Compile Klipper firmware available for Lerdge boards

Foreword:

Before using Klipper, let's sort out Klipper first. Klipper consists of Klipper software and Klipper firmware in two parts.

One part is the Klipper software. This part mainly runs various computing and human-computer interaction interfaces. The code of this part runs on a card computer such as Raspberry Pi. It can be understood as a software installed in the computer or an APP in the phone. Unlike the software we usually install on the computer or the APP in the mobile phone, the installation can be completed with a few clicks. The installation of this software requires more professional commands and tools. Klipper software can usually be installed on many platforms, such as raspberry Pi, Orange Pi, tablet computers, mobile phones, industrial computers and even all devices that can run OS. Since Klipper is developed on Raspberry Pi, this tutorial is still based on Raspberry Pi. Installation on other platforms will require stronger knowledge, and it is only recommended for professionals.

The other part is the firmware that runs on various microcontroller-built boards, which we call "Klipper Firmware". This firmware needs to be generated by the Klipper software running on the Raspberry Pi (called compilation in professional terms), and different microcontroller models require different configurations when compiling. This tutorial explains how to compile Klipper firmware that can run on Lerdge boards, so that Klipper software can be used on Lerdge boards.

For the first part of the installation of Klipper software on Raspberry Pi or other platforms, please refer to the tutorial on Klipper's official website. This tutorial only describes how to compile Klipper firmware that can run on Lerdge board.

This tutorial takes the operation on the Raspberry Pi as an example, and the Klipper host computer has been installed on the Raspberry Pi.

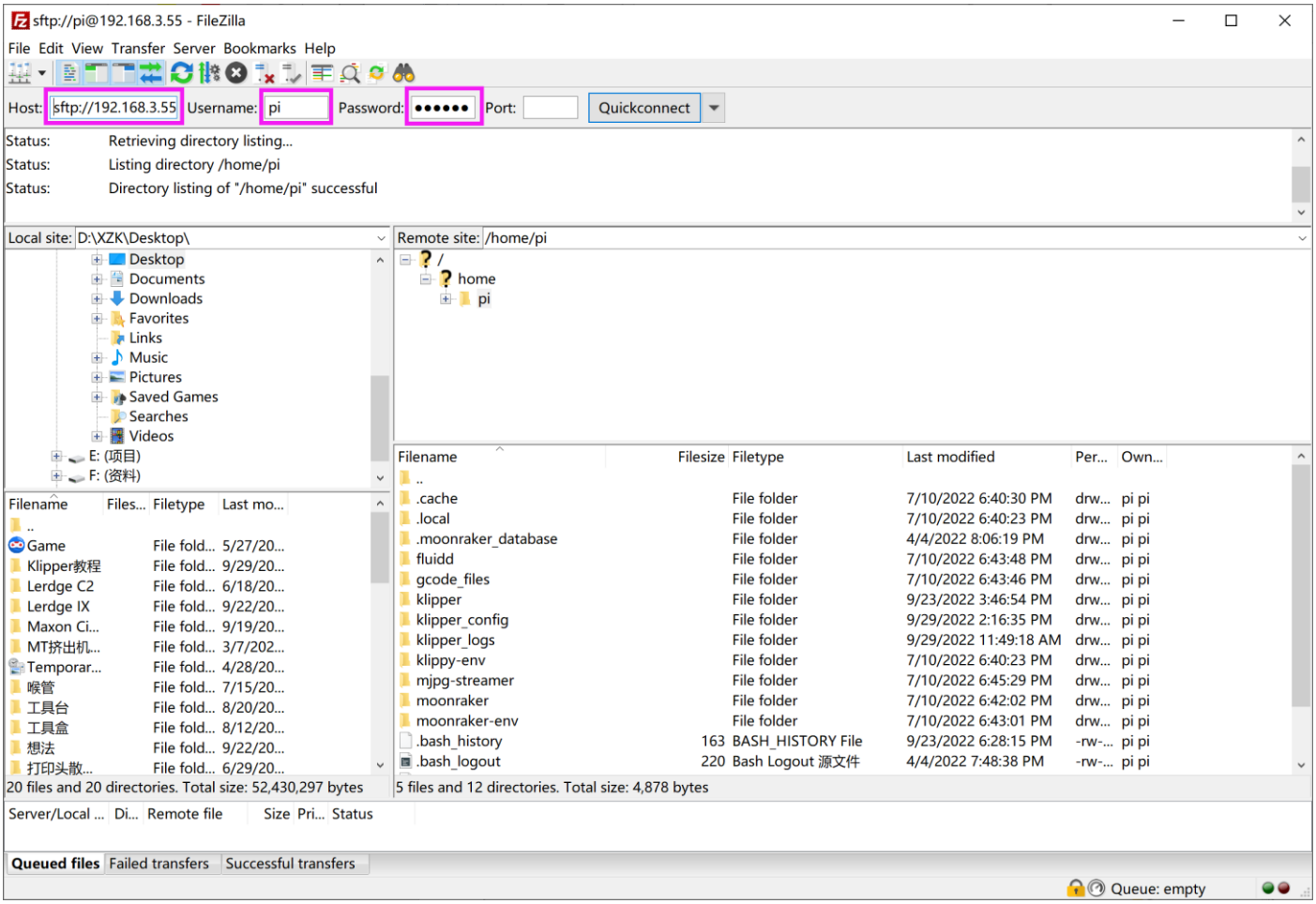
Steps:

First, download and install the FileZilla Client and Putty in advance, which will be used later.

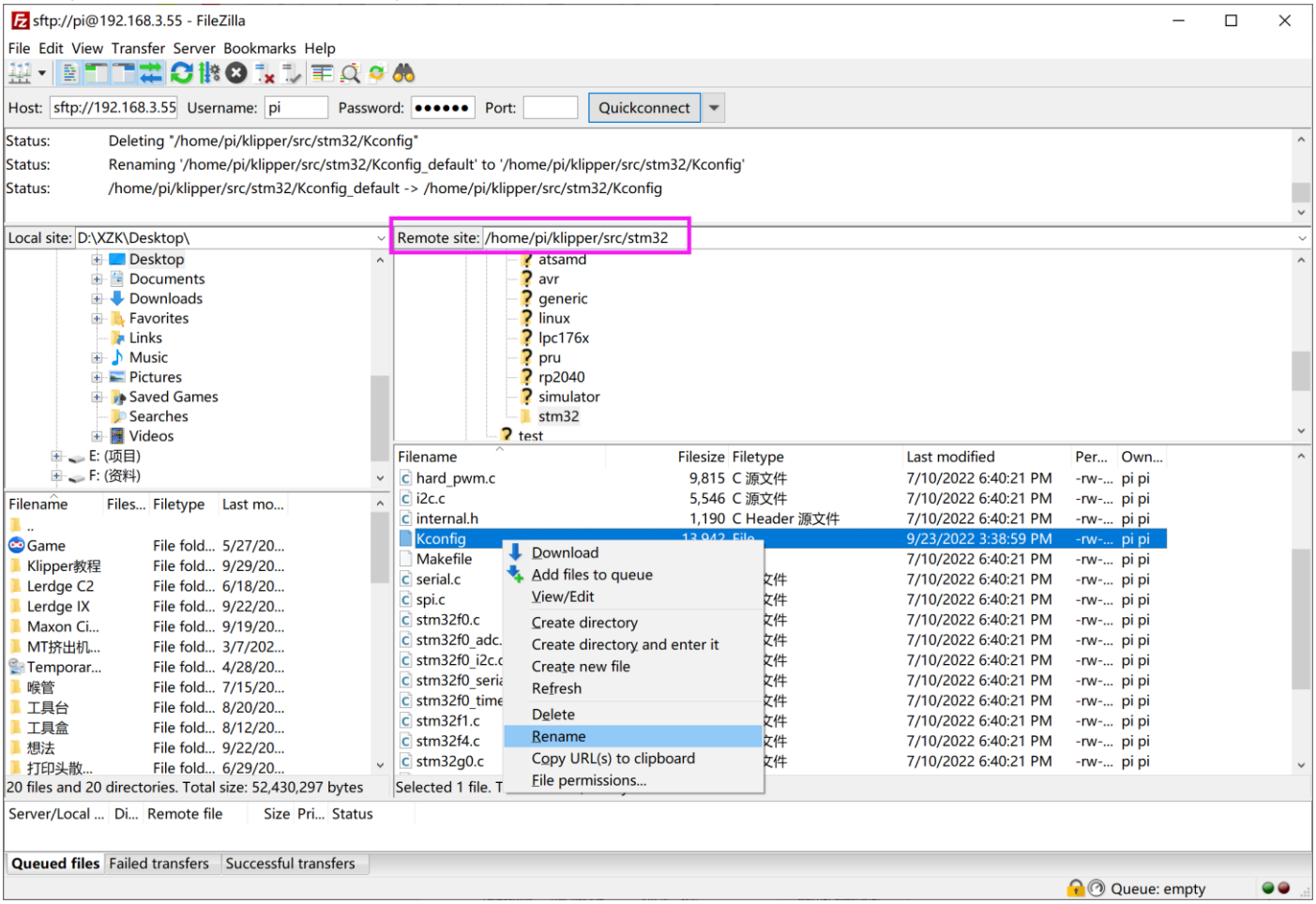
The FileZilla client is an FTP (File Transfer Download) software for manipulating files on various "Fruit Pi" (eg Raspberry Pi; Orange Pi, etc.). Download link: https://filezilla-project.org/download.php?type=client

