MCU Development environment setup

Device Development > Tuya Development Boards > Tuya Sandwich

Evaluation Kits > Development Guide

Version: 20200221

Online Version

Contents

1 Overview **1**

2 Download Arduino IDE **2**

3 Install STlink driver **3**

4 Arduino IDE configuration **4**

4.1 Install support of Development board 4

4.2 Development board configuration 7

5 Download Preparation **11**

6 Summary **14**

1 Overview

The main control board in the Tuya Sandwich Evaluation Kits supports two non-Graffiti manufacturing development boards:

- Arduino UNO
- ST Nucleo

> Arduino is the most popular open source hardware in the world and an excellent hardware development platform. Arduino's simple development method allows developers to pay more attention to creativity and implementation, and complete their own project development faster, which greatly saves the cost of learning and shortens the development cycle.

Arduino UNO version can follow the Arduino Official Tutorial for operation.

ST Nucleo uses STM32Nucleo-G071RB as the main control. Its development method is fully compatible with Arduino. Therefore, we need ST driver support in the development environment and install the Arduino IDE. This article explains in detail the **development environment of ST Nucleo** under Windows.

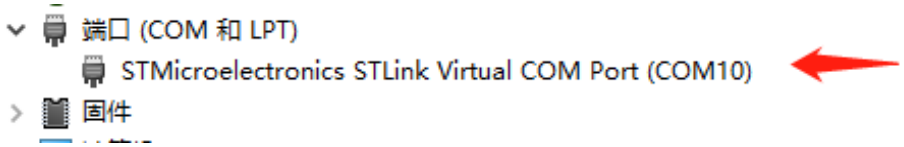
2 Download Arduino IDE

Arduino IDE (click to download) is software used to write Arduino programs. After writing the programs, you can upload them to Tuya Sandwich Development through this software. Execute in the board.

3 Install STlink driver

- Windows system: click to download.

After the driver is downloaded, run the installation as an administrator, connect the Micro-USB to the computer and the development board, open the computer device manager and the following figure appears, indicating that the driver installation was successful



Note: Micro-USB cable must have data transmission function

4 Arduino IDE configuration

The main control board of the Tuya Sandwich Evaluate Kit is STM32Nucleo-G071RB, which is not supported by default in the Arduino IDE. So we should use the following operations to make the Arduino IDE support our development board.

