

Installing the STM32 tools

Stm32CubeMX

Install [Ubuntu 18.10](#). I used VirtualBox running on Ubuntu 18.04 for this.

Make sure everything is up to date. Run apt update + upgrade, or use GUI Ubuntu provides.

We are going to use an excellent program [ST provides called STM32CubeMX](#) which lets us configure pins, clock sources and more. But above all it can generate some startup and config code which we'll take as a base for our LED blinking application. So lets download it and remember to install Java first. I usually install Oracle's Java JDK, but JRE of course will do as well (in this case it was `jdk-11.0.1_linux-x64_bin.deb`). I have no experience with other Java implementations like OpenJDK but I suspect, that it also will work as expected.

After jdk was installed I added java to the PATH in `~/.profile` : `PATH="/usr/lib/jvm/jdk-11.0.1/bin:$PATH"`

Download [Stm32CubeMX](#) and unpack it (login required unfortunately).

Run `./SetupSTM32CubeMX-4.27.0.linux` . In my case (fresh Ubuntu) it said :

```
./SetupSTM32CubeMX-4.27.0.linux
bash: ./SetupSTM32CubeMX-4.27.0.linux: No such file or directory
```

It is a very non-intuitive message, but it is because of 32 bit libraries missing. [This post tells us what](#) to do, and to my surprise it discourages from installing ia32-libs which I would normally do:

```
file SetupSTM32CubeMX-4.27.0.linux
SetupSTM32CubeMX-4.27.0.linux: ELF 32-bit LSB executable, Intel 80386, .....
sudo dpkg --add-architecture i386
sudo apt update
sudo apt-get install libc6:i386 libstdc++6:i386
```

Run the installer and verify, that CubeMX works.

QtCreator*

Everyone has his/her favorite IDE, but mine is QtCreator for various reasons which I'm not going to dive into, but Qt libraries are not one of them. I do not use Qt, I simply tried many IDE's and QtCreator suits me the best. First let's grab an installer.

- https://download.qt.io/official_releases/qtcreator/ - those are the official releases.
- <https://download.qt.io/snapshots/qtcreator/> - and here are nightly builds. For this article I picked [qt-creator-opensource-linux-x86_64-4.7.2.run](#) and run it in the terminal and that's it (login required).

Toolchain

The toolchain can be easily installed from Launchpad PPA, or can be compiled using [excellent tool called crosstool-ng](#). Detailed instructions are in [one of my previous posts](#). But for now lets use the easier way:

```
sudo add-apt-repository ppa:team-  
gcc-arm-  
embedded/  
ppa  
sudo apt-get update  
sudo apt install gcc-arm-none-eabi binutils-arm-none-eabi libnewlib-arm-none-  
eabi libstdc++-arm-none-eabi-newlib  
sudo apt install cmake ninja
```

Other tools

```
sudo apt install mc openocd dos2unix gdb-multiarch
```