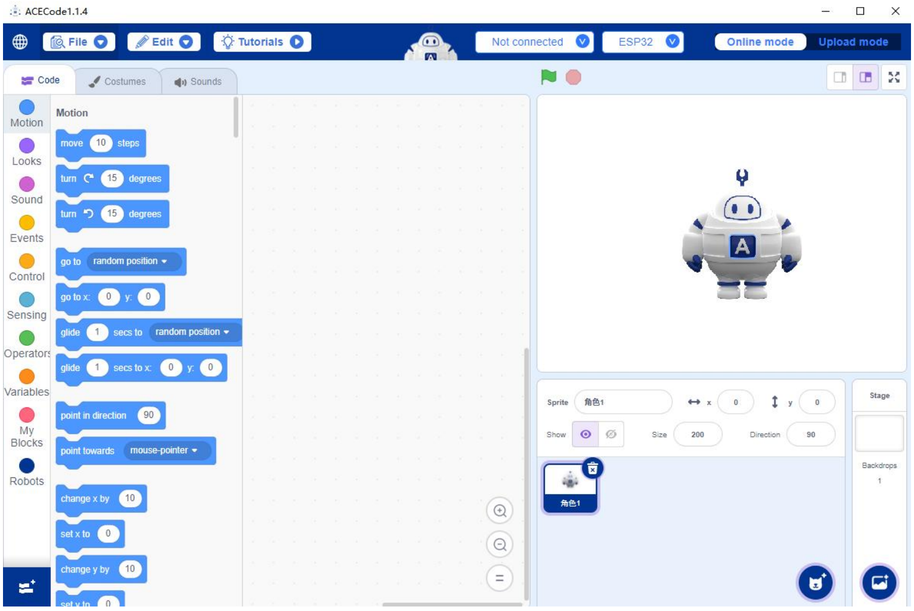
Getting Started with ACECode

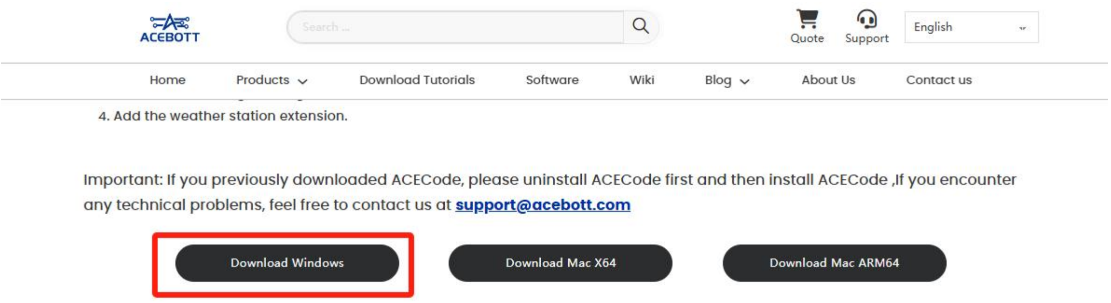
Ⅰ.Introduction to ACECode

ACECode is a blockly programming tool that allows users to program by dragging blocks without having to master complex programming languages. ACECode covers all the functions of Scratch and adds a robot control module, which allows users to design their own robot works using graphical programming, reducing the difficulty of robot programming and development.



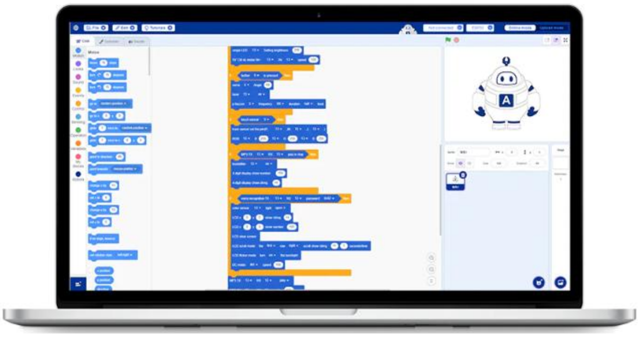
Ⅱ.Download and install ACECode

Step 1: Download the ACECode installation program from the official website. Log in to the official website of ACECode: https://www.acebott.com/pages/software, enter the software download interface, select the ACECode software version for Windows system, and click Download ACECode to download.



