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How to backup your CFE

In case of a bricked router due to bootloader (mtd 0) overwrite, or to make modifications, this guide shows how to backup and write the [CFE](#) bootloader used in Broadcom devices. For a broken Linksys WRT54G/GL/GS CFE, try the [Skynet repairkit](#) to make a new one. CFEs for these and other various models may also be found at [CFE collection project](#) and [the "old" one](#).

There are several methods to backup the CFE (always open the CFE with a HEX editor to verify the contents):

by web interface (preferred method)

CFE backup is easy via web browser (this works since svn8428, post-RC5):

```
http://{router IP address}/backup/cfe.bin
```

E.g. for the DD-WRT default IP address (192.168.1.1):

```
http://192.168.1.1/backup/cfe.bin
```

by telnet/SSH

For non-micro builds, connect to the router via telnet or ssh (SSH must be enabled!) and enter the following:

```
dd if=/dev/mtd/0 of=/tmp/cfe.bin
```

- Or paste into Commands at the *Administration->Commands* tab (Diagnostics.asp) and click *Run Commands*.

Then get the cfe.bin file from the /tmp directory with FTP, SFTP or SCP (using, for example, [WinSCP](#)).

by cfe.jpg trick

This method is required for micro builds, but also works for all builds and is very simple:

```
cat /dev/mtd/0 > /tmp/www/cfe.jpg
```

Then point your browser to *http://routerip/user/cfe.jpg* and do a *File->"Save Page/As"* to cfe.bin to the local disk drive. The resulting file should be 256K in size for a cfe.bin file, but varies by router and model.

- **Note:** "/user/cfe.jpg" points to "/tmp/www/cfe.jpg"

The same can be done for mtd/1 *linux* (firmware including kernel), mtd/2, mtd/3, and others.

- Run `cat /proc/mtd`` to see the mtd partitions.

by JTAG

Connect a JTAG-Adapter cable to the router and use the following command:

```
wrt54g -backup:cfe
```

The same can be done with the *nvr*, *kernel*, etc.

Restoring the CFE

WARNING: *Do not flash the CFE (mtd 0) by telnet/SSH unless the risk is understood, as this could render the router unbootable. Only JTAG or soldering a new flash chip could fix it from that point.*

by telnet/SSH

First copy the CFE file to the router's /tmp directory (e.g. using something like WinSCP or wget), then:

```
mtd unlock cfe  
mtd write -f /tmp/cfe_new.bin cfe
```

by JTAG

Use JTAG to restore the unit's CFE. For example:

```
tjtag -flash:cfe
```