How to compile mbed platform

mbed CLI Compiler

mbed CLI prerequisite

Step 1 - Install Python, Git, Mercurial and GCC

I. Install python

1) Go to download page for python (https://www.python.org/downloads/)
2) During installation, Add Python to system path
3) Wait for Python to install

II. Install Git

1) Go to download page for git(https://git-scm.com/download/win)
2) Wait for Git to install

mbed CLI prerequisite

III. Install Mercurial

1) Go to download page for git(https://www.mercurial-scm.org/downloads/)
2) Wait for Git to install after click ‘Add the installation path to the search path’ during installation

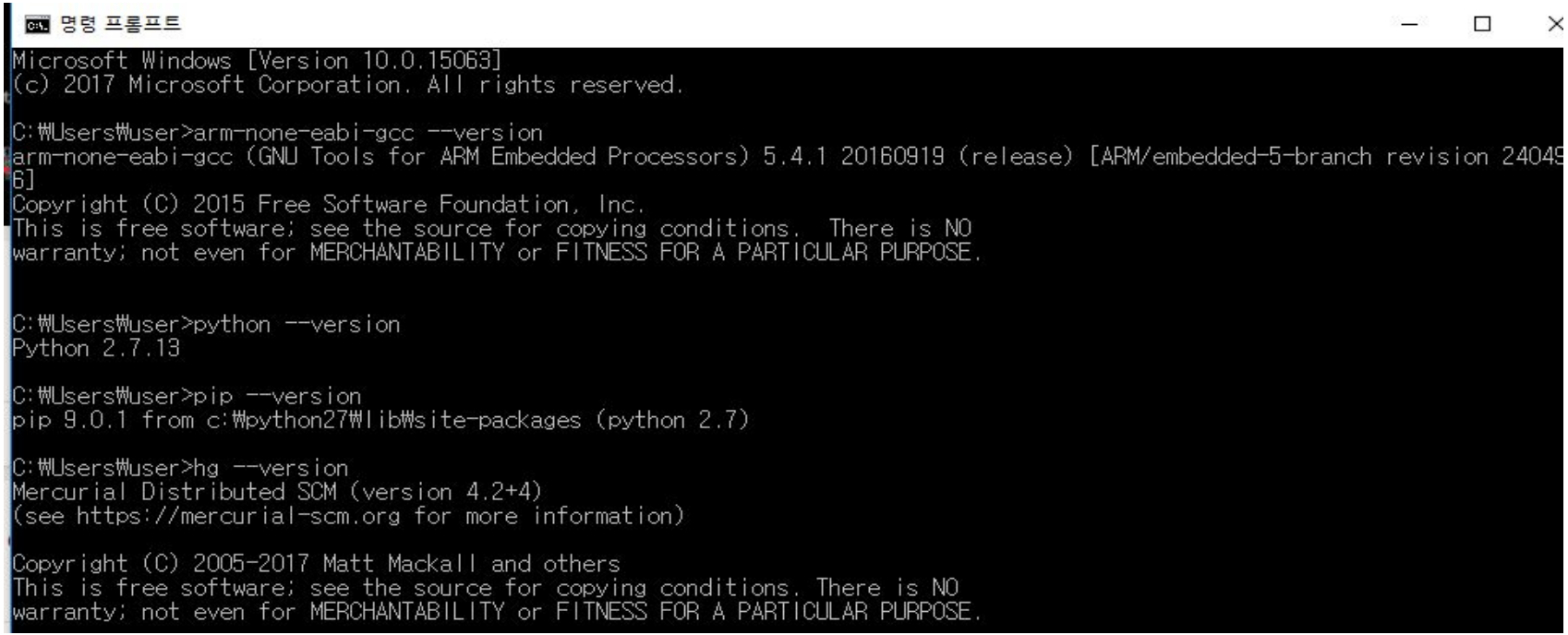
IV. Install GCC

1) Go to download page(https://launchpad.net/gcc-arm-embedded (GNU ARM Embedded Toolchain)
2) Wait for GCC to install after adding path to the environment, i.e., click‘Launch gccvar.bat’ during installation

http://d2.naver.com/helloworld/1011 (Comparison between Git and Mercurial)

