



Global Knowledge.

SWITCH - IMPLEMENTING CISCO IP SWITCHED NETWORKS V2.0

Course Code: 5589

Gain advanced skills to create an efficient and expandable enterprise network using Layer 2 and multilayer switches.

EXCLUSIVE TO GLOBAL KNOWLEDGE - Accelerate your Cisco learning experience with complimentary access to the IT Skills Video On-Demand Library, Boson practice exams, Introduction to Cybersecurity digital learning course, course recordings, IT Resource Library, and digital courseware.

[Learn more](#)

In this course, you will gain the knowledge and skills needed to create an efficient and expandable enterprise network. You will focus on Layer 2 and multilayer switch functions including VLANs, trunks, inter-VLAN routing, port aggregation, spanning tree, first hop redundancy, as well as network security and high availability features.

For on-demand learning, you will have access to this course for 12 months from the purchase date.

This course includes 30 Cisco e-Lab credits. Your e-Lab credits are good for 90 days after your course ends and can be used for additional practice on the course you just completed or to explore technologies from other courses in the Global Knowledge e-Lab portfolio. [Learn more.](#)

What You'll Learn

- Components of the Cisco Enterprise Campus Architecture including the operation of Layer 2 and multilayer switches
- Switching Database Manager (SDM) templates and how they are used
- Implementing device features including LLDP and PoE
- VLANs and trunks and how VTP works
- Configuring a device to be a DHCP server and relay agent, for both IPv4 and IPv6

- Configuring Layer 2 and Layer 3 port aggregation
- Different types of spanning tree protocols and mechanisms, including STP, RSTP, and MST
- Implementing inter-VLAN routing on both a router and a multilayer switch
- Network high availability including NTP, SNMPv3, IP SLA, port mirroring, and switch virtualization
- First hop redundancy protocols for IPv4 and IPv6 including HSRP, VRRP, and GLBP
- Implementing network security features including port security, storm control, DHCP snooping, IP source guard, dynamic ARP inspection, VLAN ACLs, and private VLANs
- Using an external authentication server in your network, including implementing IEEE 802.1x

Who Needs to Attend

- Network engineers and technicians
- Support engineers
- Systems engineers
- Network analysts
- Senior network administrators
- Anyone involved in planning, implementing, verifying, and troubleshooting switch-based solutions in enterprise networks

Prerequisites

- Taking ICND1 v2.0 and ICND2 v2.0 (or CCNAX v2.0) is highly recommended
- Know how to:
 - ☒ Configure network fundamentals, including the ability to establish Internet, LAN, and WAN connectivity using both IPv4 and IPv6
 - ☒ Operate and support a medium-sized LAN that has multiple switches, including VLANs, trunking, and spanning tree functionality
 - ☒ Troubleshoot IPv4 and IPv6 connectivity issues
 - ☒ Configure and troubleshoot EIGRP and OSPF, for both IPv4 and IPv6
 - ☒ Configure devices for SNMP, Syslog, and NetFlow
 - ☒ Manage network device security, Cisco device configurations, Cisco IOS images, and licenses



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CLASSROOM LIVE

\$4,414 CAD

5 days

Classroom Live Outline

1. Basic Concepts and Network Design

- Analyzing Campus Network Structure
- Comparing Layer 2 and Multilayer Switches
- Using Cisco SDM Templates
- Implementing LLDP
- Implementing PoE

2. Campus Network Architecture

- Implementing VLANs and Trunks
- Introducing VTP
- Implementing DHCP
- Implementing DHCP for IPv6
- Configuring Layer 2 Port Aggregation

3. Spanning Tree Implementation

- Implementing RSTP
- Implementing STP Stability Mechanisms
- Implementing Multiple Spanning Tree Protocol

4. Configuring Inter-VLAN Routing

- Implementing Inter-VLAN Routing Using a Router
- Configuring a Switch to Route

5. Implementing High Availability Networks

- Configuring Network Time Protocol
- Implementing SNMP Version 3
- Implementing IP SLA
- Implementing Port Mirroring for Monitoring Support
- Verifying Switch Virtualization

6. First Hop Redundancy Implementation

- Configuring Layer 3 Redundancy with HSRP
- Configuring Layer 3 Redundancy with VRRP
- Configuring Layer 3 Redundancy with GLBP
- Configuring First Hop Redundancy for IPv6

7. Campus Network Security

- Implementing Port Security
- Implementing Storm Control
- Implementing Access to External Authentication
- Mitigating Spoofing Attacks
- Securing VLAN Trunks
- Configuring Private VLANs

