Lab ID: 9.9K714A045.SAI1.1

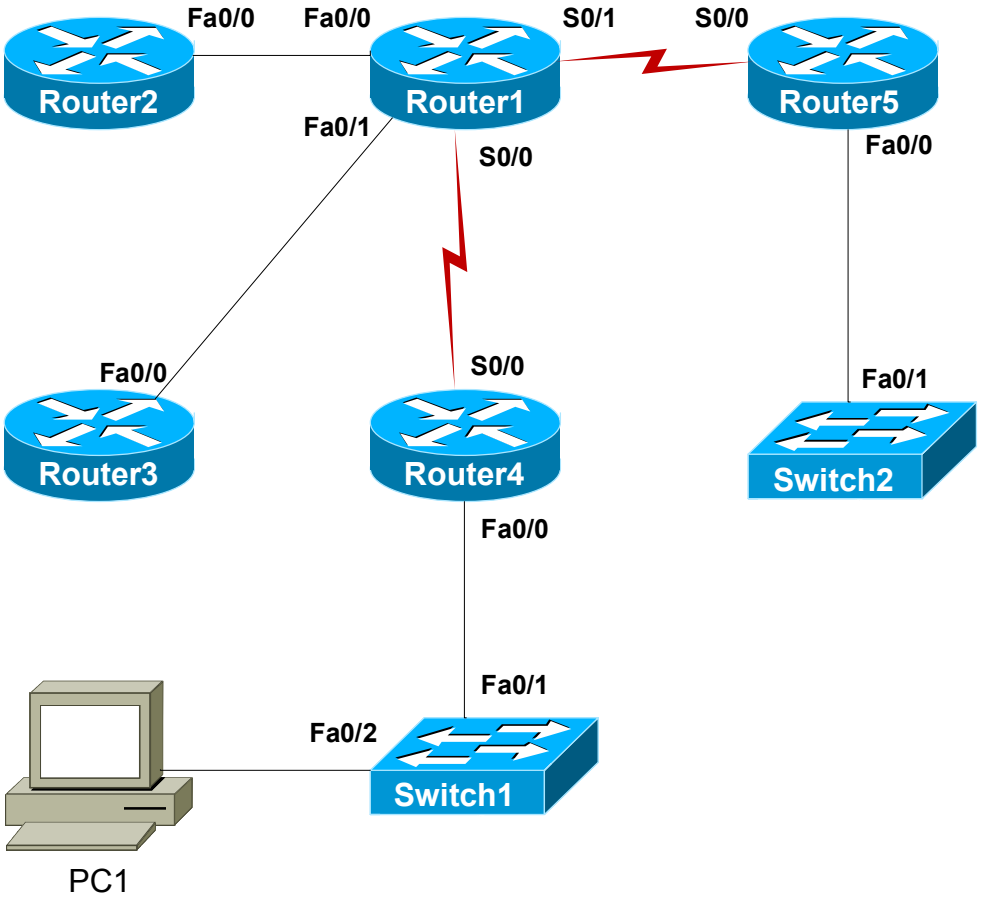
Stand-Alone Lab: Backup Using TFTP

Objective

Learn the commands necessary to save a configuration to and load a configuration from a Trivial File Transfer Protocol (TFTP) server.

Lab Topology

The topology diagram below represents the NetMap in the Simulator.



Command Summary

Command	Description
configure terminal	enters global configuration mode from privileged EXEC mode
copy running-config {**startup-config** | **tftp** | *device*:*filename*}	copies a device's running configuration file to another destination
copy tftp {**running-config** | **startup-config** | *device*:*filename*}	copies a file from a TFTP server to another destination
enable	enters privileged EXEC mode
end	ends and exits configuration mode

Command	Description
exit	exits one level in the menu structure
hostname *host-name*	sets the device name
interface *type number*	changes from global configuration mode to interface configuration mode
ip address *ip-address subnet-mask*	assigns an IP address to an interface
ipconfig /dg *ip-address*	is used in NetSim to assign a default gateway IP address to a workstation interface
ipconfig /ip *ip-address subnet-mask*	is used in NetSim to assign an IP address and subnet mask to a workstation interface
no shutdown	enables an interface
ping *ip-address*	sends an Internet Control Message Protocol (ICMP) echo request to the specified address
show running-config	displays the active configuration file
show tftp-configs	is used in NetSim to display a list of files copied using TFTP and stored on a PC

The IP addresses and subnet masks used in this lab are shown in the tables below:

IP Addresses

Device	Interface	IP Address	Subnet Mask
Router4	FastEthernet 0/0	24.37.2.1	255.255.255.0

Device	IP Address	Subnet Mask	Default Gateway
PC1	24.37.2.252	255.255.255.0	24.37.2.1

Lab Tasks

Task 1: Configure Router4

This task involves configuring connectivity between the router that you want to back up and the TFTP server.

1. On Router4, assign a host name of **Router4**.

2. On Router4, assign the appropriate IP address and subnet mask to the FastEthernet 0/0 interface; refer to the IP Addresses table. Enable the interface.