4.1 Install support of Development board

Path: Menu bar-File-Preferences

Figure 1: 微信截图 _20200212173846.png

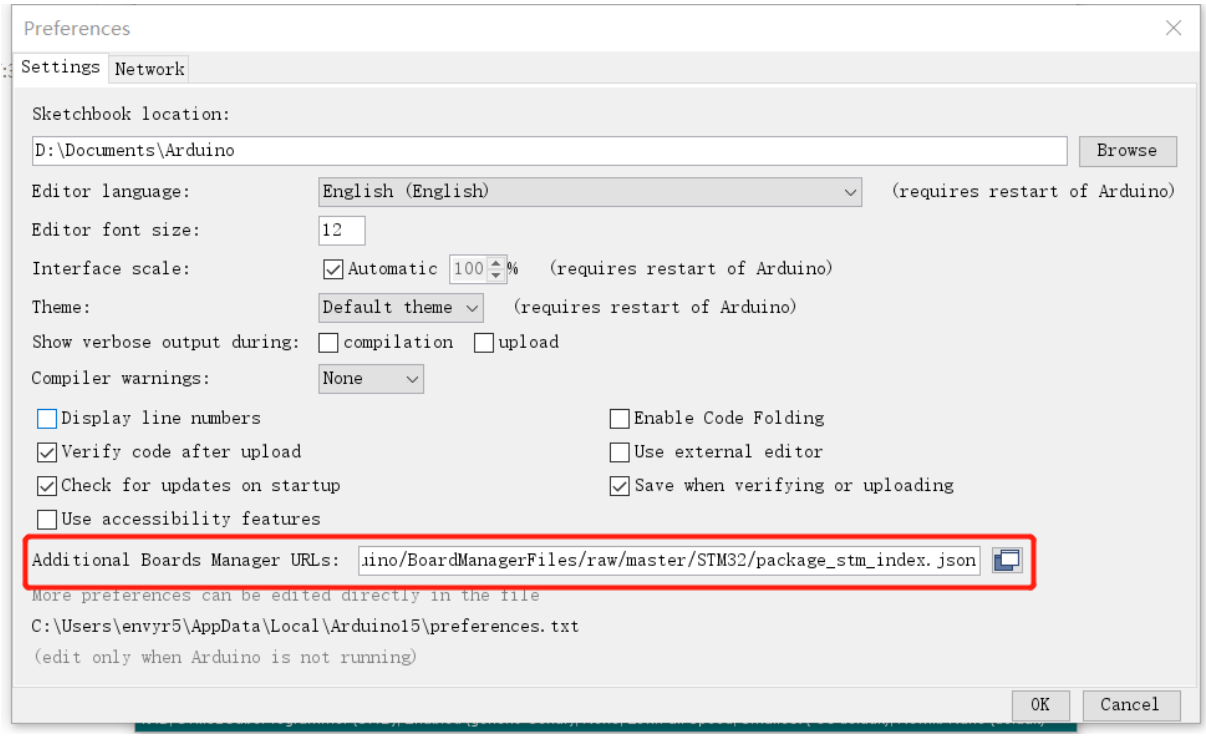


Figure 2: 微信截图 _20200212173914.png

Fill in the following URL and click `OK`:

`https://github.com/stm32duino/BoardManagerFiles/raw/master/STM32/package_stm_index.json`

Select Tools-> Evaluate Kit -> Board Manager to install the corresponding development board. The main control of Tuya Sandwich Evaluate Kit is STM32Nucleo-G071RB,so enter `STM32` in the search box, and click`Install`.