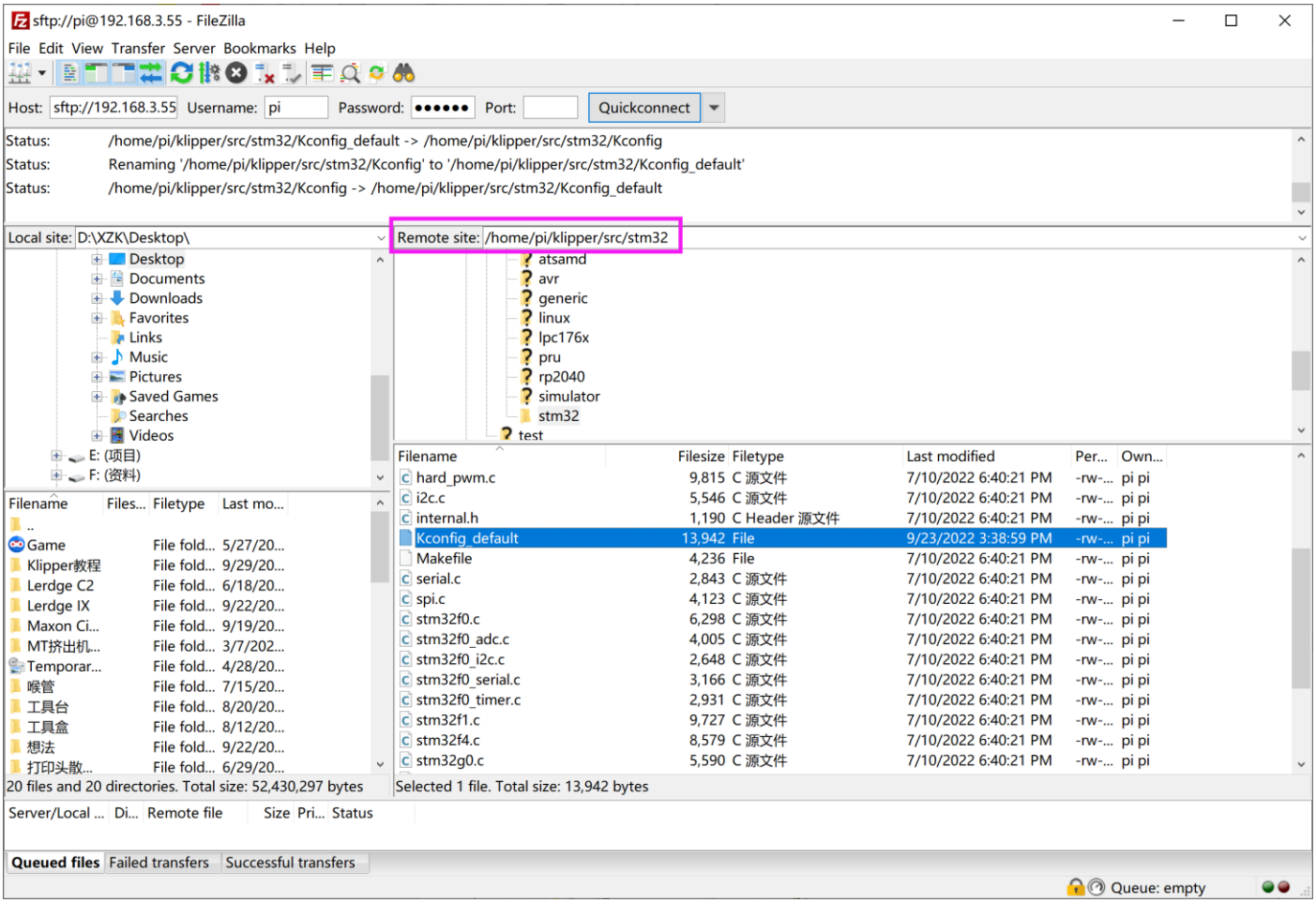
Putty is a remote login client that can operate various "Fruit Pi" through the command line. Download link: https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html

Use FileZilla to connect to the Raspberry Pi: Open FileZilla and fill in the IP address, username and password of Raspberry Pi. This information is already obtained when Klipper is installed. Note that the sftp:// prefix needs to be added before the host IP. Default username: pi, default password: raspberry.

