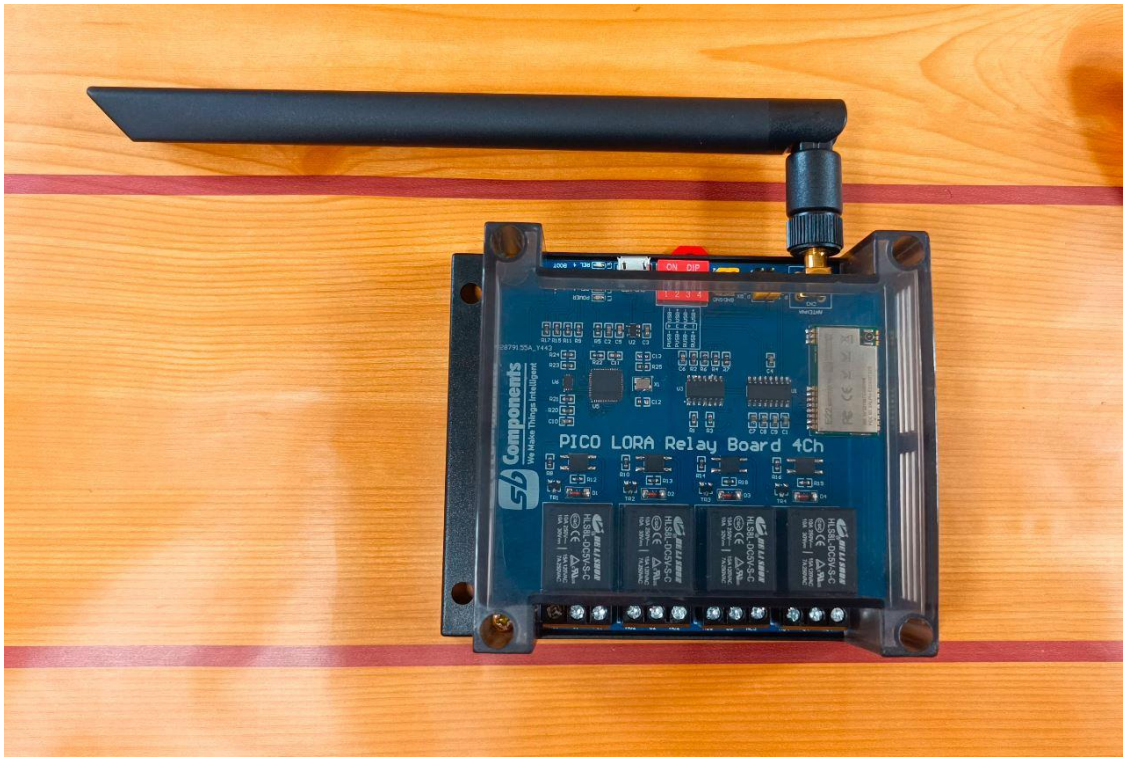
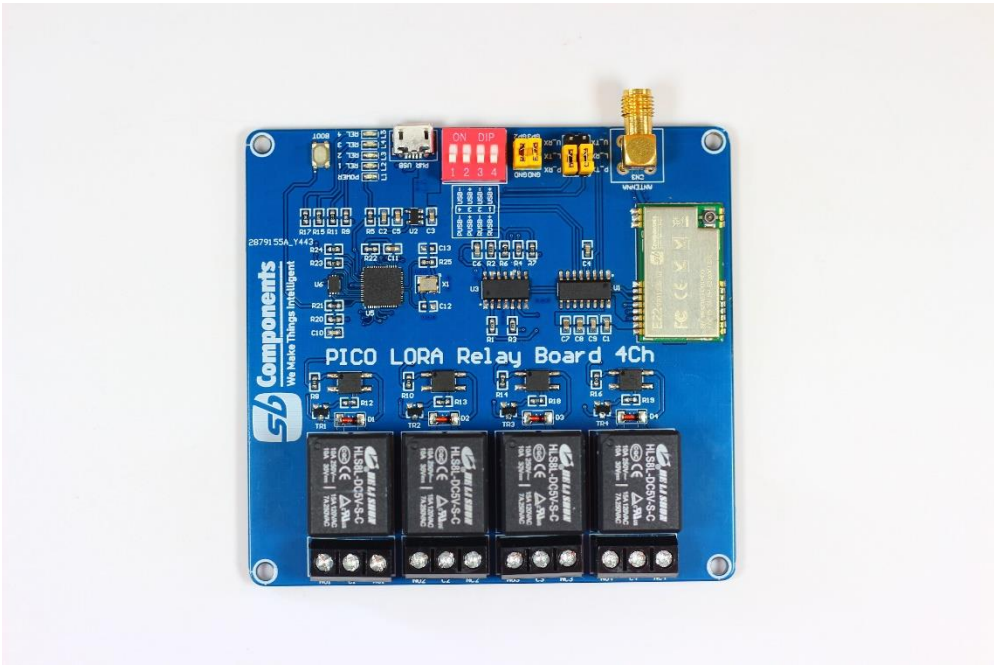
GatePi