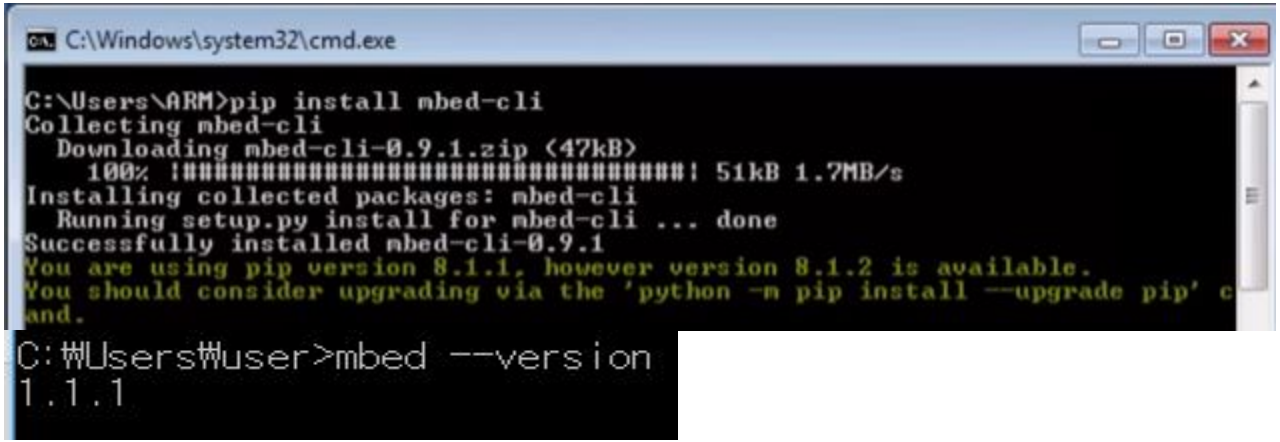
mbed CLI prerequisite

Step 2 Verify installation



mbed CLI prerequisite

Step 2 install mbed CLI from pip



mbed Quick Start

Step 1 Import

: copy URL of repository(https://developer.mbed.org/mbed_demo/code/mbed_blinky

```
E:₩Heedong₩Work₩mbed₩Src₩dev_directory>mbed import https://developer.mbed.org/users/mbed_demo/code/mbed_blinky/
[mbed] Importing program "mbed_blinky" from "https://developer.mbed.org/users/mbed_demo/code/mbed_blinky" at latest revi
sion in the current branch
[mbed] Adding library "mbed" from "http://mbed.org/users/mbed_official/code/mbed/builds" at rev #f9eeca106725
[mbed] Downloading library build "f9eeca106725" (might take a minute)
[mbed] Unpacking library build "f9eeca106725" in "E:₩Heedong₩Work₩mbed₩Src₩dev_directory₩mbed_blinky₩mbed"
[mbed] Couldn't find build tools in your program. Downloading the mbed 2.0 SDK tools...
[mbed] Auto-installing missing Python modules...
```

mbed Quick Start

Step 2 toolchain and target

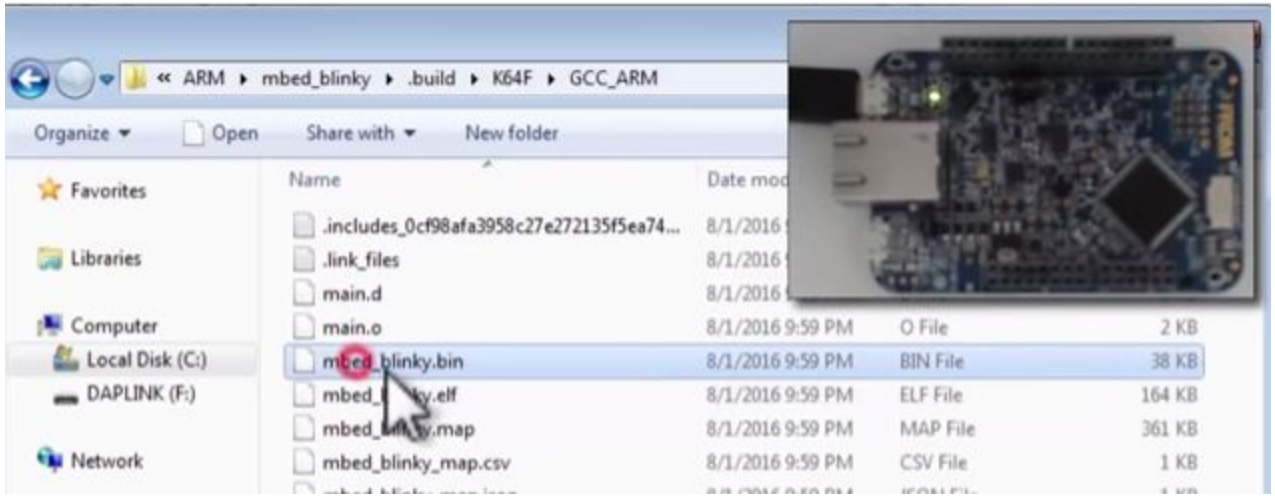
1) Go to program folder
2) Detect toolchain and target options after connecting the dev board to the PC via USB
3) compile

```
C:\Users\ARM\mbed_blinky>mbed compile
Building project mbed_blinky (K64F, GCC_ARM)
Scan: .
Scan: mbed
Scan: env
Compile: main.cpp
Link: mbed_blinky
Elf2Bin: mbed_blinky
+-------------+-------+-------+------+
| Module      | .text | .data | .bss |
+-------------+-------+-------+------+
| Fill        |    81 |     4 | 2473 |
| Misc        | 35190 |  2228 |  423 |
| Subtotals   | 35271 |  2232 | 2896 |
+-------------+-------+-------+------+
Allocated Heap: 65536 bytes
Allocated Stack: 32768 bytes
Total Static RAM memory (data + bss): 5128 bytes
Total RAM memory (data + bss + heap + stack): 103432 bytes
Total Flash memory (text + data + misc): 38543 bytes
Image: .\.build\K64F\GCC_ARM\mbed_blinky.bin
```

```
C:\Users\ARM\mbed_blinky>mbed detect

[mbed] Detected K64F, port None, mounted F:
[mbed] Supported toolchains for K64F
+--------+----------+----------+-----------+-----------+-------+--------+
| Target | mbed OS 2 | mbed OS 5 |    ARM    |  GCC_ARM  | uARM | GCC_CR |
+--------+----------+----------+-----------+-----------+-------+--------+
| K64F   |     -     |     -     | Supported | Supported |  -   |   -    |
+--------+----------+----------+-----------+-----------+-------+--------+
Supported targets: 1
Supported toolchains: 3

C:\Users\ARM\mbed_blinky>mbed toolchain GCC_ARM
[mbed] GCC_ARM now set as default toolchain in program "mbed_blinky"

C:\Users\ARM\mbed_blinky>mbed target K64F
[mbed] K64F now set as default target in progran "mbed_blinky"
```

