



# CCNP Switch Syllabus

## General Information

### Description

Implementing Cisco IP Switched Networks (SWITCH 642-813) is a qualifying exam for the Cisco Certified Network Professional CCNP®, and Cisco Certified Design Professional CCDP® certifications. The SWITCH 642-813 exam will certify that the successful candidate has important knowledge and skills necessary to to plan, configure and verify the implementation of complex enterprise switching solutions using Cisco’s Campus Enterprise Architecture. The SWITCH exam also covers secure integration of VLANs, WLANs, voice and video into campus networks.

Step	Paper	Required Exam
1	Switch	642-813

**Prerequisites:** Valid CCNA Route and Switch is a prerequisite to CCNP Route and Switch.

**Certificate Validity:** Even clearing one paper extends existing CCNA certificate for 3 more years.

## Course Deliverables

### Classroom Training

Instructor led classroom training will be given. All classes are demonstration based. We don’t teach just theory. We teach every concept using real-time case studies. All our classrooms are digital classrooms.

### Lab

Students can practice all the concepts taught in classrooms at our Lab facility. Each student will be given individual setup to practice the lab. They need not combine and do labs. Our lab coordinators will help you when you are doing the labs

### Books and workbooks

Students will be a given textbooks and workbooks for the course.

## Course Details

Unit 1	Topic
Implement VLAN based solution, given a network design and a set of requirements	Determine network resources needed for implementing a VLAN based solution on a network
	Create a VLAN based implementation plan
	Create a VLAN based verification plan
	Configure switch-to-switch connectivity for the VLAN based solution
	Configure loop prevention for the VLAN based solution
	Configure Access Ports for the VLAN based solution
	Verify the VLAN based solution was implemented properly using show and debug commands
Document the verification after implementing a VLAN solution	

Unit 2	Topic
Implement a Security Extension of a Layer 2 solution, given a network design and a set of requirements	Determine network resources needed for implementing a Security solution
	Create a implementation plan for the Security solution
	Create a verification plan for the Security solution
	Configure port security features
	Configure general switch security features
	Configure private VLANs
	Configure VACL and PACL
	Verify the Security based solution was implemented properly using show and debug commands
Document the verification results after implementing a Security solution	

Unit 3	Topic
Implement Switch based Layer 3 services, given a network design and a set of requirements	Determine network resources needed for implementing a Switch based Layer 3 solution
	Create an implementation plan for the Switch based Layer 3 solution
	Create a verification plan for the Switch based Layer 3 solution
	Configure routing interfaces
	Configure Layer 3 Security
	Verify the Switch based Layer 3 solution was implemented properly using show and debug commands
	Document the verification results after implementing a Switch based Layer 3 solution

Unit 4	Topic
Prepare infrastructure to support advanced services	Implement a Wireless Extension of a Layer 2 solution
	Implement a VoIP support solution
	Implement video support solution

Unit 5	Topic
Implement High Availability, given a network design and a set of requirements	Determine network resources needed for implementing High Availability on a network
	Create a High Availability implementation plan
	Create a High Availability verification plan
	Implement first hop redundancy protocols
	Implement switch supervisor redundancy
	Verify High Availability solution was implemented properly using show and debug commands
	Document results of High Availability implementation and verification

**Note:** Switching part of TShoot is also covered as part of the course.