Contents

GatePi

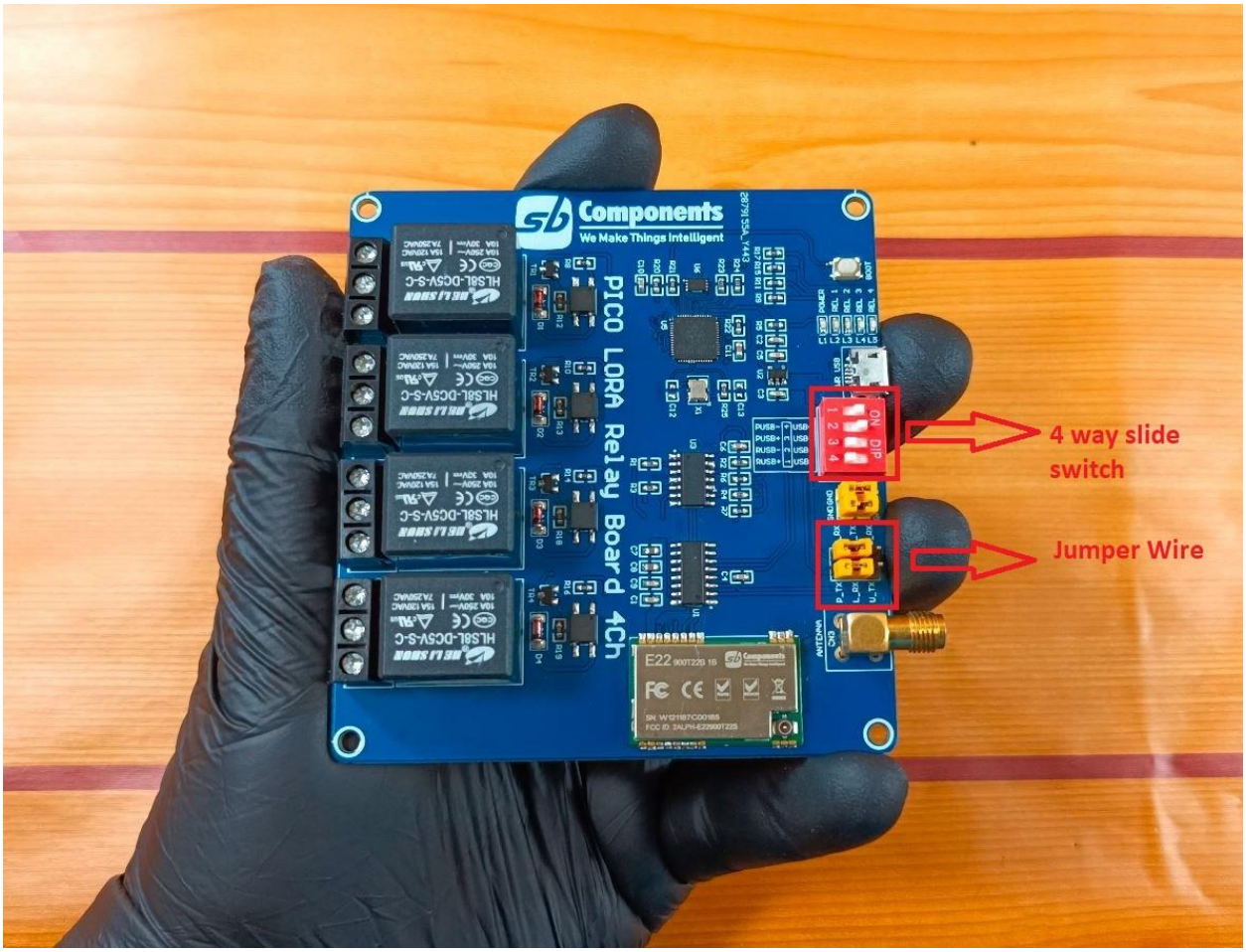
Introduction

GatePi is a low-power consumption data transmission board, that comes with an onboard CH340 USB TO UART converter, Voltage Level Translator(74HC125V), E22-400T22S/E22-900T22S SMA antenna connector that covers 433/868/915 MHz frequency band, 4-Ch Relays, IPEX antenna connector, LoRa™ Spread Spectrum Modulation technology with auto multi-level repeating. GatePi is developed to enable data transmission up to 5 KM through the serial port.

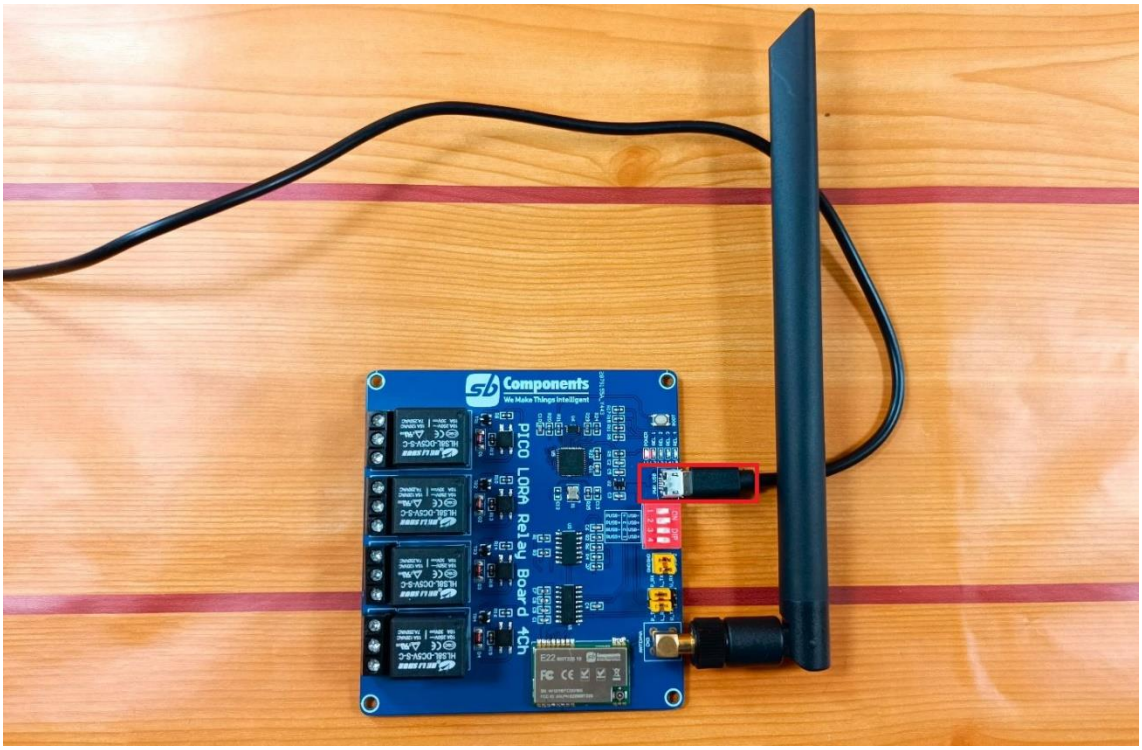
Frequency	433/868/915 Mhz
Power	22dBm
USB TO UART converter	CH340
Distance	Up to 5 KM
Interface	UART Communication
Serial Port Module	E22-900T22S1B/E22-400T22S
Voltage Level Translator	74HC125V

How To Setup GatePi

Make that the 4 Way Slide Switch and Jumper wire are connected in the same way as shown in the figure below.

