This document describes the basic steps to back up and restore Cisco Configurations. To perform those tasks, you will need a TFTP Server. There are a bunch of free tools downloadable, like

- TFTPD32 -> http://tftpd32.jounin.net
- 3CDaemon -> http://support.3com.com/software/3cdv2r10.zip

My favorite TFTP Server is TURBO TFTP from Weird Solutions

http://corporate.weird-solutions.com/products/tftp-turbo

Backing Up the Cisco Router Configuration

To copy a router configuration from the router to TFTP-Server, you can use either the *copy running-config tftp* or the *copy startup-config tftp* command. Either one will back up the router configuration that is currently running in DRAM, or that is stored in NVRAM.

TFTP Server
192.168.10.234

Terminal Access
via
Console
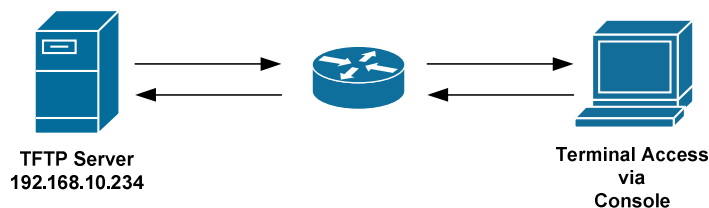
Verifying the Current Configuration

To verify the configuration in DRAM, use the *show running-config* command ("**sh run**" for short) like this:

```
CSCO-1802-A#sh run
Building configuration...
Current configuration: 1606 bytes
!
version 12.4
```
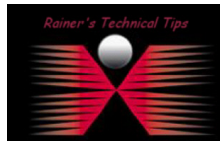
The current configuration information indicates that the router is now running version 12.4 of the IOS.

Verifying the Stored Configuration

Next, you should check the configuration stored in NVRAM. To see this, use the *show startup-config* command ("**sh start**" for short) like this:

```
Router#sh start
Using 1817 out of 196600 bytes
!
version 12.4
```

The second line shows you how much room your backup configuration is using. Here, we can see that NVRAM is 196KB and that only 1817 bytes of it are used.

Copying the Current Configuration to NVRAM

By copying running-config to NVRAM as a backup, as shown in the following output, you're assured that your running-config will always be reloaded if the router gets rebooted. In the new IOS version 12.0, you're prompted for the filename you want to use.

```
CSCO-1802-A#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
CSCO-1802-A#
CSCO-1802-A#sh start
Using 1606 out of 196600 bytes
!
version 12.4
```

Now we see 1606 Bytes – the same amount of bytes we have seen when verifying running-config

Copying the Configuration to a TFTP Server

Once the file is copied to NVRAM, you can make a second backup to a TFTP server by using the *copy running-config tftp* command (copy run tftp for short), like this:

```
CSCO-1802-A#copy run tftp

Address or name of remote host []? 192.168.10.234

Destination filename [csco-1802-a-confg]?

!!

1606 bytes copied in 0.700 secs (2294 bytes/sec)

CSCO-1802-A#
```

Notice that this took only two exclamation points (!!)–which means that 20 packets have been transferred (10 for each exclamation point).
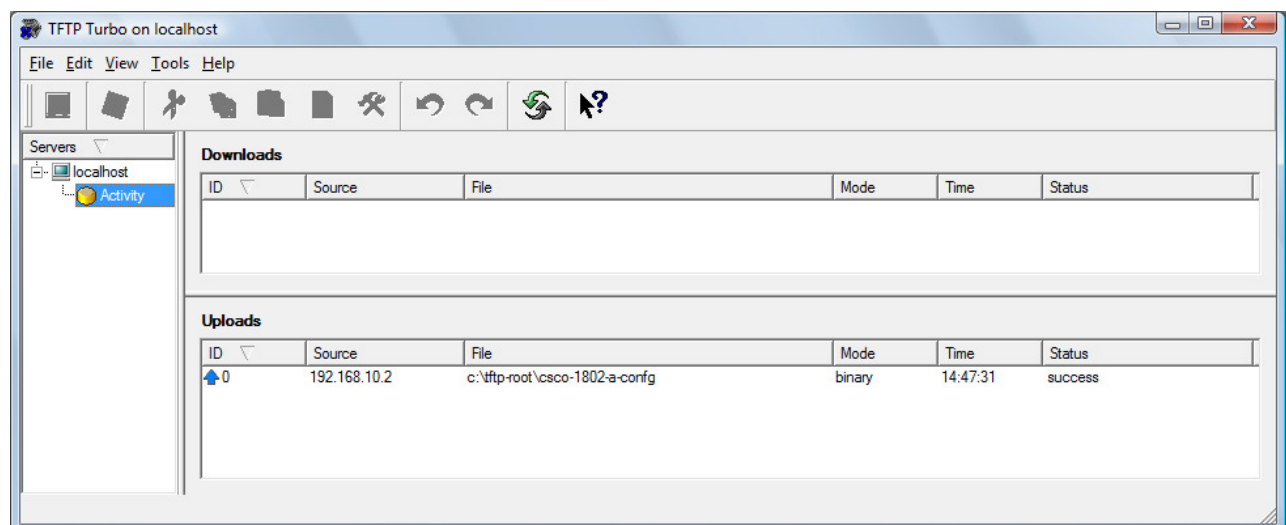
If you see a time-out, make sure you can reach TFTP Server:

```
CSCO-1802-A#copy run tft
Address or name of remote host []? 192.168.10.234
Destination filename [csco-1802-a-config]?
.....
%Error opening tftp://192.168.10.234/backup-config (Timed out)
CSCO-1802-A#


CSCO-1802-A#ping 192.168.10.234

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.10.234, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/4 ms
CSCO-1802-A#
```