4. Add the weather station extension.

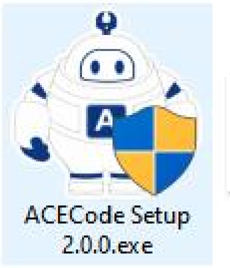
Important: If you previously downloaded ACECode, please uninstall ACECode first and then install ACECode ,If you encounter any technical problems, feel free to contact us at support@acebott.com



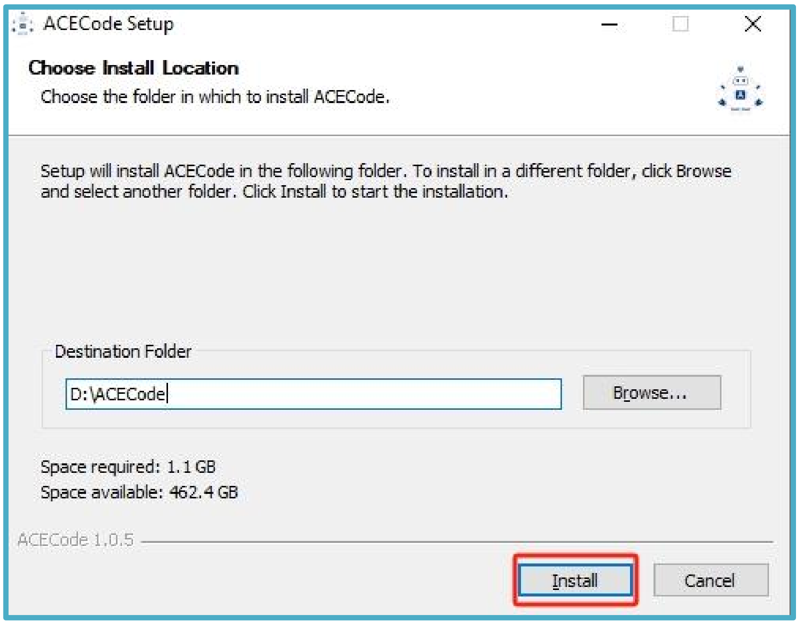
Note: If you download a compressed package, please decompress it and then proceed to the subsequent installation steps.

Step 2: Double-click the downloaded installer and follow the instructions to install ACECode. Here we take the installation under Windows system as an example for demonstration.

1.After the download is complete, the installation package file will appear as shown in the figure. Click to install the software.



2.After clicking the software, the following interface will appear. Select "Install". You can choose the default installation path or choose the software installation route yourself.



ACECode Setup

Choose Install Location

Choose the folder in which to install ACECode.

Setup will install ACECode in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.

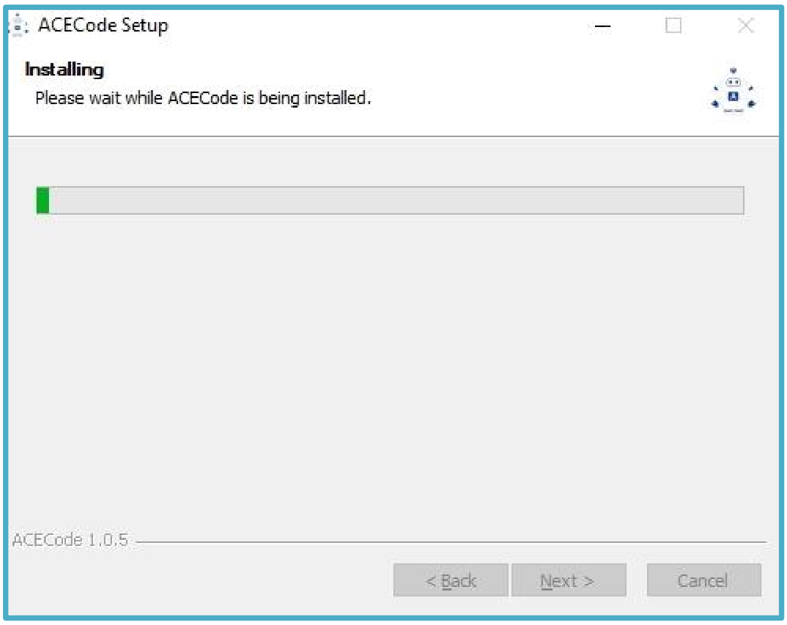
Destination Folder

D:\ACECode

Space required: 1.1 GB
Space available: 462.4 GB

ACECode 1.0.5

3.ACECode software is being installed.