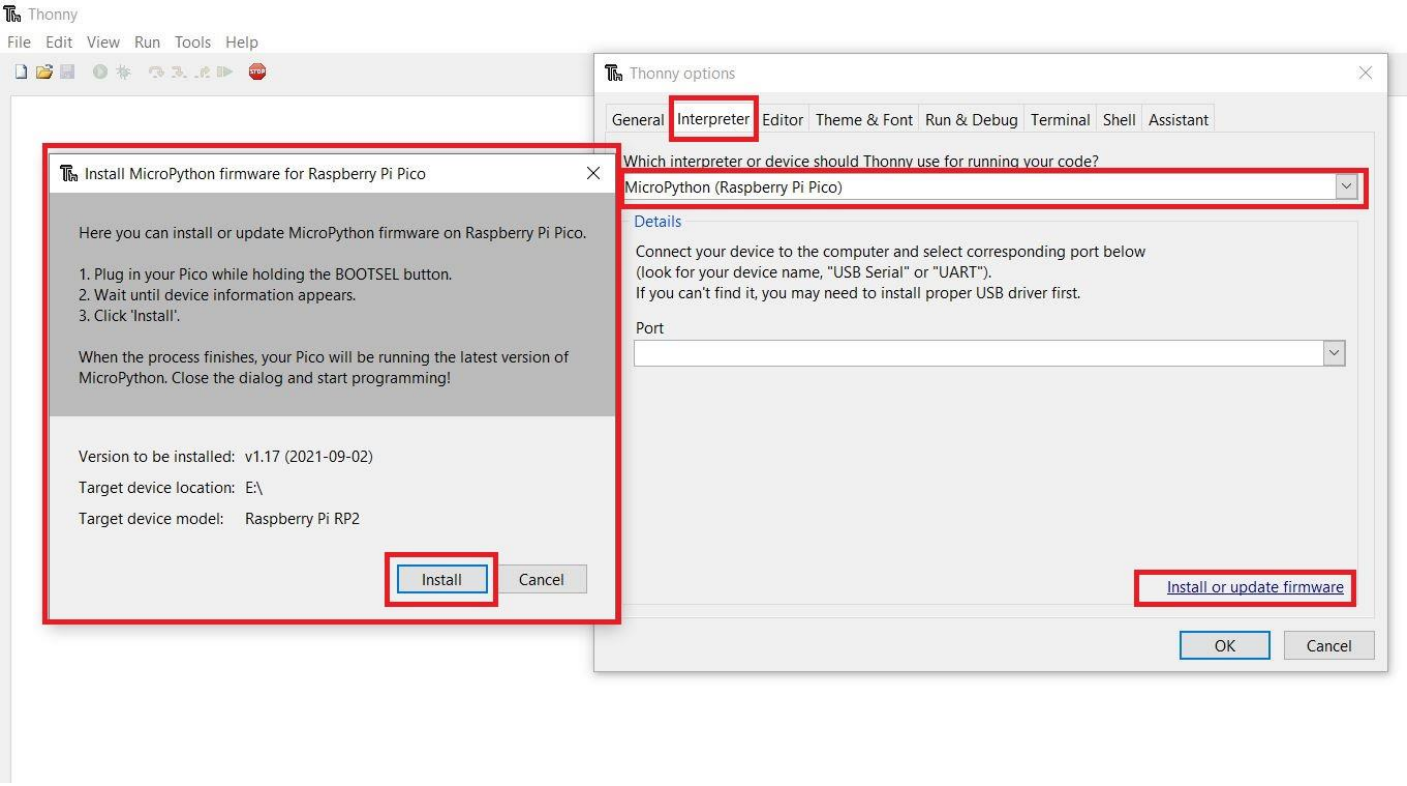


- Connect USB Cable to GatePi



Setup Board In Thonny

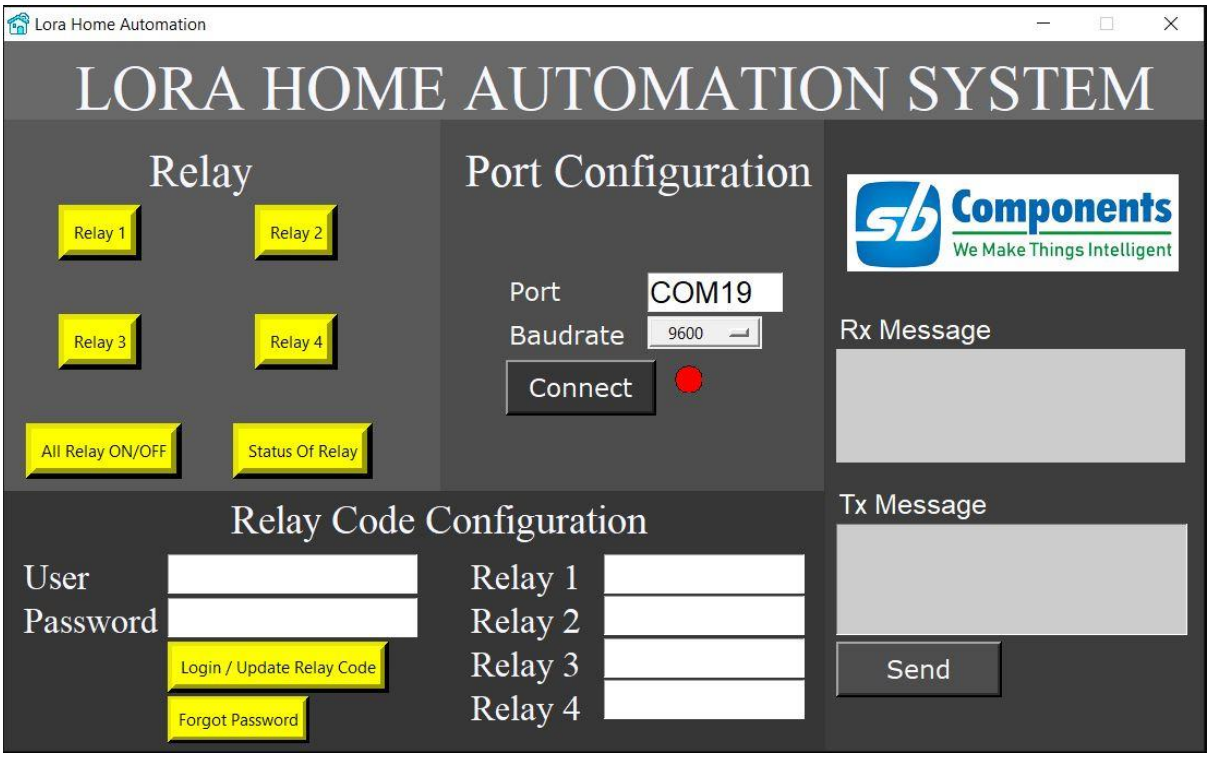
- Now connect USB Cable on USB Port of Pico.
- Open Thonny IDE and Choose interpreter as MicroPython (Raspberry Pi pico). And install micropython in the GatePi



Upload the code to the GatePi

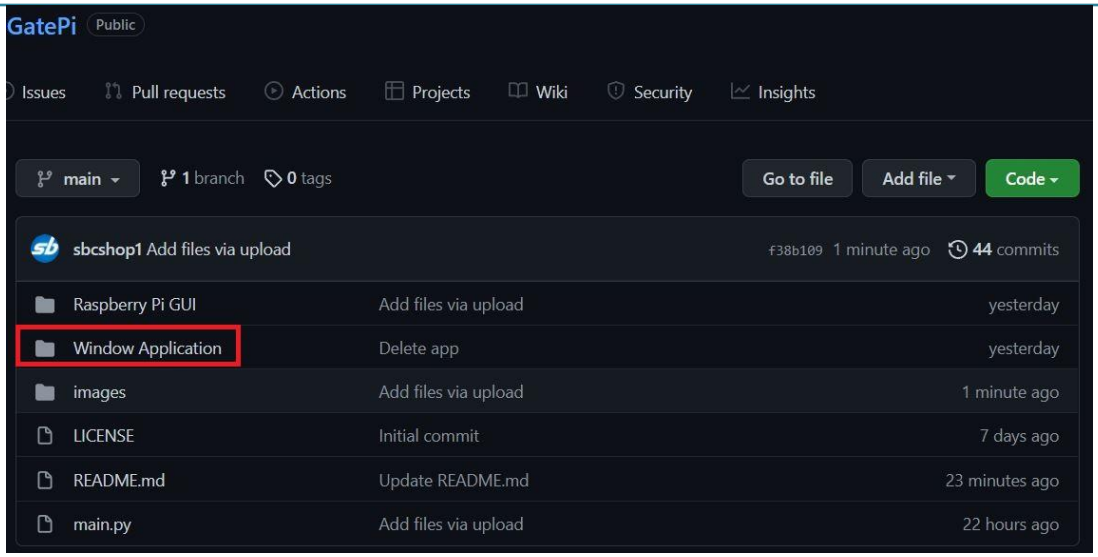
- Open the "main.py" file from Github and save it to the GatePi as "main.py."

How To Setup LoRa Home Automation Application



In Windows

Download the GatePi directory from GitHub and enter the window application folder; you should notice one application named "Lora Home Automation" inside this folder.


