

How to program the QBoard1, 2 and 3

<http://openqbo.org/forum/viewtopic.php?f=32&t=690&hilit=firmware+qboard>

If you are making your own **Qboard** or you are using one from scratch, you will need to program the Arduino Bootloader on it. The easiest way to do it is using another board with the Arduino bootloader already installed. There is a tutorial in the Arduino project web page showing how can it be done:

<http://arduino.cc/en/Tutorial/ArduinoISP>

As you can see, the Qboard1 doesn't have the shield connectors, so you will need to connect the cables from the board acting as a ISP programmer directly to the ISP pins.

Here you have a table describing the pins and their use:

CODE: SELECT ALL

Arduino	Pin	Number	Arduino	ISP	Pin	Target	ISP	Pin
5V				Vcc				Vcc
Gnd				Gnd				Gnd
D11				MOSI				MOSI
D12				MISO				MISO
D13				SCK				SCK
D10				D10				Reset

There is another way to program the bootloader. This method needs a AVR Programmer. The Arduino web page also has a tutorial for this purpose:

<http://arduino.cc/en/Main/Standalone> (Look for the “Bootloading your chips OPTIONAL” topic)

For both options you will need to install the Arduino software in your PC.

Once you have the bootloader installed in your chip, you can download the firmware for each of the Qboards from the following GitHub link:

https://github.com/OpenQbo/qbo_arduino

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You will find the instructions to program the Qboards in the readme file included in the project.

[Programming the Qboard3](#)

1 <http://blog.csdn.net/ppp2006/article/details/42925551>

1. Download the FlashLoader software and the binary file binario from the following links:

FlashLoader: https://github.com/OpenQbo/qboard3_firmware/raw/master/um0462.zip

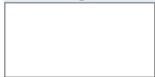
Binary

file: https://github.com/OpenQbo/qboard3_firmware/raw/master/Project/FirmOK/EWARM/STM3210C-EVAL/Exe/Project.bin

2. Install the FlashLoader

3. Plug the Qboard3 with a USB to serial port cable (TTL levels) to the USART pins and a Jumper in the “Boot” terminals.

The Qboard2 can be used as this cable just unplugging the microprocessor.



Wire connections to the QBoard3

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Wire connections to the QBoard2

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To use the Qboard2 as the programmer, connect the following cables:

From digital pin 0 of Qboard2 to Rx pin of Qboard3

From digital pin 1 of Qboard2 to Tx pin of Qboard3

From 3.3V output of Qboard2 to 3.3 input of Qboard3

From GND of Qboard2 to GND of Qboard3

4. Load the binary file in the FlashLoader and program the Qboard3

1. Execute the FlashLoader

2. Select the serial port in which the Qboard3 is connected. If you are using the Qboard2, it should be the next to the last numbered port.

3. Click “Next”

4. Click “Next”

5. Select the “Download to Device” and select the downloaded binary file.

6. Click “Next”

7. Click “Close”

8. End²

2 <http://blog.csdn.net/ppp2006/article/details/42925551>

<https://www.generationrobots.com/media/QboUserGuide.pdf>