Classroom Live Labs

Lab 1: Discovering the Network and Investigating the CAM

Lab 2: Configuring VLANs, Trunking, and DHCP

Lab 3: Configuring DHCPv6

Lab 4: Configuring EtherChannels

Lab 5: Troubleshooting Common Trunking and EtherChannel Issues

Lab 6: Configuring STP and RSTP

Lab 7: Troubleshooting RSTP

Lab 8: Configuring MST

Lab 9: Configuring Inter-VLAN Routing on Routers

Lab 10: Configuring Inter-VLAN Routing on Multilayer Switches

Lab 11: Configuring NTP

Lab 12: Configuring Cisco IOS IP SLAs

Lab 13: Configuring HSRP

Lab 14: Configuring VRRP

Lab 15: Configuring GLBP

Lab 16: Configuring HSRP for IPv6

Mar 23 - 27, 2020 | 8:30 AM - 4:30 PM | MONTREAL, QC



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VIRTUAL CLASSROOM LIVE

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5 days

Virtual Classroom Live Outline

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- Comparing Layer 2 and Multilayer Switches
- Using Cisco SDM Templates
- Implementing LLDP
- Implementing PoE

2. Campus Network Architecture

- Implementing VLANs and Trunks
- Introducing VTP
- Implementing DHCP
- Implementing DHCP for IPv6
- Configuring Layer 2 Port Aggregation

3. Spanning Tree Implementation

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Lab 13: Configuring HSRP

Lab 14: Configuring VRRP

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ON-DEMAND

\$975 CAD

On-Demand Outline

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- Analyzing Campus Network Structure
- Comparing Layer 2 and Multilayer Switches
- Using Cisco SDM Templates
- Implementing LLDP
- Implementing PoE

2. Campus Network Architecture

- Implementing VLANs and Trunks
- Introducing VTP
- Implementing DHCP
- Implementing DHCP for IPv6
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Supplemental Assets

Mentoring: Mentors are available to help you with your studies for the certification exams. You can reach them by entering a Mentored Chat Room or by using the Email My Mentor service.

Class Notes / Study Guides: Printable study guide and class notes are intended to support your transfer of knowledge and skills from courses to the workplace. Use these to follow along with instruction, review prior to certification exams, or to reference on the job.

Test Prep Exams: Practice tests will help you prepare for a certification exam. You can take a test prep exam in Study Mode (where you receive feedback after each question) or in Certification Mode (designed to mimic a certification exam) as many times as you want.

Lab Simulations: Task-based multipath scenarios provide realistic practice of technology subjects or applications.



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BLENDDED LIVE

\$4,264 CAD

Blended Live 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:

- Analyzing Campus Network Structure
- Exploring Switches
- Implementing PoE
- Configuring VLANs
- Implementing DHCP
- Implementing DHCP for IPv6
- Configuring Layer 2 Port Aggregation

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 2 – Layer 2 Technologies: Basic Concepts and Campus Network Architecture

Class session:

- Review: Layer 2 Technologies: Basic Concepts and Campus Network Architecture
- Challenge: Layer 2 Technologies: Basic Concepts and Campus Network

Architecture practice exam

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

- Implementing RSTP
- Implementing STP Stability Mechanisms
- Implementing MST
- Configuring Inter-VLAN Routing
- Configuring a Switch to Route

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 3 - Layer 2 Technologies: Implementing Inter-VLAN Routing and Spanning Tree

Class session:

- Review: Layer 2 Technologies: Implementing Inter-VLAN Routing and Spanning Tree
- Challenge: Layer 2 Technologies: Implementing Inter-VLAN Routing and Spanning Tree practice exam

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

- Configuring NTP
- Implementing SNMPv3
- Implementing IP SLA
- Implementing Port Mirroring for Monitoring Support
- Verifying Switch Virtualization

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 4 - Layer 2 Technologies: Implementing High Availability Networks

Class session:

- Review: Layer 2 Technologies: Implementing High Availability Networks
- Challenge: Layer 2 Technologies: Implementing High Availability Networks practice exam

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

- Implementing Port Security
- Implementing Storm Control
- Implementing Access to External Authentication
- Mitigating Spoofing Attacks
- Securing VLAN Trunks
- Configuring PVLANS

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 5 – Infrastructure Security

Class session:

- Review: Infrastructure Security
- Challenge: Infrastructure Security practice exam

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

- Configuring HSRP
- Configuring VRRP
- Configuring GLBP
- Configuring First-Hop Redundancy for IPv6

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 6 – Infrastructure Services

Class session:

- Review: Infrastructure Services
- Challenge: Infrastructure Services practice exam
- Challenge: SWITCH practice exam
- Course review and wrap-up



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PRIVATE GROUP TRAINING

5 days

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.

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