I would really be grateful if you start to build the Shutter, that you go to Github and say hi.

ESP32 Weather Clock firmware load. V1.0   16/09/2024

Note:- These guides below must be followed in the correct order
ESP32 Installing USB Driver
ESP32 Arduino Software Load
ESP32 Firmware Load

Download the code from the github page.

Go to the Github page and select the required project
click on the green <>Code button, which will allow you to download all of the files as a zip file.
Unzip (extract) the downloaded file.
billbill100 (github.com)

Download the Flashing software.

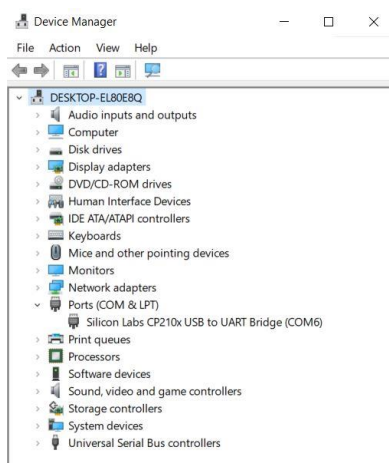A program called Flash Download Tool is required. It is included on the Github page, or can be downloaded from
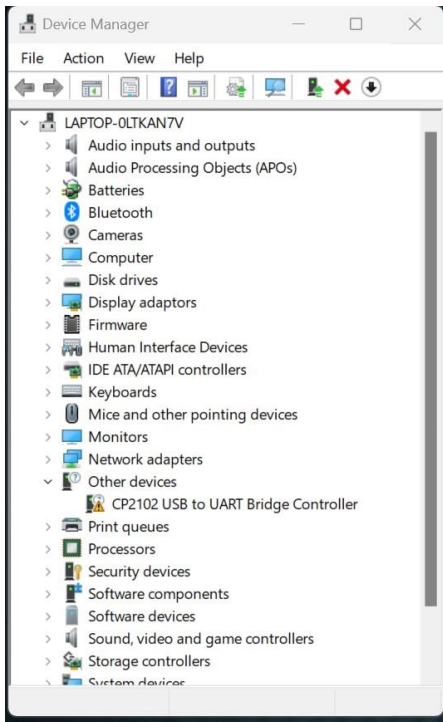Tools | Espressif Systems

Unzip (extract) the folder and put the files somewhere suitable on the computer. The software is stand-alone and does not need to be installed.

Checking the ESP32 USB driver.

The USB driver should have been installed, following the driver installation guide. To confirm, after connecting the ESP32 board, press Windows key + x and select Device Manager. Look for the COM ports and expand. The ESP module should be seen, as in this example on COM port 6, showing the CP2102 driver.

If the driver is missing, as shown on the screen below <mark>(Yellow Triangle)</mark> refer to the document Installing USB Driver. Found in the GitHub repository.
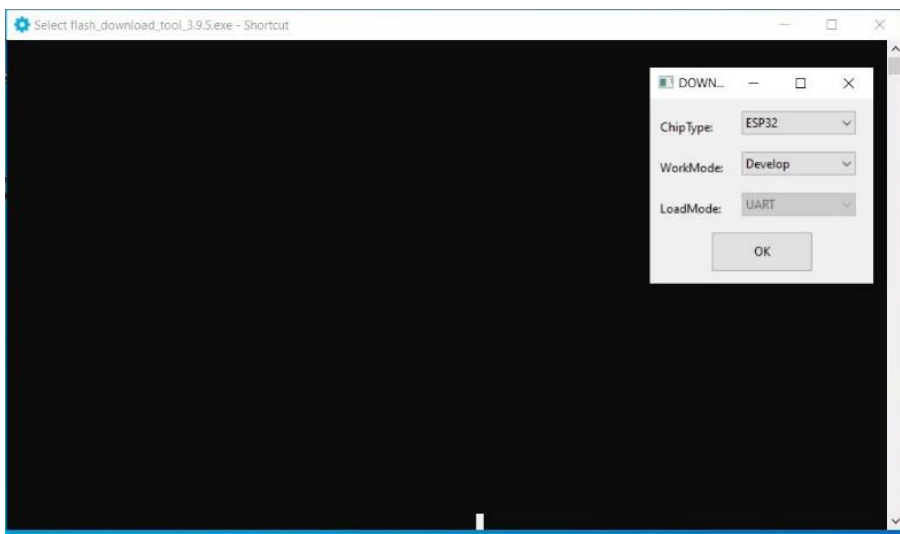