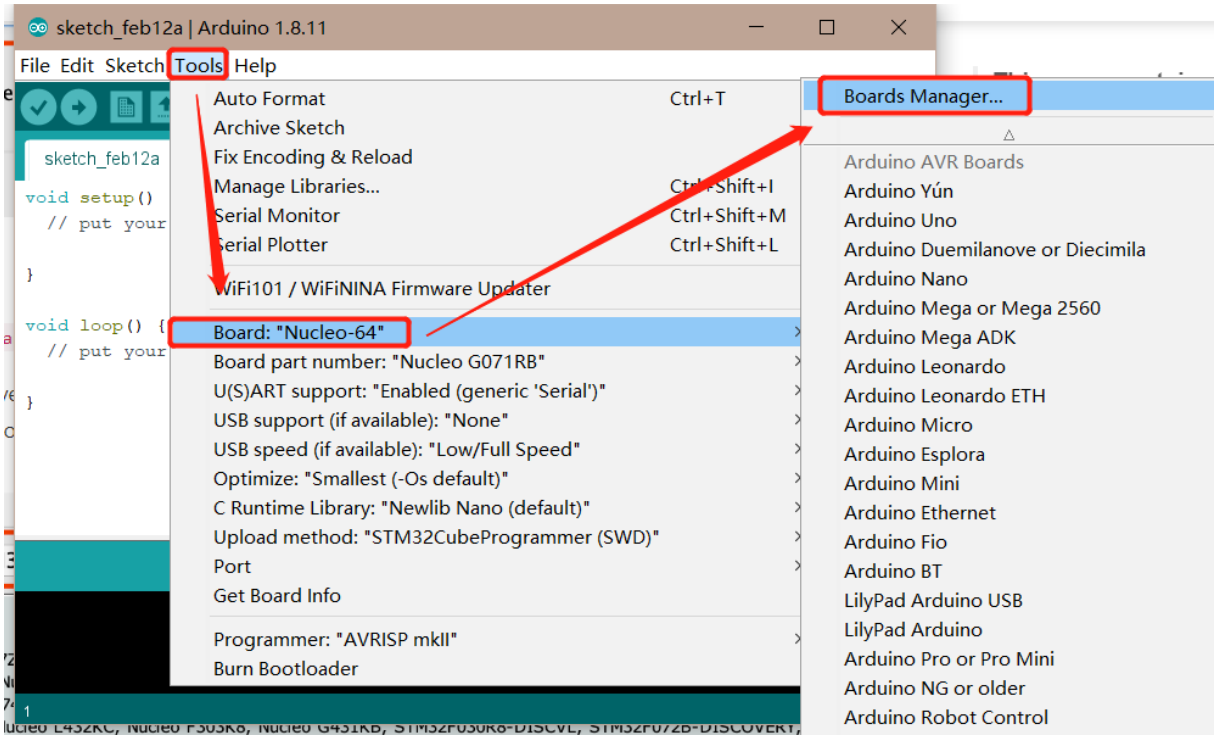


Figure 3: a9c5db5af66dcc69391aed590d71709.png

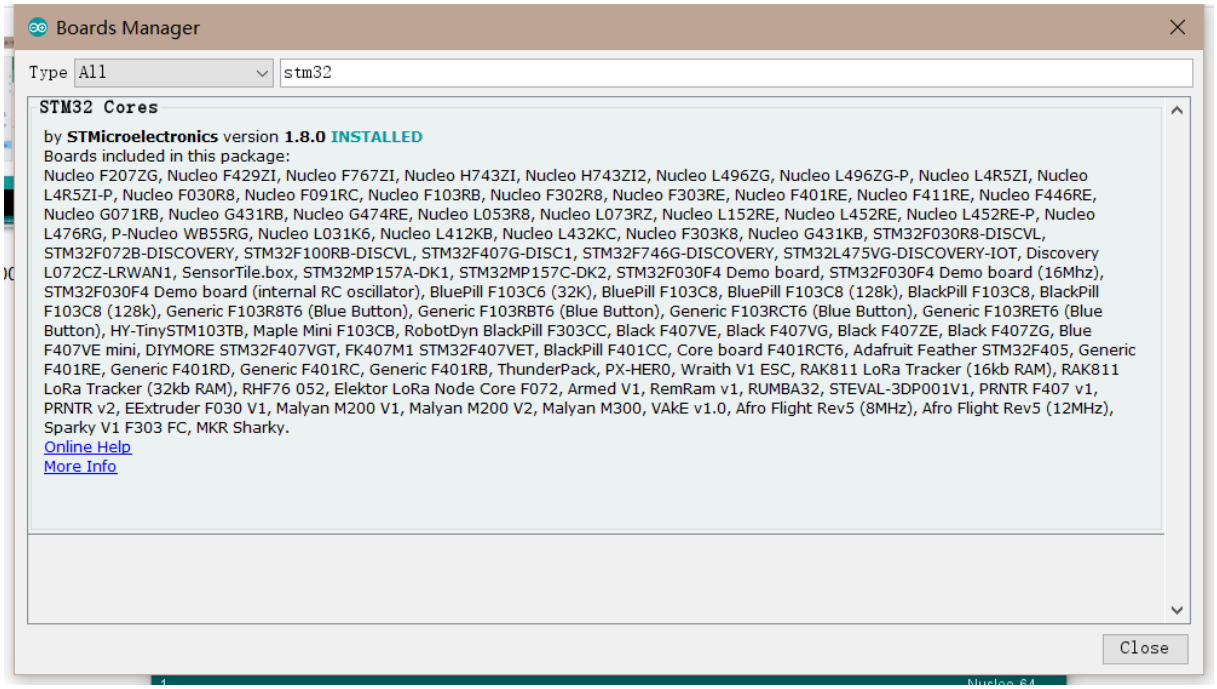


Figure 4: 微信截图 _20200212174703.png

4.2 Development board configuration

After the development board is installed, the developer can choose the corresponding model according to the type of the development board. The type of the graffiti sandwich development board in the Arduino IDE is displayed as Nucleo-64, and the model is displayed as Nucleo G071RB. So we perform the following configuration:

