A / Heltec ESP32+LoRa Series Quick Start

For more details, please go to this

link:https://docs.heltec.org/en/node/esp32/quick_start.html.

Heltec ESP32+LoRa Series Quick Start

[简体中文]

Before all operation, please confirm whether the USB driver, Git and Arduino IDE has been installed correctly. If not, please refer to this two articles establish serial connection and Install Git and Arduino IDE.

The Heltec ESP32 development environment already contains the basic code. For the special codes related to the Heltec ESP32 development board, please refer to: https://github.com/Heltec-Aaron-Lee/WiFi_Kit_series/tree/master/esp32/libraries/Heltec-Example.

New	Ctrl+N		
Open	Ctrl+O		
Open Recent	>		
Sketchbook		2.h"	
Examples		*	
Close	Ctrl+W	RETIRED	>
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There are three methods to install the development framework, choose one of they:

- Via Arduino Board Manager
- Via Git
- Via Local File

🛛 Tip

When we updated the V3 series development environment, we integrated the sample code and added it to the development environment without additional downloading libraries. We have handled the compatibility of the sample code so that the code can be used for various versions of the ESP32 development board. When you use the new development environment, the old version of the library can no longer be used, such as ESP32_LoRaWAN, Heltec_ESP32. When you update the development environment, we recommend that you delete the old development environment, download the new development environment, and delete the old version of the library. For Git, it has been updated to the V3 series development environment on September 19, 2022. For "Arduino Boards Manager", V0.0.7 is the V3 series development environment. If you modify a lot of code in the old development environment and use it in the project, we recommend that you still use the old development environment.

