SWITCH: Implementing Cisco Switched Networks v2.0

Course ID#: 1575-943-ZZ-W

Hours: 35

Course Content

Course Description:

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.

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
- ICND1 v2.0 - Interconnecting Cisco Networking Devices, Part 1
- ICND2 v2.0 - Interconnecting Cisco Networking Devices, Part 2
- CCNAX v2.0 - CCNA Routing and Switching Boot Camp

Topics:

Lesson 1: Basic Concepts and Network Design
- Analyzing Campus Network Structure
- Comparing Layer 2 and Multilayer Switches
- Using Cisco SDM Templates
- Implementing LLDP
- Implementing PoE

Lesson 2: Campus Network Architecture
- Implementing VLANs and Trunks
- Introducing VTP
- Implementing DHCP
- Implementing DHCP for IPv6

- Configuring Layer 2 Port Aggregation

Lesson 3: Spanning Tree Implementation
- Implementing RSTP
- Implementing STP Stability Mechanisms
- Implementing Multiple Spanning Tree Protocol

Lesson 4: Configuring Inter-VLAN Routing
- Implementing Inter-VLAN Routing Using a Router
- Configuring a Switch to Route

Lesson 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

Lesson 6: First Hop Redundancy Implementation

- Configuring Layer 3 Redundancy with HSRP
- Configuring Layer 3 Redundancy with VRRP
- Configure VRRP With Load Balancing
- Configuring Layer 3 Redundancy with GLBP
- Configuring First Hop Redundancy for IPv6

Lesson 7: Campus Network Security

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