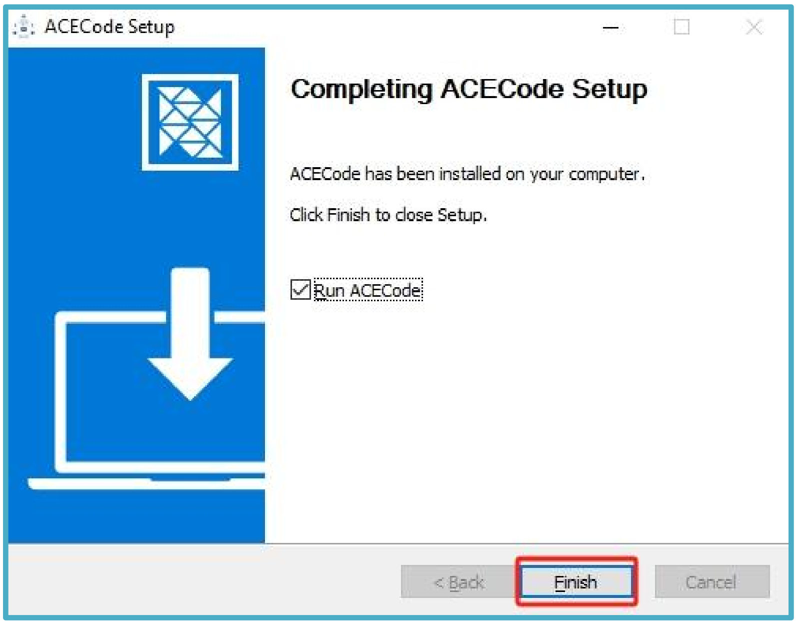
ACECode Setup

Installing

Please wait while ACECode is being installed.

ACECode 1.0.5

4.The installation is complete.



ACECode Setup

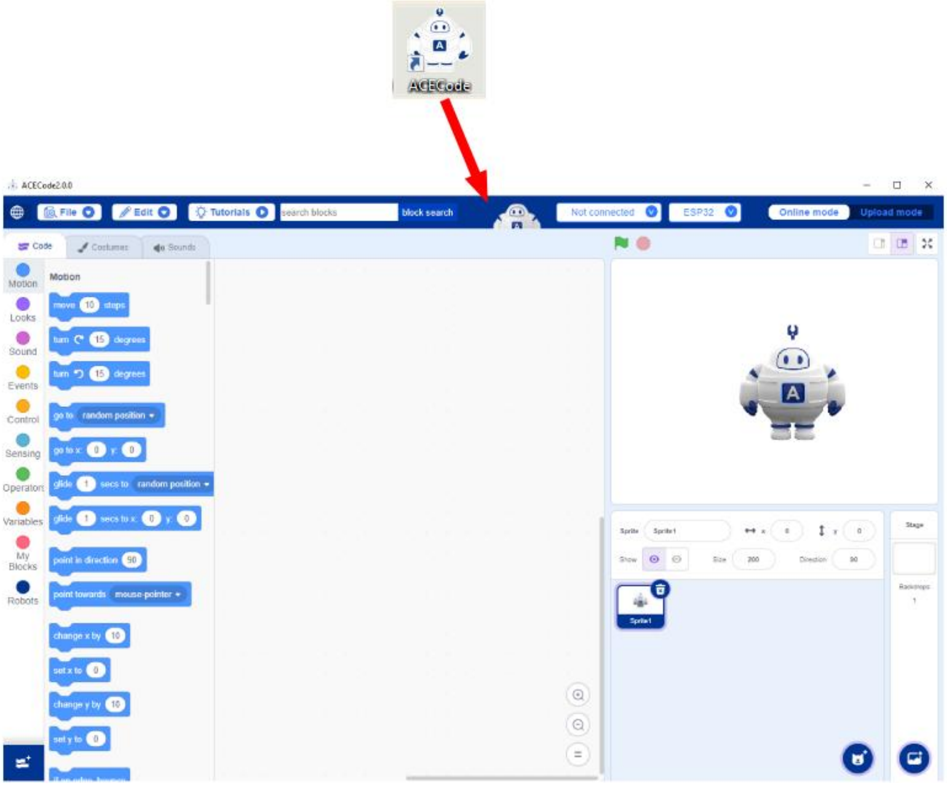
Completing ACECode Setup

ACECode has been installed on your computer.

Click Finish to close Setup.

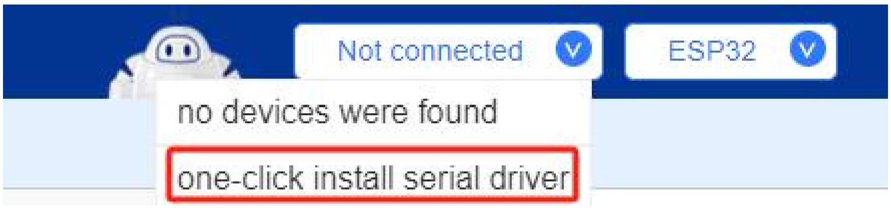
☑ Run ACECode

5.Find the shortcut of ACECode on the desktop and double-click to open ACECode.