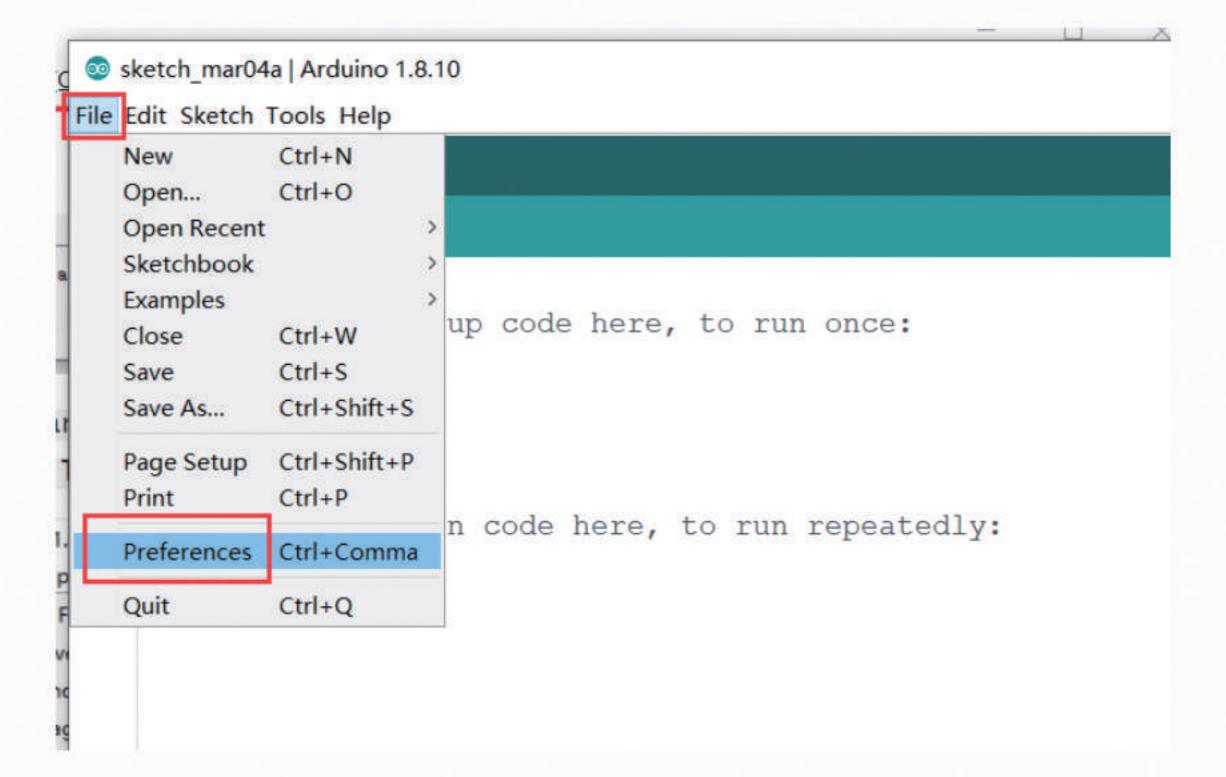
🕒 Tip

Due to the ESP32 chip was replaced in the V3 version of the ESP32 series product. If you install the old environment through Git and get updates through "git pull", you need to execute 'get.exe "under the" WiFi_Kit_series\esp32\tools "path again to download the latest compilation chain.

Via Arduino Board Manager

Step1. Download Arduino-ESP32 Support

Open Arduino IDE, and click File -> Peferences .



Preferences				>
Settings Network				
Sketchbook location:				
D:\Documents\Arduino				Browse
Editor language:	English (English)	~]	(requires restart of Arduino)	
Editor font size:	16			
Interface scale:	Automatic 100 🔅 🐐 (require	s restart of Arduino)		
Theme:	Default theme ~ (requires real	start of Arduino)		
Show verbose output during:	🕝 compilation 🛛 upload			
Compiler warnings:	None 🗸			
🛃 Display line numbers		🗌 Enable Code Foldi	ng	
🛃 Verify code after upload		🗌 Use external edit	or	
Check for updates on star	tup	Save when verifyi	ng or uploading	
Use accessibility features	5			
Additional Boards Manager URL	s: -Aaron-Lee/WiFi_Kit_series/r	eleases/download/0.0.7/p	package_heltec_esp32_index.json	
More preferences can be edite	d directly in the file			
C:\Users\lxy\AppData\Local\Ar	duino15\preferences.txt			
(edit only when Arduino is no	t running)			
			OK	Cancel

Input the last ESP32 package URL: https://github.com/Heltec-Aaron-Lee/WiFi_Kit_series/releases /download/0.0.7/package_heltec_esp32_index.json

Additional Boards Manager URLs	
Enter additional URLs, one for each row	
https://github.com/HelTecAutomation/CubeCell-Arduino/releases/dou https://github.com/Heltec-Aaron-Lee/WiFi_Kit_series/releases/dow	
Click for a list of unofficial boards support URLs	
	OK Cancel

Click Tools --> Board --> Boards Manager..., search Heltec ESP32 in the new pop-up dialog, then select the latest version and click install

sketch_mar12a | Arduino 1.8.10

etch_mar12a	Adto Format Archive Sketch Fix Encoding & Reload	Ctrl+T		
void se	Manage Libraries	Ctrl+Shift+I		
// pi	Serial Monitor	Ctrl+Shift+M		
// pc	Serial Plotter	Ctrl+Shift+L		
}	WiFi101 / WiFiNINA Firmware Upd	ater		
	Board: "WiFi LoRa 32(V2)"	>	Boards Manager	
void lo	Upload Speed: '921600' CPU Frequency: "240MHz (WiFi/BT Flash Frequency: "80MHz" Flash Mode: "QIO" Flash Size: "8MB (64Mb)" Partition Scheme: "default_8MB" Core Debug Level: "None" PSRAM: "Disabled" Port Get Board Info)" > > > > >	Arduino/Genuino Micro Arduino Esplora Arduino Mini Arduino Ethernet Arduino Fio Arduino BT LilyPad Arduino USB LilyPad Arduino Arduino Pro or Pro Mini	
	Programmer: "AVRISP mkll" Burn Bootloader	>	Arduino NG or older Arduino Robot Control Arduino Robot Motor Arduino Gemma Adafruit Circuit Playground Arduino Yún Mini Arduino Industrial 101	