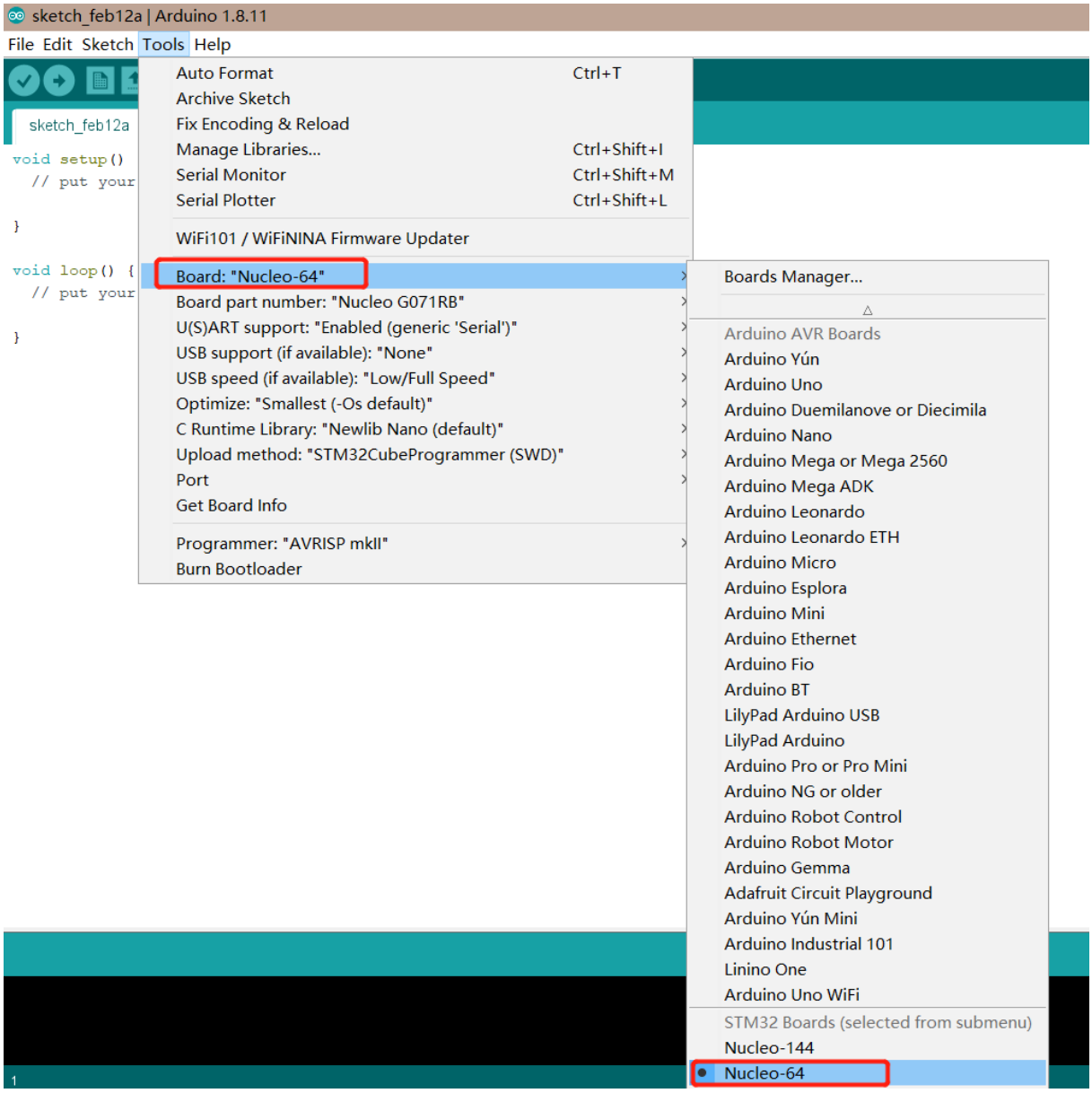


Figure 5: f52cdc4bae105081bebfd8a286c4e28.png

Path: Menu Bar-Tools- Evaluate Kit

Selection: `Nucleo-64`

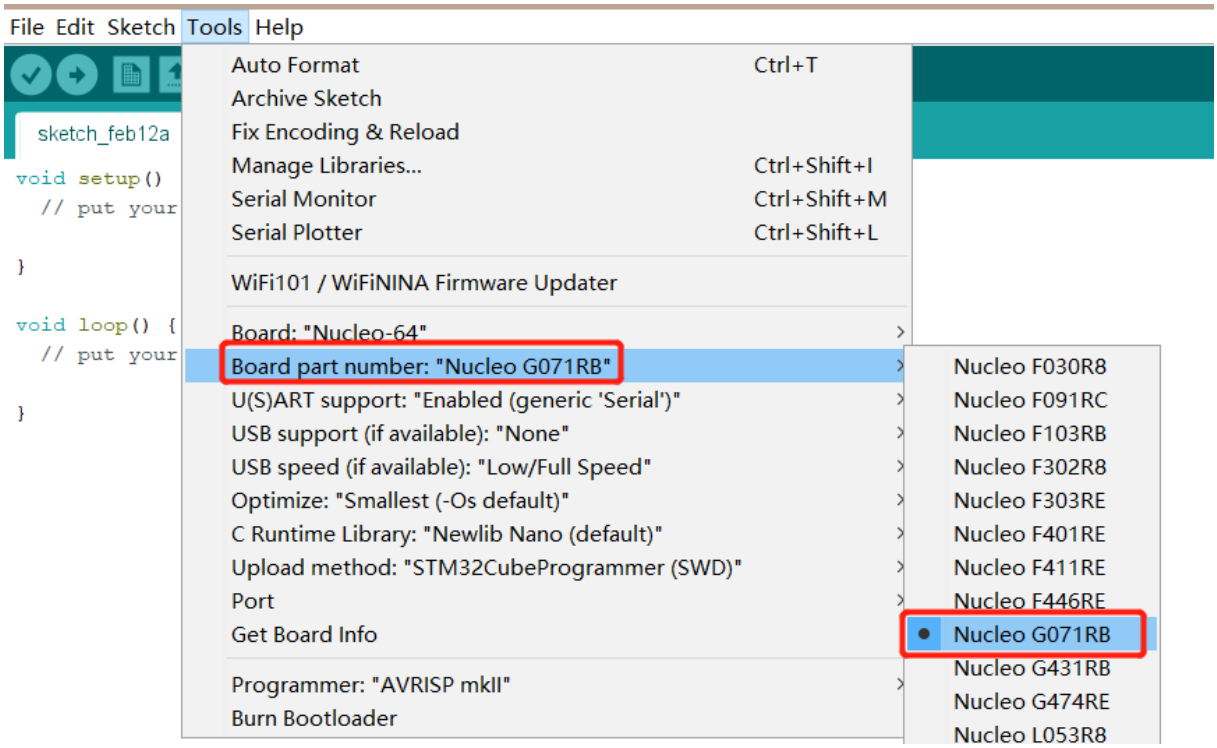


Figure 6: 微信截图 _20200212174823.png

Path: Menu Bar-Tools-Board part number

Selection: `Nucleo G071RB`

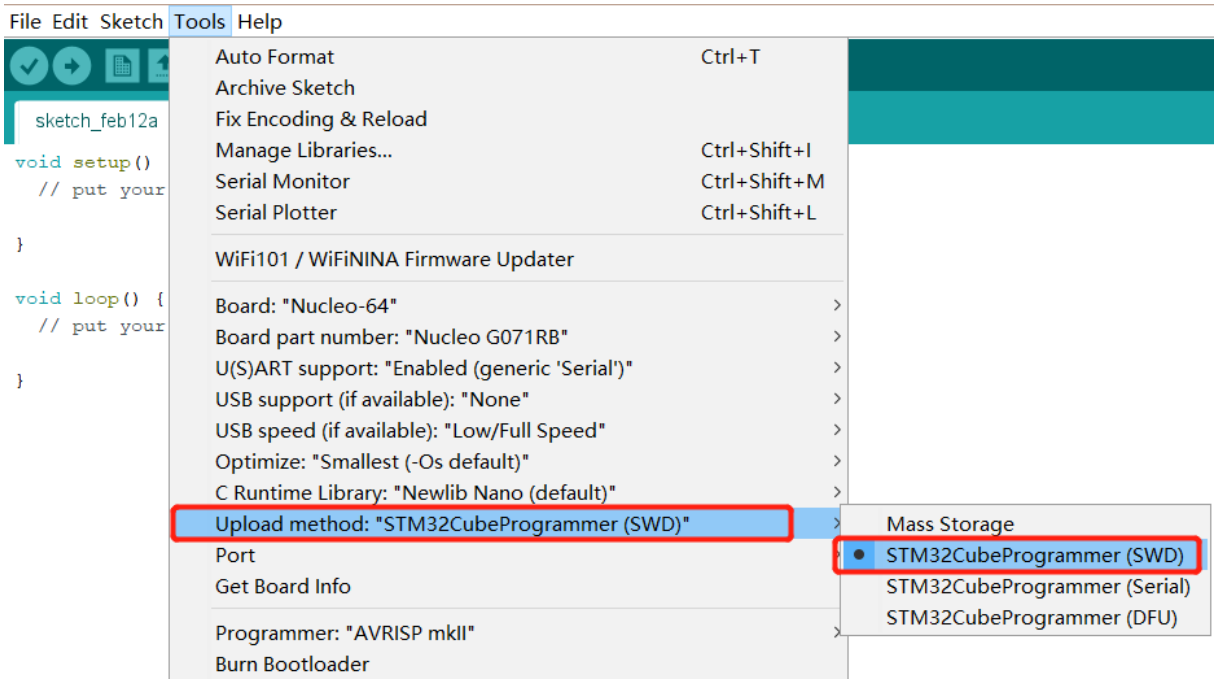


Figure 7: 7d55f9bdddb2a71afeb6e13c25c5b15.png

Path: Menu bar-Tools-Upload method

