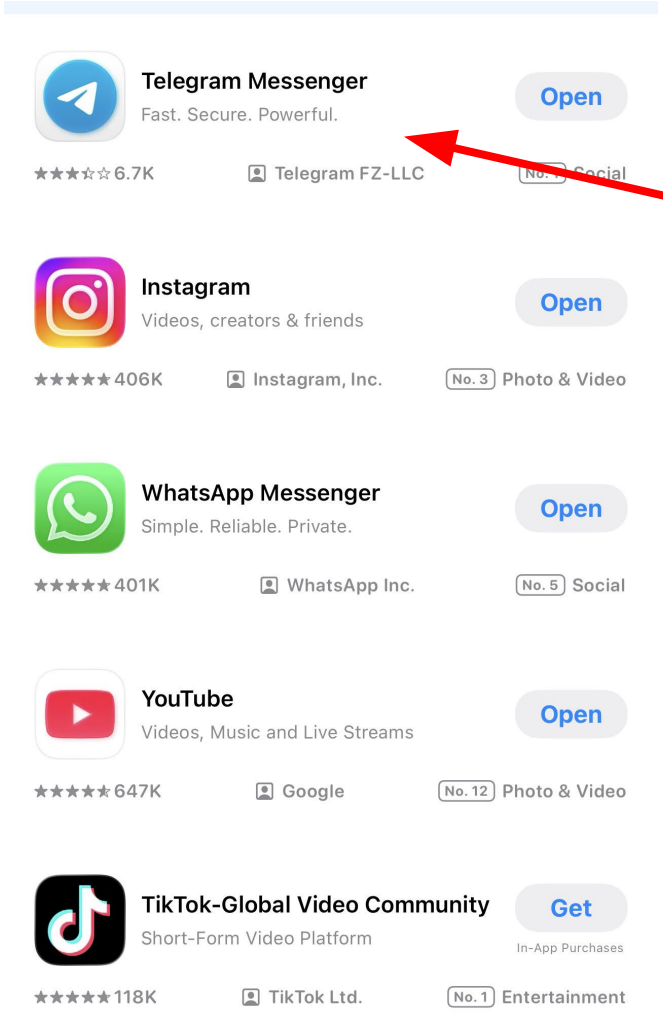
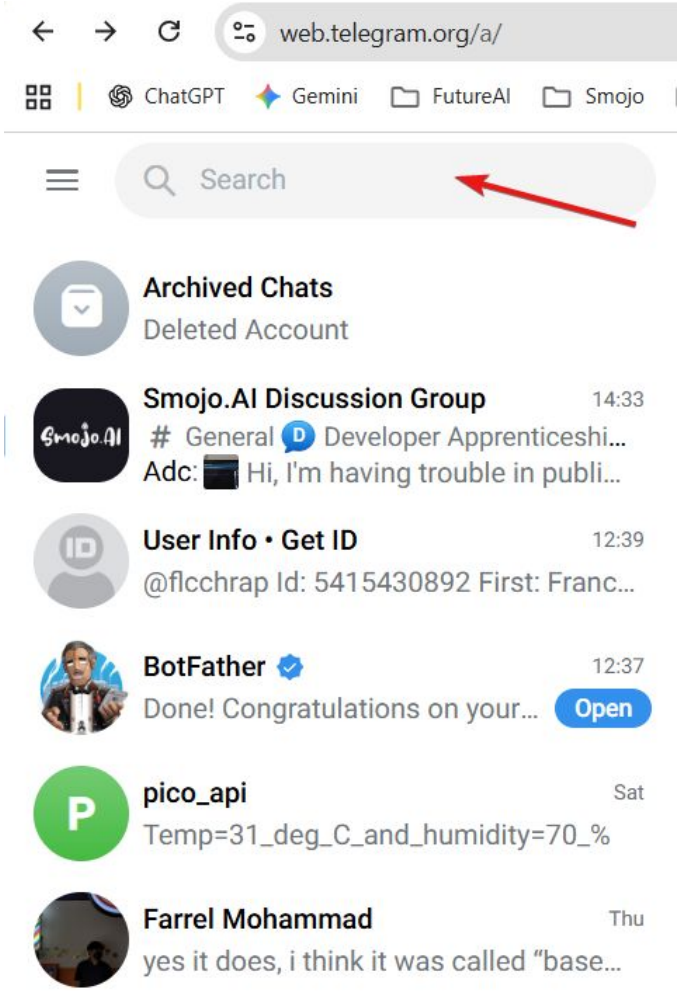
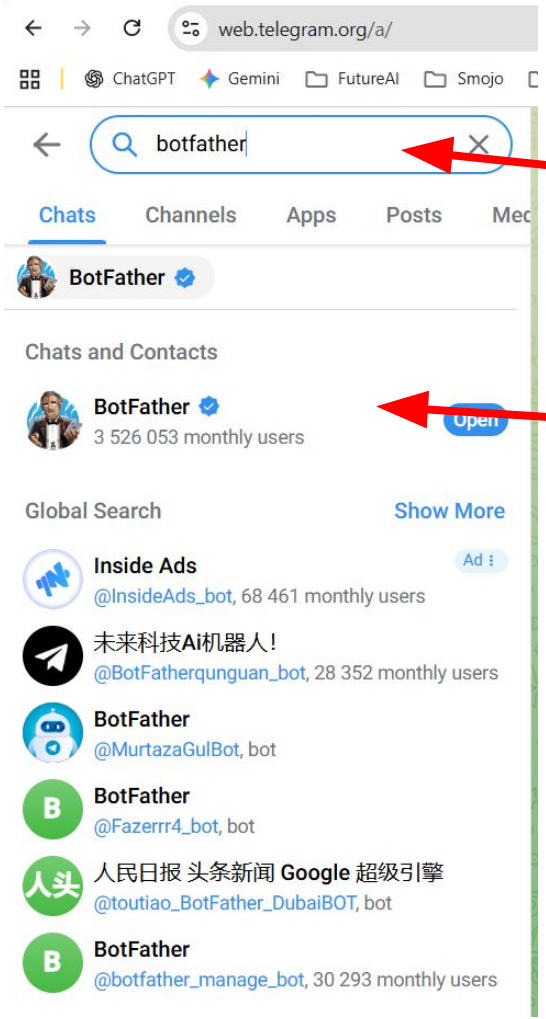


