

Upgrading the firmware from a TFTP server using the CLI

Use the following procedure to upgrade the DFL firmware using the CLI. To run this procedure you must install a TFTP server and be able to connect to this server from the DFL internal interface. The TFTP server should be on the same subnet as the internal interface. You can download a free TFTP server from: http://site.ifrance.com/freewares/P_tftpd32.htm.



Installing new firmware using the CLI deletes all of the changes that you have made to the DFL configuration and reverts the system to its default configuration, including resetting interface addresses. To keep your current settings, before installing new firmware, download your configuration file (see [Backing up system settings](#)), and your web content and URL filtering lists (see [Downloading the banned word list](#), and [Downloading the URL block list](#)).



Installing new firmware using the CLI replaces your current antivirus* database and attack database with the versions of these databases included with the firmware release that you are installing. Once you have installed new firmware see [Automatic antivirus* and attack database updates](#) to make sure antivirus* and attack databases are up to date.

Connecting to the DFL CLI

- **You require:**
 - A computer with an available communications port
 - A null modem cable with a 9-pin connector to connect to the DFL Console port (RS-232 Serial connection) and to a communications port on your computer
 - Terminal emulation software such as HyperTerminal for Windows



The following procedure describes how to connect to the CLI using Windows HyperTerminal software. You can use any terminal emulation program.

- **To connect to the CLI:**
 - Connect the null modem cable to the communications port of your computer and to the DFL Console port.
 - Make sure the DFL is powered on.
 - Start HyperTerminal, enter a name for the connection, and select OK.
 - Configure HyperTerminal to connect directly to the communications port on your computer into which you have connected the null-modem cable.
 - Select OK.
 - Select the following port settings and select OK:
 - Bits per second: 9600
 - Data bits: 8
 - Parity: None
 - Stop bits: 1
 - Flow control: None
 - Press Enter to connect to the CLI.

The following prompt appears:
D-Link login:
 - Type a valid administrator name and press Enter.
 - Type the password for this administrator and press Enter.

The following prompt appears:
Type ? for a list of commands.

Upgrading the firmware

- **To install a firmware upgrade using the CLI:**
- Make sure the TFTP server is running.
- Make sure the internal interface of the DFL is connected to your internal network.
- To confirm that you can connect to the TFTP server from the DFL, start the DFL CLI and use the following command to ping the computer running the TFTP server. If the TFTP server's IP address is 192.168.1.168:

```
> execute ping 192.168.1.168
```

- Copy the new firmware image file to the root directory of your TFTP server.
- Enter the following command to restart the DFL:

```
> execute reboot
```

As the DFL reboots, messages similar to the following appear:

```
BIOS Version 2.2
Serial number: FGT-502801021075
SDRAM Initialization.
Scanning PCI Bus...Done.
Total RAM: 256M
Enabling Cache...Done.
Allocating PCI Resources...Done.
Zeroing IRQ Settings...Done.
Enabling Interrupts...Done.
Configuring L2 Cache...Done.
Boot Up, Boot Device Capacity=62592k Bytes.
Press Any Key To Download Boot Image.
...
```

- Quickly press any key to interrupt system startup.
The following message appears:
Enter TFTP Server Address [192.168.1.168]:



You only have 3 seconds to press any key. If you do not press any key soon enough the DFL reboots and you must log in and repeat the *execute reboot* command.

- Type the address of the TFTP server and press Enter.
The following message appears:
Enter Local Address [192.168.1.188]:
- Type the address of the internal interface of the DFL and press Enter.
The following message appears:
Enter File Name [image.out]:
- Enter the firmware image file name and press Enter.
The TFTP server uploads the firmware image file to the DFL and messages similar to the following appear:
Total 7682959 Bytes Data Is Downloaded.
Testing The Boot Image Now.

Total 32768k Bytes Are Unzipped.
Do You Want To Save The Image ?[Y/n]
- Type Y.
Programming The Boot Device Now.
.....
Read Boot Image 548405 Bytes.

Initializing Firewall ...

D-Link Login:

The installation can take a few minutes to complete.

You can then restore your previous configuration. Begin by changing the interface addresses if required. You can do this from the web-based manager or the CLI using the command:

set system interface

Once the interface addresses are changed, you can access the DFL from the web-based manager and restore your configuration files and content and URL filtering lists.