GatePi
Public
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Pull requests
Actions
Projects
Wiki
Security
Insights
main
1 branch
0 tags
Go to file
Add file
Code
sbcshop1 Add files via upload
f38b109 1 minute ago
44 commits
Raspberry Pi GUI
Add files via upload
yesterday
Window Application
Delete app
yesterday
images
Add files via upload
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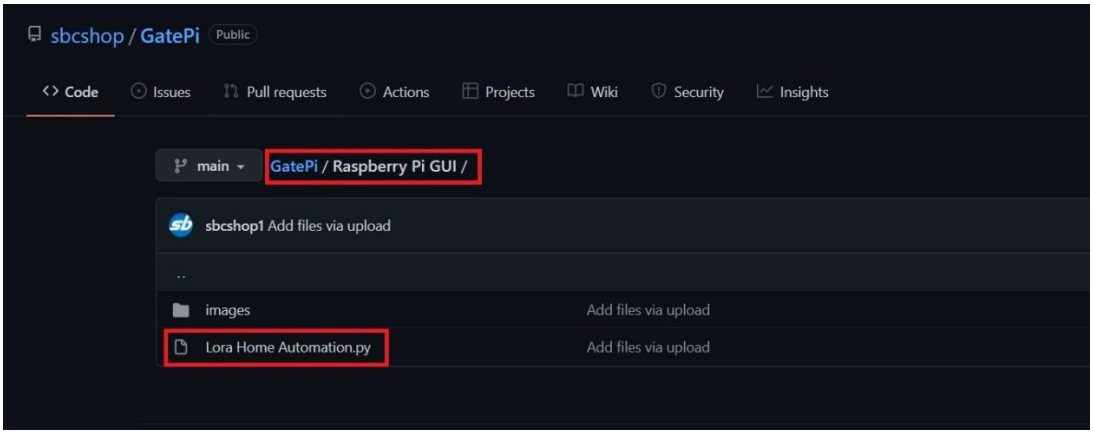
LICENSE
Initial commit
7 days ago
README.md
Update README.md
23 minutes ago
main.py
Add files via upload
22 hours ago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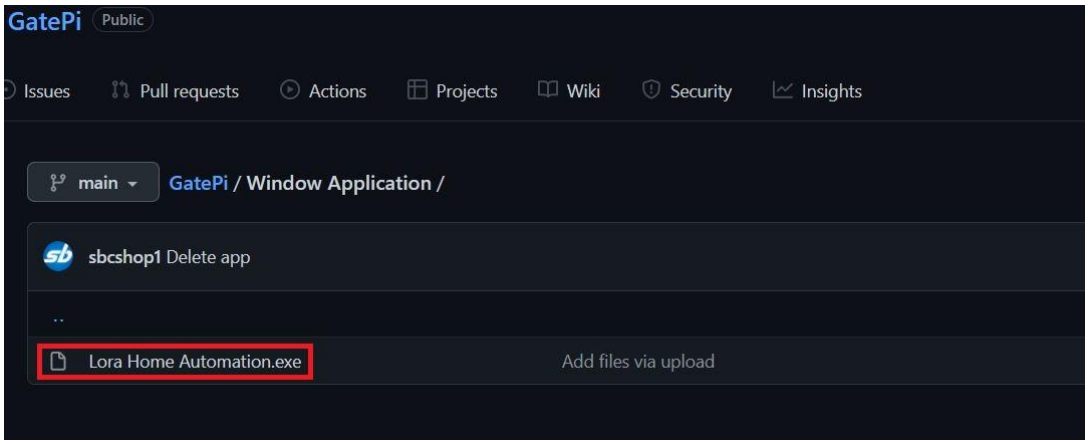
Add files via upload
Lora Home Automation.py
Add files via upload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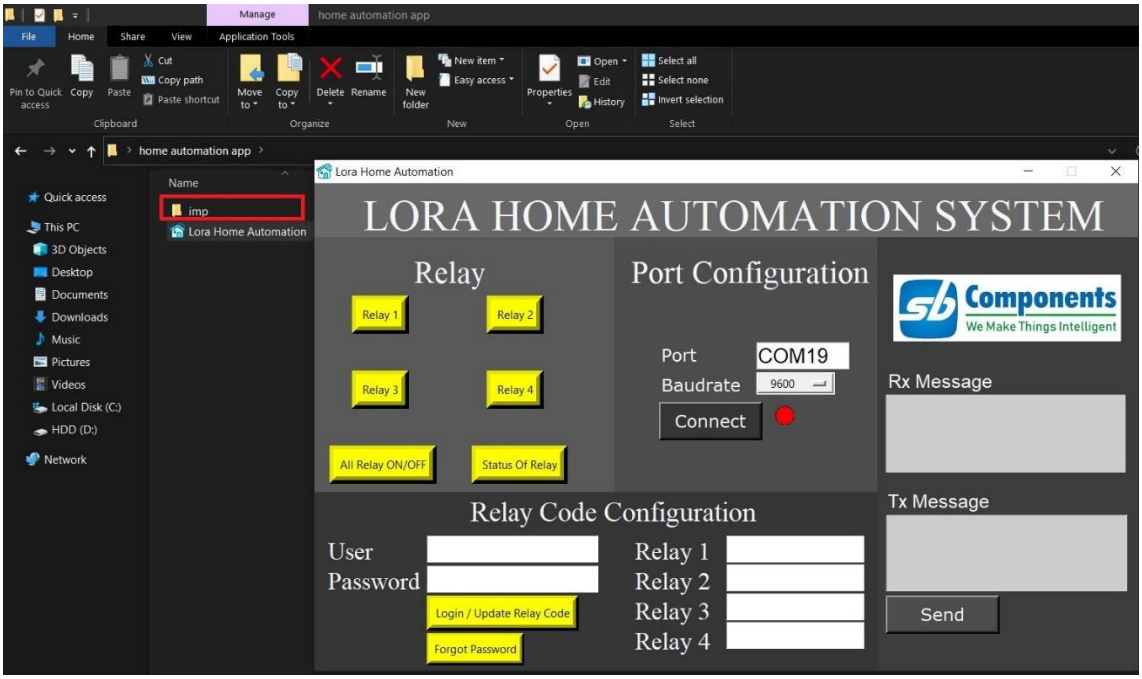
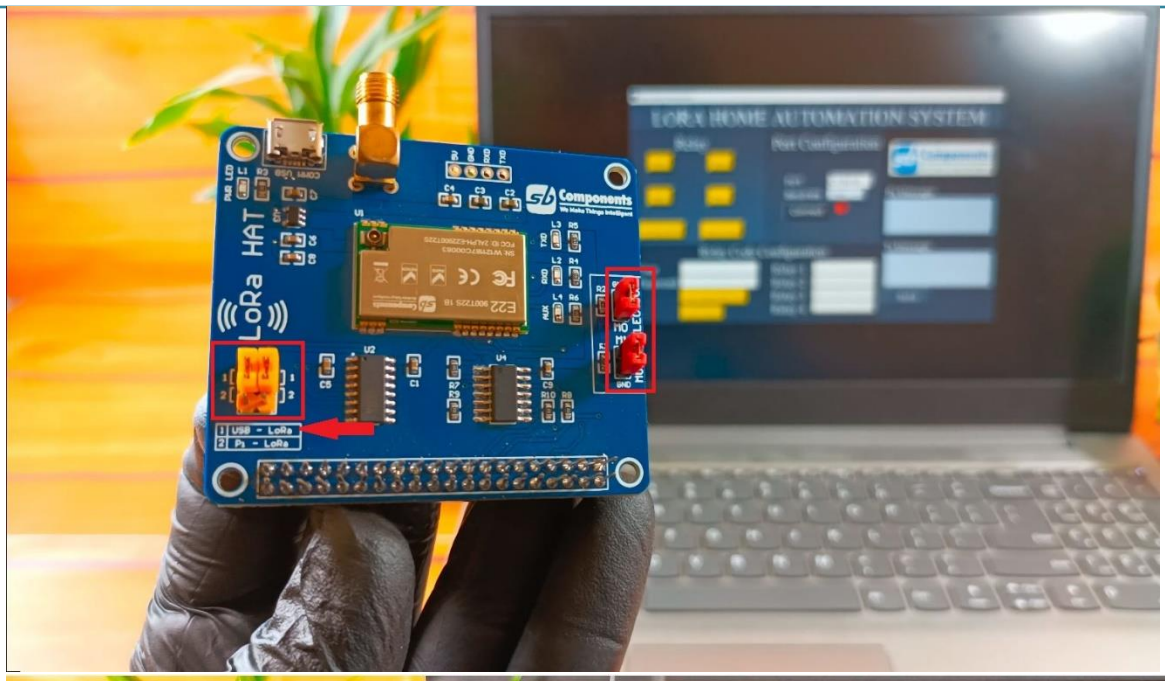
sbcshop1 Delete app
..
Lora Home Automation.exe
Add files via upload