mbed Quick Start

Step 3 Find .bin in .build directory and copy binary(.bin) to board

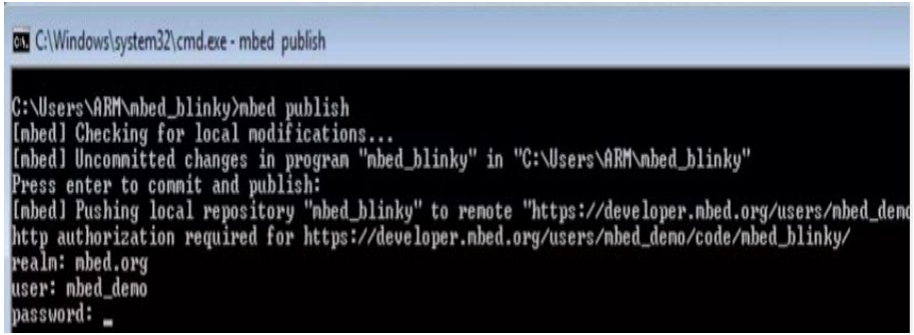


Step 4 Reset board to run the code

Step 5 Modify code in main.cpp

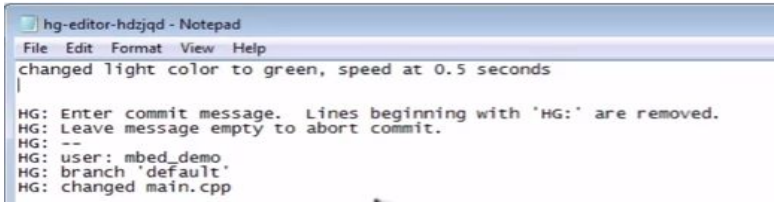
mbed Quick Start

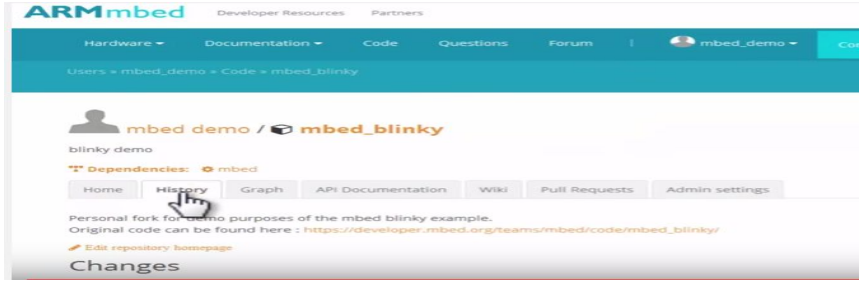
Step 6 Change blink speed and LED colors and Compile and Flash new binary to Board



Step 7 publish

- publish code back to server and press enter and fill in change message
- close window to continue
- enter mbed username and mbed password
- see changes on website (History tab)





Step 8 Reset board to run the code

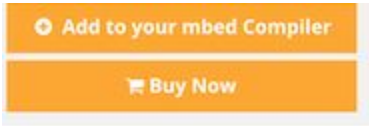
How to compile mbed platform

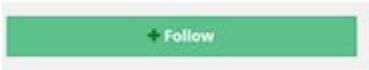
mbed online compiler

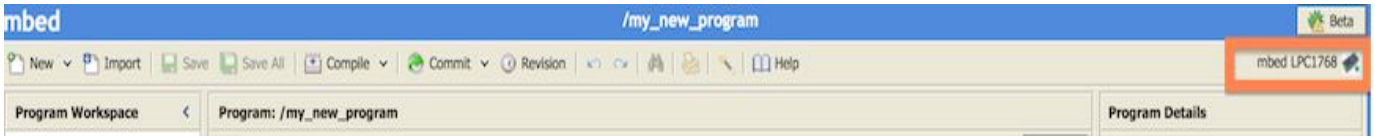
Importing blinky

Selecting a target board and Adding a board to your list

Go to the board's page on mbed.com(https://developer.mbed.org/platforms/) and click the Add to your mbed compiler button





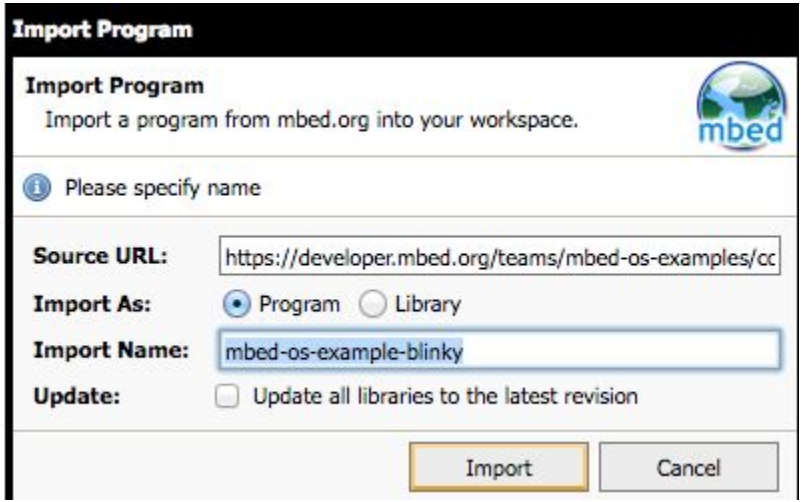


Importing blinky

To get blinky into the mbed online compiler, click the Import into mbed IDE button