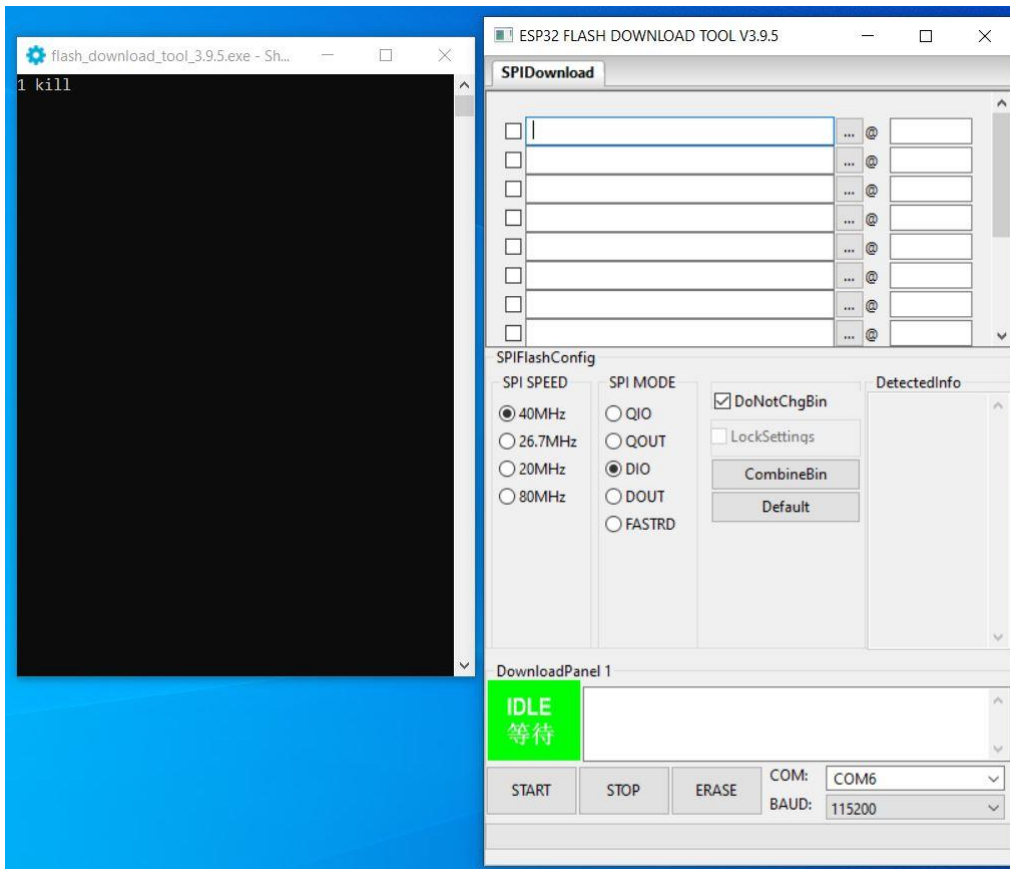## Flash the Shutter Tester firmware to ESP32

Find the folder where the Flash Download Tool files were extracted to.

Launch the Flash Download Tool by double clicking on 'flash_download_tool_3.9.5.exe'

