NAME

dfu-tool − dfu-tool

DESCRIPTION

This manual page documents briefly the **dfu-tool** command.

dfu-tool allows a user to write various kinds of firmware onto devices supporting the USB Device Firmware Upgrade protocol. This tool can be used to switch the device from the normal runtime mode to 'DFU mode' which allows the user to read and write firmware. Either the whole device can be written in one operation, or individual 'targets' can be specified with the alternative name or number.

dfu-tool uses the libdfu shared library to perform actions. All synchronous actions can be safely cancelled and on failure will return errors with both a type and a full textual description. libdfu supports DFU 1.0, DFU 1.1 and the ST DfuSe vendor extension, and handles many device 'quirks' necessary for the real-world implementations of DFU.

Additionally **dfu-tool** can be used to convert firmware from various different formats, or to modify details about the elements, images and metadata contained inside the firmware file. For example, you can easily convert DFU 1.1 firmware into the vendor-specific DfuSe format, convert a Intel HEX file into a raw file padded to a specific size, or add new copyright and licensing information to an existing file. Fields such as the vendor and product IDs can be changed, and the firmware elements can be encrypted and decrypted using various different methods. Merging two DfuSe files together is also possible, although specifying different alt-setting numbers before merging is a good idea to avoid confusion.

Although **dfu-tool** tries to provide a large number of easy-to-use commands, it may only be possible to do certain operations using the libdfu library directly. This is easier than it sounds, as the library is built with GObject Introspection support making it usable in many languages such as C, Javascript and Python. Furthermore, using the library is a good idea if you want to perform multiple operations on large firmware files, for instance, converting from an Intel HEX file, padding to a certain size, setting vendor and adding licensing information and then saving to a remote location.

Usage:

dfu−tool [OPTION?]

attach Attach DFU capable device back to runtime

convert FORMAT FILE−IN FILE OUT [SIZE]
Convert firmware to DFU format

decrypt FILENAME−IN FILENAME−OUT TYPE KEY
Decrypt firmware data

detach Detach currently attached DFU capable device

dump FILENAME
Dump details about a firmware file

encrypt FILENAME−IN FILENAME−OUT TYPE KEY
Encrypt firmware data

list List currently attached DFU capable devices

merge FILE−OUT FILE1 FILE2 [FILE3...]
Merge multiple firmware files into one

patch−apply
Apply a binary patch

patch−create
Create a binary patch using two files

patch−dump
Dump information about a binary patch to the screen

read FILENAME
Read firmware from device into a file

read−alt FILENAME DEVICE−ALT−NAME|DEVICE−ALT−ID
Read firmware from one partition into a file

replace−data
Replace data in an existing firmware file

reset Reset a DFU device

set−address FILE ADDRESS
Set element address on firmware file

set−alt−setting FILE ALT−ID
Set alternative number on firmware file

set−alt−setting−name FILE VALUE
Set alternative name on firmware file

set−metadata FILE KEY VALUE
Sets metadata on a firmware file

set−product FILE PID
Set product ID on firmware file

set−release FILE RELEASE
Set release version on firmware file

set−target−size FILE SIZE
Set the firmware size for the target

set−vendor FILE VID
Set vendor ID on firmware file

watch Watch DFU devices being hotplugged

write Write firmware from file into device

write−alt FILENAME DEVICE−ALT−NAME|DEVICE−ALT−ID [IMAGE−ALT−NAME|IMAGE−ALT−ID]
Write firmware from file into one partition

Help Options:

−h, **−−help**
Show help options

Application Options:

−−version
Print the version number

−v, **−−verbose**
Print verbose debug statements

−d, **−−device**=*VID*:PID
Specify Vendor/Product ID(s) of DFU device

−t, **−−transfer−size**=*BYTES*
Specify the number of bytes per USB transfer

−−force
Force the action ignoring all warnings