Heltec ESP32 Series Dev-boards by Heltec Automation(TM) Boards included in this package: WiFi Kit 32, WiFi LoRa 32, WiFi LoRa 32(V2), Wirreless Stick Lite, Wireless Stick, WIFI_LoRa More Info	0.0.7	:3.	
	0.0.7	Install	

The source code of Heltec ESP series (ESP32 & ESP8266) framework available here: https://github.com/Heltec-Aaron-Lee/WiFi_Kit_series

Via Git

After obtaining updates through "git pull", please execute "get. exe" under the path of "Arduino\hardware\WiFi_Kit_series\esp32\tools" to obtain the latest compilation tool.

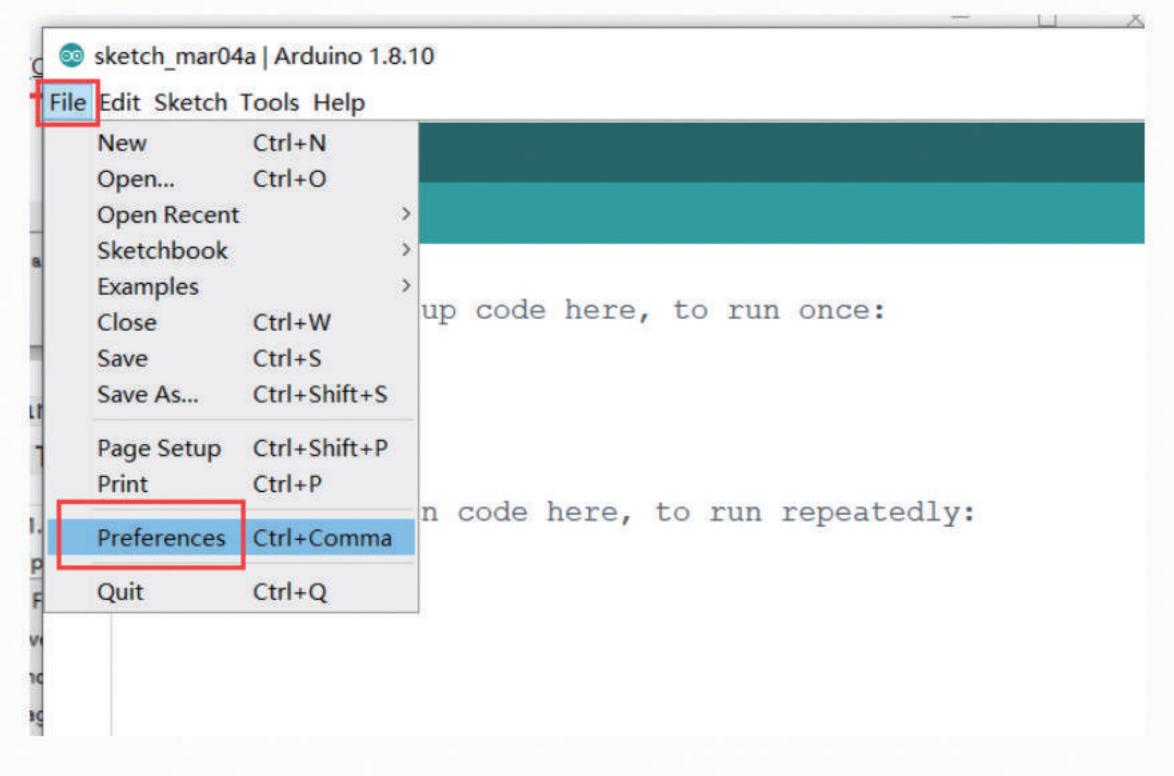
rduino\hardware\WiFi_Kit_series	\esp32\tools	~ C	Q 在to
名称 へ	修改日期	类型	
xtensa-esp32s3-elf	2022/9/26 10:44	文件夹	
espota.exe	2022/6/30 16:42	应用程序	
espota.py	2022/6/30 16:42	PY 文件	
esptool.py	2022/9/24 17:02	PY 文件	
<pre>gen_crt_bundle.py</pre>	2022/9/24 17:02	PY 文件	
gen_esp32part.exe	2022/9/24 17:02	应用程序	
gen_esp32part.py	2022/9/24 17:02	PY 文件	
🚰 get.exe	2022/6/30 16:42	应用程序	
📝 get.py	2022/9/24 17:02	PY 文件	
platformio-build.py	2022/9/24 17:02	PY 文件	

