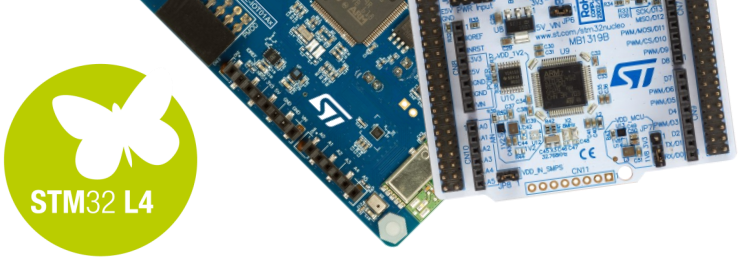

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Step 1: Prerequisites.

45 min

Tools installation and first test

Target description

Teach how to install main tools for programming program STM32:

- **STM32CubeMX**, a tool to set and graphically program all STM32 boards and products
- **STM32 TrueSTUDIO,** the free IDE to develop STM32 software
- **STM32CubeProg**, a tool to load/spy software in STM32 memory
- **STM32CubeL4,** an STM32L4 MCU software package with embedded examples

Having completed this tutorial, you should be able to open the STM32 professional ecosystem. You should also manage to bring applications from the ecosystem onto the NUCLEO board. Finally, you will be able to run the blinking LED example in debug mode.

Prerequisites

- a Windows 7 (or higher) computer
- Java installed
- web access

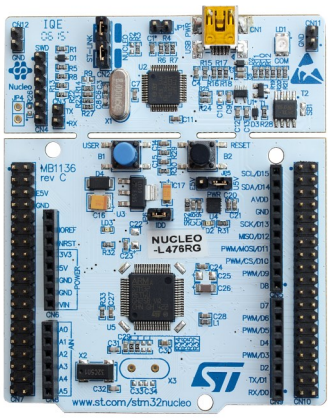
Hardware

- **NUCLEO-L476RG** board (64-pin), available on www.st.com/en/evaluation-tools/nucleo-l476rg.html
- Standard-A -to- Mini-B USB cable

Literature

- **DB2196** STM32 Nucleo-64 board
- **UM1724** STM32 Nucleo-64 board
- **UM1727** Getting started with STM32 Nucleo board software development tools

Stages



TIPS & TRICKS

- Link to download
  - STM32CubeMx
- Helpful video
  - Getting started with STM32CubeMX

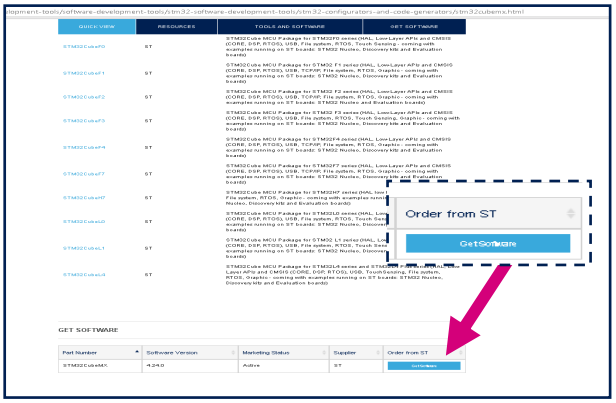
1: HOW TO INSTALL STM32CUBEMX

STM32CubeMx is the tool to graphically program the STM32

10 min

- Download STM32CubeMX from www.st.com/stm32cubemx
- Register on *www.st.com* web site if necessary.
- Unzip the downloaded file and launch the *SetupSTM32CubeMX-xxx* corresponding to your OS

STM32CubeMX is now installed on your computer



TIPS & TRICKS

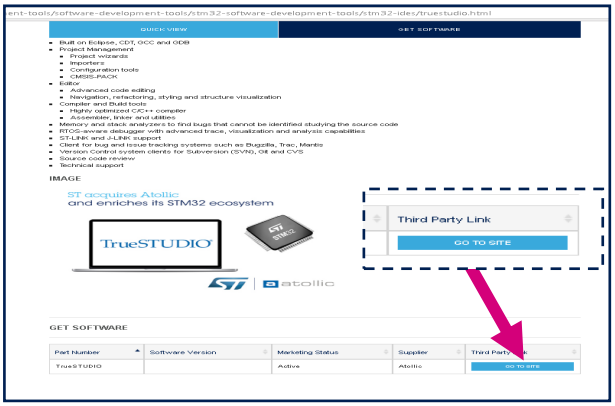
- Links for download
  - TrueSTUDIO
  - How to build a "Blink LED" project from STM32CubeMX for ST/ Atollic TrueSTUDIO® for STM32™

