

Under 2\$ Arduino Mini Monster...

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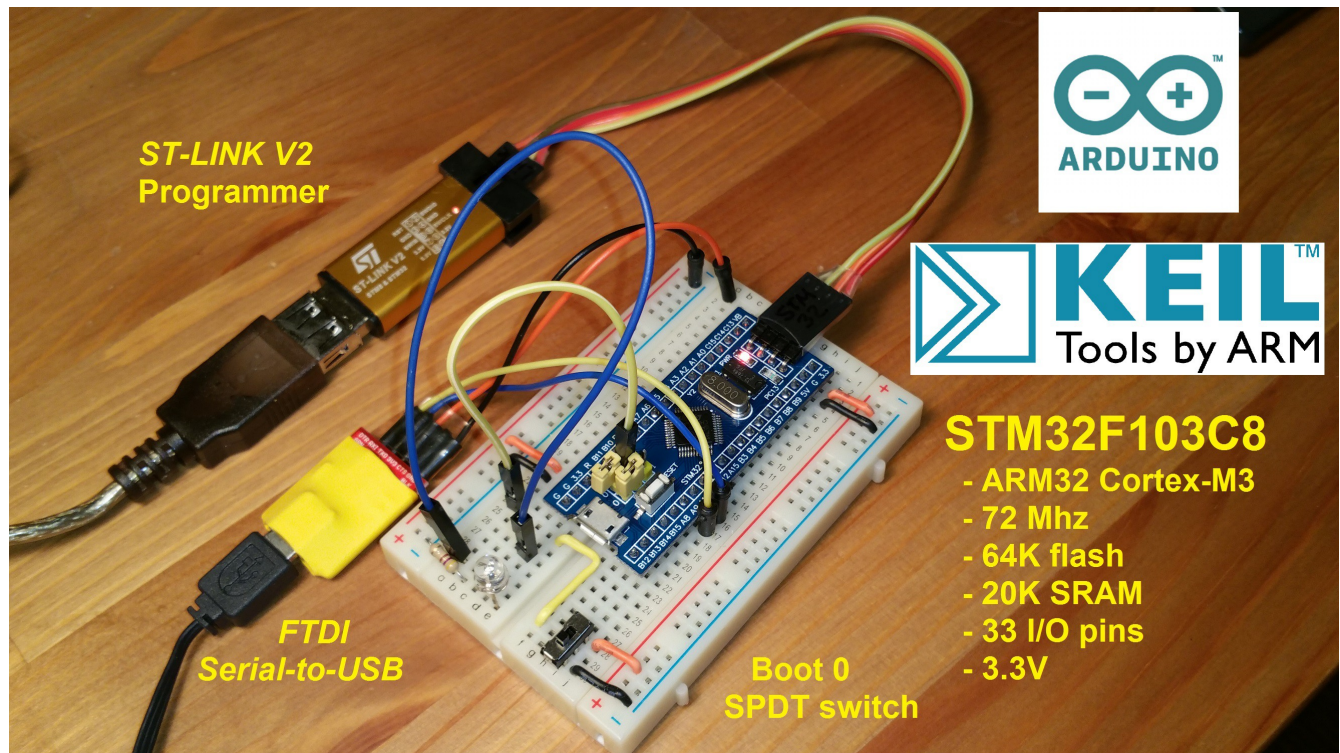
Yesterday assembled this Development Environment ,
You only need the Serial-to-USB adapter for programming.
I am using the ST-Link programmer and the Serial USB port for debugging using a
Serial terminal like **Tera Term VT** or **PuTTY**...

You can use the Arduino IDE or for a more professional results you
can use the free version of **KEIL uVision**...

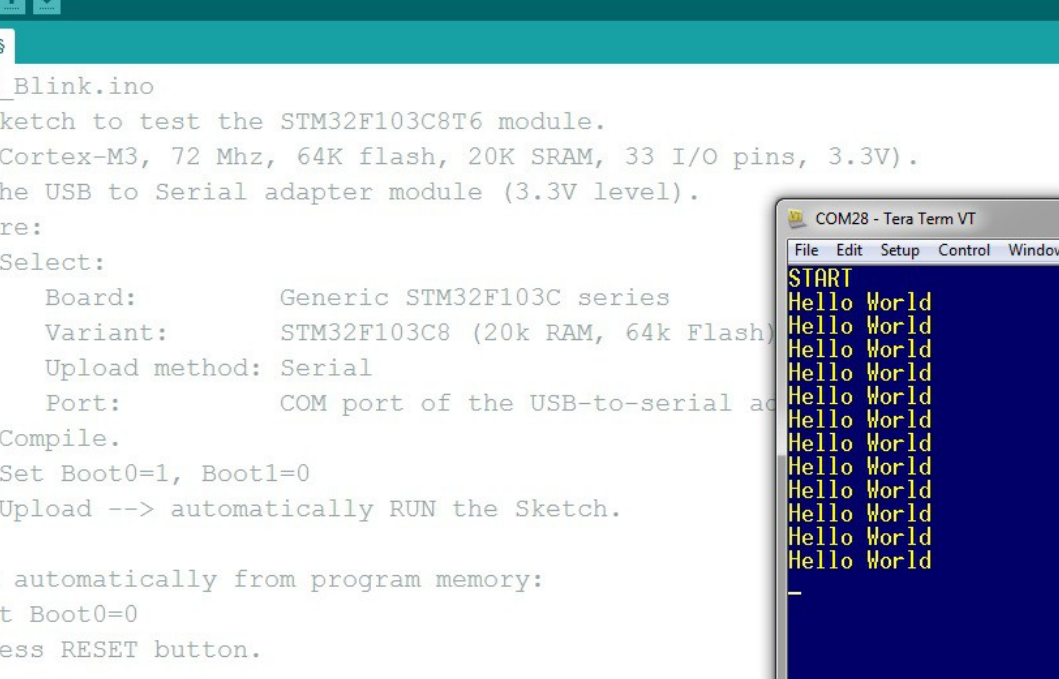
Added an SPDT switch to avoid moving the Boot0 Jumper.

