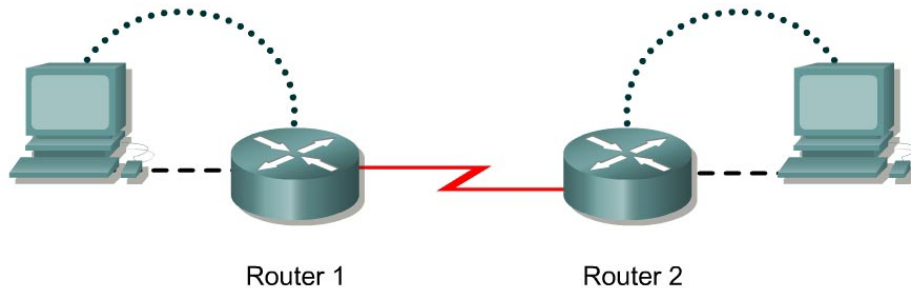


Lab 3.2.7 Configuring Host Tables



Router Designation	Router Name	Fast Ethernet 0 Address	Interface type	Serial 0 Address	Subnet mask for both interfaces	Enable secret password	Enable/VTY/ Console passwords
Router 1	GAD	172.16.0.1	DCE	172.17.0.1	255.255.0.0	class	cisco
Router 2	BHM	172.18.0.1	DTE	172.17.0.2	255.255.0.0	class	cisco

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

Objective

- Create IP host tables that allow a router to use names to identify all of the attached interfaces on that router. These names can be used in place of an IP addresses in commands that use IP addresses to identify a location.
- Set up a network similar to the one in the above diagram.

Background/Preparation

IP host tables allow a router to use names to identify all of the attached interfaces on that router. These names can be used in place of an IP address in commands that use IP addresses to identify a location such as ping or Telnet.

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 Gadsden router

- a. On the Gadsden router, enter the global configuration mode. Configure the hostname as shown in the chart. Then configure the console, virtual terminal and enable passwords. If there are any difficulties, refer to the Configuring Router Passwords lab.

Step 2 Configure the interfaces and routing protocol on the Gadsden router

- a. Go to the proper command mode and enter the following text:

```
GAD(config)#interface fastethernet 0
GAD(config-if)#ip address 172.16.0.1 255.255.0.0
GAD(config-if)#no shutdown
GAD(config-if)#exit
GAD(config)#interface serial 0
GAD(config-if)#ip address 172.17.0.1 255.255.0.0
GAD(config-if)#clock rate 56000
GAD(config-if)#no shutdown
GAD(config-if)#exit
GAD(config)#router rip
GAD(config-router)#network 172.16.0.0
GAD(config-router)#network 172.17.0.0
GAD(config-router)#exit
GAD(config)#exit
```

Step 3 Save the Gadsden router configuration

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

Step 4 Configure the hostname and passwords on the Birmingham router

- a. On the Birmingham router, enter the global configuration mode. Configure the hostname as shown in the chart. Then configure the console, virtual terminal and enable passwords. If there are any difficulties, refer to the Configuring Router Passwords lab.

Step 5 Configure the interfaces and routing protocol on the Birmingham router

- a. Go to the proper command mode and enter the following:

```
BHM(config)#interface fastethernet 0
BHM(config-if)#ip address 172.18.0.1 255.255.0.0
BHM(config-if)#no shutdown
BHM(config-if)#exit
BHM(config)#interface serial 0
BHM(config-if)#ip address 172.17.0.2 255.255.0.0
BHM(config-if)#no shutdown
BHM(config-if)#exit
BHM(config)#router rip
BHM(config-router)#network 172.17.0.0
BHM(config-router)#network 172.18.0.0
BHM(config-router)#exit
BHM(config)#exit
```

Step 6 Save the Birmingham router configuration

```
BHM#copy running-config startup-config
```

Step 7 Verify that the internetwork is functioning

Verify that the internetwork is functioning. `ping` the FastEthernet interface of the other router.

- a. From GAD, ping the BHM router FastEthernet interface. Does the ping work?

-
- b. From BHM, ping the GAD router FastEthernet interface. Does the ping work?

-
- c. If the answer is no for either question troubleshoot the router configurations to find the error. Then do the pings again until the answer to both questions is yes.

Step 8 Configure the IP host table for the network

- a. Create a name for each router in the network lab. Enter that name along with the IP addresses of the routers interfaces. This is a local name and can be anything that is comfortable. Although the name does not have to match the configured hostname of the router, that would be the normal procedure.

Router Name	IP Address Ethernet	IP Address Interface Serial 0

- b. From the global configuration mode, enter the command `ip host` followed by the name of each router in the network, as well as all of the IP addresses of the interfaces on each of the routers.

For example to name the GAD router accessible from BHM by the name "G", enter:

```
BHM(conf)#ip host G 172.16.0.1 172.17.0.1
```

- c. What commands did you enter on GAD?

-
- d. What commands did you enter on BHM?
-

Step 9 Exit configuration mode and test

- a. Go to the enable, or privileged EXEC mode.
- b. Examine the host table entries, using the `show ip hosts` command on each router.
- c. Are the host entries that were configured in the previous steps visible?

GAD _____ BHM _____

- d. If there are no IP host entries go back and repeat Step 6.

- e. Now ping the other router by host name. From the enable prompt type **ping** *host*. The “host” is the ip host name that was configured in the previous steps. For example for a host name of “G”, enter:

```
BHM#ping G
```

- f. Was the ping successful? _____
- g. If the ping was not successful, check the accuracy of the IP host table entries.
- h. From the enable prompt, enter the host name. Press **Enter**. For example for a host name of “G”, enter:

```
BHM#G
```

- i. What happened? _____

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(config)#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.					