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## Implementing Cisco Switched Networks

**Duration: 5 Days**    **Course Code: SWITCH**

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### Overview:

This is a five-day course designed to help students prepare to plan, configure, and verify the implementation of complex enterprise switching solutions for campus environments using the Cisco Enterprise Campus Architecture. Labs are an important feature of this course with 2 different types of labs being used to aid learning, discovery labs are instructor guided labs through which students explore new topics in an interactive way, the challenge Labs are designed to test students understanding of the topics being taught and to provide vital hands-on practice.

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### Target Audience:

This course is designed for: Network Professionals who need to implement and support switch based solutions within a given network design using Cisco IOS services and features.

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### Objectives:

- Upon completing this course, the learner will be able to meet these overall objectives:
  - Describe the hierarchical campus structure, basic switch operation, use of SDM templates, PoE, and LLDP
  - Implement VLANs, trunks, explain VTP, implement DHCP in IPv4 and IPv6 environment, and configure port aggregation
  - Implement and optimize STP mechanism that best suits your network - PVSTP+, RPVSTP+, or MST
  - Configure routing on a multilayer switch
  - Configure NTP, SNMP, IP SLA, port mirroring, and verify StackWise and VSS operation
  - Implement First Hop redundancy in IPv4 and IPv6 environments
  - Secure campus network according to recommended practices
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### Prerequisites:

To gain the prerequisite skills and knowledge, Cisco strongly recommends the knowledge of the following courses:

- ICND1 - Interconnecting Cisco Network Devices Part 1
  - ICND2 - Interconnecting Cisco Network Devices Part 2
- Or
- CCNABC - Cisco CCNA Certification Fast Track Programme  
Practical experience in installing, operating and maintaining Cisco routers & switches in an enterprise environment is recommended.
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### Testing and Certification

Recommended preparation for:

- **300-115 SWITCH** - Implementing Cisco Switched Networks  
This exam is required for those delegates wishing to achieve either the Cisco Certified Network Professional for Routing and Switching or the Cisco Certified Design Professional Certifications
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### Follow-on-Courses:

**The following courses are recommended for further study:**

- ROUTE - Implementing Cisco IP Routing
  - TSHOOT - Troubleshooting and Maintaining Cisco IP Networks
  - ARCH - Designing Cisco Network Architectures
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## Content:

### Basic Concepts and Network Design

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

### Campus Network Architecture

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

### Spanning Tree Implementation

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

### Configuring Inter-VLAN Routing

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

### Implementing High Availability Networks

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

### 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

### Campus Network Security

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

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## Further Information:

For More information, or to book your course, please call us on +254 713 027 191

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