2: HOW TO INSTALL TRUESTUDIO

TrueSTUDIO is the Integrated Development Environment to develop STM32 software

10 min

- On www.st.com/truestudio, click on "GO TO SITE" (to get to Atollic(R) website TrueSTUDIO page).
- Click on *download* link
- Select your OS then fill the form, with *STMicroelectronics STM32* as device family
- Install the downloaded file and enjoy!



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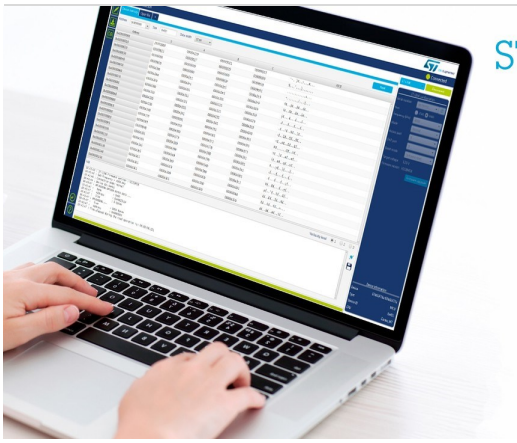


STM32CubeProgrammer
All-in-one tool for STM32
▸ want to ease programming ? get it now !

STM32 CubeProgrammer

TIPS & TRICKS

- Link to download www.st.com/STM32CubeProg

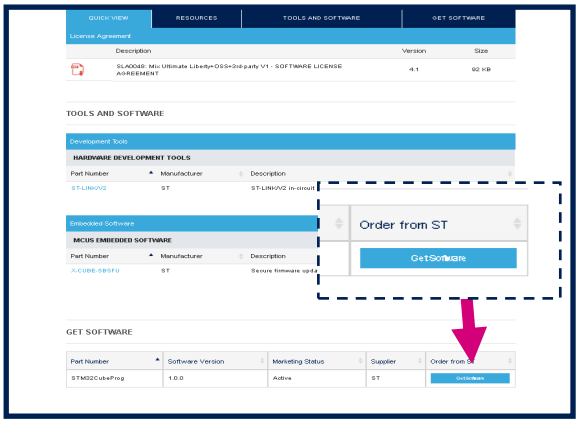
3: HOW TO INSTALL STM32CUBEPROG

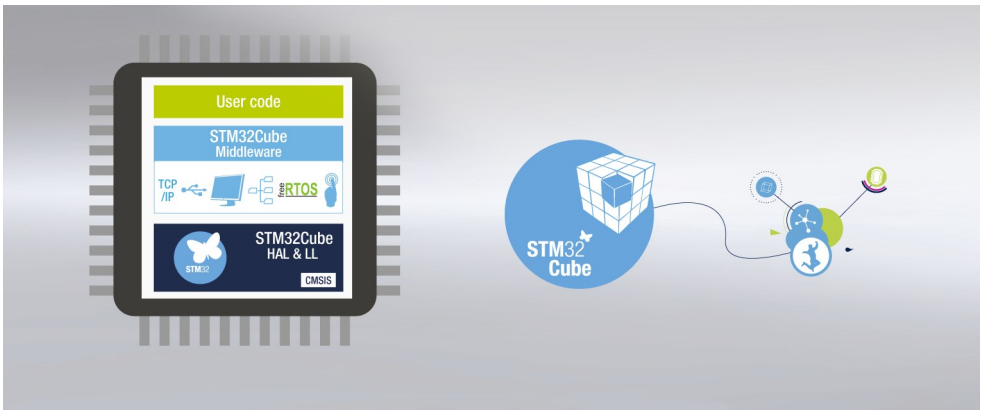
5 min

STM32CubeProgrammer is a tool to load/spy software in STM32

- Download STM32CubeProg from www.st.com/STM32CubeProg
- Unzip the downloaded file and launch the *SetupSTM32CubeProgrammer-xxx.exe* corresponding to your OS, and follow the instructions.