- /windows.md
- For MacOS: https://github.com/Heltec-Aaron-Lee/WiFi_Kit_series/blob/master/InstallGuide/mac.md
 For Linux
- For Linux
 - Debian/Ubuntu: https://github.com/Heltec-Aaron-Lee/WiFi_Kit_series/blob/master/InstallGuide
 /debian_ubuntu.md
 - Fedora: https://github.com/Heltec-Aaron-Lee/WiFi_Kit_series/blob/master/InstallGuide/fedora.md
 - OpenSUSE: https://github.com/Heltec-Aaron-Lee/WiFi_Kit_series/blob/master/InstallGuide /opensuse.md

Via Local File

Download the development environment. https://resource.heltec.cn/download/tools /WiFi_Kit_series.zip

Open Arduino IDE, and click File -> Peferences .



Go to the folder in the red box.

Preferences						×
Settings Network						
Sketchbook location:						
D:\Documents\Arduino						Browse
Editor language:	English (English)		~	(requires	restart	of Arduino)
Editor font size:	15					
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Theme:	Default theme ~	(requires restart of Arduino)				
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Verify code after upload		🗌 Use external edit	or			
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More preferences can be edit	ed directly in the	file				
C:\Users\lxy\AppData\Local\A	rduino15\preferenc	es. txt				
(edit only when Arduino is r	ot running)					
					OK	Cancel

Create a new "hardware" folder in the Arduino folder. If there is already a "hardware" folder, you don't need to create a new one.

名称	修改日期	类型	
hardware	2022/7/19 11:00	文件夹	
libraries	2022/6/30 17:04	文件夹	

Go to the "hardware" folder and extract "WiFi_Kit_series" into this folder.

Documents\Arduino\hardware			~ C	22
名称	修改日期	类型	大小	
CubeCell	2022/7/14 16:34	文件夹		
esp32	2022/7/2 15:11	文件夹		
WiFi_Kit_series	2022/6/30 17:04	文件夹		
WiFi_Kit_series.zip	2022/7/19 11:00	360压缩 ZIP 文件	604,131 KB	

Go to the "WiFi_Kit_series" folder, refer to the figure below to confirm whether the path in the red box is correct.

:\Documents <mark>\</mark> Arduino\hardware\Wi	Fi_Kit_series		~	C
名称	修改日期	类型	大小	
git	2022/6/30 17:04	文件夹		
esp32	2022/6/30 17:04	文件夹		
esp8266	2022/6/30 17:04	文件夹		
InstallGuide	2022/6/30 17:04	文件夹		
Kicad5_lib_footprint	2022/6/30 17:04	文件夹		
🚞 PinoutDiagram	2022/6/30 17:04	文件夹		
🚞 SchematicDiagram	2022/6/30 17:04	文件夹		
🗋 .gitignore	2022/6/30 16:42	txtfile		1 KB
] .gitmodules	2022/6/30 16:42	txtfile		1 KB
README.md	2022/6/30 16:42	Markdown File		7 KB

Restart the Arduino IDE to confirm whether the development environment is installed successfully.

