

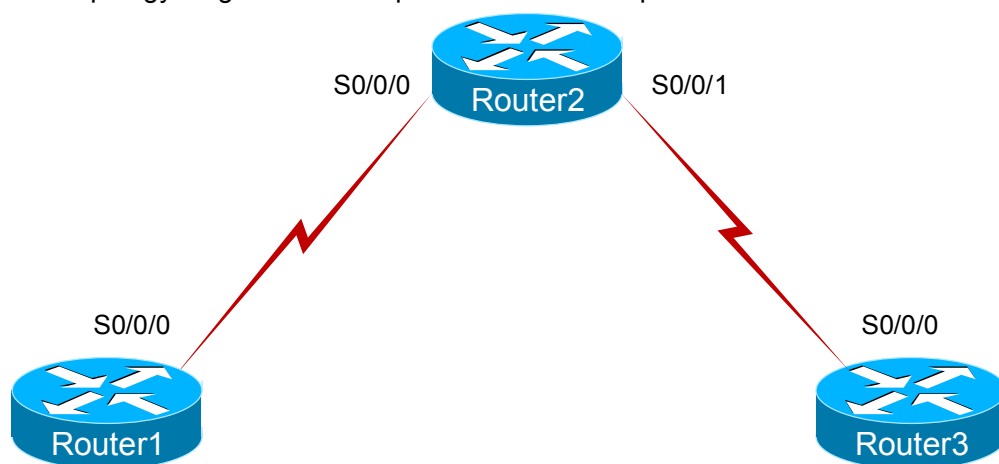
Stand-Alone Lab: Saving Router Configurations

Objective

Learn to copy the running configuration to the startup configuration. Configure Router1 with the appropriate settings.

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	saves the configuration file
enable	enters privileged EXEC mode
end	ends and exits configuration mode
erase startup-config	deletes the startup configuration file in non-volatile random access memory (NVRAM)
exit	exits one level in the menu structure
hostname <i>host-name</i>	sets the device name
reload	reboots the router
show running-config	displays the active configuration file
show startup-config	displays the backup configuration file

Lab Tasks

Task 1: Learn the Copy Command

Perform the following tasks on Router1.

1. Configure a host name of **Router1** for the router.
2. Display the active configuration.
3. Display the backup configuration file stored in NVRAM.
4. Copy the current active configuration to NVRAM. The current active configuration is in random access memory (RAM); it should be saved so that the router will still boot up with the saved configuration in the event of a power outage.
5. Display the configuration stored in NVRAM.
6. If you decide that you would like to start configuring the router from scratch, you can erase the startup configuration and reload the router. This will enable you to completely delete all configurations on the router. Issue the **erase startup-config** command to delete the configuration file in NVRAM. When prompted, confirm that you want to erase the NVRAM file system by pressing the Y key.
7. Reload the router, and press the Enter key when prompted to confirm the reload. When prompted to enter the initial configuration dialog, type **no**. The initial configuration dialog prompt is displayed because a startup configuration was not found.
8. After the router reboots, look at the startup configuration file again. What configuration is displayed?
9. Configure the host name of the router as **Router1**.
10. Save the router configuration.
11. Change the host name to **Boson**.
12. Reload the router. Press Enter when prompted to confirm the reload.
13. After the router reloads, what host name is displayed in the prompt? _____
14. View the configuration used when the router restarted after you issued the **reload** command.

Lab Solutions

Task 1: Learn the Copy Command

On Router1, issue the following commands to configure a host name:

```
Router>enable
Router#configure terminal
Router(config)#hostname Router1
```

2. Issue the **show running-config** command to display the active configuration in memory. The active configuration running on the router is referred to as the *running-config* in the router's command-line interface (CLI). Note that privileged EXEC mode is required to display the active configuration. The running configuration script is not automatically saved on a Cisco router and will be lost in the event of power failure. The running configuration must be manually saved with the **copy** command.

```
Router1(config)#end
Router1#show running-config
Building configuration...
!
Version 12.3
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Router1
!
ip subnet-zero
!
ip cef
no ip domain-lookup
!
interface Serial0/0/0
no ip address
no ip directed-broadcast
shutdown
!
interface Serial0/0/1
no ip address
no ip directed-broadcast
shutdown
!
interface FastEthernet0/0
no ip address
no ip directed-broadcast
shutdown
!
interface FastEthernet0/1
no ip address
no ip directed-broadcast
shutdown
<output omitted>
```

3. Issue the **show startup-config** command to display the configuration stored in NVRAM. You have not saved the configuration, so none can be displayed. Therefore, you should see a %% Non-volatile configuration memory is not present message.

```
Router1#show startup-config
%% Non-volatile configuration memory is not present
```