STM32 USB driver and STM32CubeProg are now installed on your computer.





TIPS & TRICKS

- Libraries folder location: C:\Users*myname*\STM32Cube\Repository\STM32Cube_FW_L4_Vx.xx.x

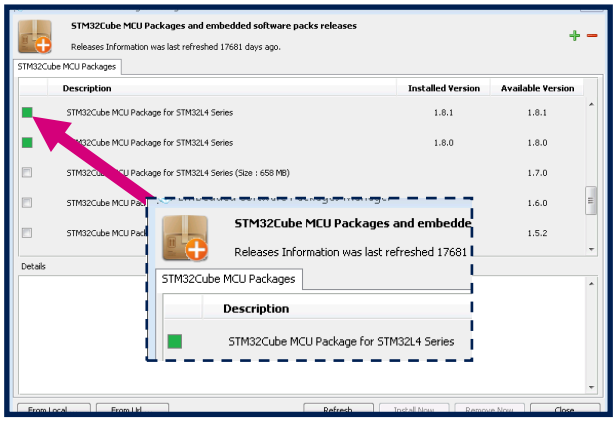
4: HOW TO INSTALL STM32CUBEL4 FIRMWARE PACKAGE

10 min

STM32Cube MCU Package for STM32L4 series and STM32L4 Plus series

- Open STM32CubeMX
- Click *Manage embedded software packages* in *Help*
- Check the last STM32CubeL4 release version
- Click *Install* (it may take a long time)
- Now STM32L4 libraries and examples are installed at the following location.

C:\Users\myname\STM32Cube\Repository\STM32Cube_FW_L4_Vx.xx.x



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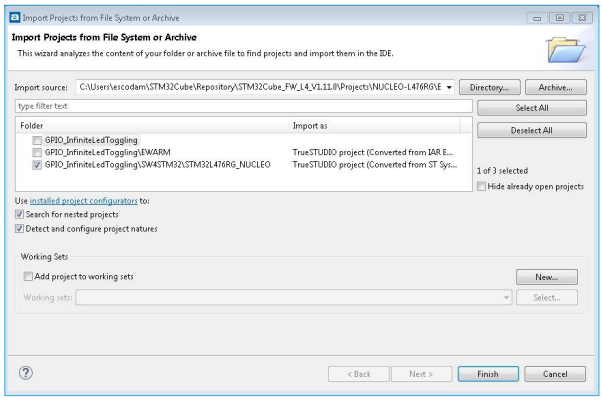
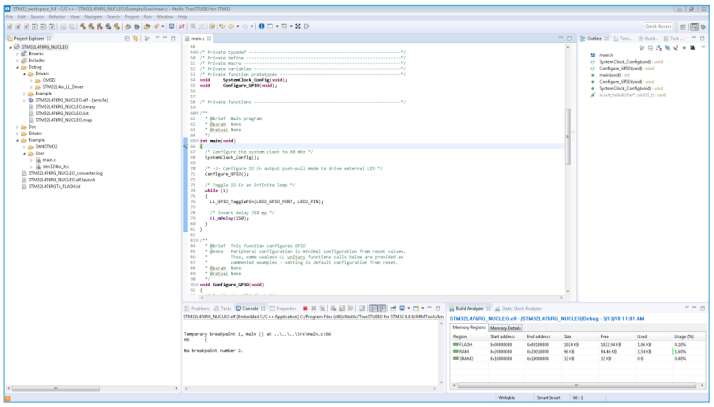
Blinking LED: in debug mode