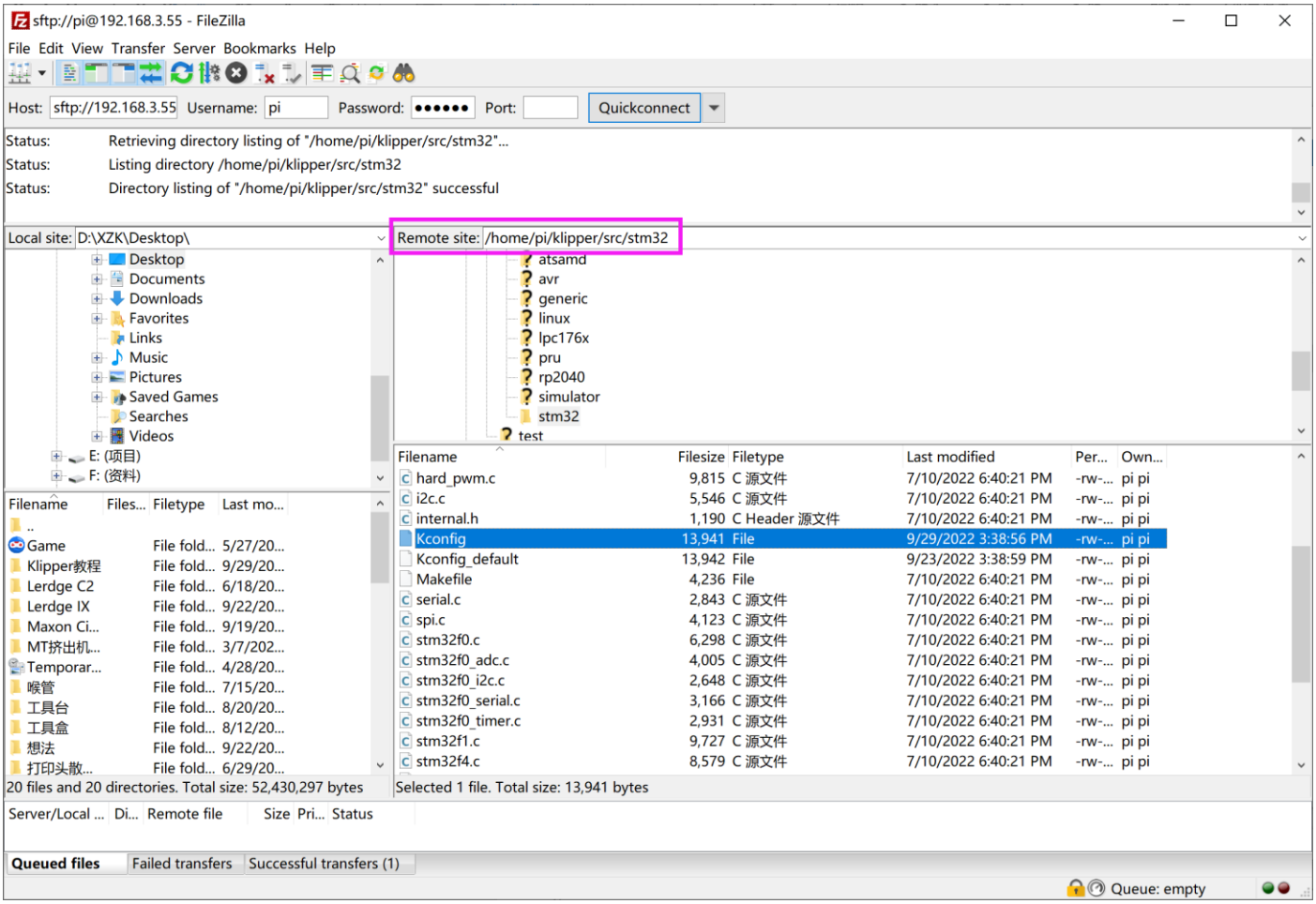


Enter the remote site: klipper/src/stm32 folder, rename the “KConfig” in it to “Kconfig_default” (find the KConfig file, right-click and select Rename).