ketch_jul20a id setup (// put yo	Auto Format Archive Sketch Fix Encoding & Reload Manage Libraries Serial Monitor Serial Plotter	Ctrl+T Ctrl+Shift+I Ctrl+Shift+M Ctrl+Shift+L			
	WiFi101 / WiFiNINA Firmware Update	r			
id loop() // put yo	Board: "WiFi LoRa 32(V2)" Upload Speed: "921600" CPU Frequency: "240MHz (WiFi/BT)" Core Debug Level: "None"	2	Boards Manager Arduino AVR Boards CubeCell (in sketchbook) ESP32 Arduino (in sketchbook)	>	
	LoRaWan Region: "REGION_EU868"	2	Heltec ESP32 Arduino (in sketchbook)		WiFi Kit 32
	LoRaWan Debug Level: "None" LORAWAN_DEVEUI: "CUSTOM" Port Get Board Info Programmer	>	Heltec ESP8266 Boards (2.7.0-dev) (in sketchbook)	•	WiFi LoRa 32 WiFi LoRa 32(V2) Wireless Stick Wireless Stick Lite Wireless Bridge Lora Eink Board

Example

This section for verifying whether you can program with Arduino or not. Now, The USB cable connects to Heltec ESP32 board, then select your serial port which is connected to Heltec ESP32 board.

Select a demo example, compile and upload.

Execute an example

Correctly select a board and relevant options in the Tools menu:

	uto Format rchive Sketch	Ctrl+T	
201	x Encoding & Reload		
N	lanage Libraries	Ctrl+Shift+I	
ito S	erial Monitor	Ctrl+Shift+M	clud
nc S	erial Plotter	Ctrl+Shift+L	
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er B	oard: "WiFi LoRa 32(V2)"		>
3	pload Speed: "921600"		>
	PU Frequency: "240MHz (WiFi/B	T)"	>
14	ore Debug Level: "None"		>
1 23	SRAM: "Disabled"		> ncoming messages);
-	oRaWan Region: "REGION_EU86	8"	> hessages);
	oRaWan Debug Level: "None"		>
P	ort: "COM3"		>
Le G	et Board Info		
el P	rogrammer: "AVRISP mkII"		>
ec B	urn Bootloader		
Tithub.co	m/HelTecAutomation/Heltec_I	ESP32	

Then select an example.

New	Ctrl+N		
Open	Ctrl+O		
Open Recent	>		
Sketchbook	> 1	?.h"	
Examples		۸.	
Close	Ctrl+W	RETIRED	>
Save	Ctrl+S	Examples for WiFi LoRa 32(V2)	0x00, 0x88, 0x8
Save As	Ctrl+Shift+S	ArduinoOTA	> 0x00, 0x00, 0x0
Dama Catura	Chill Child and	BluetoothSerial	> 0x88, 0x88, 0x8
Page Setup Print	Ctrl+Shift+P Ctrl+P	DNSServer	>
Print	Ctri+P	EEPROM	>
Preferences	Ctrl+Comma	ESP RainMaker	>E, 0xa4, 0x63, 0x
Quit	Ctrl+Q	ESP32	>5, 0x8c, 0xdc, 0x
	evaar -	ESP32 Async UDP	>
		ESP32 BLE Arduino	>
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		HTTPUpdate	LoRaBasic
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		Update	>
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ash of data verifie		WiFiClientSecure	>
		WiFiProv	>
eaving		Wire	

Compile & Upload



New a Heltec ESP32 program

Open Arduino IDE, create a new .ino file, then copy the below code.

```
#include <heltec.h>
// the setup routine runs once when starts up
void setup(){
    // Initialize the Heltec ESP32 object
    Heltec.begin(true /*DisplayEnable Enable*/, true /*LoRa Disable*/, true /*Serial Enable*/, true /*PAL
}
// the loop routine runs over and over again forever
void loop() {
}
```

compile it and upload, the screen (if this board has a screen) will show and Arduino's serial monitor will print something, it means Heltec ESP32 board is running successfully!



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