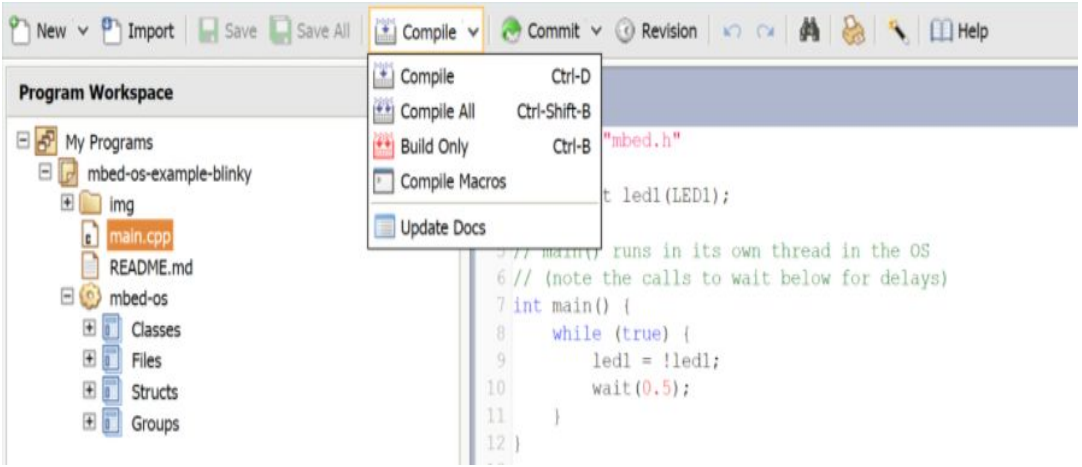
main.cpp

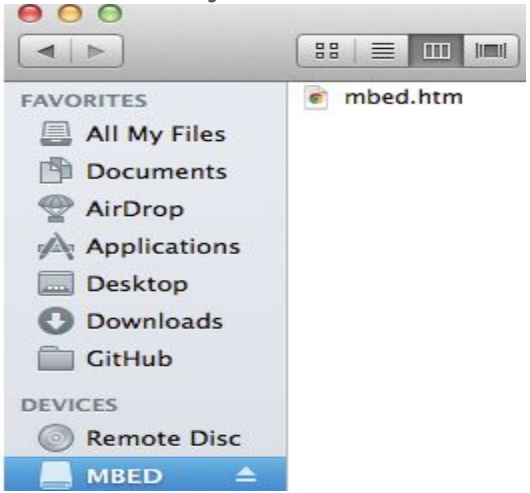
```
#include "mbed.h"

DigitalOut led1(LED1);

// main() runs in its own thread in the OS
int main() {
    while (true) {
        led1 = !led1;
        wait(0.5);
    }
}
```



Compile and install

The mbed online compiler builds a .bin file that you can install on your board



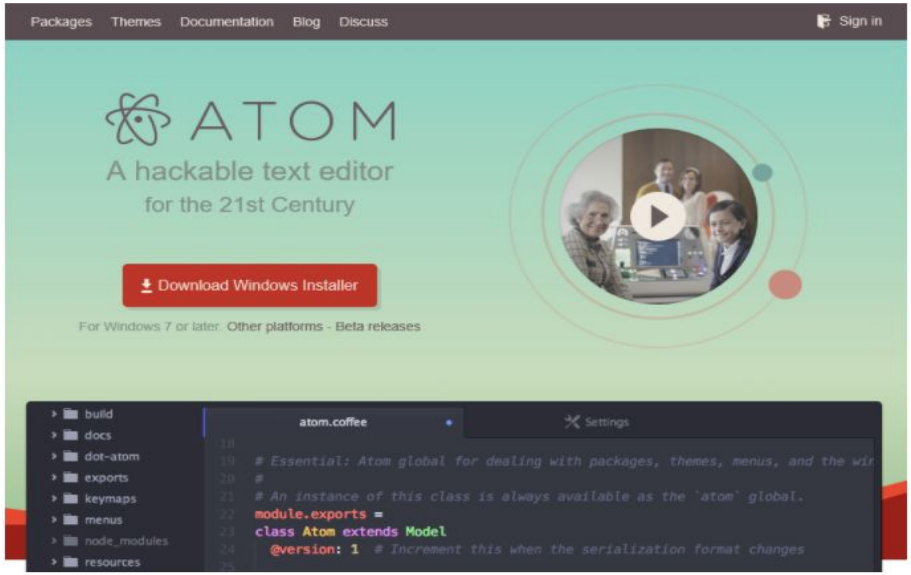


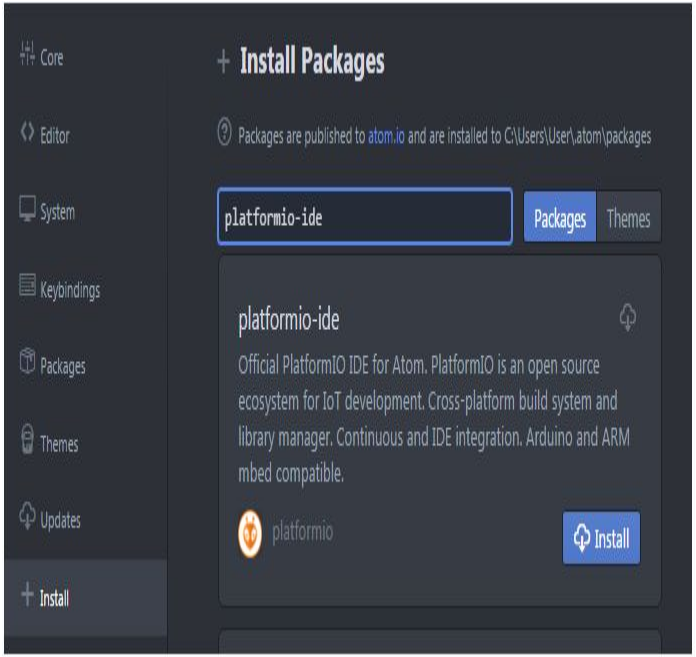
Connect your board to your computer over USB. mbed boards are shown as “ removable storage”

