-Area OSPF
- 12: Implementing OSPFv3 for IPv6
- 13: Troubleshooting OSPF
- 14: Implementing WAN Using Point-to-Point Protocols
- 15: Implementing GRE Tunnel
- 16: Implementing Single-Homed EBGp
- 17: Implementing Device Management and Security
- 18: Implementing Single-Homed EBGp
- 19: Summary Challenge Lab 4

BLENDED OUTLINE

(This delivery format includes both instructor-led sessions and on-demand sessions)

Week 1

Course Kick-off

Class session:

Introduction to course
Overview of blended learning methodology
Introduction to the Boson Exam Environment

On-Demand modules to complete by next week's class:

Troubleshooting VLAN Connectivity
Building Redundant Switched Topologies
Improving Redundant Switched Topologies with EtherChannel
Troubleshooting IPv4 Connectivity
Troubleshooting IPv6 Connectivity

Week 2

LAN Switching Technologies

Class session:

Review: LAN Switching Technologies
Challenge: LAN Switching Technologies practice exam

On-Demand modules to complete by next week's class:

Implementing EIGRP
Implementing EIGRP for IPv6
Troubleshooting EIGRP
Understanding OSPF
Implementing Multi-area OSPF IPv4
Implementing OSPFv3 for IPv6
Troubleshooting Multi-area OSPF

Week 3

Routing Technologies

Class session:

Review: Routing Technologies
Challenge: Routing Technologies practice exam

On-Demand modules to complete by next week's class:

Understanding WAN Technologies
Understanding Point-to-Point Protocols
Configuring GRE Tunnels
Configuring Single-Homed EBGP

Week 4

WAN Technologies

Class session:

Review: WAN Technologies
Challenge: WAN Technologies practice exam

On-Demand modules to complete by next week's class:

Understanding Layer 3 Redundancy
Implementing Basic Network Device Management and Security
Learning About the Evolution of Intelligent Networks
Introducing QoS

Week 5

Complete Infrastructure Services module and introduction Infrastructure Services and Management

Class session:

Review: Infrastructure Services and Management
Challenge: Infrastructure Services and Management practice exam

On-Demand modules to complete by next week's class:

Implementing and Troubleshooting Scalable Medium-Sized Networks, Part 1
Implementing and Troubleshooting Scalable Medium-Sized Networks, Part 2
Implementing and Troubleshooting a Scalable Multi-area Network, Part 1
Implementing and Troubleshooting a Scalable Multi-area Network, Part 2

Week 6

Network Troubleshooting and Tools

Class session:

Review: Infrastructure Implementation and Troubleshooting
Challenge: ICND2 practice exam
Course review and wrap-up