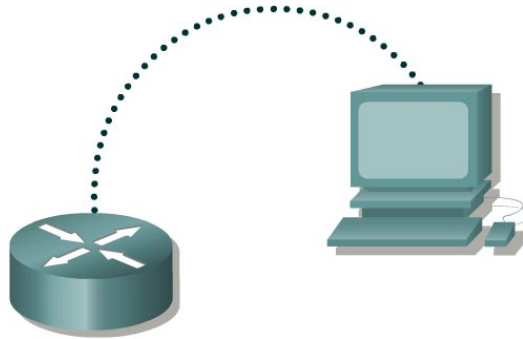




Lab 5.2.3 Managing Configuration Files with TFTP



Router designation	Router name	Enable secret password	Enable/VTY/ and Console passwords	Routing protocol	RIP network statements	
Router 1	GAD	class	cisco	RIP	192.168.14.0	192.168.15.0

Router designation	IP host name	Fast Ethernet 0 address	Interface type Serial 0	Serial 0 address	Interface type Serial 1	Serial 1 address	Subnet mask all addresses
Router 1	GAD	192.168.14.1	NA	192.168.15.1	NA	192.168.13.1	255.255.255.0

Straight-through cable	—————
Serial cable	————— <del> </del>
Console (Rollover)	
Crossover cable	- - - - -

Objective

- Backup a copy of a router configuration file.
- Reload the backup configuration file from a TFTP server into RAM on a router.
- Save the new running-config to NVRAM.

Background/Preparation

For documentation and recovery purposes it is important to keep backup copies of router configuration files. These can be stored in a central location such as a TFTP server for reference and retrieval if necessary.

Setup a network similar to the one in the previous diagram. 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 Gadsden router

- a. If there are any difficulties configuring hostname, refer to the Configuring Router Passwords lab.
If there are any difficulties configuring interfaces, refer to the Configuring Host Tables lab.
- b. Verify the routers configurations by performing a **show running-config** on each router. If not correct, fix any configuration errors and verify.

Step 2 Configure the workstation

- a. The configuration for the host connected to the Gadsden Router is:

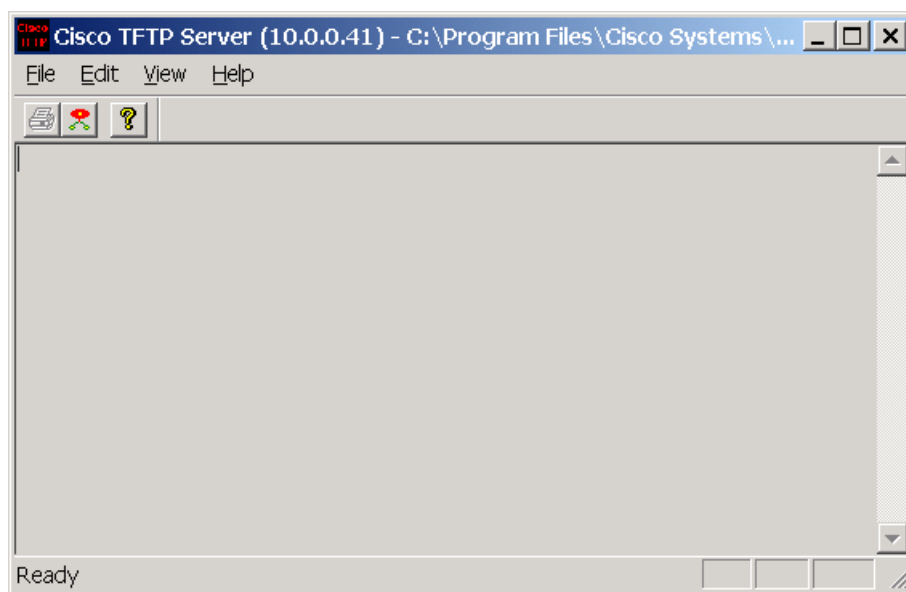
IP Address	192.168.14.2
IP subnet mask	255.255.255.0
Default gateway	192.168.14.1

Step 3 Login to the router in user mode

- a. Connect to the Gadsden router and login.

Step 4 Starting and configuring the Cisco TFTP Server

- a. Check with the instructor as to where the Cisco TFTP server is installed on the student workstation.
- b. Start the TFTP server. If the computer is properly connected, there is no configuration of the Cisco TFTP server.



Step 5 Verify connectivity

- a. Ping the TFTP sever from the Gadsden router.
If the ping fails, review host and router configurations to resolve the problem.

Step 6 Copy the running-config to TFTP server

- a. Before copying the files, verify that the TFTP server is running.
- b. Record the IP address of the TFTP server. _____
- c. Issue the command **copy running-config tftp**. Follow the prompts:

```
GAD#copy running-config tftp
Address or name of remote host []? 192.168.14.2
Destination filename [gad-config]? startup-config
!!
667 bytes copied in 0.036 secs (18528 bytes/sec)
```

Step 7 Verify the transfer to the TFTP server

- a. Check the TFTP server log file. Click **View > Log File**. The output should be similar to the following:

```
Mon Sep 16 14:10:08 2002: Receiving 'startup-config' file from
192.168.13.1 in binary mode
Mon Sep 16 14:11:14 2002: Successful.
```

Step 8 Copy the startup-config from the TFTP server

- a. Now that the startup-config is backed up, test this image and the procedure. Restore the file to the router. First, verify that the TFTP server is running, is sharing a network with the router, and can be reached by the router. Ping its IP address.
- b. What is the IP address of the TFTP server? _____
- c. To copy from the privileged EXEC prompt, type `copy tftp running-config`. Press **Enter**.

```
Router#copy tftp running-config
Address or name of remote host []? 192.168.14.2
Source filename []? startup-config
Destination filename [running-config]? [Enter]
Accessing tftp://192.168.14.2/startup-config...
Loading startup-config from 192.168.14.2 (via FastEthernet0): !
[OK - 667 bytes]
```

```
667 bytes copied in 9.584 secs (70 bytes/sec)
```

```
GAD#
```

Step 9 Saving the new running-config

- a. Save the new running-config to NVRAM using the following command:

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

Step 10 Test the restored file

- a. If the router prompt changed as shown in the last line of output in Step 8, the file loaded. Issue the `show startup-config` command to verify the entire configuration.

Step 11 Verify the interface conditions

- a. When this file is restored the interfaces will be shut down, by default, unless the configuration file has been edited and a `no shutdown` command line entered after each interface profile.

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.					