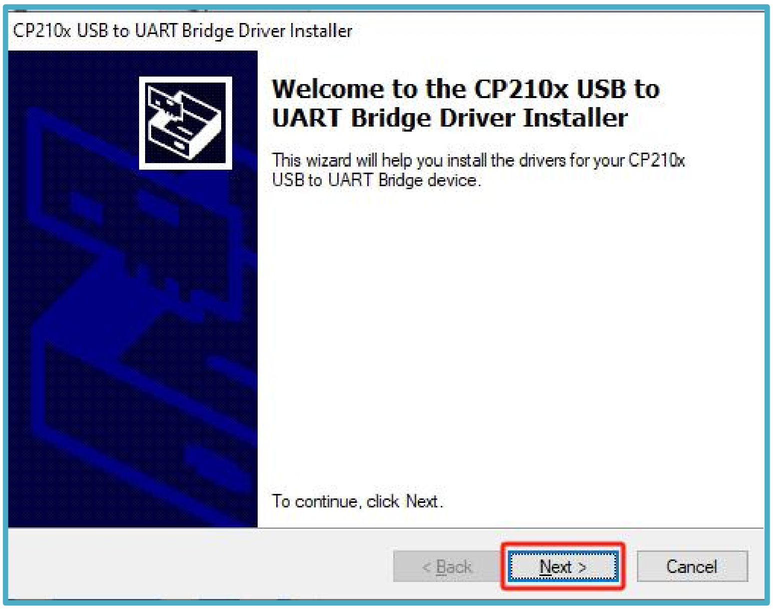


Step 3:Install the serial driver (skip it if installed)

1.Open ACECode, click on the serial port connection button, and in the pop-up options, select "One-click to install serial driver." After clicking, it will sequentially install the serial port drivers required for the two controller boards supported by ACECode, ESP8266 and ESP32.



2.Click "Next" based on the prompt.

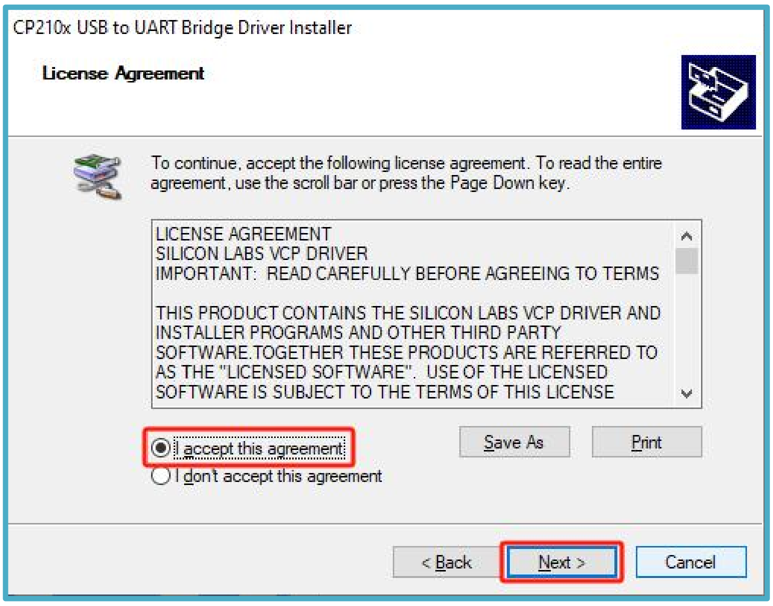

CP210x USB to UART Bridge Driver Installer

Welcome to the CP210x USB to UART Bridge Driver Installer

This wizard will help you install the drivers for your CP210x USB to UART Bridge device.

To continue, click Next.

3.After clicking "I accept this agreement" click "Next" again.


CP210x USB to UART Bridge Driver Installer

License Agreement

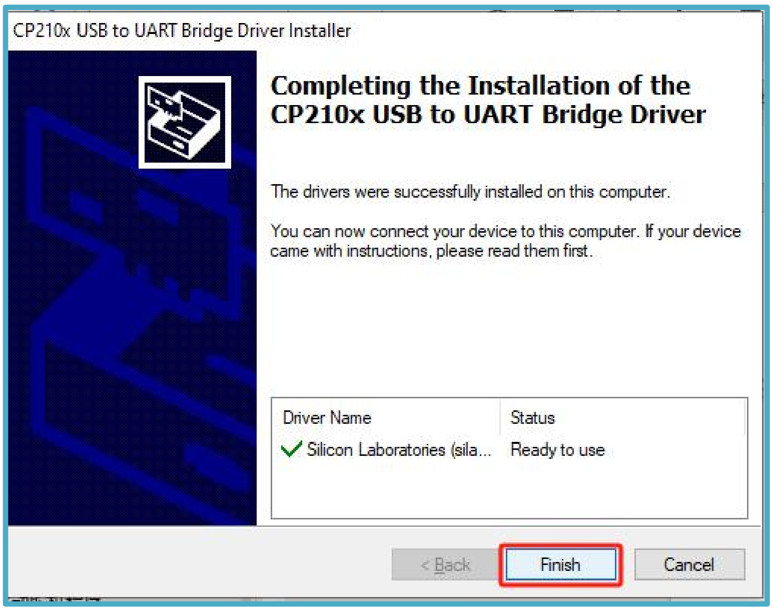
To continue, accept the following license agreement. To read the entire agreement, use the scroll bar or press the Page Down key.