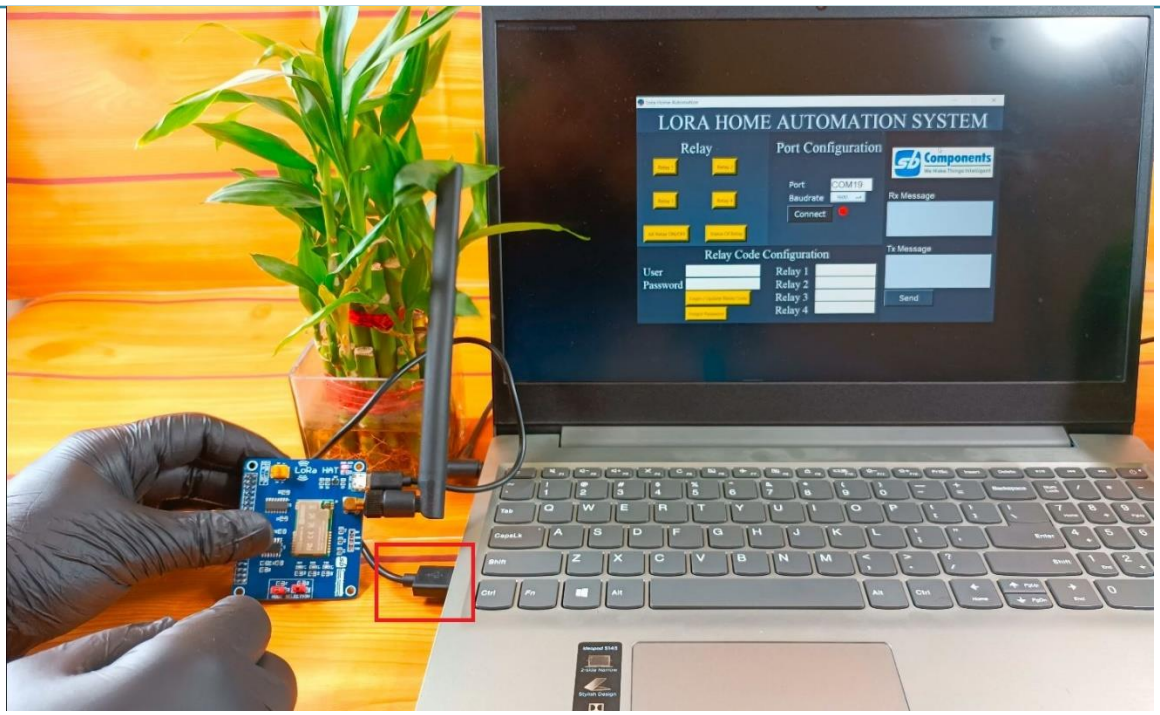
- Run the application; after it is completed, you will see a folder entitled "imp" that has been formed automatically. This is where you'll find your user name and password.



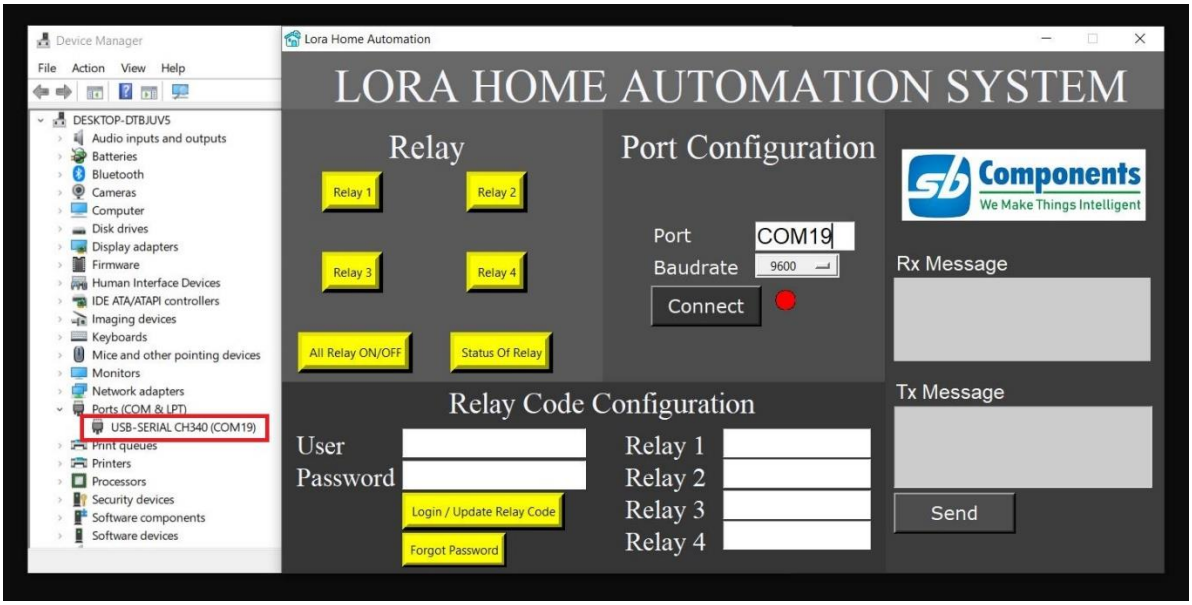
- LoRa HAT, Pico Lora Expansion, RangePi, and more items can be used. For instance, I use the LoRa HAT for this. Connect the device to the laptop via USB cable by changing the jumper wire to "USB-LoRa(1)" and leaving the jumper wires on M0 and M1.


LoRa HAT
USB - LoRa
Pi - LoRa
LORA HOME AUTOMATION SYSTEM

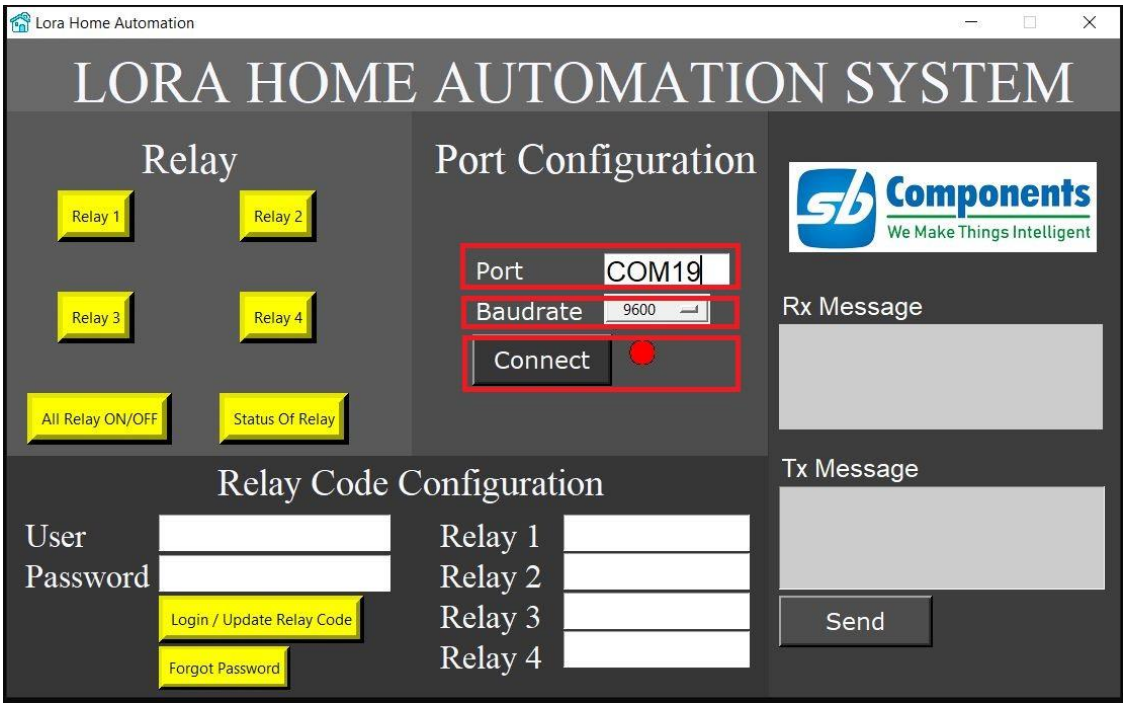

Raspberry Pi Pico
Pico LoRa Expansion
USB - LoRa
Pico - LoRa
RA HOME AUTOMATION SYSTEM
Relay
Port Configuration
Relay Code Configuration

