

# Back up and Restore Configuration Files

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## Introduction

Routers often get upgraded or swapped out for a number of reasons. This document provides the user with some basic steps to migrate the configuration from an existing router to a new router.

## Prerequisites

### Requirements

Before you use the information in this document, make sure that you meet these requirements:

- 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, make sure that you understand the potential impact of any command.

### Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

## 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 using 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 the running configuration file to the TFTP server:

```
CE_2#copy running-config tftp:
Address or name of remote host []? 64.104.207.171
Destination filename [ce_2-config]? 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.

```
Router#copy tftp: running-config
Address or name of remote host []? 64.104.207.171
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 64.104.207.171 (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.

```
CE_2#config 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.

```
CE_2#copy running-config ftp:
```

```
Address or name of remote host []? 10.66.64.10
Destination filename [ce_2-config]? 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.

```
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 using Microsoft Hyperterminal Terminal Emulation software:

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 will 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 could 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.

You can do this by dragging the cursor from before the first character to after the last character in the file while holding down the 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 by selecting **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 using the Kron Method

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 should run at the scheduled time.

```
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, note that kron does not support configuration commands.

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

```
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 will be created. If the occurrence-name is not new, the existing occurrence will 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 by using the **show** command.

```
Router#sh kron schedule
Kron Occurrence Schedule
SaveConfigSchedule inactive, will run again in 1 days 12:37:47 at 23:00 on
```

◆ **inactive** Means that kron is not running the command(s) at present.

◆ **Active** Means that kron is running the current command(s).

```
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 running config to a TFTP server (10.1.1.1) every Sunday at 23:00:

```
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.

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## Related Information

- **Technical Support & Documentation– Cisco Systems**

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