Drag and drop your program to the board / The board installs the program and Reset the board and see the LED blink

How to install platform io

1. Install atom package

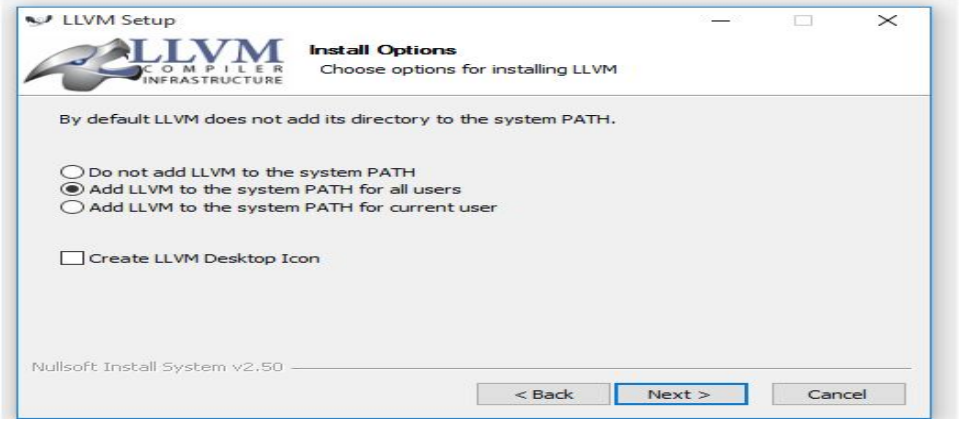




How to install platform io

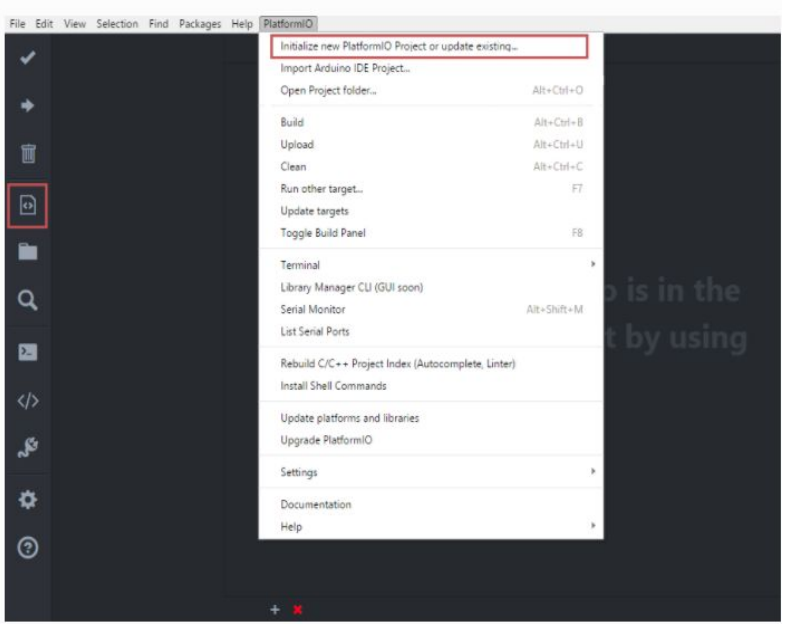
2. Clang for intelligent code completion

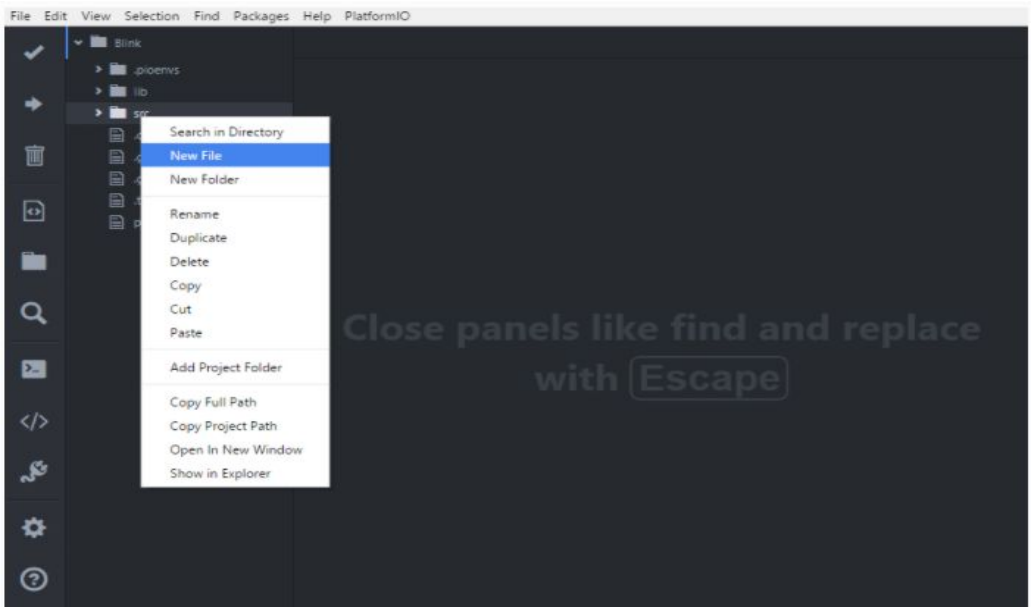
- **Mac OS X**: Install the latest Xcode along with the latest Command Line Tools (they are inst
automatically when you run `clang` in Terminal for the first time, or manually by running
`xcode-select --install`
- **Windows**: Download Clang 3.9.1 for Windows. Please select "Add LLVM to the system PA
option on the installation step.
  - Clang 3.9.1 for Windows (32-bit)
  - Clang 3.9.1 for Windows (64-bit)