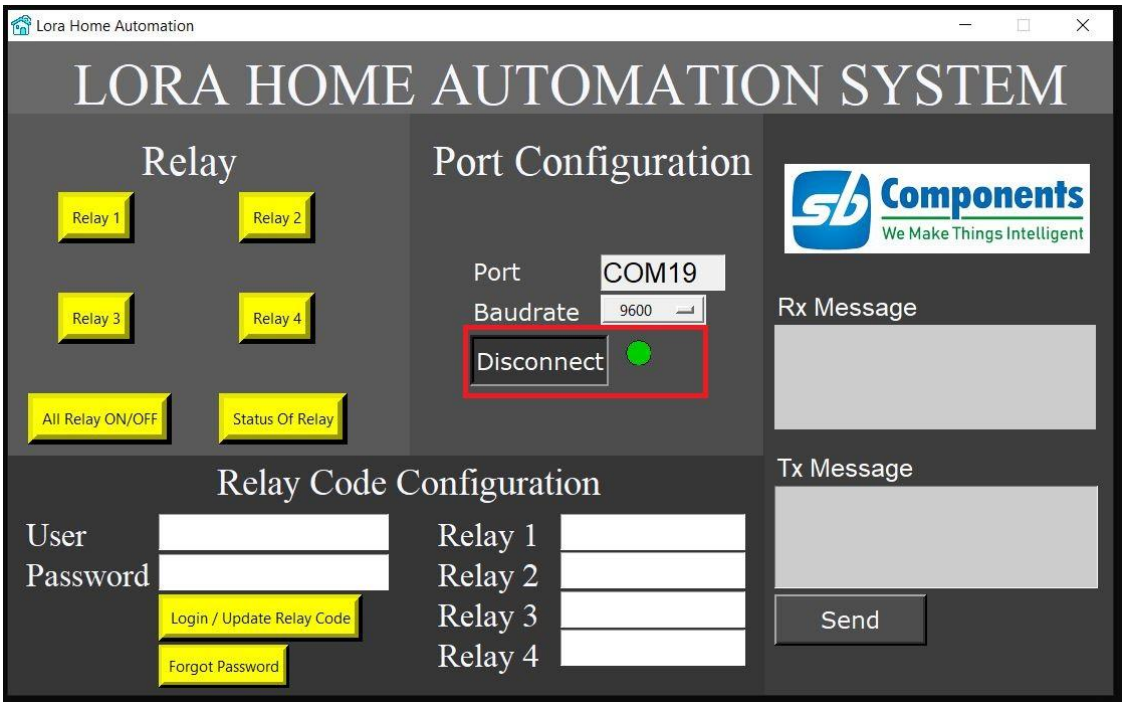


- After plugging in the USB cable, open device manager, go to Ports, and look for the port number. Type the port number into the application.

