Practice 1: CONFIGURE INITIAL SWITCH SETTINGS

1.1 OVERVIEW

1.1.1 Introduction

- Lab 1: configure initial switch settings.
- Practice time: class: 3 study hour, self-studying: 3 study hour.
- Requiment: Students gain knowledge and skills for command-line (Switch) configuration (CLI).

1.1.2 Objective

- Part 1: Cable the Network and Verify the Default Switch Configuration.
- Part 2: Configure Basic Network Device Settings.
- Part 3: Configuretion of switch management interface.
- Part 4: Practice lab.

1.1.3 Program Learning Outcome

- Present about the role of computer networks in nowadays; Basic concepts of network models, characteristics of common network devices, common network applications, principles of data transmission/reception via networks.

1.2 CONTENTS

1.2.1 Summary

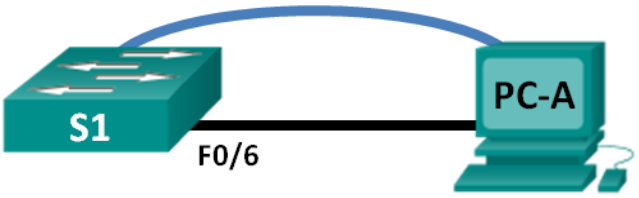
Configuring and managing device configuration is one of the tasks of the system administrator. In a network, there are many network devices operating with different functions. In order for the system to operate properly as required, it is necessary to configure the complete device and manage the configuration file well. The following lesson will help students gain knowledge and skills for configuration on command line switches (CLI).

- Check and configure basic equipment.

– Configure security port "console", password encryption
– Configure "Banner" on the device when the user "logs" into the Switch.

1.2.2 Basic Practice

Topology:



Addressing table:

Device	Interface	IP Address	Subnet Mask	Default Gateway
S1	VLAN 1	192.168.1.2	255.255.255.0	192.168.1.1
PC-A	NIC	192.168.1.10	255.255.255.0	192.168.1.1

Required Resources:

- 1 Switch (Cisco 2960 with Cisco IOS Release 15.0(2) lanbasek9 image or comparable)
- 1 PC (Windows 7, Vista, or XP with terminal emulation program, such as Tera Term, and Telnet capability)
- 1 Console cable to configure the Cisco IOS device via the console port
- 1 Ethernet cable as shown in the topology

Part 1: Verify the default switch configuration

In this step, you will examine the default switch settings, such as current switch configuration, IOS information, interface properties, VLAN information, and flash memory

a) Use the enable command to enter privileged EXEC mode.

```
Switch> enable
Switch#
```

b) Examine the current running configuration file

Switch# show running-config

c) Awnser the questions:

- How many FastEthernet interfaces does a 2960 switch have? _____
- How many Gigabit Ethernet interfaces does a 2960 switch have? _____
- What is the range of values shown for the vty lines? _____

Part 2: Configure Basic Network Device Settings

In Part 2, you will configure basic settings for the switch and PC.

Configure basic switch settings.

a) Configure basic switch settings.

Step 1: Set name for switch

```
Switch# configure terminal
Switch(config)# hostname S1
S1(config)# exit
S1#
```

Step 2: Set security for the console port

```
S1# configure terminal
S1(config)# line console 0
S1(config-line)# password letmein
S1(config-line)# login
S1(config-line)# exit
S1(config)# exit
S1#
```

Step 3: Check the security for the console port

```
S1# exit
Switch con0 is now available
Press RETURN to get started.
User Access Verification
Password:
S1>
```

Step 4: Security settings for privileged mode

```
S1> enable
S1# configure terminal
S1(config)# enable password c1$c0
S1(config)# exit
%SYS-5-CONFIG_I: Configured from console by console
S1#
```

Step 5: Check security settings for privileged mode

Step 6: Configure password encryption to protect privileged access

```
Use password itsasecret to encrypt the password as follows:
```

```
S1# config t
S1(config)# enable secret itsasecret
S1(config)# exit
S1#
```

Step 7: Check password encryption to access privileged mode

Use the command **show running-config** to check the newly set password

Step 8: Encryption enable password and console port

```
S1# config t
S1(config)# service password-encryption
S1(config)# exit
```

b) Configure MOTD Banner

Step 1: Configure the message for banner motd

```
S1# config t
S1(config)# banner motd "This is a secure system. Authorized Access
Only!"
S1(config)# exit
%SYS-5-CONFIG_I: Configured from console by console
S1#
```

Step 2: Awnser the questions:

- When will the banner banner message appear? _____
- Why does every switch need a banner motd? _____

Step 3: Save on NVRAM

```
S1# copy running-config startup-config
Destination filename [startup-config]?[Enter]
Building configuration...
[OK]
```

c) Configure the PC IP address

Step 1: set the IP for the PC

Select Desktop -> enter TCP / IP parameters according to the address table above

Step 2: Check the connection to the switch

From PCs, go to "Command Promt" -> use the "ping" command to the following address:

```
PC> ping 192.168.1.2
```

Observe and explain the achieved results

Part 3: Configuration of switch management interface

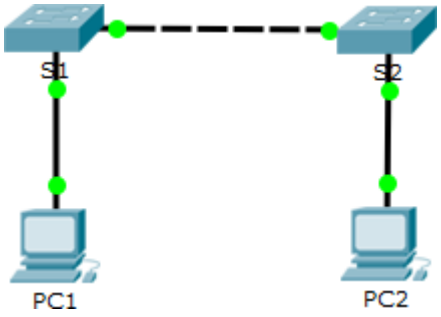
Because the Switch device uses the MAC address to communicate, it does not configure the IP parameters on this device. However, to manage, the device needs to try IP parameters to identify. In this case, the IP address that needs to be set on "Vlan 1" (available by default on the Switch) will be used.

IP configuration on VLAN 1 of S1:

```
S1 # configure terminal
Enter configuration commands, one per line. End with CNTL / Z.
S1 (config) # interface vlan 1
S1 (config-if) # ip address 192.168.1.2 255.255.255.0
S1 (config-if) # no shutdown
% LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to
up
S1 (config-if) # S1 (config-if) # exit
S1 #
```

1.2.3 Skills Intergration Challenge

Topology:



Addressing table:

Device	Interface	IP Address	Subnet Mask
S1	VLAN 1	192.168.1.253	255.255.255.0
S2	VLAN 1	192.168.1.254	255.255.255.0
PC1	NIC	192.168.1.1	255.255.255.0
PC2	NIC	192.168.1.2	255.255.255.0

Requirements:

Configurate on S1 and S2:

1. Set hostname for S1 and S2
2. Set a password for the Console and Privilege EXEC modes:
   2.1 Set the password "cisco" for Console mode
   2.2 Set a password "class" for Privilege EXEC mode
3. Configure Motd Banner
4. Configure IP VLAN 1 according to the address table above

5. Save the configuration to NVRAM.

Configurate the PCs:

1. Configure PC1 and PC2 according to the address table above
2. Test connectivity to switches

2. Ping PC1 -> S1
3. Ping PC2 -> S2
4. Ping PC1 -> PC2