POSSIBLE ERROR

Verify, that no Windows Firewall or any other in-between blocking device prevents communication. TFTP runs by default on Port Number 69 / UDP. You may have to add the Port and Application to the Firewall settings.
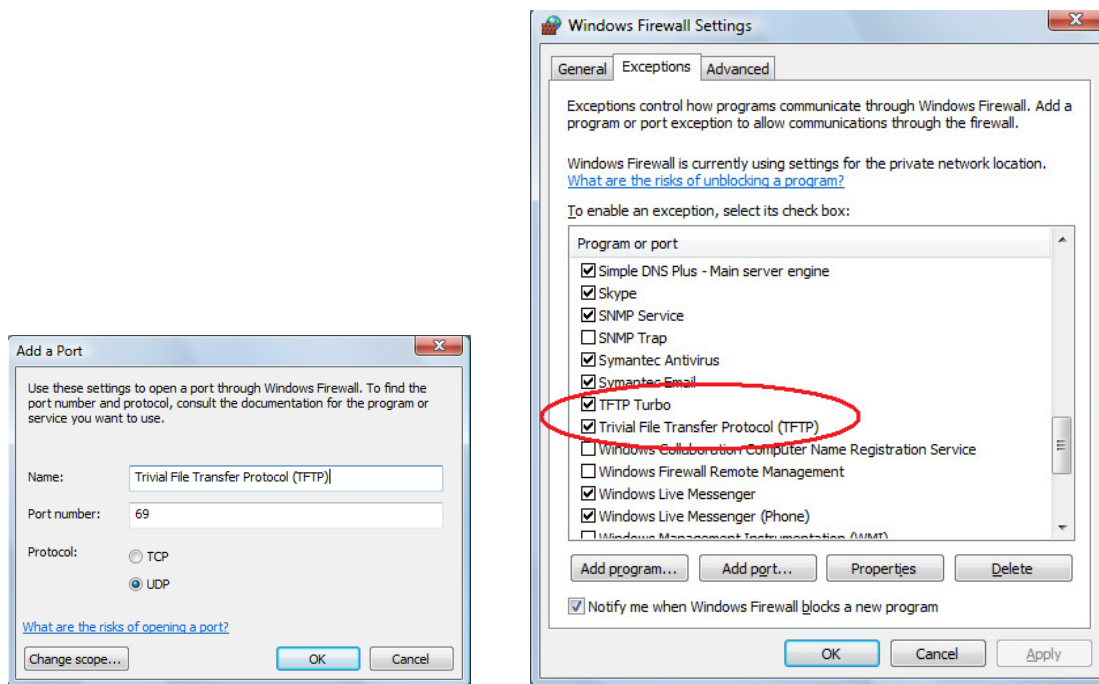
Restoring the Cisco Router Configuration

If you have changed your router's running-config file and want to restore the configuration to the version in the startup-config file, the easiest way to do this is to use the *copy startup-config running-config* command (copy start run for short). You can also use the older Cisco command **config mem** to restore a configuration. Of course, this will work only if you first copied running-config into NVRAM before making any changes!

If you did copy the router's configuration to a TFTP server as a second backup, you can restore the configuration using the **copy tftp running-config** command (**copy tftp run** for short) or the *copy tftp startup-config* command (**copy tftp start** for short), as shown below (remember that the old command that provides this function is config net):

```
CSCO-1802-A#copy tftp run
Address or name of remote host []? 192.168.10.234
Source filename []? csco-1802-a-confg
Destination filename [running-config]?
Accessing tftp://192.168.10.234/csco-1802-a-confg...
Loading csco-1802-a-confg from 192.168.10.234 (via FastEthernet0): !
[OK - 1606 bytes]

1606 bytes copied in 0.404 secs (3975 bytes/sec)
CSCO-1802-A#

*Nov  8 14:03:36.111: %SYS-5-CONFIG_I: Configured from tftp://192.168.10.234/csco-
1802-a-confg by vty0 (192.168.10.23)
```