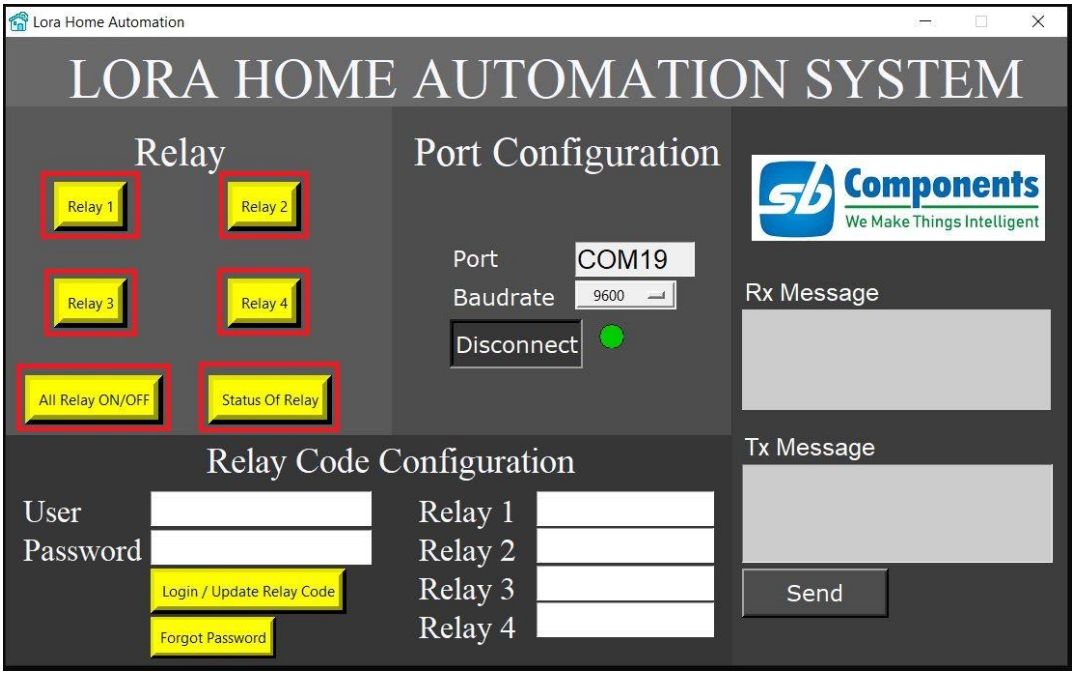


- Select the baud rate, and click on connect button

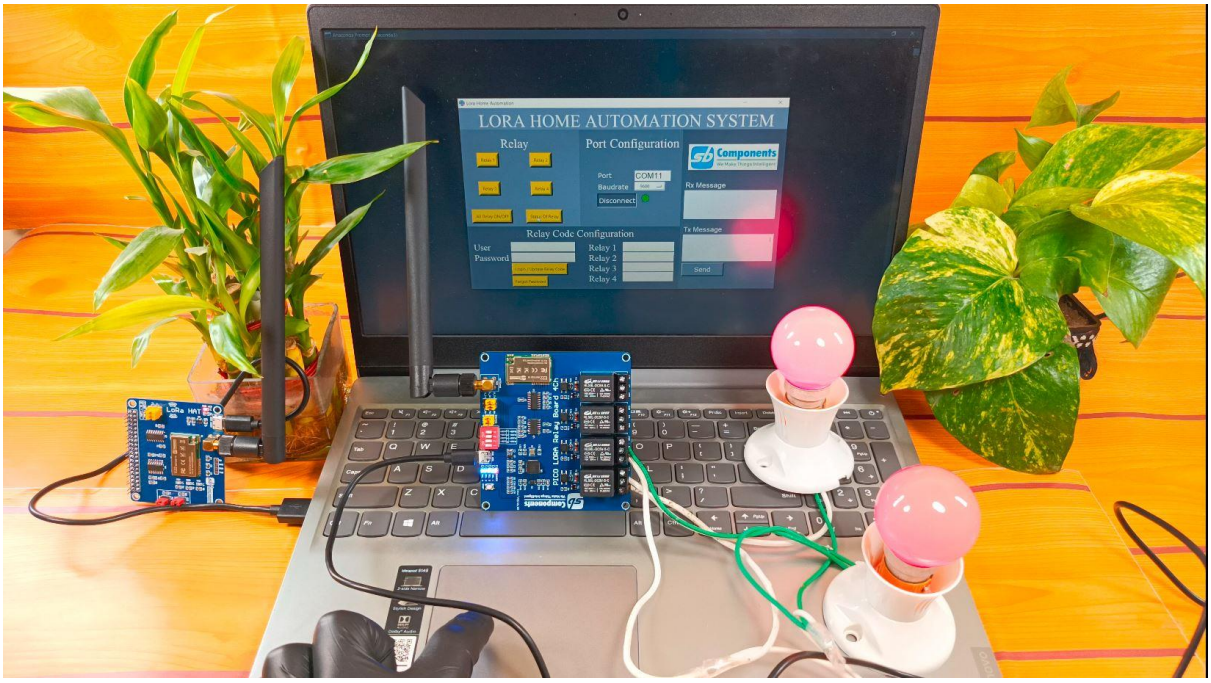


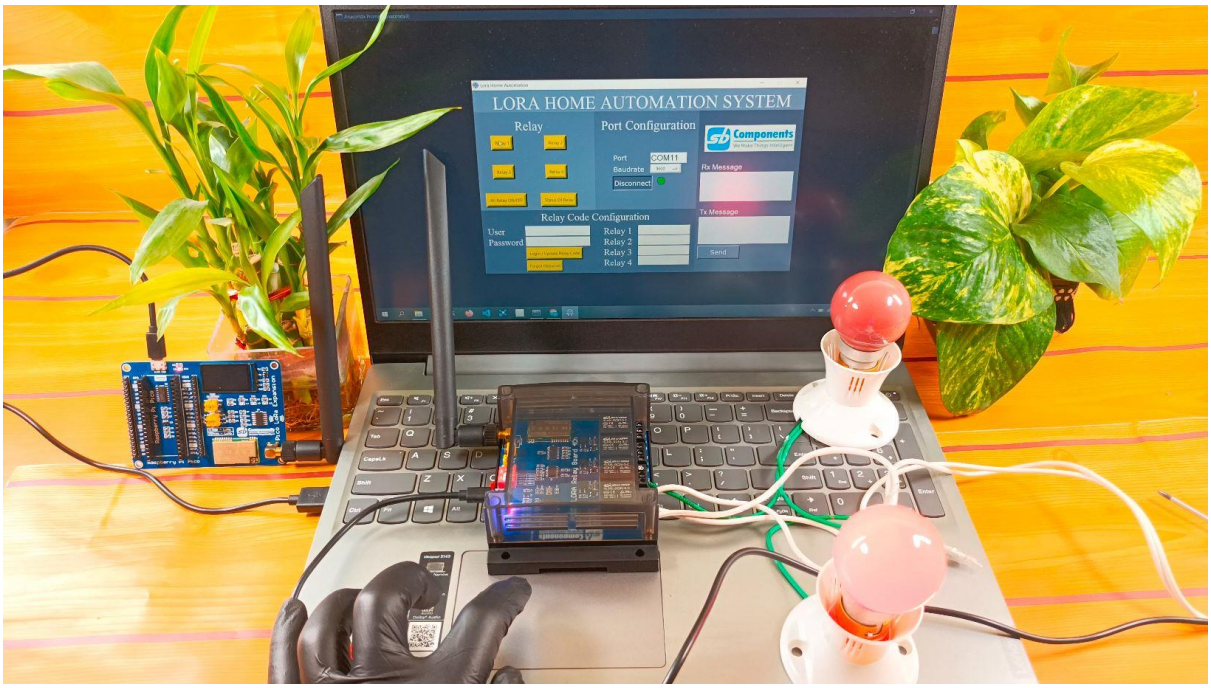


- Now you may operate the GatePi by hitting the buttons, which are configured as a single ON/OFF switch. When you press button 1 once, for example, relay 1 turns on; when you press button 1 again, relay 1 turns off.

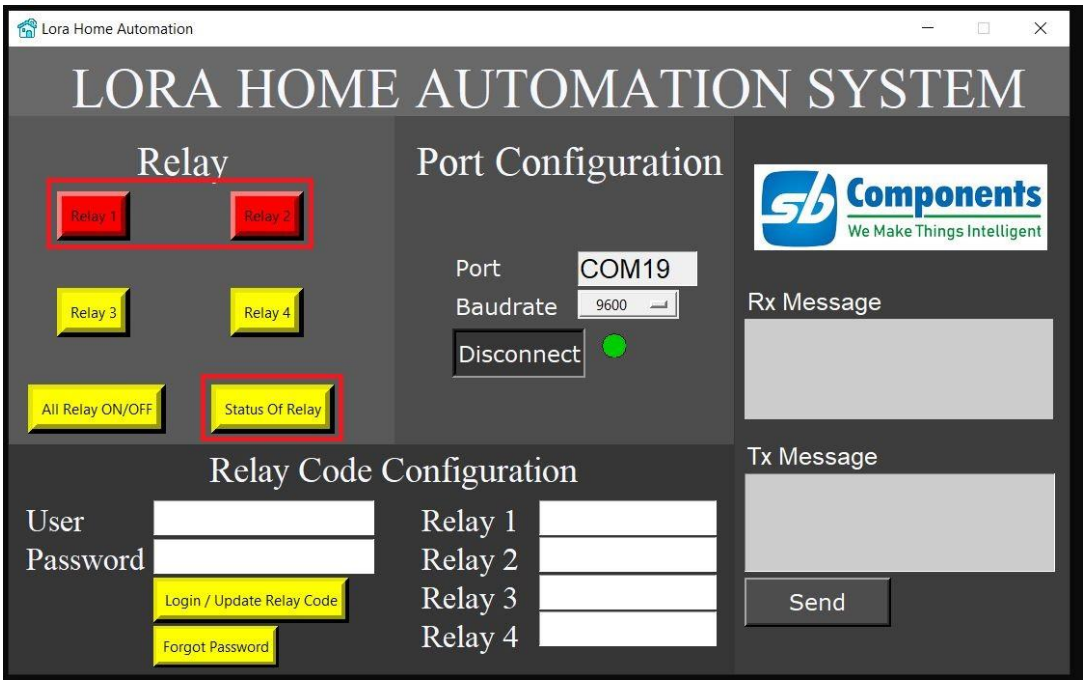


➢ The Setup Look Like This For Windows





- When you press the "status of relay" button, the button turns red, indicating that the relays are active.

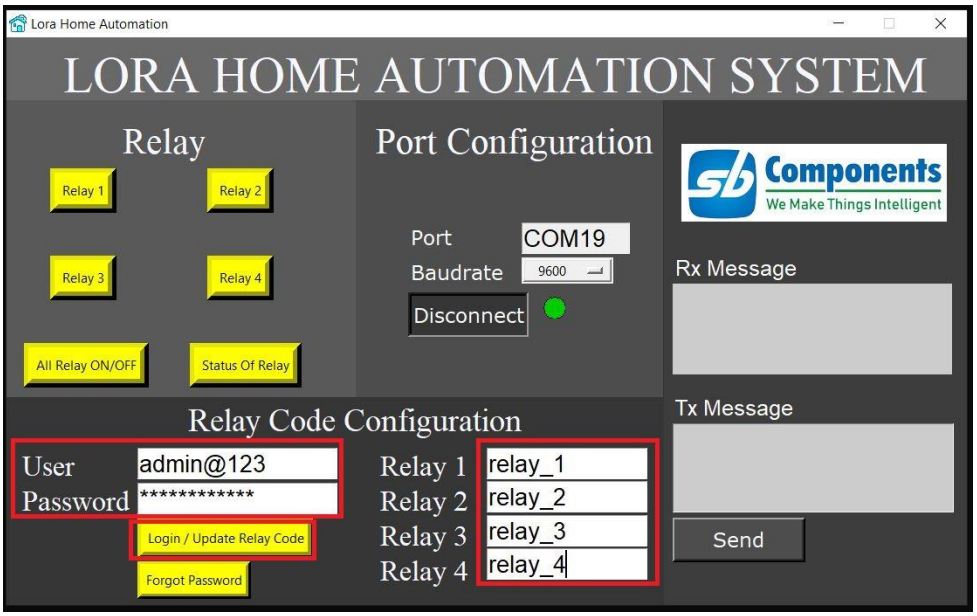


- You can also alter the Relay transmission code, which means that when you hit the button in the GUI, the receiver will receive one encoded code or encoded string (GatePi). Input the user name and password, as well as the transmission code in the relay 1,2,3,4 entry box. Then select "Login/Update Relay Code" from the drop-down menu. When you push the button, all of the entry boxes are empty or blank, indicating that the encode code has been correctly altered. This is not required; the default encode code is present; however, if you want to alter it, you must also update it in the "main.py" PICO code (mandatory)