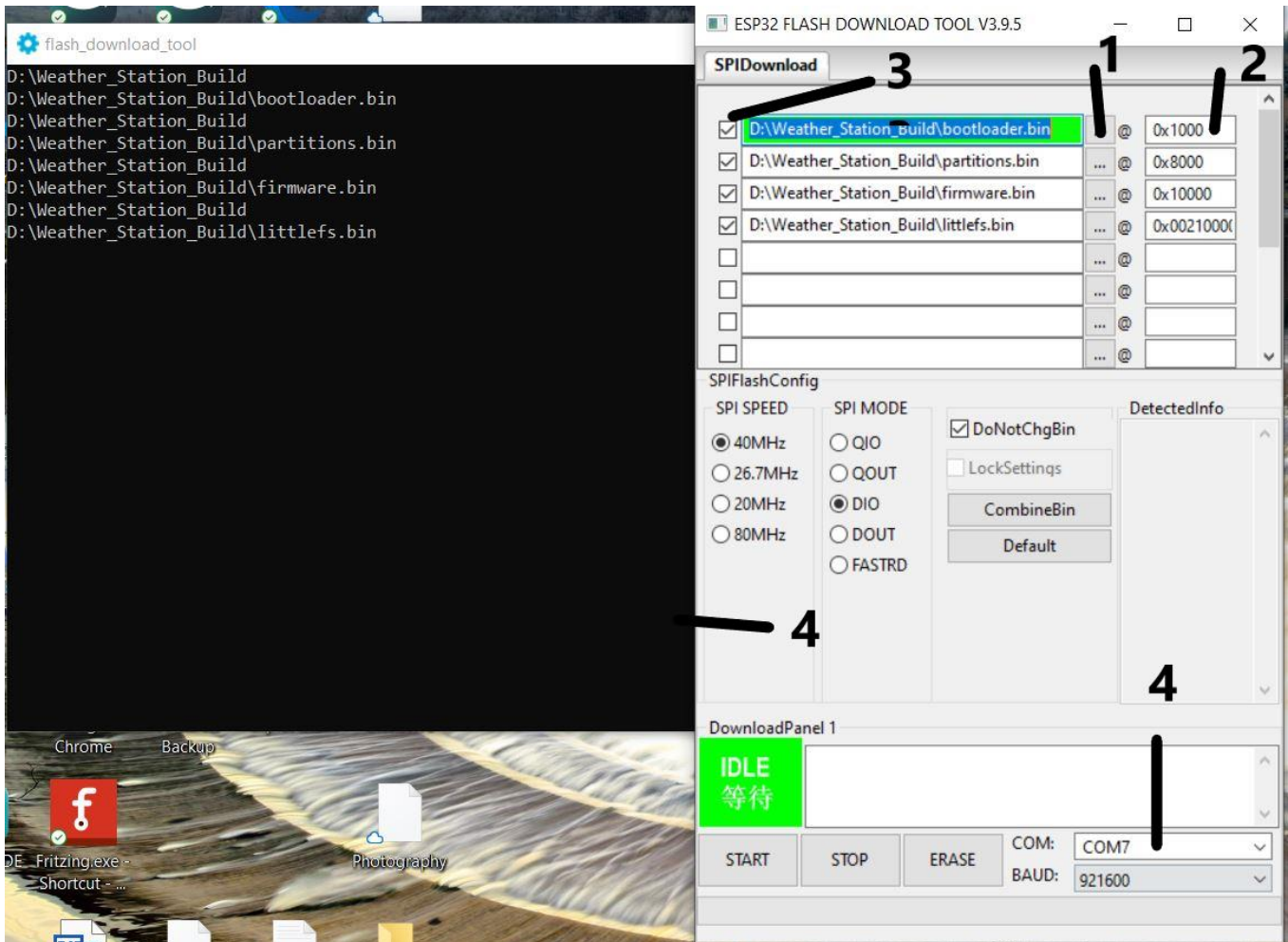Select 'ESP32 from the drop-down box, as shown in the screenshot below and click ok.

A screen like the below will appear and must now be populated. (The two windows can be moved as required)
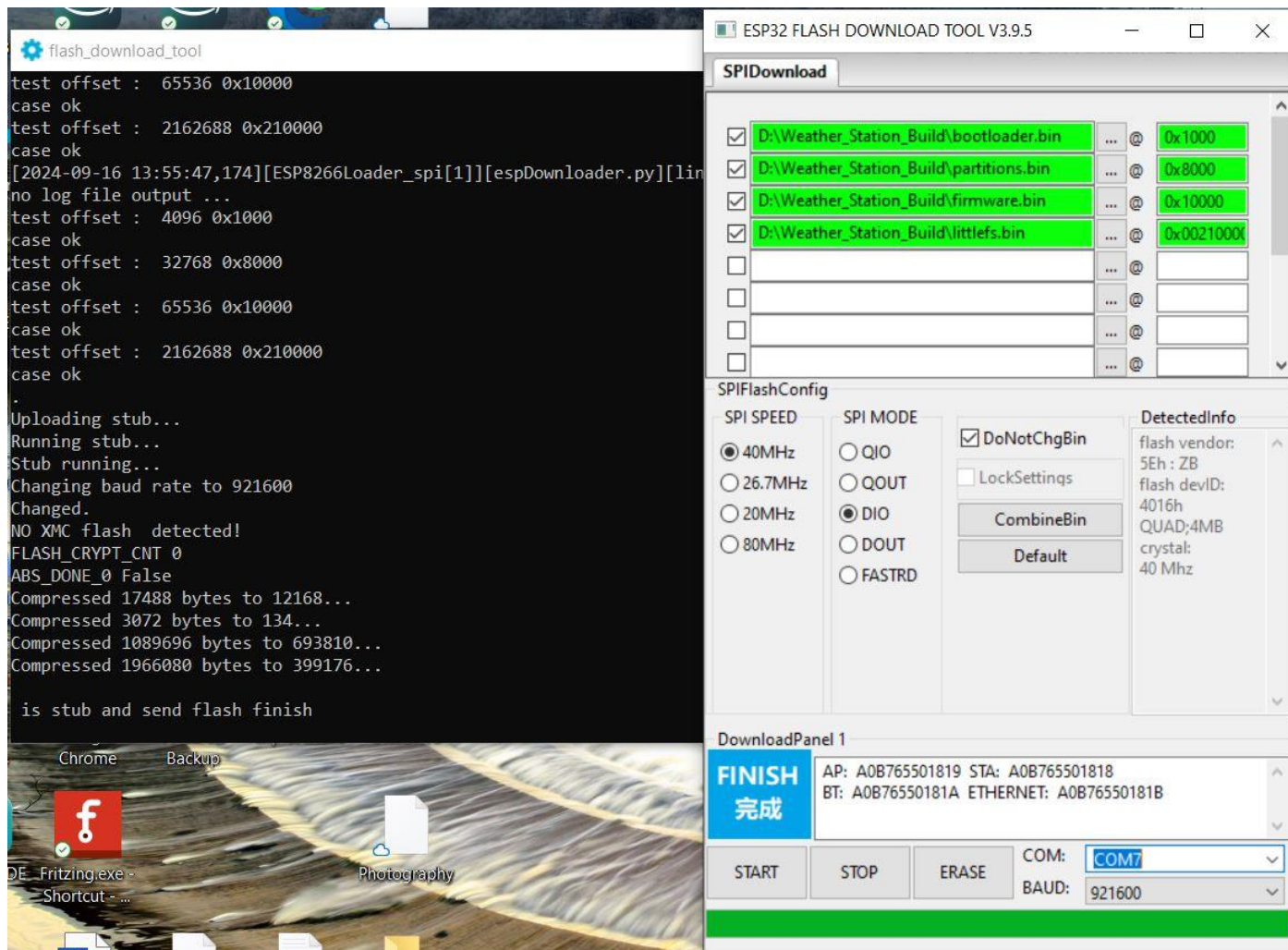
Populate the values as follows

