Understand how to Backup and Restore Configuration Files

Contents

Introduction

Prerequisites

- Requirements
- Components Used

Make a Backup of the Configuration

- Use a TFTP Server to Backup and Restore a Configuration
- Use an FTP Server to Backup and Restore a Configuration
- Use a Terminal Emulation Program to Backup and Restore a Configuration
- Automatic Backup of Configuration with the Kron Method
- Backup Configuration to a TFTP Server

Verify

Related Information

Introduction

This document describes how to migrate a configuration from a current router to a new router.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics and have the required access:

- Access to a Trivial File Transfer Protocol (TFTP) or File Transfer Protocol (FTP) server.
- Connectivity - Routers must be able to access the FTP or TFTP server. Use the **ping** command to verify connectivity.

Components Used

This document is not restricted to specific software and hardware versions.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Make a Backup of the Configuration

There are several methods to choose from in order to back up and restore a configuration:

- Use a TFTP Server
- Use an FTP Server
- Use a Terminal Emulation Program
- Automatic Backup of Configuration with the Kron Method
- Backup Configuration to a TFTP Server

Use a TFTP Server to Backup and Restore a Configuration

This is a step-by-step approach to copy a configuration from a router to a TFTP server, and back to another router. Before you proceed with this method, make sure you have a TFTP server on the network to which you have IP connectivity.

1. At the **`Router>`** prompt, issue the **enable** command, and provide the required **password** when prompted.

   The prompt changes to Router #, which indicates that the router is now in privileged mode.

2. Copy this **configuration file** to the TFTP server:

```
<#root>

CE_2#

copy running-config tftp:

Address or name of remote host []?

10.104.207.171

Destination filename [ce_2-confg]?

backup_cfg_for_my_router

!!
1030 bytes copied in 2.489 secs (395 bytes/sec)
CE_2#
```

3. Open the configuration file with a text editor. Search for and remove any line that starts with AAA.

> **Note**: This step is to remove any security commands that can lock you out of the router.

4. Copy the **configuration file** from the TFTP server to a new router in privileged (enable) mode which has a basic configuration.

```
<#root>

Router#

copy tftp: running-config

Address or name of remote host []?

10.104.207.171

Source filename []?

backup_cfg_for_my_router

Destination filename [running-config]?
Accessing tftp://10.66.64.10/backup_cfg_for_my_router...
Loading backup_cfg_for_router from 10.104.207.171 (via FastEthernet0/0): !
[OK - 1030 bytes]

1030 bytes copied in 9.612 secs (107 bytes/sec)
CE_2#
```

Use an FTP Server to Backup and Restore a Configuration

In this procedure, an FTP server can be used in place of a TFTP server.

1. At the **Router>**prompt, issue the **enable** command, and provide the required password when prompted.

   The prompt changes to Router #, which indicates that the router is now in privileged mode.

2. Configure the **FTP username** and password.

```
<#root>

CE_2#

configure terminal

CE_2(config)#

ip ftp username cisco

CE_2(config)#

ip ftp password cisco123

CE_2(config)#
```

```
end

CE_2#
```

3. Copy the **configuration** to the FTP server.

```
<#root>

CE_2#

copy running-config ftp:

Address or name of remote host []?

10.66.64.10

Destination filename [ce_2-confg]?

backup_cfg_for_router

Writing backup_cfg_for_router !
1030 bytes copied in 3.341 secs (308 bytes/sec)
CE_2#
```

4. Open the configuration file with a text editor. Search for and remove any line that starts with AAA.

> **Note**: This step is to remove any security commands that can lock you out of the router.

5. Copy the **configuration file** from the FTP server to a router in privileged (enable) mode which has a basic configuration.

```
<#root>

Router#

copy ftp: running-config

Address or name of remote host [10.66.64.10]?
Source filename [backup_cfg_for_router]?
Destination filename [running-config]?
Accessing ftp://10.66.64.10/backup_cfg_for_router...
Loading backup_cfg_for_router !
[OK - 1030/4096 bytes]
1030 bytes copied in 13.213 secs (78 bytes/sec)
CE_2#
```

Use a Terminal Emulation Program to Backup and Restore a Configuration

A terminal emulation program can be used to back up and restore a configuration. This is a description of the procedure with Microsoft HyperTerminal Emulation software, but you can use the concept and this

example with the Terminal Emulation software of your preference:

1. If the configuration needs to be copied from another router, connect to that router through the console or Telnet.
2. At the `Router>` prompt, issue the **enable** command, and provide the required password when prompted.

