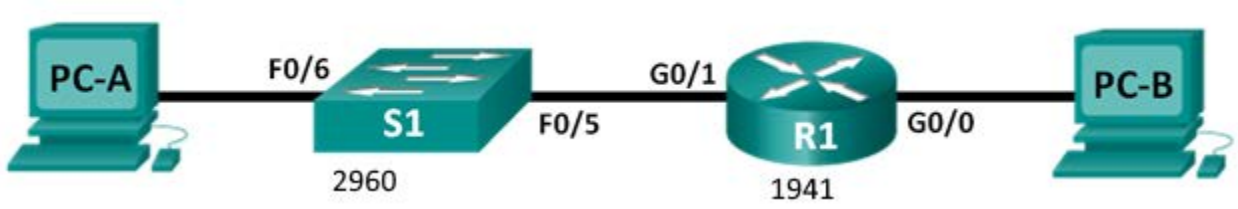
Name _____ **Class** _____

Building a Switch and Router Network

1. Set up the network shown in Packet Tracer.

An Ethernet straight-through cable may be used between the router and PC-B.



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	G0/0	**192.168.0.1**	255.255.255.0	N/A
	G0/1	**192.168.1.1**	255.255.255.0	N/A
S1	VLAN 1	N/A	N/A	N/A
PC-A	NIC	**192.168.1.3**	255.255.255.0	**192.168.1.1**
PC-B	NIC	**192.168.0.3**	255.255.255.0	**192.168.0.1**

	Successful ?
Ping from PC-A to PC-B	
Ping from PC-B to PC-B	

2. Initialize Switch 1

Click switch, go to CLI screen, hit [ENTER], then enter the following commands:

Switch> **enable**
Switch# **show flash**

If the **vlan.dat** file is displayed, delete this file.

Switch# **delete vlan.dat**
Delete filename [vlan.dat]?
Delete flash:/vlan.dat? [confirm]

Switch# **erase startup-config**
Erasing the nvram filesystem will remove all configuration files! Continue? [confirm]
[OK]

Switch# **reload**
Proceed with reload? [confirm]
System configuration has been modified. Save? [yes/no]: **no**
Switch>**enable**
Switch# **configure terminal**
Switch(config)# **hostname S1**

S1(config)# **no ip domain-lookup**
S1(config)# **enable secret class**
S1(config)# **line con 0**
S1(config-line)# **password cisco**
S1(config-line)# **login**
S1(config-line)# **exit**

S1# **copy running-config startup-config**

Destination filename [startup-config]? **[Enter]**
Building configuration...
[OK]

S1# **show running-config**

3. Initialize Router.

Go to CLI of router
Router> **enable**
Router#
Router# **erase startup-config**
Erasing the nvram filesystem will remove all configuration files! Continue? [confirm]
[OK]
Erase of nvram: complete
Router#
Router# **reload**
Proceed with reload? [confirm]

System configuration has been modified. Save? [yes/no]: **no**
Would you like to enter the initial configuration dialog? [yes/no]: **no**
Would you like to terminate autoinstall? [yes]: **yes**
Router>

Step 1: Configure the router.

a. Console into the router and **enable** privileged EXEC mode.

b. Enter configuration mode.

c. Assign a device name to the router.

d. Disable DNS lookup

e. Assign **class** as the privileged EXEC encrypted password.

f. Assign **cisco** as the console password and enable login.

g. Assign **cisco** as the VTY password and enable login.

h. Encrypt the clear text passwords.

i. Create a banner that warns anyone accessing the device that unauthorized access is prohibited.

j. Configure and activate both interfaces on the router.

k. Configure an interface description for each interface indicating which device is connected to it.

l. Save the running configuration to the startup configuration file.

m. Set the clock on the router.

Note: Use the question mark (**?**) to help with the correct sequence of parameters needed to execute this command.

n. Ping PC-B from a command prompt window on PC-A.

Was the 'ping' successful? Why?

_____

_____

_____

Retrieve Information of Router

a.Use the **show version** command to answer the following questions about the router.

What is the name of the IOS image that the router is running?

_____

How much DRAM memory does the router have?

_____

_____

How much NVRAM memory does the router have?

_____

How much Flash memory does the router have?

_____

b . Display the routing table

Use the **show ip route** command on the router to answer the following questions.

What code is used in the routing table to indicate a directly connected network? _____

How many route entries are coded with a C code in the routing table? _____

What interface types are associated to the C coded routes?

_____

c. Display interface information

Use the **show interface g0/1** to answer the following questions.

What is the operational status of the G0/1 interface?

_____

What is the Media Access Control (MAC) address of the G0/1 interface?

_____

How is the Internet address displayed in this command?

_____

d. Enter the **show ip interface brief**.

```
R1# show ip interface brief
Interface                  IP-Address      OK? Method Status                Protocol
Embedded-Service-Engine0/0 unassigned      YES unset  administratively down down
GigabitEthernet0/0         192.168.0.1     YES manual up                    up
GigabitEthernet0/1         192.168.1.1     YES manual up                    up
Serial0/0/0                unassigned      YES unset  administratively down down
Serial0/0/1                unassigned      YES unset  administratively down down
R1#
```

Retrieve Information of swtich

a.Use the **show version** command to answer the following questions about the switch.

What is the name of the IOS image that the switch is running?

_____

How much dynamic random access memory (DRAM) does the switch have?

_____

How much nonvolatile random-access memory (NVRAM) does the switch have?

_____

What is the model number of the switch?

_____

b. Enter the **show ip interface brief** command on the switch.

```
Switch# show ip interface brief
```

Save Packet Tracer file, use your name as the filename. Send in your file.