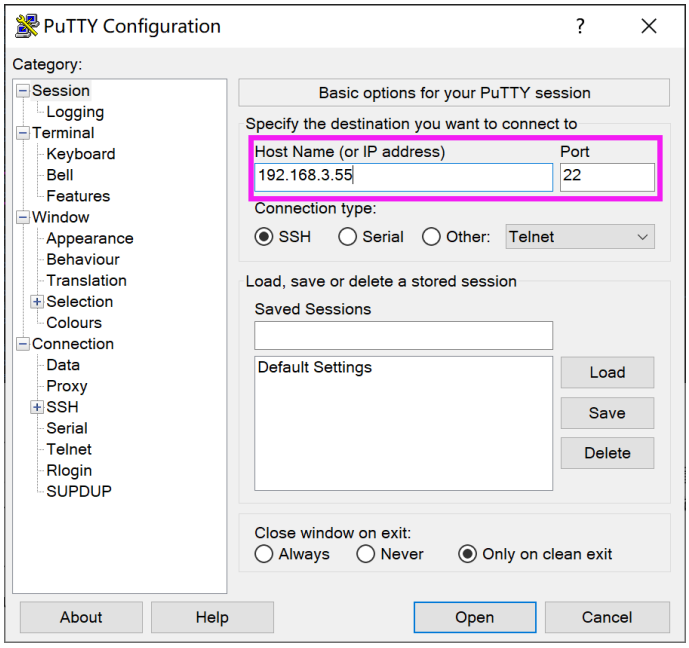


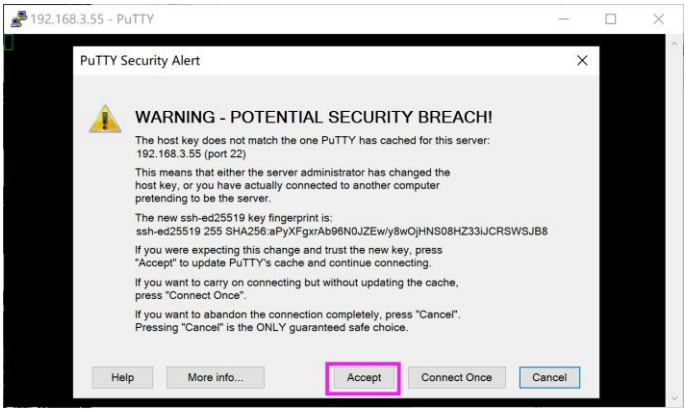


Drag and drop the "KConfig" file in the "stm32" folder attached to this tutorial to the remote site: klipper/src/stm32 folder.



Use Putty to connect to the Raspberry Pi, enter the IP address of the Raspberry Pi to connect, and accept the warning prompt.

