Part 2: Switch Configuration

Lab 1: Basic Switch Configuration and the Command-Line Interface—Solutions

Objective

The overall objective of this laboratory exercise is to gain experience with basic Cisco switch configuration commands using the CCNA 640-802 Network Simulator and gain an introductory understanding of the following:

- Operating in the Cisco privileged mode
- Configuring the switch ports
- Configuring the computer's network interface
- Troubleshooting the switch interface

Topology

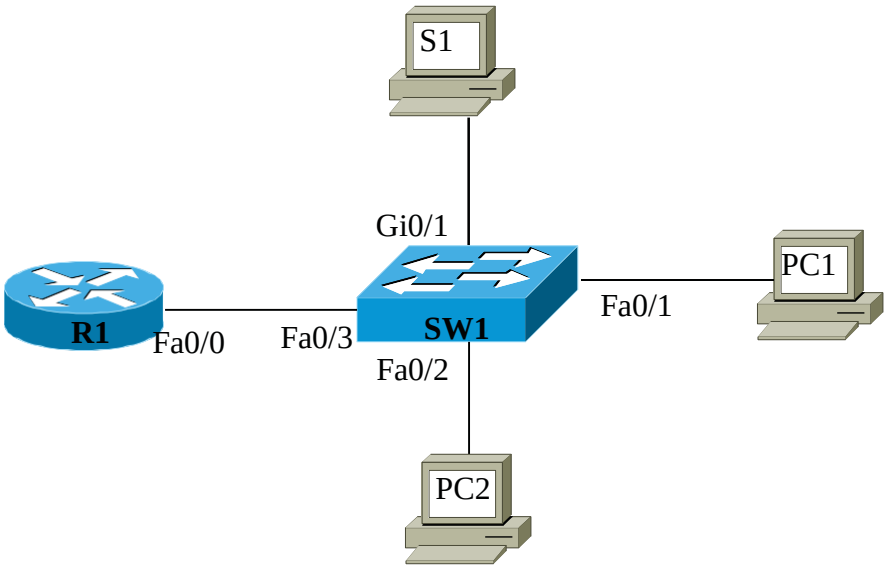

Figure 1 Network Topology for This Lab

Reference

The following simulator exercises provided with the CCNA 640-802 Network Simulator should be reviewed prior to starting this virtual laboratory exercise:

- Setting Switch Passwords
- Switch CLI EXEC Mode
- Switch CLI Configuration Process I, II
- Router CLI Configuration Process
- Interface Settings I, II, III

Key Concepts

The following concepts, terms, commands, and steps should have been mastered in this exercise:

- Steps to enter the switch's privileged EXEC mode (switch#).
- Use of the following commands to verify their operation in Cisco IOS:

  ?, **show flash**, **show version [sh ver]**, **show history [sh hist]**, **show interfaces [sh int]**, **configure terminal [conf t]**, **interface FastEthernet [***interface number***] [int fa 0/0]**, **interface GigabitEthernet [***interface number***] [int gi 0/1]**, **interface [***vlan number***] [int vlan 1]**
- What happens when you press the up-arrow key?
- How to change the host name of the switch.
- The steps for configuring the IP address for FastEthernet interface 0/0 [Fa0/0] on your switch.
- The use of the **no shut** command to enable the VLAN interface.
- The steps for configuring the default gateway for the switch.

Reference Tables

Table 1 provides the IP addresses and masks of all the necessary interfaces to complete the lab. All passwords are set to ciscopress.

Table 1 Computer IP Addresses, Subnet Masks, and Gateway Addresses for Lab 1

Computer	IP Address	Subnet Mask	Gateway Address
PC1	192.168.21.8	255.255.255.240	192.168.21.1
PC2	192.168.21.6	255.255.255.240	192.168.21.1
S1	192.168.21.5	255.255.255.240	192.168.21.1
SwitchA	192.168.21.10	255.255.255.240	192.168.21.1
R1-Fa0/0	192.168.21.1	255.255.255.240	—

Detailed Lab Steps

Task 1

Step 1. Configure the IP address settings for the router (R1), the computers (PC1 and PC2), and the switch (S1) for the network provided in Figure 1. Use the IP addresses provided in Table 1.

