

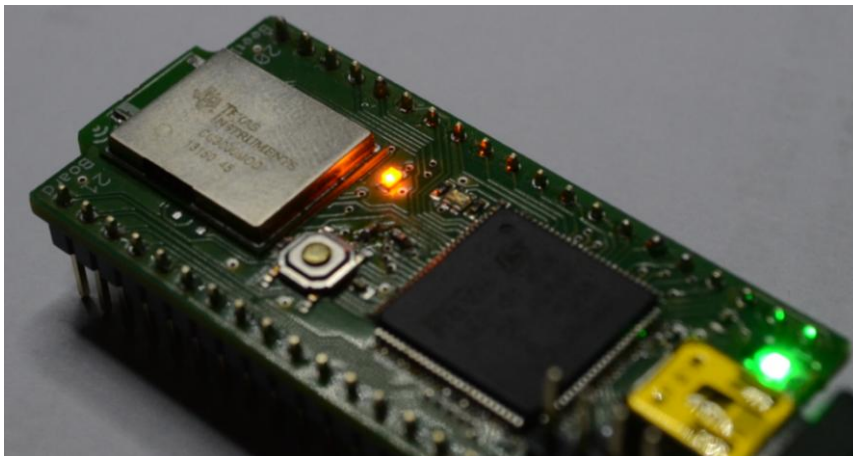
DfuSe loader How to

DFU is a convenient protocol that allow the user to upload binaries without using a JTAG probe. STMicroelectronics is supporting this system on it's stm32 range, it's also available on the Hornet Board. Let's review the required pieces of software required for DFU :

- Hornet board or any stm32 with an accessible USB port
- An IDE able to output hex or bin files, in this example we'll use MDK-ARM
- DFU usb drivers, they should be available on the manufacturer website
- dfuse.exe this executable is transcoding the hex file into a dfu file
- DfuSeCommand.exe responsible for loading the file into the MCU
- load.bat the script for the IDE

Tutorial : how to use it in my project ?


- first install the driver located in the **Driver** directory.
- plug your hornet board and activate the DFU mode by **pressing 3 seconds the reset button**, the orange LED should turn on.






If the driver was successfully installed a new device should pop up, **STM Device in DFU Mode.**

- Generic USB Hub
- Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E26
- Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E2D
- Périphérique USB composite
- STM Device in DFU Mode**

Your device is ready, now you must configure keil to be able to load your project.

-open your project with keil, open the settings window by clicking on the following button 

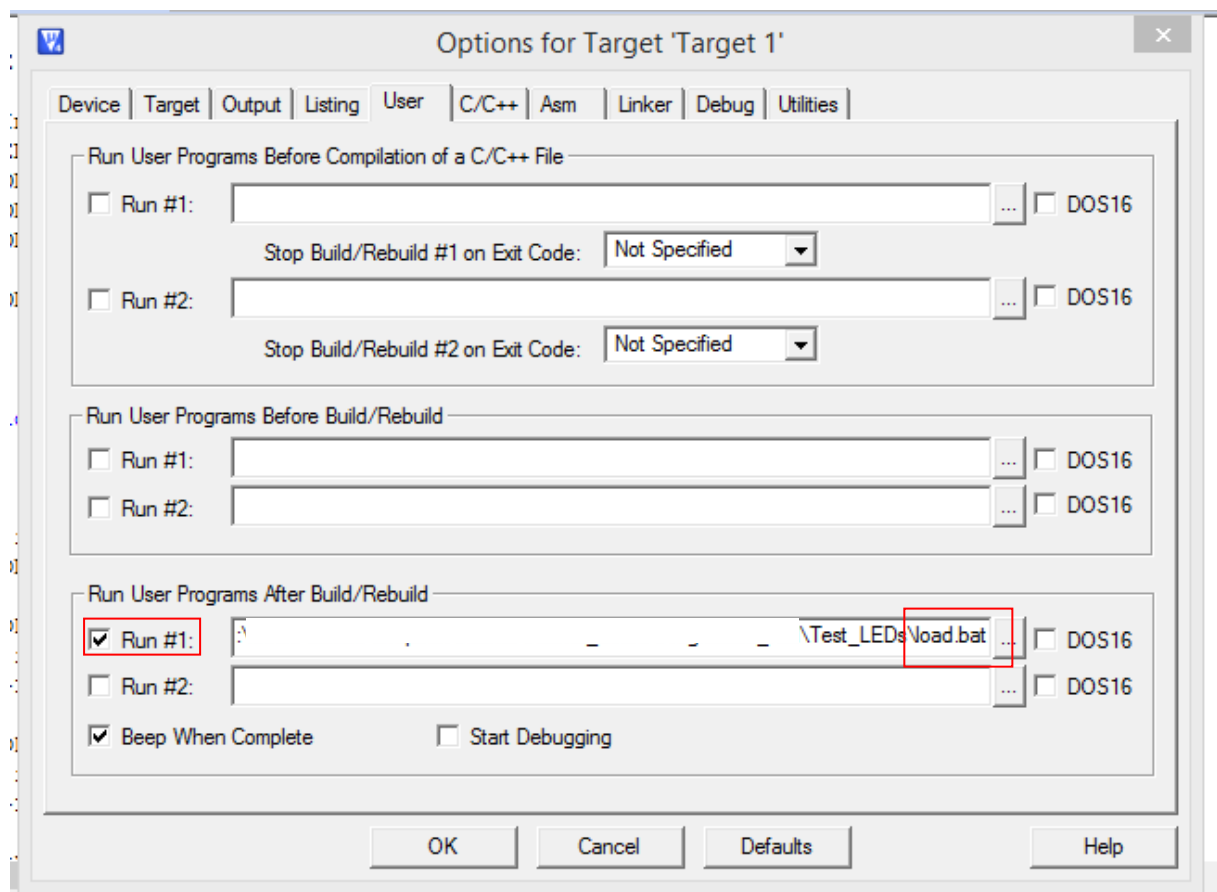
On the **output** tab select **create hex file** , compile your project once and locate the .hex file.

 big_dady.build_log.htm	23/09/2014 23:04	Fichier HTM	1 Ko
 big_dady.hex	23/09/2014 23:04	Fichier HEX	4 Ko
 big_dady.htm	23/09/2014 23:04	Fichier HTM	45 Ko

Copy the content of the Tools directory in the .hex file folder.

Note : the name of your .hex file should **not have spaces or special characters**, you can change the file name in the output tab of the settings dialog.

- one more time open the settings window and select the tab **User**. In the frame **Run User Programs After Build/Rebuild** activate **Run #1:** and browse to **load.bat** file.



-Now compile your project, at the end of compilation your build output should output **upgrade successful** :

```
Build Output
DFU suffix
00 00 00 00 00 00 1a 01 55 46 44 10
dfu image
44 66 75 53 65 01 5d 05 00 00 01 54 61 72 67 65 74 00 01 00 00 00 5
file crc d72cfd47
1 Device(s) found :
Device [1]: STM Device in DFU Mode, having [4] alternate targets
Duration: 00:00:01Target 00: Upgrading - Erase Phase (100)... Dura
Upgrade successful !
Le répertoire courant est C:\Users\Brieuc\Dropbox\Hornet\Hornet_Boa
".\big_dady.axf" - 0 Error(s), 0 Warning(s).
```

Now hit the **reset button**, the orange led shuts down and **your program is now running**.

To program again your board enter in DFU mode and build again your project.

How to test DFU functionality

A working hex file is provided in the Test folder, copy it and double click on load.bat, if your board is showing light after reset it works !!