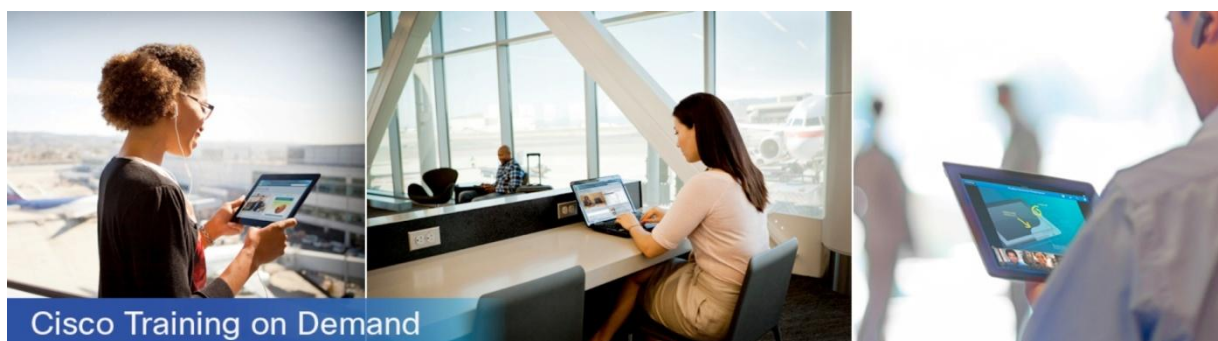


Learning Services

Cisco Training on Demand

Implementing Cisco IP Switched Networks (SWITCH) v2.0



Overview

Implementing Cisco® IP Switched Networks (SWITCH) Version 2.0 is a Cisco Training on Demand course. It helps you create an efficient and expandable enterprise network by installing, configuring, and verifying network infrastructure equipment according to the Cisco enterprise campus architecture. In this version, the course demonstrates several new IPv6 routing topics that have been added. The course content has been adapted to Cisco IOS® Software Release 15 and technically updated.

This course teaches many of the skills you need to build a strong toolset of knowledge around Layer 2 of the OSI model, how to implement the protocols and technologies of the Layer 2 Cisco network, and provides an extremely well-rounded knowledge base of the protocols and technologies that exist at Layer 2 and how to configure and verify them in a Cisco based network.

In addition, this course teaches the hierarchical campus structure and how to perform basic switch operations, configure technologies such as Power over Ethernet (PoE), VLAN, trunking, VLAN Trunking Protocol (VTP), and implement Dynamic Host Configuration Protocol Version 4 (DHCPv4) and v6, as well as port aggregation to group numerous physical switchboards together to make a logical bundle. The course also teaches how to implement and optimize many of the shielded twisted pair (STP) types, such as Per-VLAN Spanning Tree (PVST) Plus, Rapid PVST Plus, and Multiple Spanning Tree (MST).

Interested in purchasing this course in volume at discounts for your company? Contact ctod-sales@cisco.com.

Duration

The SWITCH Training on Demand course is a self-paced course based on the 5-day instructor-led training version. It consists of 27 sections of instructor video and text totaling more than 12 hours of instruction along with interactive activities, 33 hands-on lab exercises, content review questions, and challenge questions.

Target Audience

This course is designed for network engineers and technicians, support engineers, system engineers, network analysts, senior network administrators, and those preparing for the 300-115 SWITCH exam.

Objectives

After completing this course, you should be able to:

- Describe the hierarchical campus structure, basic switch operation, use of shared document management (SDM) templates, PoE, and Link Layer Discovery Protocol (LLDP)
- Implement VLANs, trunks, explain VTP, implement DHCP in IPv4 and IPv6 environments, and configure port aggregation
- Implement and optimize an STP mechanism that best suits your network: PVSTP +, RPVSTP +, or MSTP
- Configure routing on a multilayer switch
- Configure Network Timing Protocol (NTP), Simple Network Management Protocol (SNMP), IP SLA, and port mirroring, and verify StackWise and Volume Snapshot Service (VSS) operation
- Implement First-Hop Resiliency Protocol (FHRP) redundancy in IPv4 and IPv6 environments
- Secure campus network according to recommended practices

Course Prerequisites

The knowledge and skills recommended before attending this course are:

- Describing network fundamentals
- Establishing Internet and WAN connectivity (IPv4 and IPv6)
- Managing network device security
- Operating a medium-sized LAN with multiple switches, supporting VLANs, trunking, and spanning tree
- Troubleshooting IP connectivity (IPv4 and IPv6)
- Configuring and troubleshooting EIGRP and OSPF (IPv4 and IPv6)
- Configuring devices for SNMP, Syslog, and NetFlow access
- Managing Cisco device configurations, Cisco IOS® images, and licenses
- Interconnecting Cisco Networking Devices, Part 1 (ICND1) and Part 2 (ICND2)
- Interconnecting Cisco Networking Devices: Accelerated (CCNAX)