LICENSE AGREEMENT
SILICON LABS VCP DRIVER
IMPORTANT: READ CAREFULLY BEFORE AGREEING TO TERMS

THIS PRODUCT CONTAINS THE SILICON LABS VCP DRIVER AND INSTALLER PROGRAMS AND OTHER THIRD PARTY SOFTWARE.TOGETHER THESE PRODUCTS ARE REFERRED TO AS THE "LICENSED SOFTWARE". USE OF THE LICENSED SOFTWARE IS SUBJECT TO THE TERMS OF THIS LICENSE

● I accept this agreement
○ I don't accept this agreement

4.Click "Finish", the first driver installation is complete.



CP210x USB to UART Bridge Driver Installer

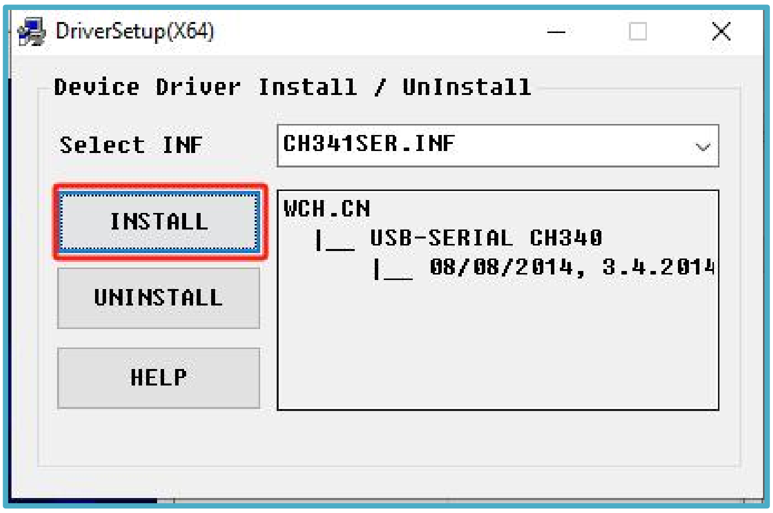
Completing the Installation of the CP210x USB to UART Bridge Driver

The drivers were successfully installed on this computer.

You can now connect your device to this computer. If your device came with instructions, please read them first.

Driver Name	Status
✓ Silicon Laboratories (sila...	Ready to use

5.Next, a pop-up window for the installation of the second driver will appear; click "Install."



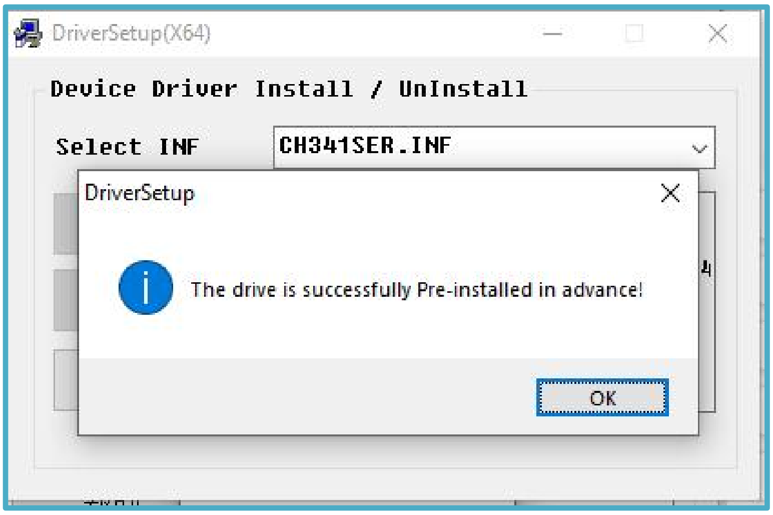
DriverSetup(X64)

Device Driver Install / UnInstall

Select INF: CH341SER.INF

```
WCH.CN
  |__ USB-SERIAL CH340
        |__ 08/08/2014, 3.4.2014
```

6.After the installation is completed, a message indicating that the installation was successful will be displayed.



