Lab 3.1.7 Configuring an Ethernet Interface
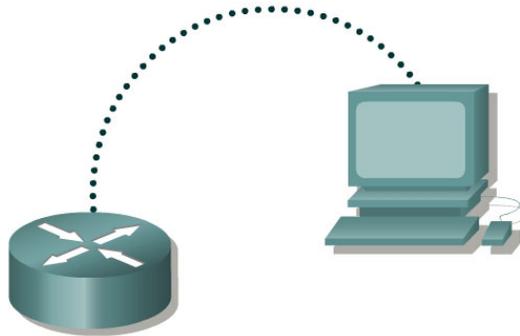
Router Designation	Router Name	Router Type	FA0/0 Address	Subnet mask	Enable Secret password	Enable/VTY/ Console passwords
Router 1	GAD		192.168.14.1	255.255.255.0	class	cisco

Straight-through cable	————
Serial cable	—
Console (Rollover)	••••••••••••
Crossover cable	– – – – – –

Objective

- Configure an Ethernet interface on the router with an IP address and a subnet mask.

Background/Preparation

In this lab, students configure an Ethernet interface on the router with an IP address and a subnet mask.

Any router that meets the interface requirements may be used. Possible routers include 800, 1600, 1700, 2500, 2600 routers, or a combination. Refer to the chart at the end of the lab to correctly identify the interface identifiers to be used based on the equipment in the lab. The configuration output used in this lab is produced from 1721 series routers. Any other router used may produce slightly different output. The following steps are intended to be executed on each router unless specifically instructed otherwise.

Start a HyperTerminal session as performed in the Establishing a HyperTerminal session lab.

Note: Go to the erase and reload instructions at the end of this lab. Perform those steps on all routers in this lab assignment before continuing.

Step 1 Configure the hostname and passwords on the GAD router

a. On the router, enter the global configuration mode and configure the hostname as shown in the chart. Then configure the console, virtual terminal and enable passwords.

Step 2 Configure the FastEthernet 0 interface

Note: The designation for the first Ethernet interface on the router will vary. It may be ethernet 0, fastethernet 0 or fastethernet 0/0 depending on the type of router.

```
GAD(config)#interface fastEthernet 0
GAD(config-if)#ip address 192.168.14.1 255.255.255.0
GAD(config-if)#no shutdown
GAD(config-if)#exit
GAD (config)#exit
```

Step 3 Save the configuration

a. Save the running configuration to the startup configuration at the privileged EXEC mode:

```
GAD#copy running-config startup-config
```

Step 4 Display the FastEthernet 0 configuration information

```
GAD#show interface fastethernet 0
```

Note: This will show the details of the Ethernet interface.

a. List at least three details discovered by issuing this command.

b. FastEthernet0 is _____. Line protocol is _____.

c. Internet address is _____.

d. Encapsulation _____

e. To what OSI layer is the "Encapsulation" referring? _____

Upon completion of the previous steps, logoff by typing **exit**. Turn the router off.

Erasing and reloading the router

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

If prompted for a password, enter **class**. If "class" does not work, ask the instructor for assistance.

```
Router>enable
```

At the privileged EXEC mode, enter the command **erase startup-config**.

```
Router#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
```

Now at the privileged EXEC mode, enter the command **reload**.

```
Router#reload
```

The responding line prompt will be:

```
System configuration has been modified. Save? [yes/no]:
```

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

The responding line prompt will be:

```
Proceed with reload? [confirm]
```

Press **Enter** to confirm.

In the first line of the response will be:

```
Reload requested by console.
```

After the router has reloaded the line prompt will be:

```
Would you like to enter the initial configuration dialog? [yes/no]:
```

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

The responding line prompt will be:

```
Press RETURN to get started!
```

Press **Enter**.

The router is ready for the assigned lab to be performed.

Router Interface Summary

Router Model	Ethernet Interface #1	Ethernet Interface #2	Serial Interface #1	Serial Interface #2	Interface #5
800 (806)	Ethernet 0 (E0)	Ethernet 1 (E1)			
1600	Ethernet 0 (E0)	Ethernet 1 (E1)	Serial 0 (S0)	Serial 1 (S1)	
1700	FastEthernet 0 (FA0)	FastEthernet 1 (FA1)	Serial 0 (S0)	Serial 1 (S1)	
2500	Ethernet 0 (E0)	Ethernet 1 (E1)	Serial 0 (S0)	Serial 1 (S1)	
2600	FastEthernet 0/0 (FA0/0)	FastEthernet 0/1 (FA0/1)	Serial 0/0 (S0/0)	Serial 0/1 (S0/1)	
In order to find out exactly how the router is configured, look at the interfaces. This will identify the type of router as well as how many interfaces the router has. There is no way to effectively list all of the combinations of configurations for each router class. What is provided are the identifiers for the possible combinations of interfaces in the device. This interface chart does not include any other type of interface even though a specific router may contain one. An example of this might be an ISDN BRI interface. The string in parenthesis is the legal abbreviation that can be used in IOS command to represent the interface.					