

Learning Services

Cisco Training on Demand

Implementing Cisco IP Switched Networks (SWITCH) Technical Edition



Overview

Implementing Cisco® IP Switched Networks (SWITCH) Technical Edition Cisco Training on Demand is a boot-camp-style training solution that teaches you how to create an efficient and expandable enterprise network by installing, configuring, and verifying network infrastructure equipment according to the Cisco Enterprise Campus Architecture. You also gain knowledge and skills through a series of advanced in-depth lectures, challenge labs, and lab exercises.

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

Duration

SWITCH Technical Edition Cisco Training on Demand consists of 7 modules and 34 lessons, totaling more than 12 hours of video, along with 33 hands-on lab exercises.

Target Audience

This course is designed for individuals responsible for designing, implementing, or supporting switches or switch-related technologies.

Objectives

After completing this course, you should be able to:

- Describe the hierarchical campus structure, basic switch operation, use of Switch Database Management (SDM) templates, Power over Ethernet (PoE), and Link Layer Discovery Protocol (LLDP)
- Implement VLANs, trunks, explain VLAN Trunking Protocol (VTP), implement Dynamic Host Configuration Protocol (DHCP) in IPv4 and IPv6 environments, and configure port aggregation
- Implement and optimize Spanning Tree Protocol (STP) mechanism that best suits your network: Pre-VLAN STP (PVSTP+), Rapid PVSTP (RPVSTP+), or Multiple STP (MSTP)
- Configure routing on a multilayer switch
- Configure Network Time Protocol (NTP), Simple Network Management Protocol (SNMP), IP Service Level Agreements (IP SLA), and port monitoring, and verify StackWise and Cisco Virtual Switching System (VSS) operation
- Implement first-hop redundancy in IPv4 and IPv6 environments
- Secure campus networks according to recommended practices

Course Prerequisites

The knowledge and skills necessary before attending this course are:

- Describing network fundamentals
- Establishing Internet and WAN connectivity (IPv4 and IPv6)
- Operating a medium-sized LAN with multiple switches, supporting VLANs, trunking, and STP
- Troubleshooting IP connectivity (IPv4 and IPv6)
- Configuring and troubleshooting Enhanced Interior Gateway Routing Protocol (EIGRP) and Open Shortest Path First (OSPF) Protocol (IPv4 and IPv6)
- Configuring devices for SNMP, syslog, and NetFlow access
- Managing Cisco device configurations, Cisco IOS® images, and licenses

Note: It is highly recommended that this course be taken after completing the course Interconnecting Cisco Networking Devices: Accelerated (CCNAX).

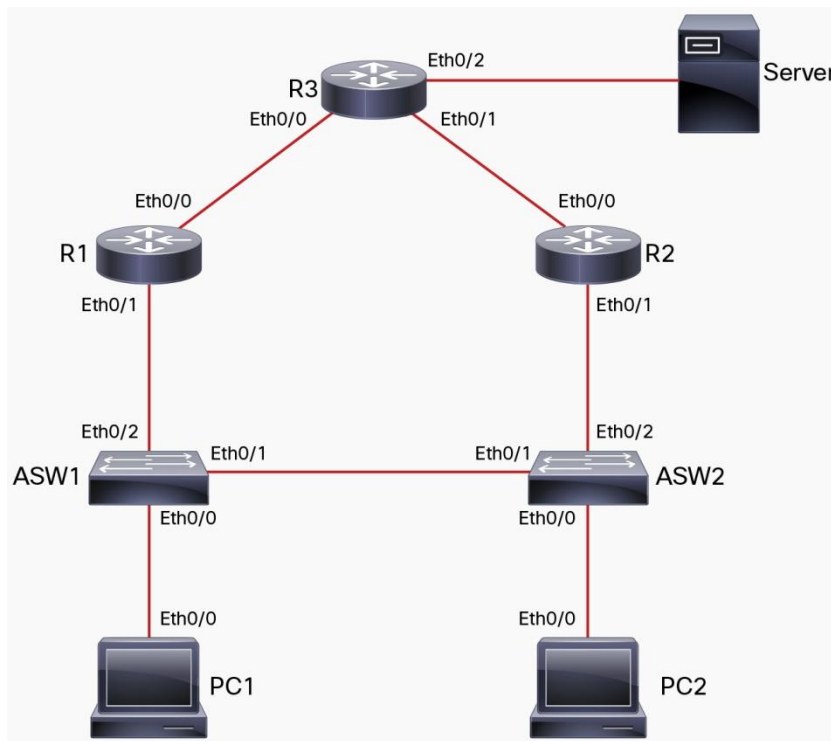
Course Outline

- Module 1: SWITCH Introduction
- Module 2: Switch Architecture Concepts
- Module 3: Spanning Tree Protocol
- Module 4: First-Hop Redundancy and High Availability Features
- Module 5: Security Features
- Module 6: VLANs and Trunking
- Module 7: Services

Labs Outline

This course contains 33 hands-on virtual lab exercises powered by Cisco Learning Labs and Cisco IOL (Cisco IOS Software on Linux).

Figure 1. Topology for All Labs in Implementing Cisco IP Switched Networks Technical Edition



The labs included in this course are:

- Discovery 1: Investigating the CAM
- Discovery 2: Configuring VLANs and Trunks
- Discovery 3: VTP Operation
- Discovery 4: Exploring DHCP
- Discovery 5: Obtaining IPv6 Addresses Dynamically
- Discovery 6: EtherChannel Configuration and Load Balancing
- Discovery 7: Discovering and Modifying STP Behavior
- Discovery 8: Root Guard
- Discovery 9: Configuring MST
- Discovery 10: Routing with an External Router
- Discovery 11: Routing on a Multilayer Switch
- Discovery 12: NTP Configuration
- Discovery 13: IP SLA Echo Configuration
- Discovery 14: Configuring and Tuning HSRP

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- Discovery 15: Configure VRRP and Spot the Differences from HSRP
 - Discovery 16: Configure GLBP
 - Discovery 17: Port Security
 - Challenge 1: Network Discovery
 - Challenge 2: Configure DHCP
 - Challenge 3: Configure DHCPv6
 - Challenge 4: Configure EtherChannel
 - Challenge 5: Implement RSTP
 - Challenge 6: Improve STP Configuration
 - Challenge 7: Configure MST
 - Challenge 8: Configure Routing Between VLANs with a Router
 - Challenge 9: Configure Routing on a Multilayer Switch
 - Challenge 10: Configure NTP
 - Challenge 11: Configure Network Monitoring Using the Cisco IOS IP SLA
 - Challenge 12: Configure HSRP with Load Balancing
 - Challenge 13: Configure VRRP with Load Balancing
 - Challenge 14: Implement GLBP
 - Challenge 15: Configure HSRP for IPv6
 - Challenge 16: Control Network Access with Port Security

Instructor: Charles Stizza

Charles Stizza is currently a member of the Data Center Switching Technical Assistance Center (TAC) team based in Research Triangle Park, North Carolina. He has more than 15 years of experience in technology with expertise in many areas including routing protocols, data center, and virtualization. When not teaching or supporting Cisco customers, Stizza enjoys spending his time mentoring professionals to assist them in growing to their fullest potential.

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