Department of ICT

Faculty of Technology

University of Ruhuna

Computer Networks – ICT1253 **Level 1 - Semester - 2**

Lab Sheet 05

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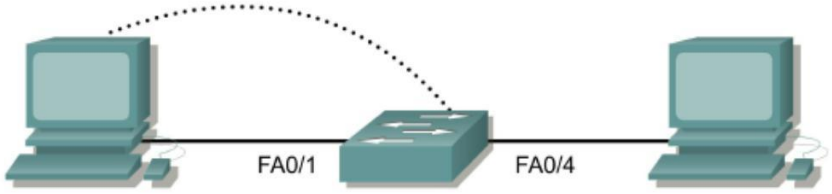
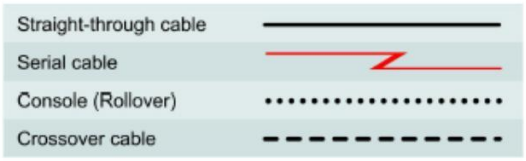
Basic Switch Configuration



Switch Designation	Switch Name	Enable Secret Password	Enable, VTY, and Console Passwords
Switch 1	ALSwitch	class	cisco



Step 1 Enter privileged mode

a. Privileged mode gives access to all the switch commands. Many of the privileged commands configure operating parameters. Therefore, privileged access should be password-protected to prevent unauthorized use. The privileged command set includes those commands contained in user EXEC mode, as well as the configure command through which access to the remaining command modes is gained.

Switch>**enable**
Switch#

b. Notice the prompt changed in the configuration to reflect privileged EXEC mode.

Step 2 Examine the current switch configuration

a. Examine the following current running configuration file:

Switch#**show running-config**

b. How many Ethernet or Fast Ethernet interfaces does the switch have?

c. What is the range of values shown for the VTY lines?

d. Examine the current contents of NVRAM as follows:

Switch#**show startup-config**
```
%% Non-volatile configuration memory is not present
```

e. Why does the switch give this response?

Step 3 Assign a name to the switch

a. Enter **enable** and then the configuration mode. The configuration mode allows the management of the switch. Enter **ALSwitch**, the name this switch will be referred to in the following:

Switch#**configure terminal**

Enter the configuration commands, one for each line. End by pressing **Ctrl-Z**.

Switch(config)#**hostname ALSwitch**
ALSwitch(config)#**exit**

b. Notice the prompt changed in the configuration to reflect its new name. Type **exit** or press **Ctrl-Z** to go back into privileged mode.

Step 4 Examine the current running configuration

a. Exam the current configuration that follows to verify that there is no configuration except for the hostname:

ALSwitch#**show running-config**

b. Are there any passwords set on the lines?

c. What does the configuration show as the hostname of this switch?

Step 5 Set the access passwords

a. Enter config-line mode for the console. Set the password on this line as **cisco** for login. Configure the vty lines 0 to 15 with the password cisco as follows:

ALSwitch#**configure terminal**

b. Enter the configuration commands, one for each line. End by pressing **Ctrl-Z**.
ALSwitch(config)#**line con 0**
ALSwitch(config-line)#**password cisco**
ALSwitch(config-line)#**login**
ALSwitch(config-line)#**line vty 0 15**
ALSwitch(config-line)#**password cisco**
ALSwitch(config-line)#**login**
ALSwitch(config-line)#**exit**

Step 6 Set the command mode passwords

a. Set the **enable password** to **cisco** and the **enable secret password** to **class** as follows:

ALSwitch(config)#**enable password cisco**
ALSwitch(config)#**enable secret class**

b. Which password takes precedence, the enable password or enable secret password?

Step 7 Configure the layer 3 access to the switch

a. Set the IP address of the switch to 192.168.1.2 with a subnet mask of 255.255.255.0 as follows:
Note: This is done on the internal virtual interface VLAN 1

ALSwitch(config)#**interface VLAN 1**
ALSwitch(config-if)#**ip address 192.168.1.2 255.255.255.0**
ALSwitch(config-if)#**exit**

b. Set the default gateway for the switch and the default management VLAN to 192.168.1.1 as follows:

ALSwitch(config)#**ip default-gateway 192.168.1.1**
ALSwitch(config)#**exit**

Step 8 Verify the management LANs settings

a. Verify the interface settings on VLAN 1 as follows:
ALSwitch#**show interface VLAN 1**

b. What is the bandwidth on this interface?

c. What are the VLAN states?

e. Enable the virtual interface using the **no shutdown** command
ALSwitch(config)#**interface VLAN 1**
ALSwitch(config-if)#**no shutdown**
ALSwitch(config-if)#**exit**

Step 9 Save the configuration

a. The basic configuration of the switch has just been completed. Back up the running configuration file to NVRAM as follows:

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

Step 10 Examine the startup configuration file

a. To see the configuration that is stored in NVRAM, type **show startup-config** from the privileged EXEC (enable mode).

ALSwitch#**show startup-config**

Step 11 Exit the switch

a. Leave the switch welcome screen by typing **exit** as follows:

ALSwitch#**exit**

Once these steps are completed, logoff by typing **exit**, and turn all the devices off.

Erasing and Reloading the Switch

The following is the procedure for clearing out previous configurations and starting with an unconfigured switch.

1. Enter into the privileged EXEC mode by typing **enable**.

If prompted for a password, enter **class**
Switch>**enable**

2. Remove the VLAN database information file.

Switch#**delete flash:vlan.dat**
Delete filename [vlan.dat]?**[Enter]**
Delete flash:vlan.dat? [confirm] **[Enter]**
If there was no VLAN file, this message is displayed.
%Error deleting flash:vlan.dat (No such file or directory)

3. Remove the switch startup configuration file from NVRAM.

Switch#**erase startup-config**
The responding line prompt will be:
Erasing the nvram filesystem will remove all files! Continue? [confirm]
Press **Enter** to confirm.
The response should be:
Erase of nvram: complete

4. Software restart (using the **reload** command)

a. At the privileged EXEC mode enter the command **reload**.
Switch#reload
The responding line prompt will be:
System configuration has been modified. Save? [yes/no]:

b. Type **n** and then press **Enter**.

The responding line prompt will be:
Proceed with reload? [confirm] **[Enter]**
The first line of the response will be:
Reload requested by console.
After the switch has reloaded, the line prompt will be:
Would you like to enter the initial configuration dialog? [yes/no]:

c. Type **n** and then press **Enter**.

The responding line prompt will be:
Press RETURN to get started! **[Enter]**