The configuration file is an ASCII text file. So it can easily be modified with any text editor and reloaded onto the Router with new configuration enhancements.
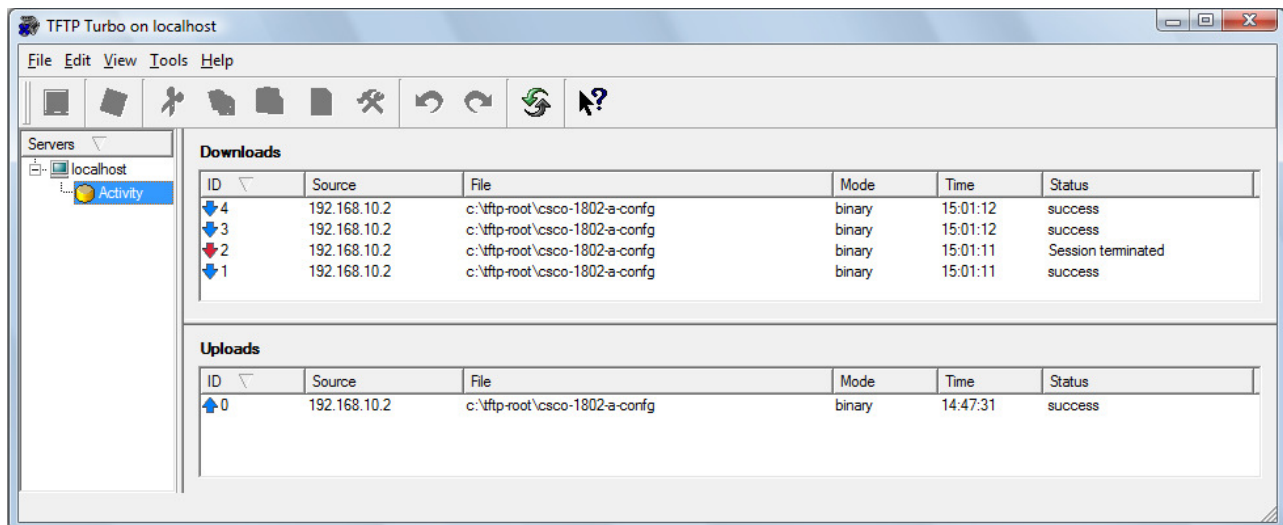
Erasing the Configuration

To delete the startup-config file on a Cisco router, use the **erase startup-config** command, like this:

```
CSCO-1802-A#erase startup-config
Erasing the nvram filesystem will remove all configuration files! Continue? [confirm]
[OK]
Erase of nvram: complete
CSCO-1802-A#

*Nov  8 14:08:12.707: %SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram
```

This command deletes the contents of NVRAM on the router, so the next time the router boots, it will run the setup mode.
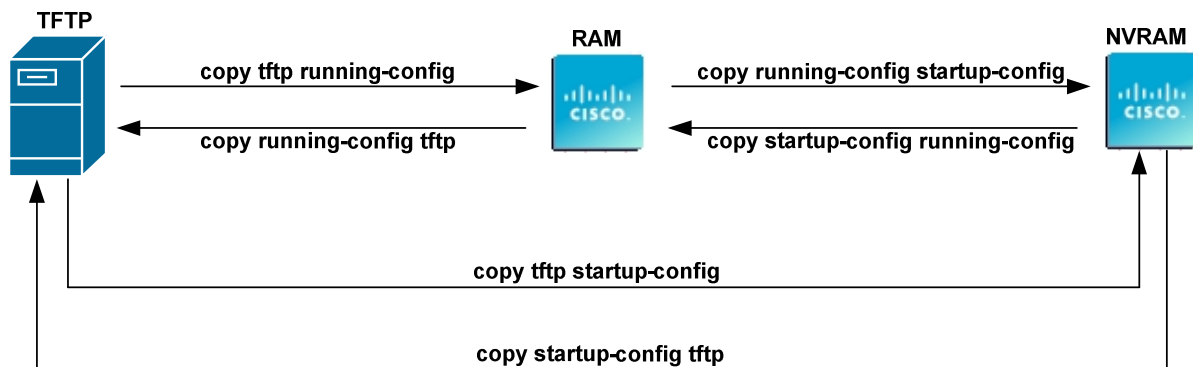
Restart / Reboot the Router

To restart the Router, initiate the reload command

```
CSCO-1802-A# reload
Proceed with reload? [confirm]

*Nov  8 14:18:37.491: %SYS-5-RELOAD: Reload requested by console. Reload Reason:
Reload Command
```

Summarized Flows

Personally, I like drawings ☺

I hope this summary of Backing Up and Restoring Configuration is helpful for you guys. Please don't forget to visit www.bemsel.com/TechTip again for a bunch of other helpful Step-by-Step Instructions.