DriverSetup(X64)

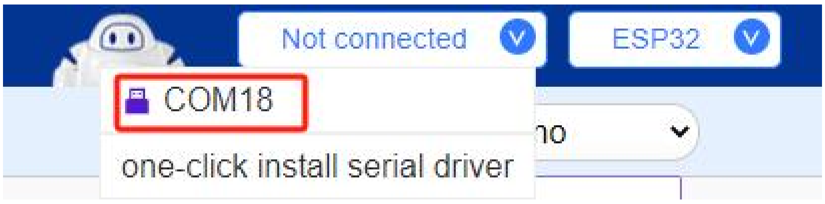
Device Driver Install / UnInstall

Select INF: CH341SER.INF

DriverSetup

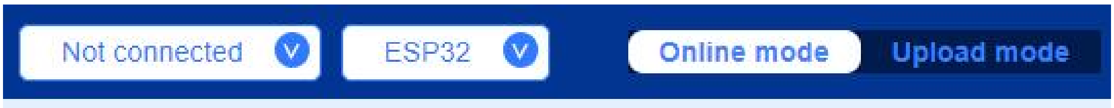
The drive is successfully Pre-installed in advance!

7.To confirm whether the installation was successful, plug one end of the USB cable into the ESP32 controller board and the other end into a USB port on the computer. In ACECode, check the serial port connection button. At this point, a new serial port will be added, representing the connected controller board. If this happens, it indicates that the serial port driver has been successfully installed.



Ⅲ.Online Mode and Upload Mode

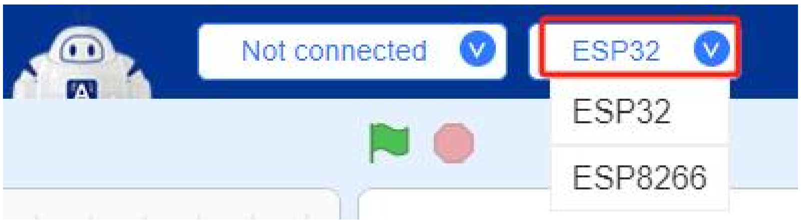
Currently, ACECode supports two development modes: online mode and upload mode. The online mode supports online debugging, which can debug the program in real time, which is convenient and fast; the upload mode is to upload the written program to the ESP32 (or other controller board) controller board. After the upload is successful, the program can be run on the ESP32 without the computer (the controller board needs to be powered externally).



The following uses the ESP32 controller board as an example to demonstrate how to use ACECode inonline mode and upload mode.

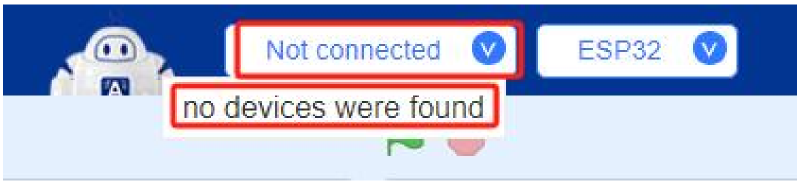
Step 1: Connect ACECode and ESP32 controller board

1.In the ACECode controller board list, select the ESP32 controller board. The software selects ESP32 by default.

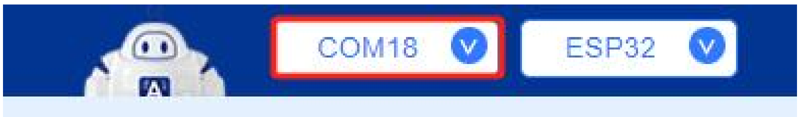


2.Find the serial communication connection button in the ACECode interface.

The connection status of the serial communication will be displayed on the button. Move the mouse to the serial communication connection button position, and the information list of the serial communication port in the computer will pop up automatically; when no device is detected, it will prompt "No device were found".



3.When we connect ESP32 to the computer with a data cable, a new port "COM18" will be added to the serial communication port information list. The port number is random and will change according to the actual situation. Click the newly added port to establish a communication connection between ACECode and ESP32. After the connection is successful, the connection status display on the connection button will switch from "Not connected" to the information of the connected port.



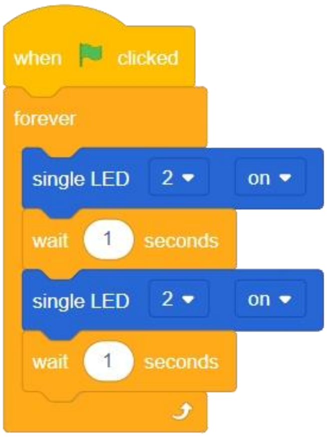
Note:USB power supply may be insufficient, external power supply is required, please connect ESP32 with sufficient power supply and turn on the power switch.