Reset with Boot0=1 to run the Bootloader. (programming)

Reset with Boot0=0 for normal use.



My first Skeeth:



The screenshot shows the Arduino IDE interface with the 'Led13_Blink.ino' sketch open. The sketch content is as follows:

```

/*Led13_Blink.ino
First Sketch to test the STM32F103C8T6 module.
(ARM32 Cortex-M3, 72 Mhz, 64K flash, 20K SRAM, 33 I/O pins, 3.3V).
Using the USB to Serial adapter module (3.3V level).
Procedure:
    1.-Select:
        Board:          Generic STM32F103C series
        Variant:        STM32F103C8 (20k RAM, 64k Flash)
        Upload method:  Serial
        Port:           COM port of the USB-to-serial adapter
    2.-Compile.
    3.-Set Boot0=1, Boot1=0
    4.-Upload --> automatically RUN the Sketch.

To boot automatically from program memory:
    -Set Boot0=0
    -Press RESET button.

Example from: http://grauonline.de/wordpress/?page\_id=100
Procedure:

```

Overlaid on the bottom right is a 'COM28 - Tera Term VT' window. It displays the serial output of the sketch, which consists of the word 'START' followed by ten instances of 'Hello World' on separate lines.

STM32F103C8T6 ARM STM32 Minimum System Development Board Module For Arduino.

Free Shipping STM32F103C8T6 ARM STM32 Minimum System Development Board Module For Arduino.

US \$1.76 (Aliexpress)

<https://www.aliexpress.com/item/Free-Shipping-STM32F103C8T6-ARM-STM32-Minimum-System-Development-Board-Module-For-arduino/32555258029.html?spm=2114.13010608.0.0.JB95Ub>

Microcontroller Model: STM32F103C8T6.

ARM 32 Cortex-M3 CPU. (32 bits CPU instead 8 bits Arduino UNO)

72MHz work frequency. (4.5 times Arduino UNO)

64K flash memory (twice Arduino UNO)

20K SRAM (ten times Arduino UNO)

Powerfull instructions like Single-Cycle multiplication and division...

You will also need a Serial-to-USB adapter or a ST-Link V2 Programmer (\$ 2.60 Free Shipping, Aliexpress)

[https://www.aliexpress.com/item/ST-Link-V2-Programming-Unit-mini-STM8-STM32-Emulator-Downloader-M89-New/32631496848.html?](https://www.aliexpress.com/item/ST-Link-V2-Programming-Unit-mini-STM8-STM32-Emulator-Downloader-M89-New/32631496848.html?spm=2114.01010208.3.2.YFWMm9&ws_ab_test=searchweb0_0,searchweb201602_1_116_10065_117_10068_114_115_113_10000009_10084_10083_10080_10082_10081_10060_10062_10056_10055_10037_10054_10033_10059_10032_10099_10078_10079_10077_426_10103_10073_10102_10096_10052_10053_10107_10050_10106_10051-10033_10037,searchweb201603_9,afswitch_5,single_sort_0_default&btsid=429e8e5c-0244-4d0b-b3b4-8a6d5aef3e09)

[spm=2114.01010208.3.2.YFWMm9&ws_ab_test=searchweb0_0,searchweb201602_1_116_10065_117_10068_114_115_113_10000009_10084_10083_10080_10082_10081_10060_10062_10056_10055_10037_10054_10033_10059_10032_10099_10078_10079_10077_426_10103_10073_10102_10096_10052_10053_10107_10050_10106_10051-10033_10037,searchweb201603_9,afswitch_5,single_sort_0_default&btsid=429e8e5c-0244-4d0b-b3b4-8a6d5aef3e09](https://www.aliexpress.com/item/ST-Link-V2-Programming-Unit-mini-STM8-STM32-Emulator-Downloader-M89-New/32631496848.html?spm=2114.01010208.3.2.YFWMm9&ws_ab_test=searchweb0_0,searchweb201602_1_116_10065_117_10068_114_115_113_10000009_10084_10083_10080_10082_10081_10060_10062_10056_10055_10037_10054_10033_10059_10032_10099_10078_10079_10077_426_10103_10073_10102_10096_10052_10053_10107_10050_10106_10051-10033_10037,searchweb201603_9,afswitch_5,single_sort_0_default&btsid=429e8e5c-0244-4d0b-b3b4-8a6d5aef3e09)

Let's see what can be done whit it...