Select: `STM32CubeProgrammer (SWD)`

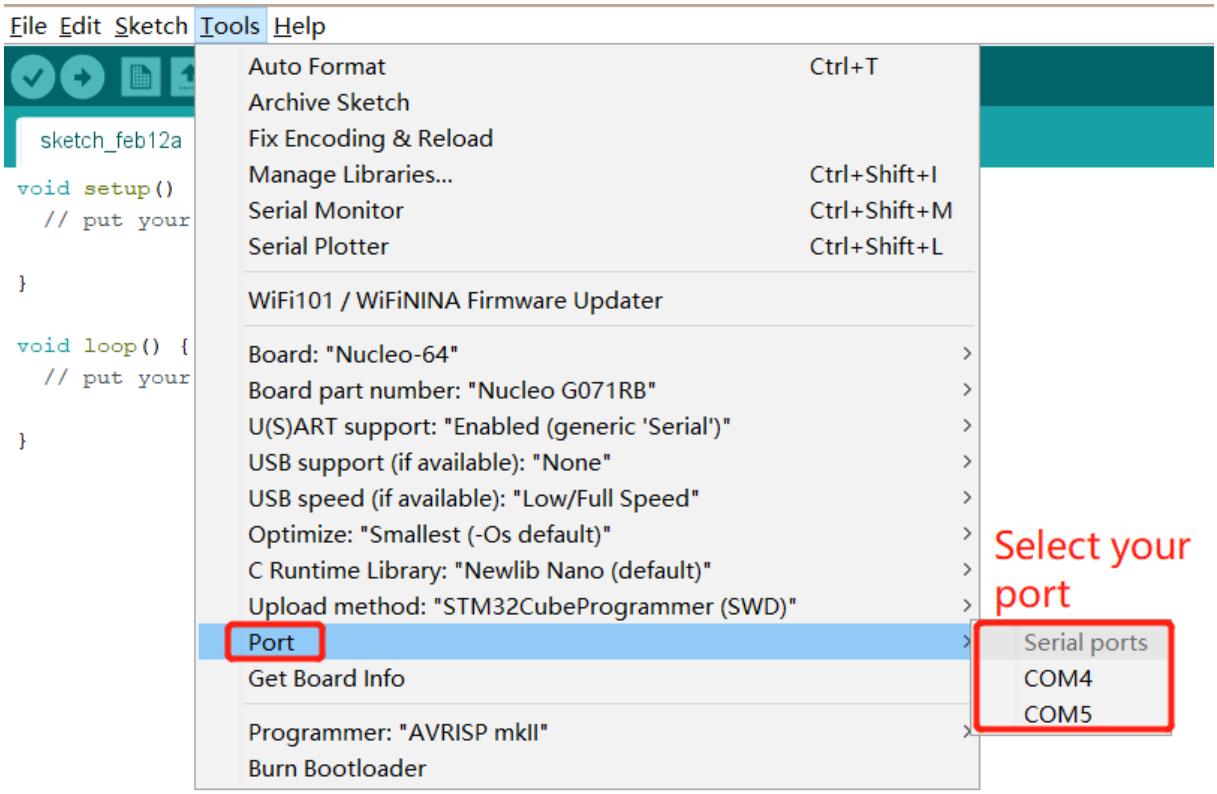


Figure 8: 0e24f770f882323e26f6e00727b2c87.png

Path: Menu Bar-Tools-Port

Selection: Select the appropriate port according to the connection between the development board and your computer

> The rest of the options in the toolbar can keep the default configuration (recommended), or you can change it according to your needs.

5 Download Preparation

The Tuya Sandwich Evaluation Kits uses STM32Nucleo-G071RB as the main control and uses the Arduino IDE to write the STM32 code. You need to download the STM32CubeProgrammer software to download the code to the development board.

Install STM32CubeProgrammer (click to download), under the software installation path The bin file path to the system environment variable.