1) Click the three dots, navigate to, and select the downloaded *bootloader.bin.* file.
   Do the same on the second line, selecting *partitions.bin*
   and again for the third line *firmware.bin*
   and finally the fourth line, *littlefs.bin*
   If the files are selected correctly, the black window (5) will show each file name

2) Type 0x1000 into the top box, 0x8000 into the second, 0x10000 into the third and 0x00210000 into the fourth box.
3) Tick the four boxes next to the file names
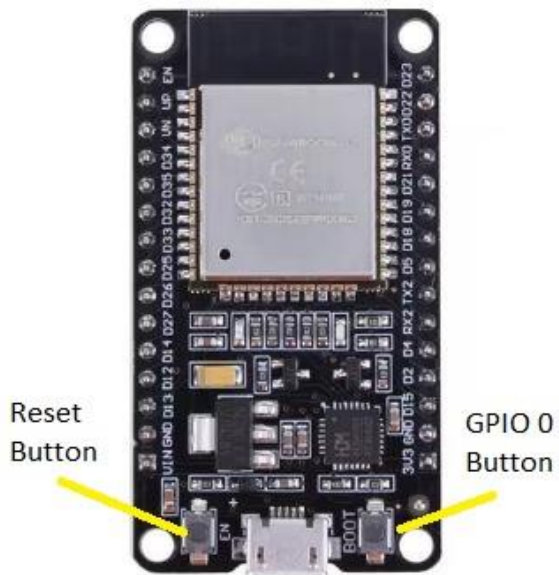4) Select the correct COM port and BAUD from the drop-down box

The file names and number boxes will be green, if the Flash Download Tool as found the files & is happy with the values.

Now press 'Start' at the bottom left of the box. The green 'IDLE' box will change to 'SYNC'

The black screen should now show the firmware being downloade to the ESP32 board.

If successful, a screen, as above will be seen. The Black screen will show the flashing to the device. A green progress bar blue box will appear in the other screen, then the green start button will change to a blue 'FINISH'

Note:- the flashed code will not start running until the Reset button has been pushed on the ESP32 board, located on the opposite side of the USB connector to the Boot button.

Also note the location of GPIO 0 Button.

If problems occur, check the following: -

Remove & insert the USB cable into the computer. Windows, by default will make a sound indicating a USB device has been connected.

Open Device Manager and check the ESP32 board is shown. Removing & re-inserting the USB cable will make the ESP32 disappear & re-appear.

Ensure there is no yellow warning triangle by the COM port in Device Manager, indicating the device driver is not loaded.

Try changing the baud value to 115200 and try again.

If any of the file names or numbers did not turn green as they were selected & the black window report 'case ok', then there is an issue with the downloaded flash files, or the stored location on the computer.