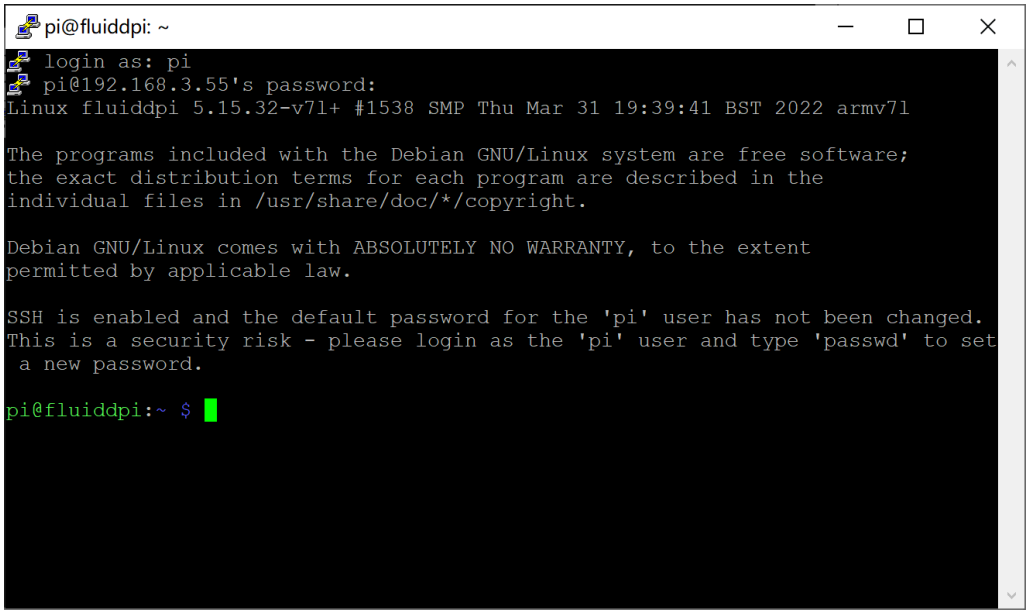




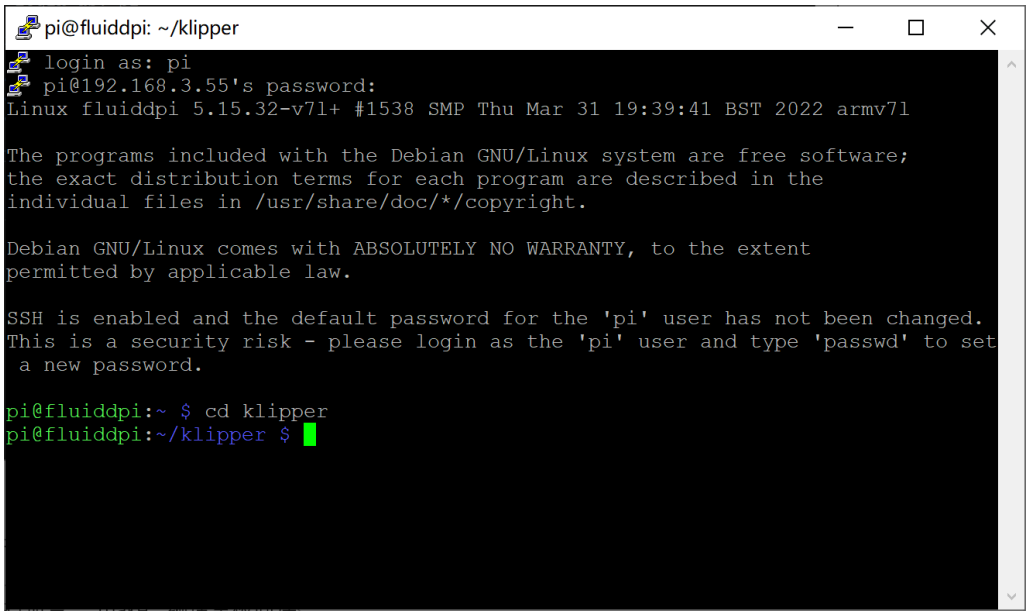
Enter username: pi

Enter password: raspberry

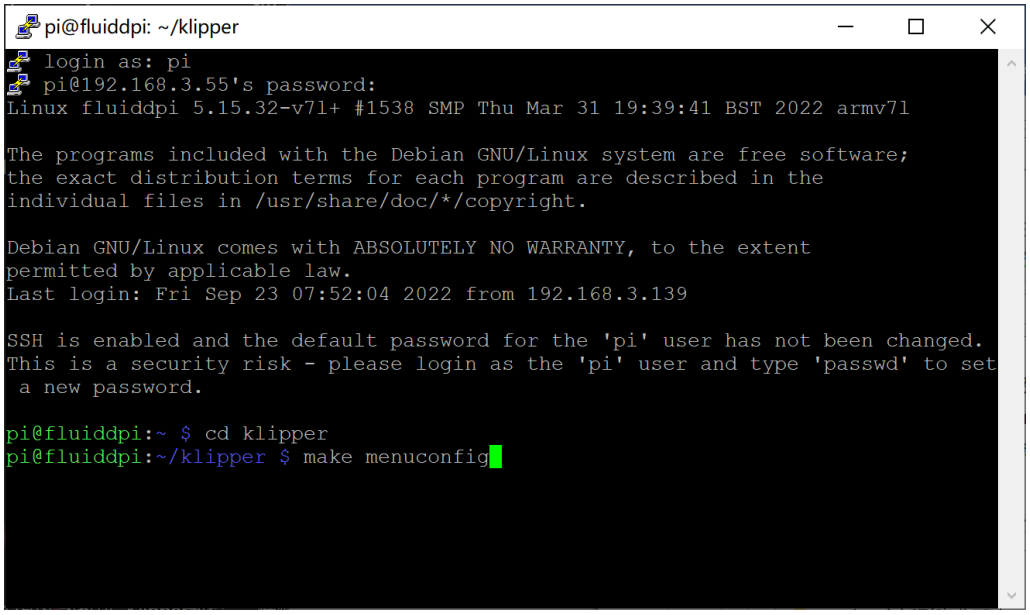
Note: When entering the password, there will be no display. After the input is completed, press Enter to confirm. Entering the correct password, you can enter successfully.



