

همراه با حمایت فنی رایگان از طریق ایمیل  
همراه با اعطاء مدرک معتبر



# مالتی مدیای 642-813 CCNP SWITCH

## به زبان فارسی ( ۲ CD - ۲۲ ساعت )

این ۲ CD شامل:

✓ ۱۵ بخش آموزشی با بیش از ۸۲ درس ( ۲۰۰ مطلب ) به زبان انگلیسی و تشریح فارسی

✓ ۷ بخش پوشش مطالب از طریق ۳۵ سناریوی فنی برای مرور

✓ Utilities DVD شامل:

✓ ۲۰ لایبراتور عملی شرکت سیسکو ( همراه با ۶ ساعت آموزش اضافه )

✓ ابزارهای نرم افزاری ، E-book های مربوطه و Whitepaper های سیسکو

### System Requirements

- Windows XP with SP2
- 512 MB RAM
- CD-ROM or DVD
- 1024 \* 768 High Resolution Video Card & Monitor

# CCNP SWITCH 642-813 (22 Hours)

## Chapter-1 Enterprise Campus Network Design

- 1.1 IIN & SONA
- 1.2 Campus Network
- 1.3 Enterprise Model
- 1.4 Nonhierarchical Network Devices
  - Layer-2 Switching, Layer-3 Routing**
  - Multilayer Switching, Configuration Interfaces**

## Chapter-2 Switch Operation

- 2.1 Layer-2 Switch Operation
  - Transparent Bridging, Layer-2 Frame Path**
- 2.2 Multi Layer Switch Operation
  - Types of Multilayer Switching, Layer-3 Packet Path**
  - Multilayer Switching Exceptions**
- 2.3 Switching Tables
  - CAM, TCAM**
- 2.4 Troubleshooting Switching Tables

## Chapter-3 Switch Port Configuration

- 3.1 Ethernet Concepts
  - Ethernet 10 Mbps, Fast Ethernet, Full-Duplex**
  - Gigabit Ethernet, 10-Gigabit Ethernet**
- 3.2 Connecting Switches and Devices

## **Ethernet and Gigabit Port Cables and Connectors**

- 3.3 Switch Port Configuration
  - Ports to Configure, Port Speed, Port Duplex Mode**
  - Error Conditions, Troubleshooting Port Connectivity**

## **Chapter-4 VLANs and Trunks**

- 4.1 VLANs
  - Advantages, Containment of Broadcasts**
- 4.2 VLAN Implementations
  - End-to-End vs. Local VLANs**
- 4.3 VLAN Assignment
  - Dynamic, Static, Creating and Deleting VLANs**
  - Ports Association, Verification, Troubleshooting**
- 4.4 Trunks & Frame Tagging
  - Frame Tagging**
- 4.5 VLAN Tagging Mechanisms
  - ISL, 802.1Q**
- 4.6 Native VLANs
- 4.7 VLAN Ranges, Mapping & Services
- 4.8 Dynamic Trunk Protocol
- 4.9 Configuring, Verifying & Troubleshooting Trunk Connections

## Chapter-5 VLAN Trunk Protocol

- 5.1 VLAN Trunk Protocol (VTP)  
**Advantages, Management Domain, Modes  
Messages, Message Types, Versions, Pruning**
- 5.2 Configuring, Verifying and Troubleshooting VTP

## Chapter-6 Switch Port Aggregation with EtherChannel

- 6.1 EtherChannels, PAgP/LACP Protocols  
**Operation, PAgP & LACP Protocols, Guidelines**
- 6.2 EtherChannel Configuration  
**Load Balancing, Verification**

## Chapter-7 Implementing STP

- 7.1 Transparent Bridging  
**Forwarding & Filtering, Learning, Loops**
- 7.2 Spanning Tree Protocol (STP)  
**BPDU, STP Advantages**
- 7.3 STP Components & Operation  
**Bridge identifiers, Port priorities, Path Costs**
- 7.4 STP Algorithm  
**Root Switch, Root Ports, Designated Switches Ports  
Bridging Loops, Port States, Convergence Issues**
- 7.5 Types of STP  
**CST, PVST, PVST+**

- 7.6 Configuring and Verifying STP
  - Enabling and Disabling STP, Path Selections**
  - Port Cost, Port Priority, Verification**

## **Chapter-8 Enhancements to STP**

- 8.1 Cisco Enhancements to STP
  - PortFast, UplinkFast, BackboneFast**
  - BDPU Guard, BDPU Filtering**
- 8.2 Rapid STP
  - BDPUs, Port States, Port Roles**
  - Edge Port & Link Type, Topology Changes**
- 8.3 Multiple Spanning Tree
  - Regions, Internal Spanning Tree**
  - MST Configuration and Verification**
- 8.4 Other STP Enhancements
  - BPDU Skewing, Root Guard**
  - ULD, Loop Guard**
- 8.5 Troubleshooting Tips & Debug Commands

## **Chapter-9 Multilayer Switching**

- 9.1 Routing Considerations
  - Client End Station and Route Processor Issues**
- 9.2 Configuring Routing between VLANs
  - Internal Route Processor, Switch Interfaces**

- 9.3 Routing Configuration on a Switch
  - External RP, Traditional Router Setup**
- 9.4 Router on a Stick Setup
  - Verifying your Router Configuration**
- 9.5 Multi Layer Switching (MLS) Overview
  - Processor & ASIC, NetFlow-based Switching**
  - Centralized, Distributed, Topology based Switching**
- 9.6 MLS using CEF
  - MLS Limitations, CEF Tables**
  - CEF Operation, Load Balancing**
- 9.7 CEF Example
  - Configuration, Verification, Troubleshooting**