4. Issue the **copy running-config startup-config** to copy the current active configuration to NVRAM. The current active configuration is in random access memory (RAM); it should be saved so that the router will still boot up with the saved configuration in the event of a power outage.

```
Router1#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```

5. Issue the **show startup-config** command to show the configuration stored in NVRAM. Sample output is shown below:

```
Router1#show startup-config
Current configuration : 677 bytes
!
Version 12.3
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Router1
!
ip subnet-zero
!
ip cef
no ip domain-lookup
!interface Serial0/0/0
no ip address
no ip directed-broadcast
shutdown
!
interface Serial0/0/1
no ip address
no ip directed-broadcast
shutdown
!
interface FastEthernet0/0
no ip address
no ip directed-broadcast
shutdown
!
interface FastEthernet0/1
no ip address
no ip directed-broadcast
shutdown
<output omitted>
```

6. If you decide that you would like to start configuring the router from scratch, you can erase the startup configuration and reload the router. This will enable you to completely delete all configurations on the router. Issue the **erase startup-config** command to delete the configuration file in NVRAM. When prompted, confirm that you want to erase the NVRAM file system by pressing the Y key.

```
Router1#erase startup-config
Erasing the nvram filesystem will remove all files! Continue? [confirm] Press the Y key
[OK]
Erase of nvram: complete
```

7. Issue the **reload** command to reload the router, and press Enter when prompted to confirm the reload. When prompted to enter the initial configuration dialog, type **no**. The initial configuration dialog prompt is displayed because a startup configuration was not found. The following is sample output from the **reload** command:

```
Router1#reload
Proceed with reload? [confirm] Press Enter
Building simulated configuration...
[OK]
Simulated Bootstrap, Version 12.3, RELEASE SOFTWARE

Copyright (c) 1998-2013 by Boson Systems, Inc.
C2800 Simulated processor with 20480 Kbytes of main memory

Self decompressing the image : ##### {OK}
<output omitted>

Press Enter to Start

Router>

      --- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? {yes/no}: no
Router>
```

8. After the router reboots, look at the startup configuration file again. Because you did not save it before you reloaded, there is nothing there. Therefore, you should see a %% Non-volatile configuration memory is not present message.

```
Router>enable
Router#show startup-config
%% Non-volatile configuration memory is not present
```

9. Configure the host name of the router as **Router1** by issuing the following commands:

```
Router#configure terminal
Router(config)#hostname Router1
```

10. Save your router configuration by issuing the **copy running-config startup-config** command.

```
Router1(config)#end
Router1#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```

11. Change the host name from **Router1** to **Boson**.

```
Router1#configure terminal
Router1(config)#hostname Boson
```

12. Reload the router by issuing the reload command. Press the Enter key when prompted to confirm the reload.

```
Boson(config)#exit
Boson#reload
Proceed with reload? [confirm] Press Enter
Simulated Bootstrap, Version 5.0, RELEASE SOFTWARE
Copyright (c) 1998-2013 by Boson Systems, Inc.
C2800 Simulated processor with 20480 Kbytes of main memory

Self decompressing the image : ##### [OK]

Boson Operating Simulation System
BOSS (tm) 2800 Simulator (C2800-enterprise), Version 5.0, RELEASE SOFTWARE
Copyright (c) 1998-2013 by Boson Software
Simulated Image

Boson 2800 (BOSS) emulator (revision 5.0) with 20480K/512K simulated memory.

BOSS, Version 5.0

2 Ethernet/IEEE 802.3 interface(s)
2 Serial network interface(s)
7K bytes of simulated non-volatile configuration memory.
8192K bytes of simulated processor flash (Read/Write)

Press Enter to Start

Router1>
```

13. After the router reloads, the host name **Router1**, not **Boson**, is displayed at the prompt because the configuration used to start the router was the startup configuration.

14. Issue the **show startup-config** command to view the configuration used when the router restarted after you issue the **reload** command.

```
Router1>enable
Router1#show startup-config
Current configuration : 677 bytes
!
Version 12.3
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Router1
!
ip subnet-zero
!
ip cef
no ip domain-lookup
!interface Serial0/0/0
no ip address
no ip directed-broadcast
shutdown
!
interface Serial0/0/1
no ip address
no ip directed-broadcast
shutdown
!
interface FastEthernet0/0
no ip address
no ip directed-broadcast
shutdown
!
interface FastEthernet0/1
no ip address
no ip directed-broadcast
shutdown
<output omitted>
```