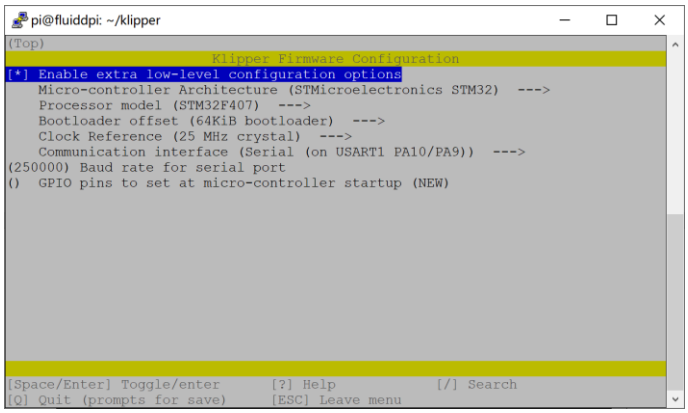
Execute the command: "cd klipper" to enter the klipper folder.

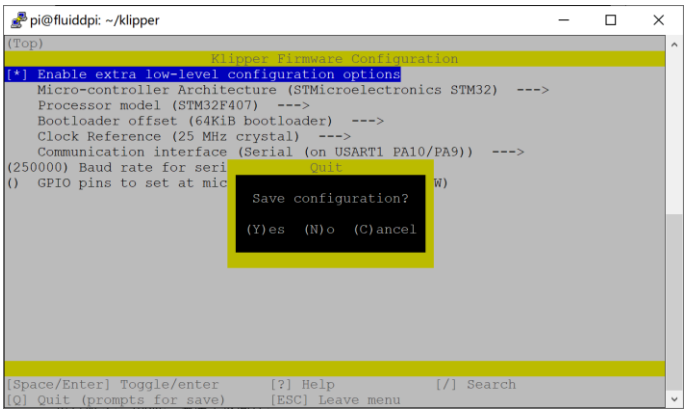


Execute the command: "make menuconfig" to open the firmware compilation options interface.

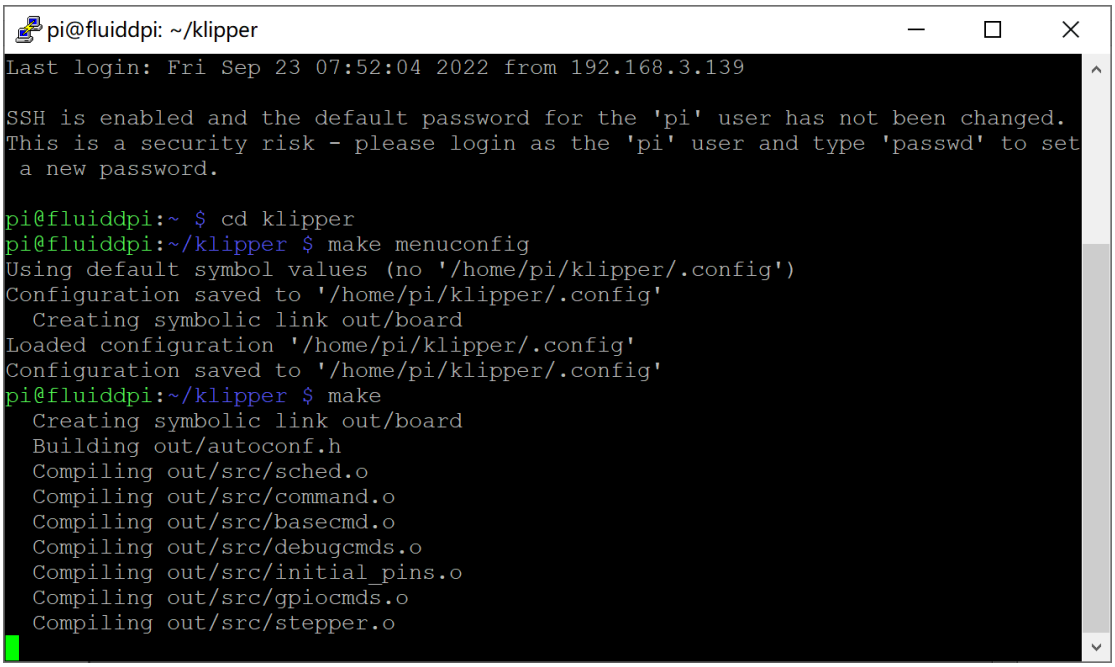


After entering the configuration interface, use the keyboard direction keys to control the movement, the Enter key to enter or select, and the Q key to exit. Set each option in turn as shown in the figure below, and then press Q to exit the configuration interface. Note that when exiting, press Y to save the option modification.