## **Chapter-10 Layer-3 High Availability**

- 10.1 HSRP Part I
  - HSRP, HSRP Operation, Types of RPs**
- 10.2 HSRP Part II
  - HSRP Multicast Messages, HSRP States**
- 10.3 Configuring HSRP
  - Configuration, Interface Tracking, Verification**
- 10.4 VRRP
- 10.5 VRRP Commands
- 10.6 GLBP Operation and Load Balancing
- 10.7 Redundancy with Switch Chassis Part I
  - Redundant Switch Supervisors, RPR+, SSO**
  - Redundancy Mode, Supervisor Synchronization**

- 10.8 Redundancy with Switch Chassis Part II  
**Non-Stop Forwarding, Power Supplies**

## **Chapter-11 Integrating Wireless LANs**

- 11.1 WLAN Overview
- 11.2 802.11 Standards  
**802.11b, 802.11a, 802.11h**
- 11.3 Cisco's Unified Wireless Solution
- 11.4 Split MAC Architecture  
**MESH and LWAPP, AWPP**
- 11.5 Wireless Security  
**Open Access, SSIDs, WEP, MAC Address Authentication**  
**WPA, WPA 2 Pre-Shared Key, Cisco Unified Wireless Security**
- 11.6 WLAN QoS  
**Implementation, Configuration**
- 11.7 WLAN Security Issues  
**802.1x and EAP Authentication Protocols**  
**Encryption and Authentication on LAPs**
- 11.8 WLAN Management  
**Cisco Unified Wireless Networks**  
**CiscoWorks, Cisco Wireless Control System**
- 11.9 Configuring Switch Ports for WLAN Use  
**Autonomous APs, LAPs, WLCs**

## Chapter-12 IP Telephony

- 12.1 Power Over Ethernet (PoE)
- 12.2 Configuring & Verifying PoE
- 12.3 Voice VLANs
- 12.4 Voice QoS
- 12.5 Diffserve QoS
- 12.6 Implementing QoS for Voice
- 12.7 AutoQoS
- 12.8 Verifying Voice QoS

## Chapter-13 Securing Switch Access

- 13.1 Switch Security
- 13.2 Authentication, Authorization & Accounting (AAA)
- 13.3 Switch Port Security
- 13.4 Port-based Authentication with 802.1X
- 13.5 Mitigating Spoofing Attacks
  - DHCP Snooping, IP Source Guard**
  - Dynamic ARP Inspection**

## Chapter-14 Securing with VLANs

- 14.1 VLAN ACLs
- 14.2 Private VLANs (PVLAN)
- 14.3 PVLAN Configuration
- 14.4 Securing VLAN Trunks
  - Switch Spoofing, VLAN Hopping**



## Chapter-15 Configuring DHCP

- 15.1 Using DHCP with a Multilayer Switch
- 15.2 DHCP Overview and Addressing
- 15.3 Configuring DHCP
- 15.4 IP Helper Address & DHCP Relay Services
- 15.5 DHCP Verification Commands
- 15.6 DHCP Examples

## Review Scenarios

- **VLANs** **Scenarios**
- **Spanning Tree Protocols** **Scenarios**
- **Inter-VLAN Routing** **Scenarios**
- **Gateway Redundancy** **Scenarios**
- **Wireless LANs** **Scenarios**
- **Switch Security** **Scenarios**
- **Voice** **Scenarios**

# Cisco LAN Switching Video Mentor (6 Hours)

- Lab 1.        **Interface Configuration**
- Lab 2.        **Setting Up VLANs**
- Lab 3.        **Setting Up Trunk Links**
- Lab 4.        **Using the VLAN Trunking Protocol (VTP)**
- Lab 5:        **Working with the Spanning Tree Protocol (STP)**
- Lab 6:        **STP Topology Changes**
- Lab 7:        **Leveraging Rapid PVST+**
- Lab8:         **Scaling STP with Multiple Spanning Tree (MST)**
- Lab9:         **Protecting the STP Topology**
- Lab 10:       **Scaling Bandwidth with EtherChannel**
- Lab 11:       **Setting Up Multilayer Switching**
- Lab 12:       **First Hop Redundancy with HSRP**
- Lab 13:       **First Hop Redundancy with GLBP**
- Lab 14:       **Private VLANs**
- Lab 15:       **Using Access Control Lists (ACLs) to Control Traffic**
- Lab 16:       **Using Port Security**
- Lab 17:       **Preventing Spoofing Attacks**
- Lab 18:       **Quality of Service, Part 1**
- Lab 19:       **Quality of Service, Part 2**
- Lab 20:       **Monitoring Traffic**

## **Ebooks**

- [CCNP Switch 642-813 Guide](#)
- [CCNP Switch Student Guides Volumes 1, 2](#)
- [CCNP Switch Portable Command Guide](#)

## **Tools**

- [ASDM](#)
- [Cisco Network Assistant](#)
- [IP Subnet Calculator](#)
- [Packet Tracer 5.3](#)
- [SDM](#)
- [Subnet10](#)
- [Wildcard Calculator](#)

## **Cisco Whitepapers**

- [List of 12 Key Cisco Switch related Whitepapers](#)