Step 2: Online Mode

1.Write the following code in online mode to make the built-in LED light on ESP32 flash.

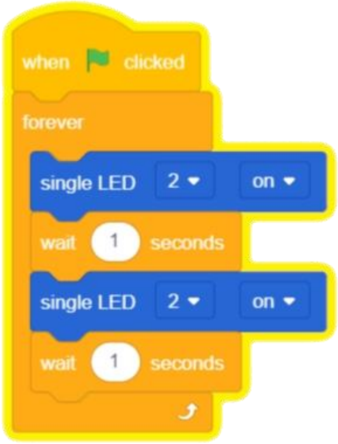
Note:1.The LED light is integrated on the ESP32 controller board and connected to I/O port 2. The effect of this instruction can make the LED light flash for 1 second on and 1 second off.

2.ACECode Software upper left corner has search function, can use this function to quickly find the required building block instructions.



```
when 🏴 clicked
forever
    single LED 2 ▾ on ▾
    wait 1 seconds
    single LED 2 ▾ on ▾
    wait 1 seconds
```

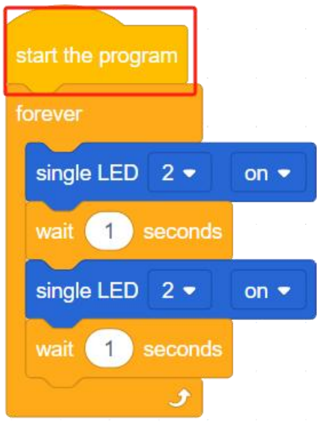
2.After writing, debug the code online. Click the code to run it. The code will turn yellow, indicating that the code is running. The LED on the ESP32 will repeatedly light up for 1 second and then go off for 1 second.Click on the code again to stop running it.



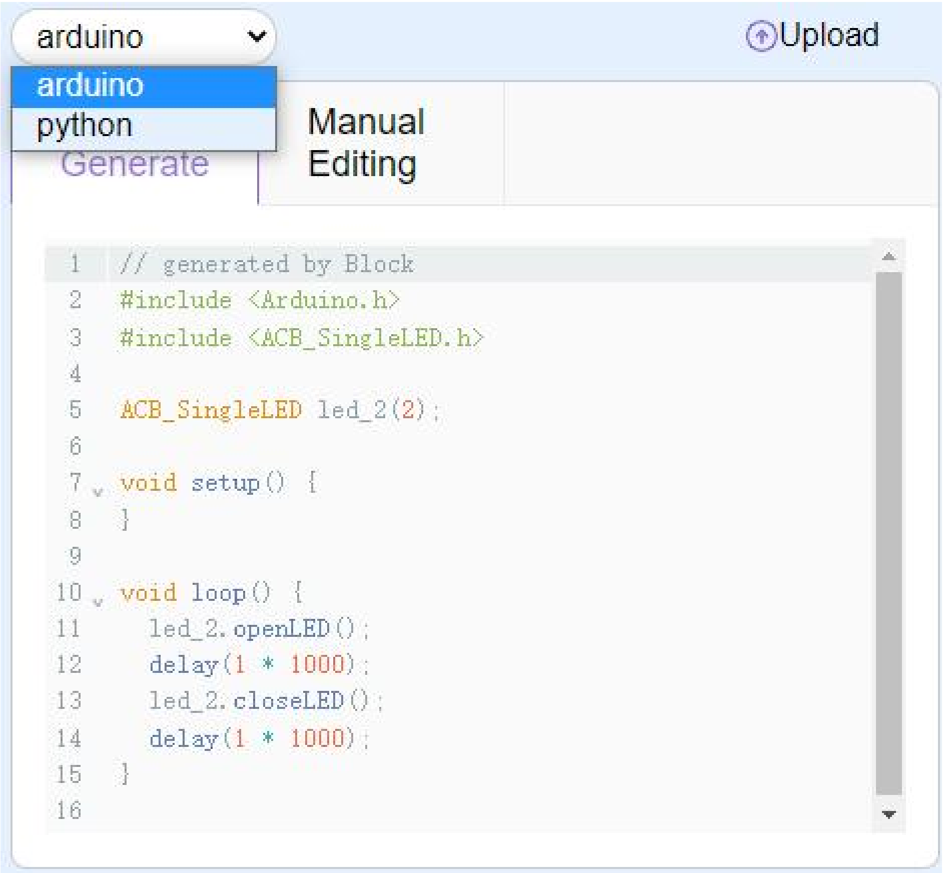
```
when 🏴 clicked
forever
    single LED 2 ▾ on ▾
    wait 1 seconds
    single LED 2 ▾ on ▾
    wait 1 seconds
```

Step 3: Upload Mode

1.After debugging is completed, switch to "upload mode" and change the program startup command to "start the program". In "upload mode", you need to use this command to start the program.