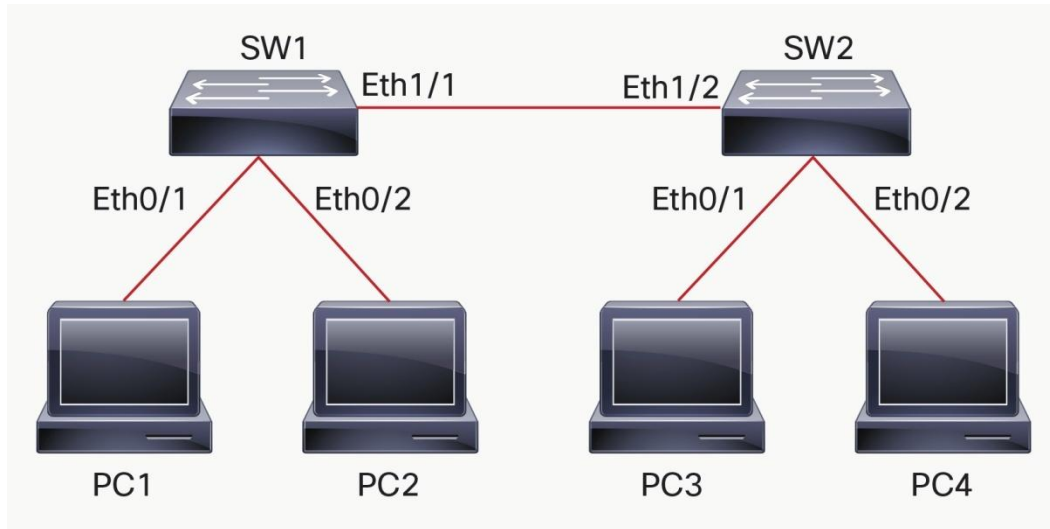
Course Outline

- Section 1: Analyzing Campus Network Structure
- Section 2: Exploring Switches
- Section 3: Implementing PoE
- Section 4: Configuring VLANs
- Section 5: Implementing DHCP
- Section 6: Implementing DHCP for IPv6
- Section 7: Configuring Layer 2 Port Aggregation
- Section 8: Implementing RSTP
- Section 9: Implementing STP Stability Mechanisms
- Section 10: Implementing MST
- Section 11: Configuring Inter-VLAN Routing
- Section 12: Configuring a Switch to Route
- Section 13: Configuring NTP
- Section 14: Implementing SNMPv3
- Section 15: Implementing IP SLA
- Section 16: Implementing Port Mirroring for Monitoring Support
- Section 17: Verifying Switch Virtualization
- Section 18: Configuring HSRP
- Section 19: Configuring VRRP
- Section 20: Configuring GLBP
- Section 21: Configuring First-Hop Redundancy for IPv6
- Section 22: Implementing Port Security
- Section 23: Implementing Storm Control
- Section 24: Implementing Access to External Authentication
- Section 25: Mitigating Spoofing Attacks
- Section 26: Securing VLAN Trunks
- Section 27: Configuring PVLANS

Labs Outline

This course contains 33 hands-on virtual lab exercises.

Figure 1. Topology for All Labs in Implementing Cisco IP Routing (ROUTE) v2.0



The labs included in this course are:

- Discovery Lab 2.6: Investigating the CAM
- Challenge Lab 2.18: Network Discovery
- Discovery Lab 4.2: Configuring VLANs and Trunks
- Discovery Lab 4.12: VTP Operation
- Discovery Lab 5.3: Exploring DHCP
- Challenge Lab 5.6: Configure DHCP
- Discovery Lab 6.6: Obtaining IPv6 Addresses Dynamically
- Challenge Lab 6.8: Configure DHCPv6
- Discovery Lab 7.5: EtherChannel Configuration and Load Balancing
- Challenge Lab 7.9: Configure EtherChannel
- Discovery Lab 8.11: Discovering and Modifying STP Behavior
- Challenge Lab 8.17: Implementing Rapid Spanning-Tree
- Discovery Lab 9.8: Root Guard
- Challenge Lab 9.19: Improving STP Configuration
- Discovery Lab 10.6: Configuring MST
- Challenge Lab 10.11: Configure MST
- Discovery Lab 11.3: Routing with an External Router
- Challenge Lab 11.5: Configure Routing Between VLANs Using a Router
- Discovery Lab 12.4: Routing on a Multilayer Switch
- Challenge Lab 12.9: Configure Routing on a Multilayer Switch

- Discovery Lab 13.6: NTP Configuration
- Challenge Lab 13.13: Configure NTP
- Discovery Lab 15.4: IP SLA Echo Configuration
- Challenge Lab 15.9: Configure IP SLA Monitoring
- Discovery Lab 18.4: Configuring and Tuning HSRP
- Challenge Lab 18.14: Configure HSRP with Load Balancing
- Discovery Lab 19.3: Configure VRRP and Spot the Difference from HSRP
- Challenge Lab 19.6: Configure VRRP with Load Balancing
- Discovery Lab: 20.5 Configure GLBP
- Challenge Lab 20.10: Implement GLBP
- Challenge Lab 21.6: Configure HSRP for IPv6
- Discovery Lab 22.8: Port Security
- Challenge Lab 22.13: Controlling Network Access Using Port Security

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