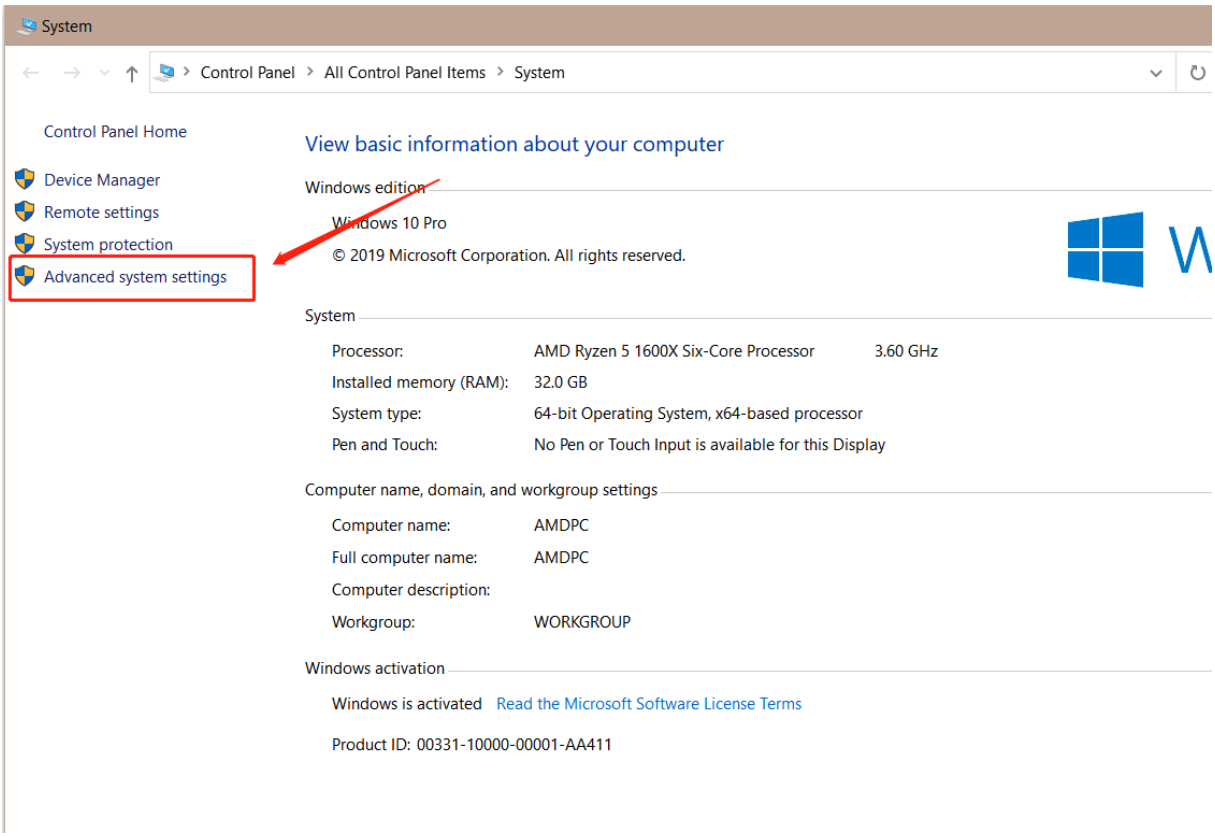


Figure 9: WXWorkCapture_15816378656916.png

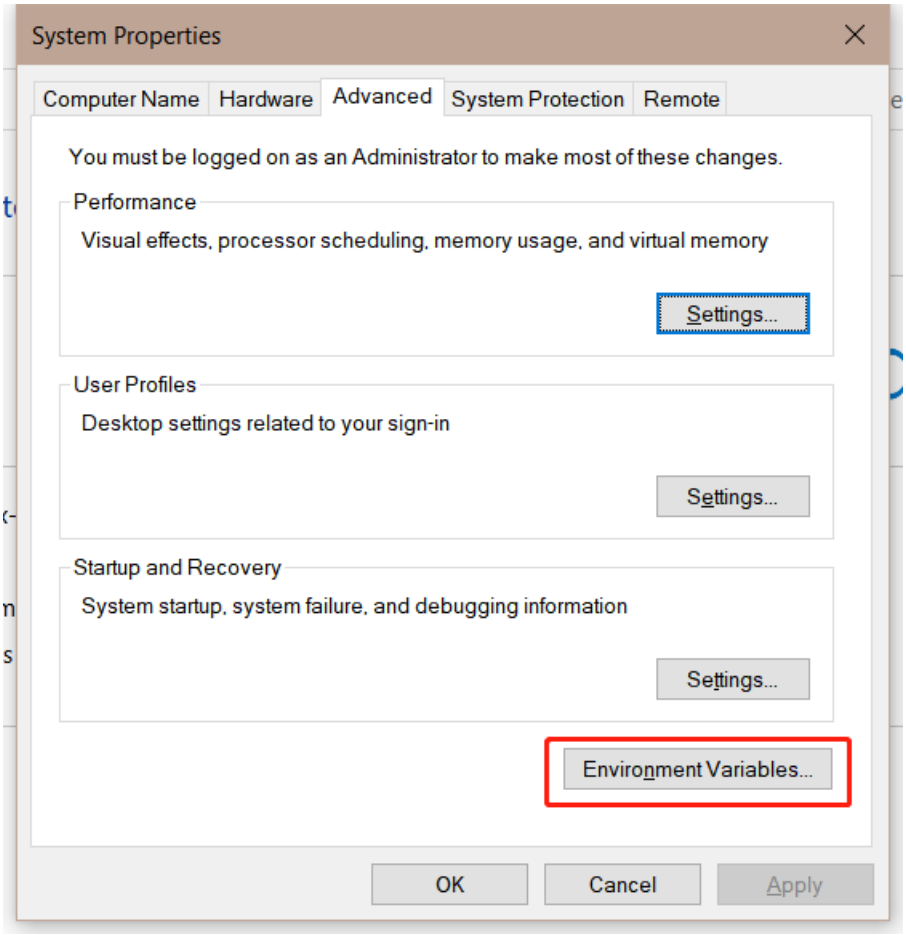


Figure 10: WXWorkCapture_1581637880842.png

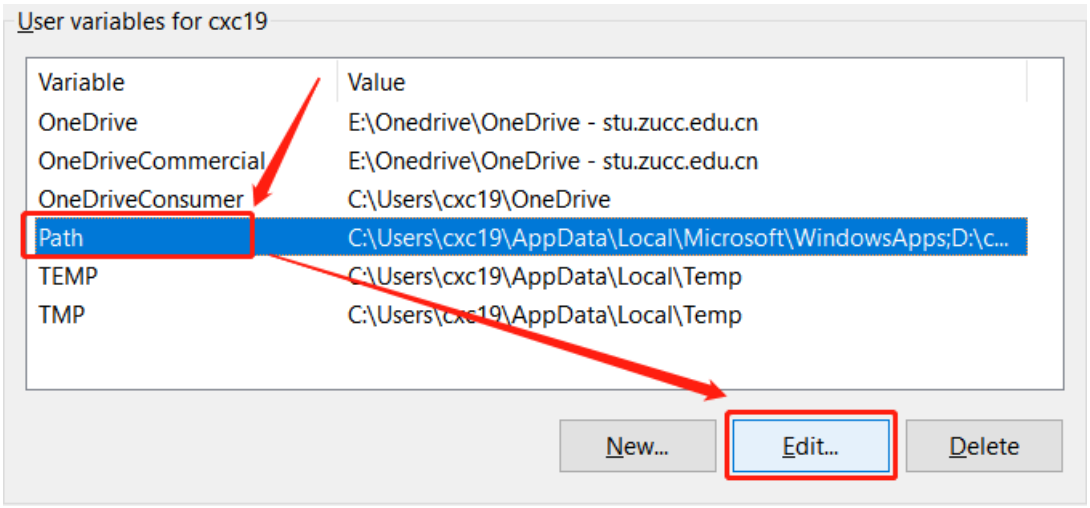


Figure 11: WXWorkCapture_15816379332537.png

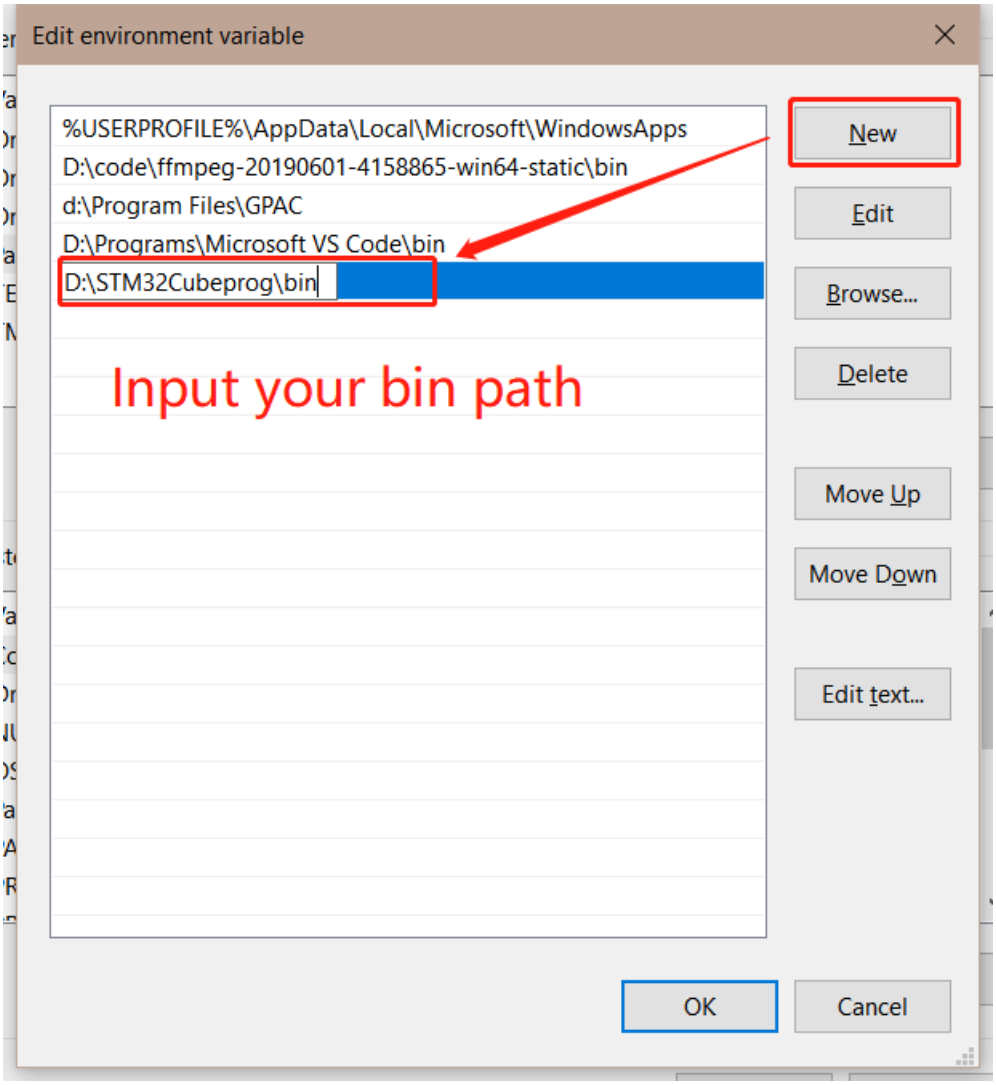


Figure 12: WXWorkCapture_1581638028701.png

6 Summary

At this point, the development environment of the graffiti sandwich development board is completed. We can write the application code in the Arduino IDE and download it to the development board.

> Mac OS and Linux support the above solutions at the same time, the STM32CubeProgrammer software needs to be downloaded in the “Ready to Download” section (click to download)to install the driver.