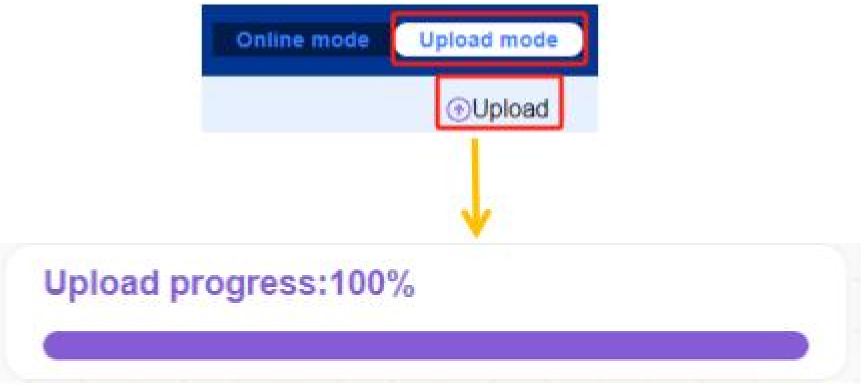


2.At this point, you can see that in ACECode's "Upload Mode", the corresponding C language code and Python code will be generated synchronously to meet the different needs of users.

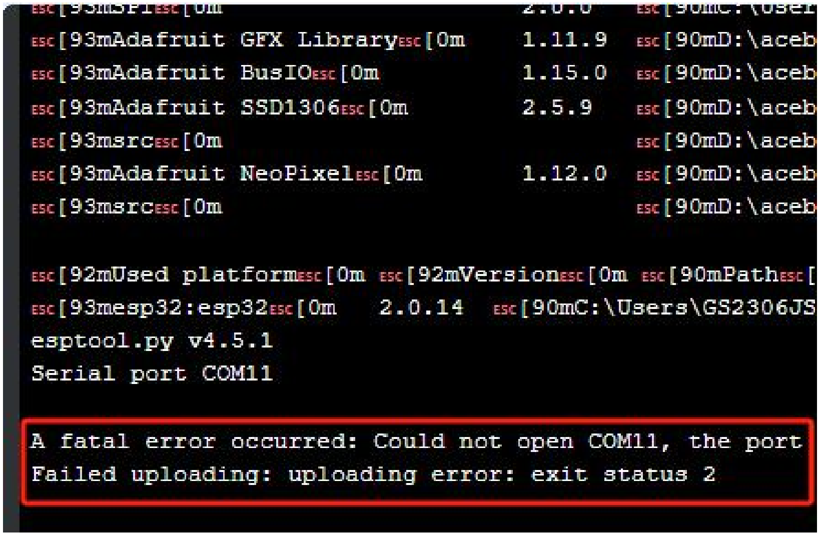


```
// generated by Block
#include <Arduino.h>
#include <ACB_SingleLED.h>

ACB_SingleLED led_2(2);

void setup() {
}

void loop() {
  led_2.openLED();
  delay(1 * 1000);
  led_2.closeLED();
  delay(1 * 1000);
}
```

3.Click the "Upload" button to upload the program. When the upload progress reaches 100%, it is successful. After the upload is successful, the program can be run on the ESP32 controller board without the computer, that is, you can unplug the data cable and let the program run independently on the ESP32 (connect the ESP32 to an external power supply).



4.If the upload fails, you can debug according to the error prompt in the lower right corner of the console. If prompted here, you can check whether ACECode and ESP32 are connected.



```
ESC[93mSPIESC[0m                        2.0.0   ESC[90mC:\User
ESC[93mAdafruit GFX LibraryESC[0m       1.11.9  ESC[90mD:\aceb
ESC[93mAdafruit BusIOESC[0m             1.15.0  ESC[90mD:\aceb
ESC[93mAdafruit SSD1306ESC[0m           2.5.9   ESC[90mD:\aceb
ESC[93msrcESC[0m                                ESC[90mD:\aceb
ESC[93mAdafruit NeoPixelESC[0m          1.12.0  ESC[90mD:\aceb
ESC[93msrcESC[0m                                ESC[90mD:\aceb

ESC[92mUsed platformESC[0m ESC[92mVersionESC[0m ESC[90mPathESC[
ESC[93mesp32:esp32ESC[0m   2.0.14   ESC[90mC:\Users\GS2306JS
esptool.py v4.5.1
Serial port COM11

A fatal error occurred: Could not open COM11, the port
Failed uploading: uploading error: exit status 2
```