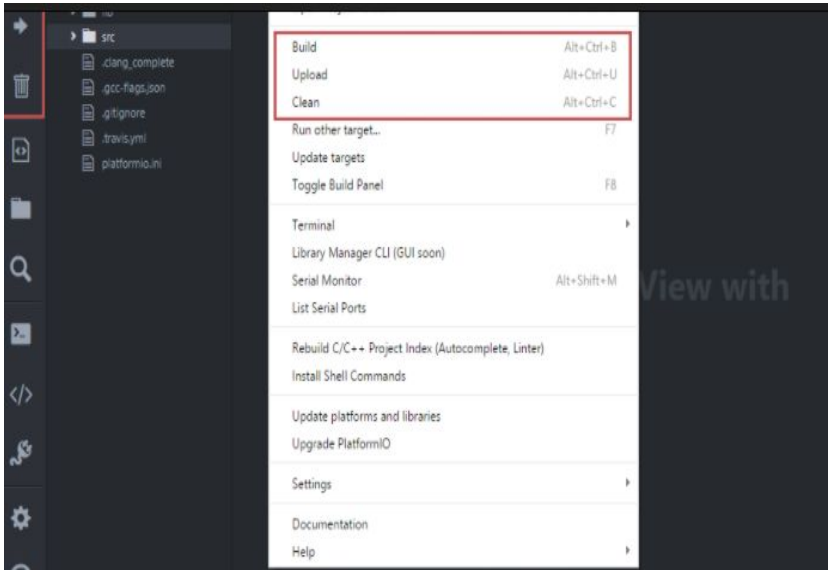
How to build platform io

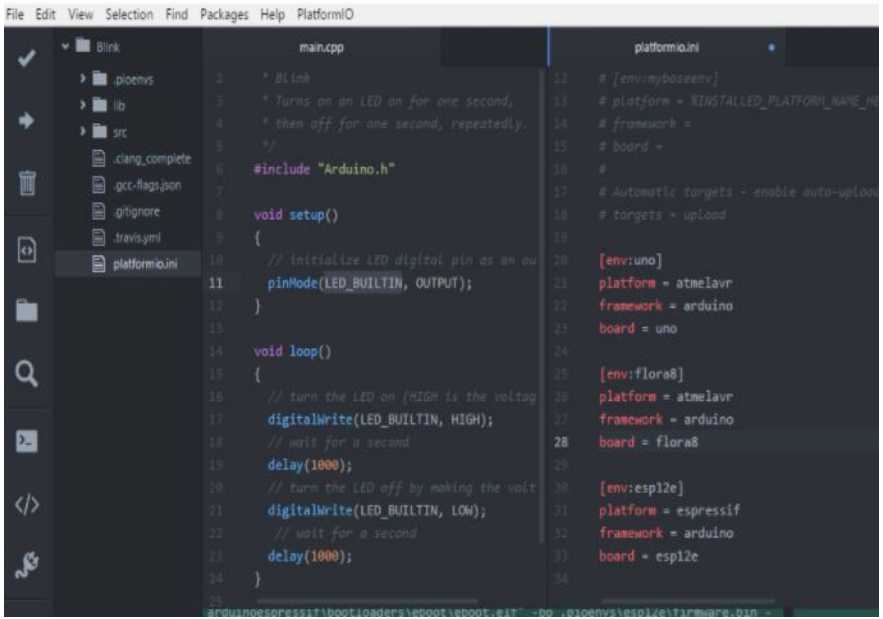
Set up new project



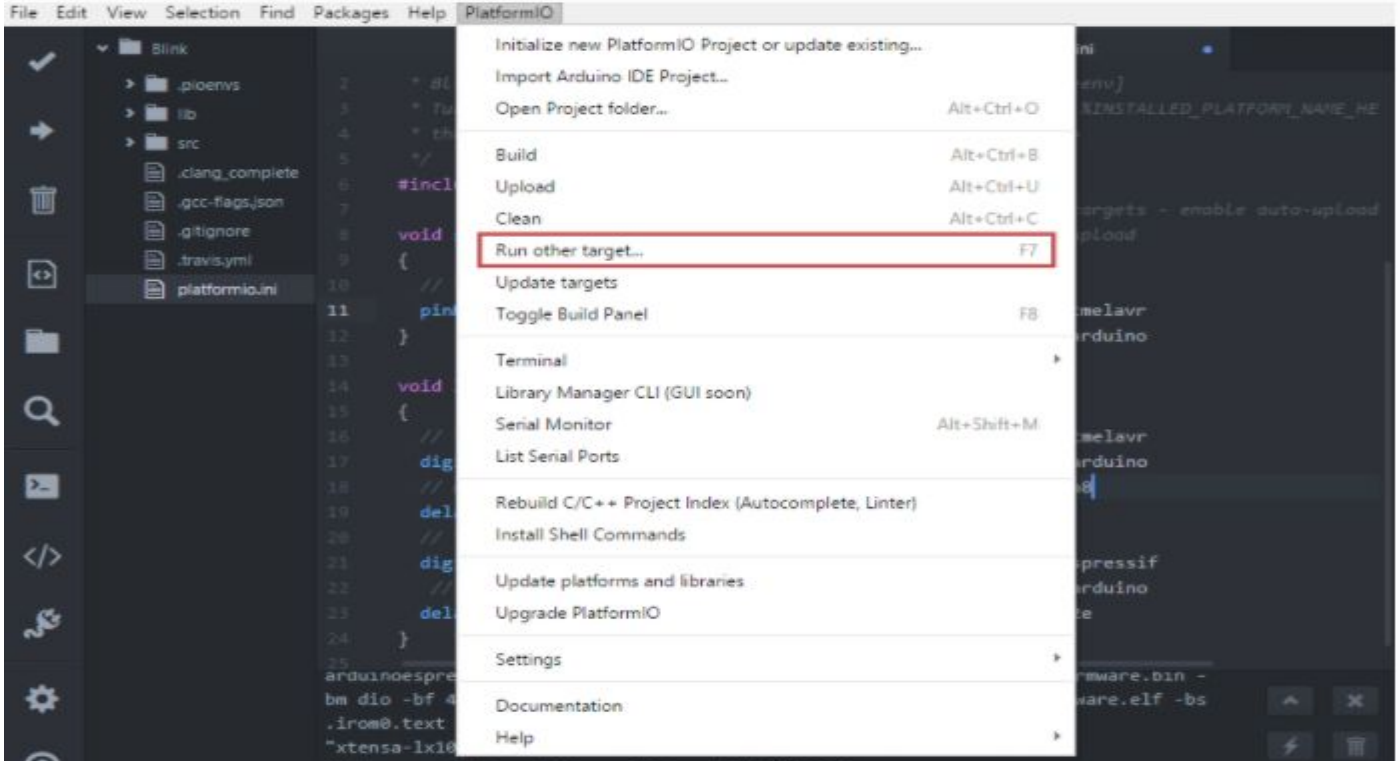


How to build platform io

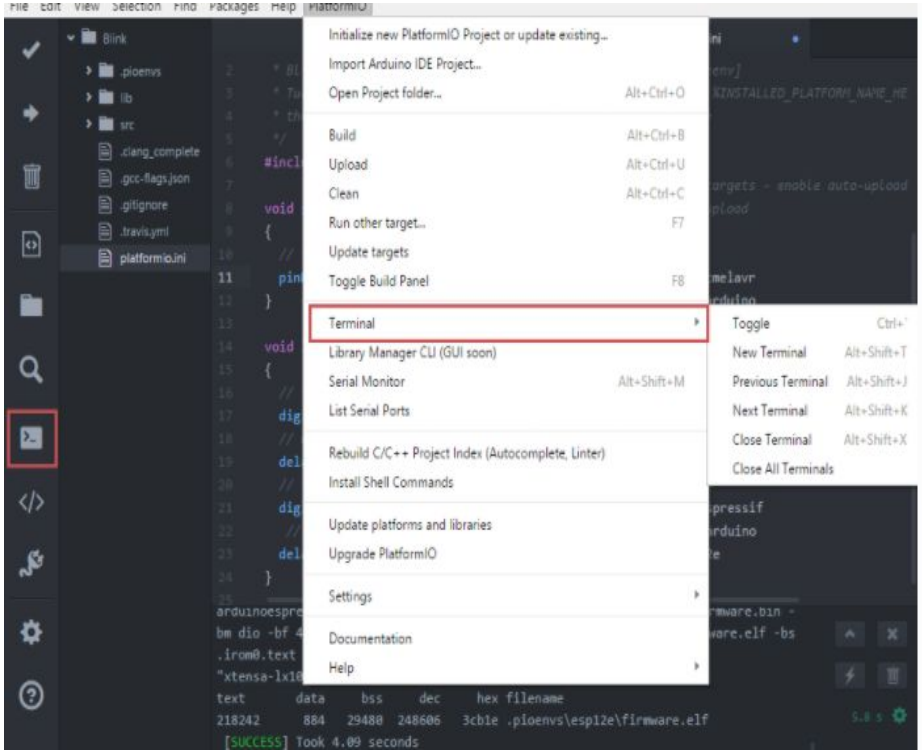


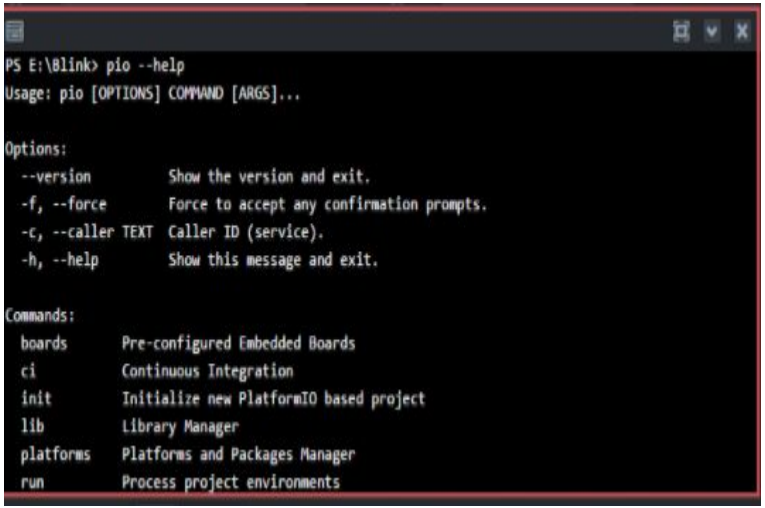


How to run platform io

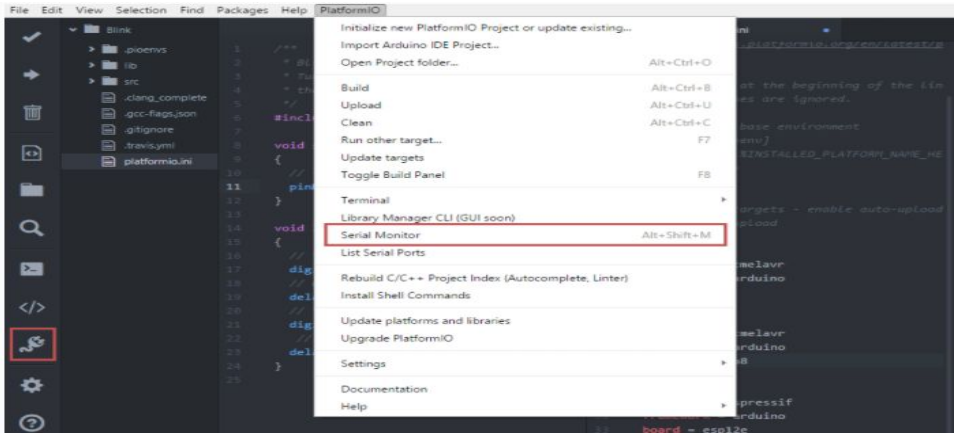


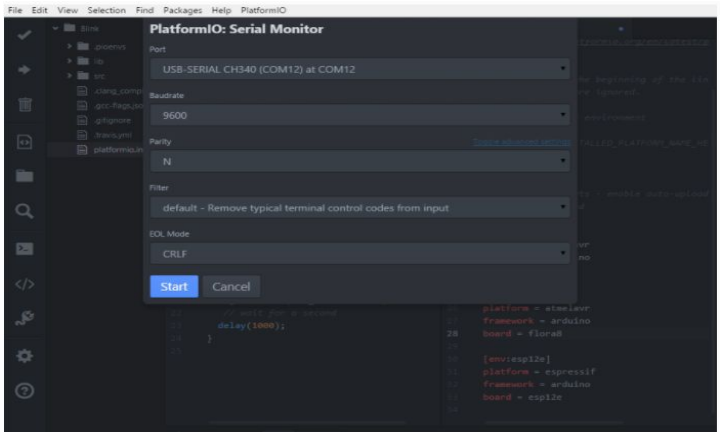
How to install platform io

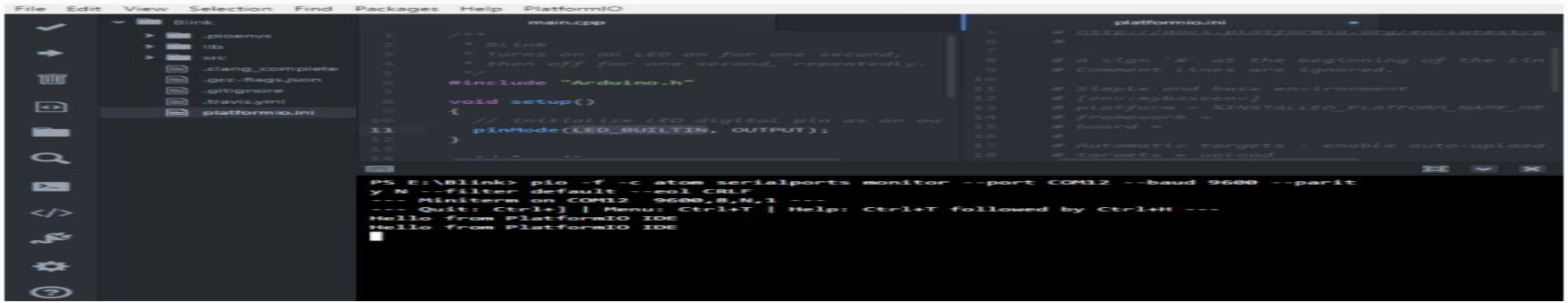




How to install platform io



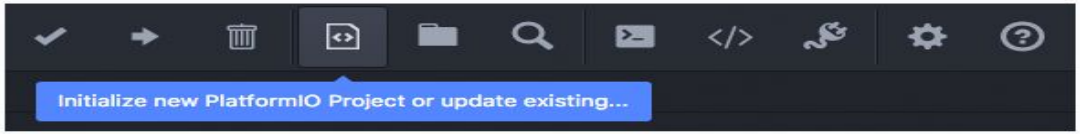




Platform IO Toolbar

PlatformIO Toolbar

PlatformIO IDE Toolbar contains quick access buttons for the popular commands. Each button contains hint (delay mouse on it).



- PlatformIO: Build
- PlatformIO: Upload
- PlatformIO: Clean
- ||
- Initialize new PlatformIO Project or update existing...
- Add/Open Project Folder...
- Find in Project...
- ||
- Terminal
- Library Manager
- Serial Monitor
- ||
- Settings
- PlatformIO Documentation

How to build platform IO CLI

Install shell commands on platform io

How to build PlatformIO based project

1. Install PlatformIO Core
2. Download examples source code
3. Extract ZIP archive
4. Run these commands:

```
# Change directory to example
> cd platformio-examples/mbed/mbed-blink

# Build project
> platformio run

# Upload firmware
> platformio run --target upload

# Build specific environment
> platformio run -e lpc1768

# Upload firmware for the specific environment
> platformio run -e lpc1768 --target upload

# Clean build files
> platformio run --target clean
```