Default

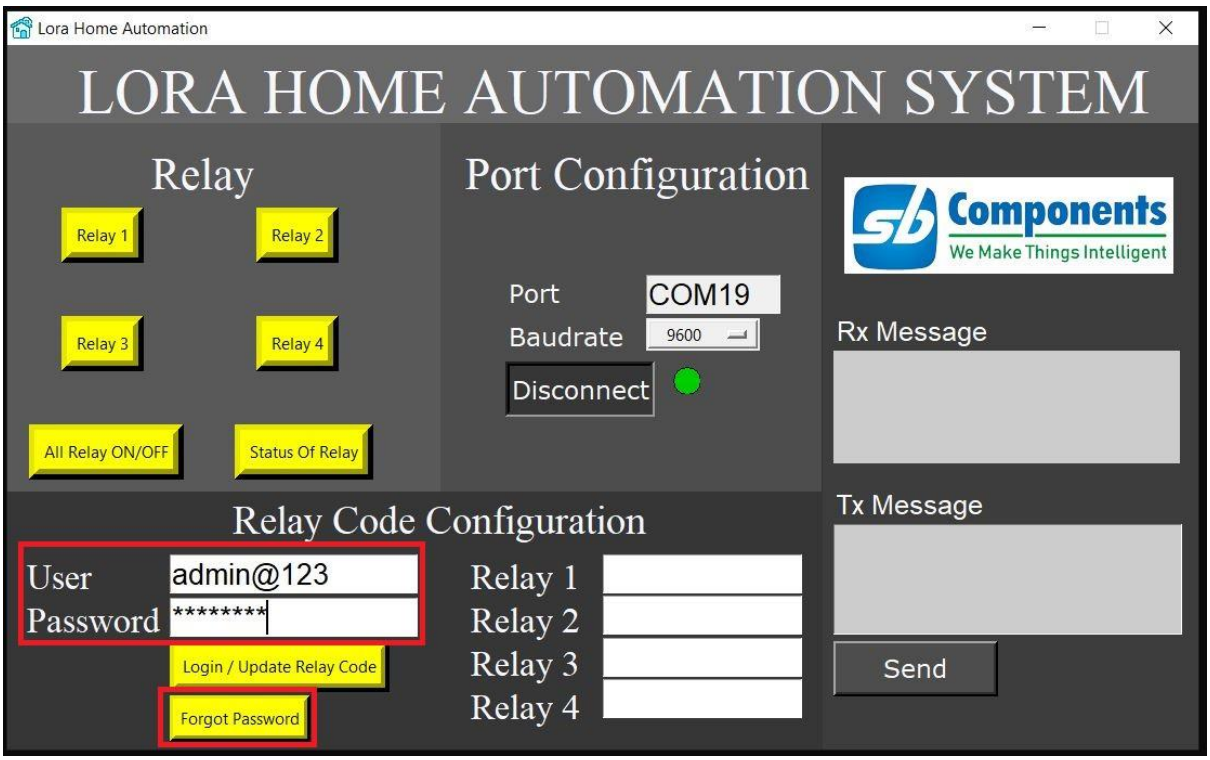
user = admin@123

password = sbcomponents



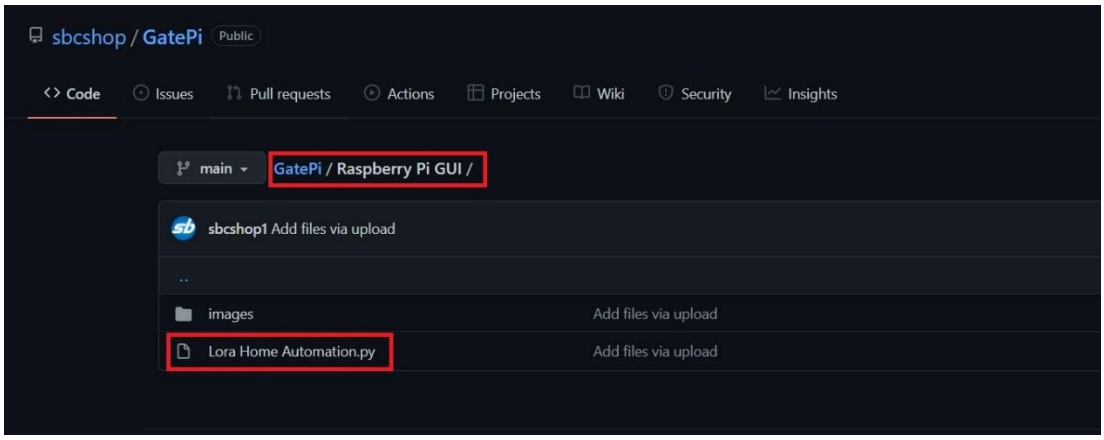

```
while True:
    data_Read = lora.readline()#read data comming from other pico lora expansion
    print(data_Read)
    if data_Read is not None and "1relay1" in data_Read:
      #ones, turn led on!
      if flag_1 == 0:
        print("relay 1 on")
        relay1.value(1)
        flag_1=1; #change flag variable


      #twice, turn led off!
      elif flag_1 == 1:
        print("relay 1 off")
        relay1.value(0)
        flag_1=0; #change flag variable again


    if data_Read is not None and "2relay2" in data_Read:
      #ones, turn led on!
      if flag_2 == 0:
        print("relay 2 on")
        relay2.value(1)
        flag_2=1; #change flag variable

      #twice, turn led off!
      elif flag_2 == 1:
        print("relay 2 off")
        relay2.value(0)
        flag_2=0; #change flag variable again
```

- If you forget your password, enter your user id in the user id field and a new password in the password field before clicking the "Forgot Password" button. When you press the button, you'll notice that all of the entry boxes are empty or blank, indicating that the password has been successfully changed.

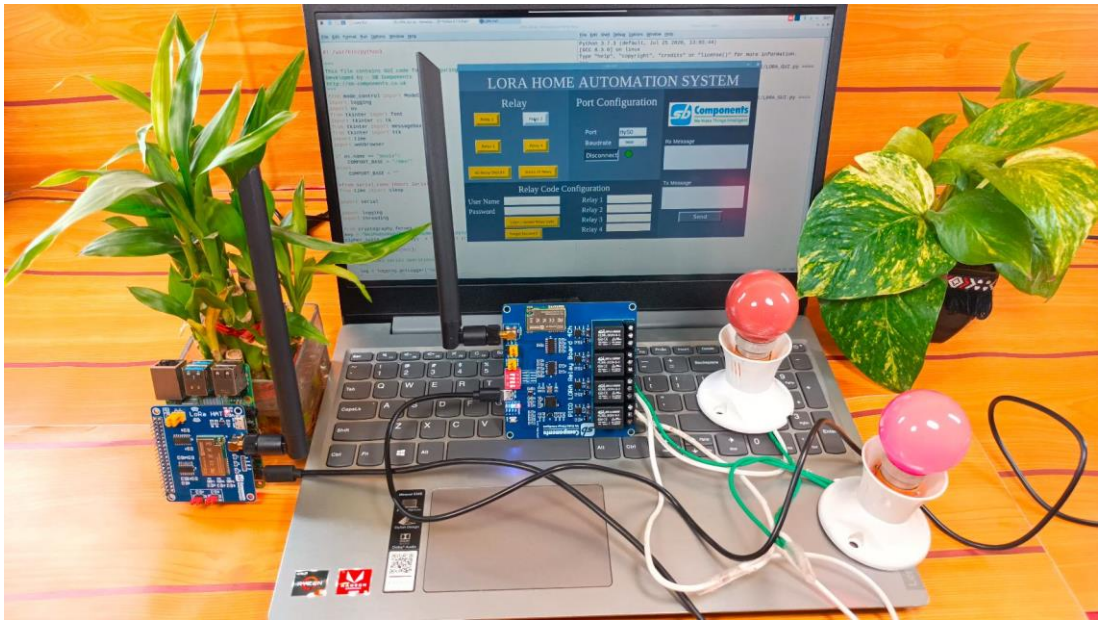


In Raspberry Pi

- All the things we have written in the window part same this you need to do in raspberry pi you need to run the python file "LoRa Home Automation.py".and put LoRa HAT to raspberry pi



- The Setup Look Like This For Raspberry Pi



Official SB Components Shop Link

https://shop.sb-components.co.uk/

Product Link

GatePi

https://shop.sb-components.co.uk/products/gatepi?_pos=2&_sid=7e2582224&_ss=r&variant=39756677513299

Lora Hat

https://shop.sb-components.co.uk/products/lora-hat-433mhz-868mhz?_pos=1&_sid=7e2582224&_ss=r

PICO Lora Expansion

https://shop.sb-components.co.uk/products/pico-lora-expansion-868mhz?_pos=1&_sid=4c127abe9&_ss=r

RnagePi

https://shop.sb-components.co.uk/products/range-pi?_pos=1&_sid=132420060&_ss=r