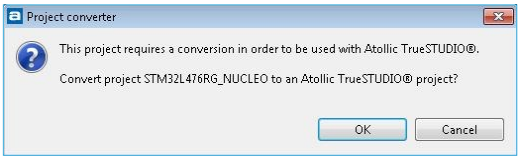
5: LAUNCH TRUESTUDIO IN DEBUG MODE AND RUN MY FIRST PROGRAM

10 min

Use the debug mode







- Launch TrueSTUDIO
- If TrueSTUDIO asks, select the default workspace
- In *File* TrueSTUDIO menu, click on *Open Projects* from *File System*
- In the window, click *Directory* and select *C:\Users\myname\STM32Cube\Repository\STM32Cube_FW_L4_V1.11.0\Projects\NUCLEO-L476RG\Examples_LL\ GPIO\GPIO_InfiniteLedToggling*
- Select the project *GPIO_InfiniteLedToggling\SW4STM32\STM32L476RG_NUCLEO*
- Accept the popup, asking for conversion.

Now your project is under TrueSTUDIO

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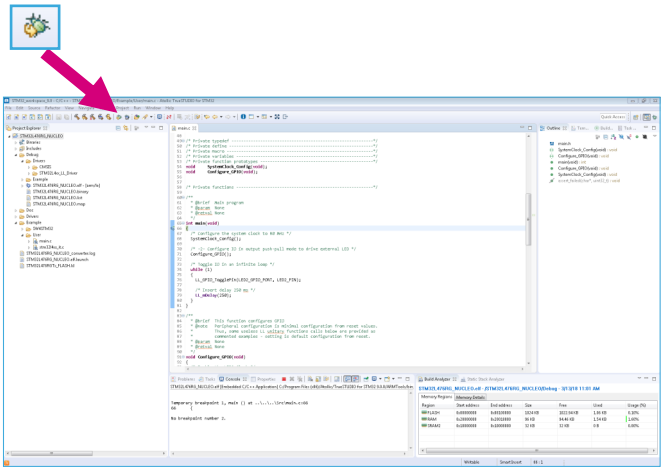
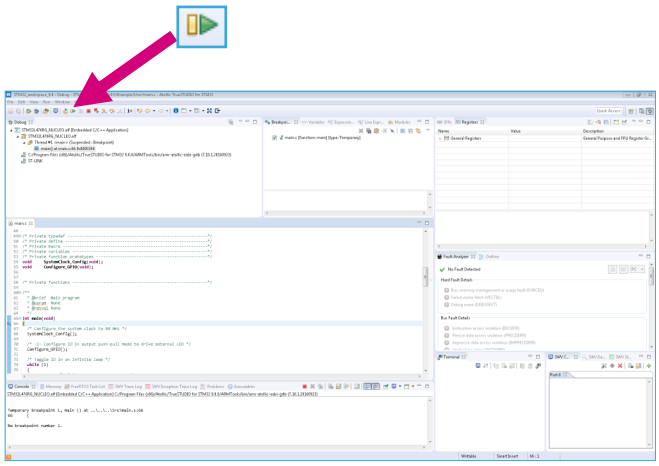
Blinking LED: in debug mode

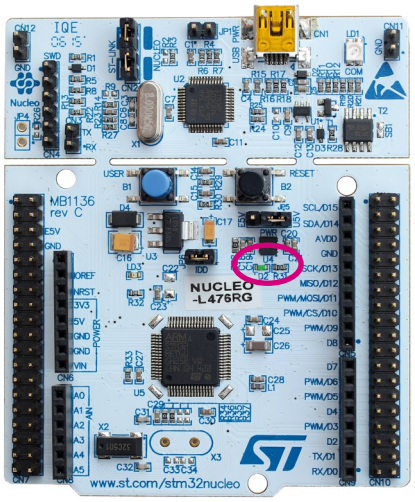




- Default TrueSTUDIO settings are adequate for this tutorial
- Click on *Debug* icon to launch and debug the project

- Click *Resume* icon to continue the programme execution

Now watch the LED blinking on the board



Now you are able to:

- find STM32 libraries
- open a project (example)
- load a project in TrueSTUDIO IDE
- execute a project in debug mode
- make a LED blink

Now you have in your computer:

- libraries for STM32L4
- examples for STM32L4
- STM32CubeProg (to communicate with the MCU)
- STM32CubeMX (to graphically generate your project)
- TrueSTUDIO to code

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