   The prompt changes to Router #, which indicates that the router is now in privileged mode.
3. Issue the **terminal length 0** command in order to force the router to return the entire response at once, rather than one screen at a time.

   This allows you to capture the configuration without extraneous `--more--` prompts generated when the router responds one screen at a time.
4. On the HyperTerminal menu, choose **Transfer > Capture Text**.

   The Capture Text window appears.
5. Name this file config.txt.
6. Click **Start** in order to dismiss the Capture Text window and begin the capture.
7. Issue the **show running-config** command and allow time for the router to complete its response. You can see:

   ```
   Building configuration...
   ```

   followed by the configuration.
8. On the HyperTerminal menu, choose **Transfer > Capture Text > Stop** in order to end the screen capture.
9. Open the config.txt file you created in any text editor, such as Notepad or WordPad.
10. Search for and remove any line that starts with AAA.

    Note: This step is to remove any security commands that can lock you out of the router.
11. Save the **file**.
12. Connect to the router that needs the configuration.
13. Open the **config.txt file**.
14. Highlight the entire contents of the config.txt file.

    To do this, highlight the entire contents with your left mouse button. Alternatively, if you use Notepad, you can choose **Edit > Select All** from the menu.

15. Copy the selected text to the Windows clipboard.

    You can either choose **Edit > Copy** from the text editor menu or hold down the **CTRL** key and simultaneously press the **C** key in order to perform the copy.

16. Switch to the HyperTerminal window and issue the **configure terminal** command at the Router # prompt. Then press **Enter**.

17. Paste the configuration file into the router with **Edit > Paste to Host** on the HyperTerminal menu.

18. After the configuration has finished pasting and the router brings you back to the configuration prompt, issue the **copy running-config startup-config** command in order to write the configuration into memory.

19. Issue the **exit** command in order to return to the Router # prompt.

Automatic Backup of Configuration with the Kron Method

Note: The Kron method must not be used on Catalyst 9000 Series Switches, see Cisco bug ID CSCvp92564 for more info.

In order to get a router to copy the running-config to startup-config, for example every Sunday at 23:00, complete these steps:

1. Create a **kron policy list** — This is the script that lists what commands the router must run at the scheduled time.

```
<#root>

Router(config)#

kron policy-list SaveConfig

Router(config-kron-policy)#

cli write

Router(config-kron-policy)#

exit
```

- CLI—Specifies EXEC CLI commands within a Command Scheduler policy list.
- Policy-list—Specifies the policy list associated with a Command Scheduler occurrence.

Note: The reason why **write** was used rather than **copy running-config startup-config** is because kron does not support interactive prompts and the **copy running-config startup-config** command requires interaction. It is important to remember this when you create commands.

Also, kron does not support configuration commands.

2. Create a **kron occurrence**. This informs the router when and how often the policy must run.

```
<#root>

Router(config)#

kron occurrence SaveConfigSchedule at 23:00 Sun recurring

Router(config-kron-occurrence)#

policy-list SaveConfig
```

- SaveConfigSchedule — This is the name of occurrence. Length of occurrence-name is from 1 to 31 characters. If the occurrence-name is new, an occurrence structure can be created. If the occurrence-name is not new, the current occurrence can be edited.
- at—Identifies that the occurrence is to run at a specified calendar date and time.
- recurring—Identifies that the occurrence is to run on a recurring basis.

3. Verify the kron configuration with the **show** command.

```
<#root>

Router#

show kron schedule

Kron Occurrence Schedule
SaveConfigSchedule

inactive

, can run again in 1 days 12:37:47 at 23:00 on Sun
```

- Inactive — Means that kron is not running the command(s) at present.
- Active — Means that kron is running the current command(s).

```
<#root>

Router#

show running-configuration


kron occurrence SaveConfigSchedule at 23:00 Sun recurring
policy-list SaveConfig
kron policy-list SaveConfig
cli write
```

Backup Configuration to a TFTP Server

This example is to save the current config to a TFTP server (10.1.1.1) every Sunday at 23:00:

```
<#root>
Router(config)#
kron policy-list Backup
Router(config-kron-policy)#
cli show run | redirect


tftp://10.1.1.1/test.cfg
Router(config-kron-policy)#
exit
!
Router(config)#
kron occurrence Backup at 23:00 Sun recurring
Router(config-kron-occurrence)#
policy-list Backup
```

Verify

Use the **show running-config** command to confirm that the configuration file has been copied to the destination router.

Related Information

- Cisco Technical Support & Downloads