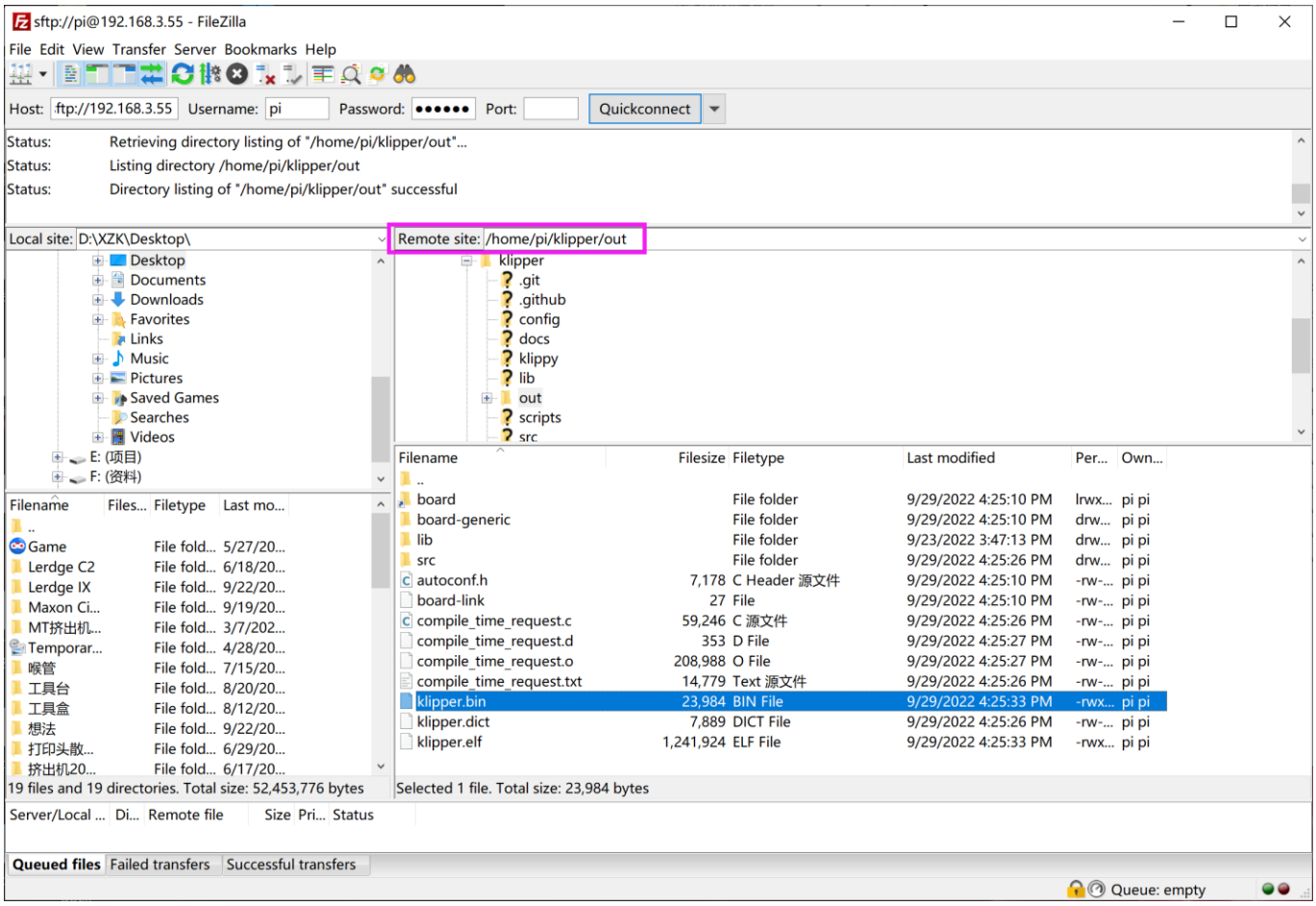


Execute the command: "make" to compile the board firmware



After compiling, you can see the remote site through FlieZilla: There is a “Klipper.bin” file in the Klipper/out folder, copy it to the local computer (select the path of the local computer in the local site on the left, drag “Klipper.bin” to

the left, you can copy to the local computer).



Open the "Lerdge Firmware Tool.exe" under the "Tools" folder in this tutorial, select the “Klipper.bin” file you just downloaded, and click the "make" button. The source file will be processed into a format recognized by the Lerdge board Bootloader, automatically renamed to "Klipper for Lerdge.bin", and overwritten with the original file. The file can be updated to the Lerdge motherboard through TF card or U disk (insert the memory into the corresponding interface of the printer, click the icon to enter the "System Settings" interface, click the icon, and select "Klipper for Lerdge.bin" in the corresponding storage device and the update is performed).