3. On PC1, assign the appropriate IP address, subnet mask, and default gateway; refer to the IP Addresses table.

   Note: The **ipconfig /ip** *ip-address subnet-mask* and **ipconfig /dg** *ip-address* commands are not standard PC commands; they are used only in the BOSS operating system (OS) running on the PCs within NetSim.

4. From PC1, ping Router4's FastEthernet 0/0 interface (24.37.2.1) to verify connectivity to the default gateway. The ping should be successful.

Task 2: Save a Configuration to a TFTP Server

1. On Router4, copy the running configuration to the TFTP server on PC1.

2. When prompted for the address or name of the TFTP server, provide PC1's IP address (**24.37.2.252**), and then provide the name of the configuration file that will be stored on PC1. Name the configuration file **router4_config**. The router will take a few seconds to establish the connection; then you will see it copy the configuration file.

3. On PC1, display the configurations that are stored on the TFTP server. You should see the configuration you just saved.

   Note: The **show tftp-configs** command is not a standard PC command; it is only used in the BOSS OS running on the PCs within NetSim.

Task 3: Load a Configuration from a TFTP Server

This task involves loading the configuration from the TFTP server onto Router4. Perform the following steps on Router4.

1. On Router4, change the host name of the router to **Bad_Router**.

2. On Router4, copy the configuration you stored on the TFTP server into the running configuration.

3. When Router4 prompts you for a name or an IP address, enter the IP address of the TFTP server (**24.37.2.252**).

4. Enter the name of the configuration file (**router4_config**) that should be obtained from the TFTP server.

5. Router4 will download the configuration and load it into the running configuration. You can verify the load was successful by ensuring that the host name has been restored to what it was when the configuration was saved.

Lab Solutions

Task 1: Configure Router4

1. Issue the following commands to assign the appropriate host name to Router4:

```
Router>enable
Router#configure terminal
Router(config)#hostname Router4
```

2. On Router4, issue the following commands to assign the appropriate IP address and subnet mask to the FastEthernet 0/0 interface and to enable the interface:

```
Router4(config)#interface fastethernet 0/0
Router4(config-if)#ip address 24.37.2.1 255.255.255.0
Router4(config-if)#no shutdown
```

3. Connect to PC1, and issue the following commands to assign the IP address, subnet mask, and default gateway:

```
C:>ipconfig /ip 24.37.2.252 255.255.255.0
C:>ipconfig /dg 24.37.2.1
```

Note: The **ipconfig /ip** *ip-address subnet-mask* and **ipconfig /dg** *ip-address* commands are not standard PC commands; they are used only in the BOSS OS running on the PCs within NetSim.

4. From PC1, ping Router4's FastEthernet 0/0 interface to verify connectivity to the default gateway. The ping should be successful.

```
C:>ping 24.37.2.1
```

Task 2: Save a Configuration to a TFTP Server

1. On Router4, issue the following commands to copy the running configuration to the TFTP server on PC1:

```
Router4(config-if)#end
Router4#copy running-config tftp
```

2. When prompted for the address or name of the TFTP server, provide PC1's IP address and then provide the name of the configuration file that will be stored on PC1. Name the configuration file **router4_config**. The router will take a few seconds to establish the connection; then you will see it copy the configuration file.

```
Address or name of remote host[]?24.37.2.252
Destination filename [temp.rtr]?router4_config
!!!!!
```

3. On PC1, enter the **show tftp-configs** command in order to display the configurations that are stored on the TFTP server. You should see the configuration you just saved. Sample output is shown below:

```
C:>show tftp-configs

    Filename              File Size

    router4_config        2481 bytes
```

Note: The **show tftp-configs** command is not a standard PC command; it is only used in the BOSS OS running on the PCs within NetSim.

Task 3: Load a Configuration from a TFTP Server

1. On Router4, issue the following commands to change the host name of the router to **Bad_Router**:

```
Router4#configure terminal
Router4(config)#hostname Bad_Router
```

2. On Router4, issue the following commands to copy the configuration you stored on the TFTP server into the running configuration:

```
Bad_Router(config)#exit
Bad_Router#copy tftp running-config
```

3. When Router4 prompts you for a name or an IP address, enter the IP address of the TFTP server.:

```
Address or name of remote host[]?24.37.2.252
```

4. On Router4, enter the name of the configuration file that should be obtained from the TFTP server:

```
Source filename[]?router4_config
```

5. Router4 will download the configuration and load it into the running configuration. You can verify that the load was successful because the host name will be restored to what it was when the configuration was saved.

```
Router4#
```

Sample Configuration Script

Router4

```
Router4#show running-config
Building configuration...
Current configuration : 657 bytes
!
Version 12.3
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Router4
!
ip subnet-zero
!
ip cef
no ip domain-lookup
!
interface Serial0/0
 no ip address
 no ip directed-broadcast
 shutdown
!
interface Serial0/1
 no ip address
 no ip directed-broadcast
 shutdown
!
interface FastEthernet0/0
 ip address 24.37.2.1 255.255.255.0
 no ip directed-broadcast
!
interface FastEthernet0/1
 no ip address
 no ip directed-broadcast
 shutdown
!
ip classless
no ip http server
!
line con 0
line aux 0
line vty 0 4
!
no scheduler allocate
end
```

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