R1

```
R1#
R1# configure terminal
Enter configuration commands, one per line.   End with CNTL/Z.

R1(config)# interface fa0/0
R1(config-if)# ip address 192.168.21.1 255.255.255.240
R1(config-if)# no shut
R1(config-if)#
```

PC1

```
C:\> ip address 192.168.21.8  255.255.255.240
C:\> gateway 192.168.21.1
```

PC2

```
C:\> ip address 192.168.21.6  255.255.255.240
C:\> gateway 192.168.21.1
```

S1

```
C:\> ip address 192.168.21.5  255.255.255.240
C:\> gateway 192.168.21.1
```

Step 2. Configure switch 1 (SW1) to operate in the network using the IP address, subnet mask, and gateway address specified in Table 1.

```
SW1# configure terminal
Enter configuration commands, one per line.   End with CNTL/Z.

SW1(config)# int vlan 1
SW1(config-if)# ip address 192.168.21.10 255.255.255.240

SW1(config)# ip default-gateway 192.168.21.1
SW1(config)#
```

Step 3. What command is used to enter the switch's privileged mode? List the prompt and the command.

```
Press RETURN to get started.
User Access Verification

SwitchA>enable
SW1#
```

Step 4. Use the following commands to verify their operation in Cisco IOS:

a. What happens when you enter a ? at the switch# prompt?

This will display the available commands in the privileged EXEC mode.

b. What information is displayed when you enter **show flash** at the switch$ prompt?

Shows the version of flash installed and the Vlan.dat information.

```
SW1# show flash
1  drwx         192   Mar 1 1993 00:05:59 +00:00   c2960nm-lanbasek9-mz.122-
35.SE
2  -rwx         616   Mar 1 1993 00:20:08 +00:00   Vlan.dat

32514048 bytes total (13055488 bytes free)
Switch#
```

c. What command can you use to view the switch's uptime?

```
SW1# show version
Cisco IOS Software, C2960 Software (C2960-LANBASEK9-M), 12.2(25)SEE2,
  RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2006 by Cisco Systems, Inc.
Compiled Fri 28-Jul-06 11:57 by yenanh
Image text-base: 0x00003000, data-base: 0x00BB7944
ROM: Bootstrap program is C2960 boot loader
BOOTLDR: C2960 Boot Loader (C2960-HBOOT-M) Version 12.2(25r)SEE1, RELEASE
  SOFTWARE (fc1)
Switch uptime is 3116 hours,minutes 28
System returned to ROM by power-on
System image file is "flash:c2960-lanbase-mz.122-25.SEE2/c2960-lanbasek9- mz.122-
  25.SEE2/c2960-lanbasek9-mz.122-25.SEE2.bin"
*          *
*          *
Configuration register is 0x2102
SW1#
```

d. How long has the switch been up?

Switch uptime is 3116 hours, 28 minutes.

e. What version of the Cisco IOS software is running on this simulator?

Cisco IOS Software, C2960 Software (C2960-LANBASEK9-M), 12.2(25)SEE2, RELEASE SOFTWARE (fc1)

f. What command can you use to view the past entries on this switch?

```
SW1# show history
```

g. What happens when you press the up/down keys on your keyboard?

This lets you cycle through the previously entered commands.

h. What is the command for listing the switch's current configuration?

```
SW1# show running-config
```

i. How many FastEthernet interfaces does the switch have?

24

j. How many Gigabit interfaces does the switch have?

2

Step 5. Enter the privileged mode and change the host name of the switch to SwitchA. List the command sequence required to accomplish this task. Indicate both the prompts and the commands.

```
R1# configure terminal
R1(config)# hostname SwitchA
SwitchA(config)#
```