1. Create an account in telegram.
2. On your mobile phone, go to
   a. Playstore for Android, or
   b. Appstore for iPhone
   c. Download and install the app

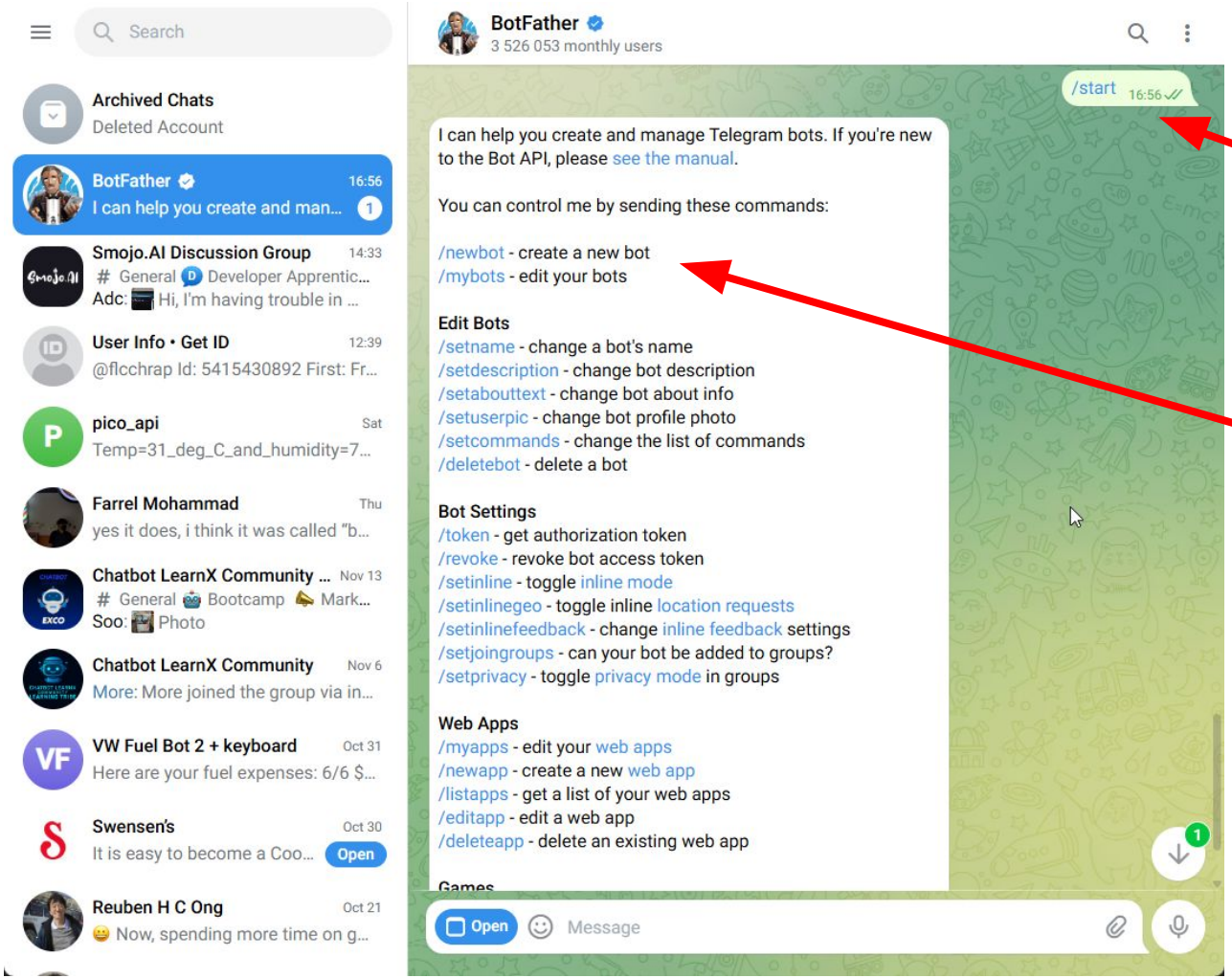


3. On the web browser or the app in your mobile phone, go to the search field.



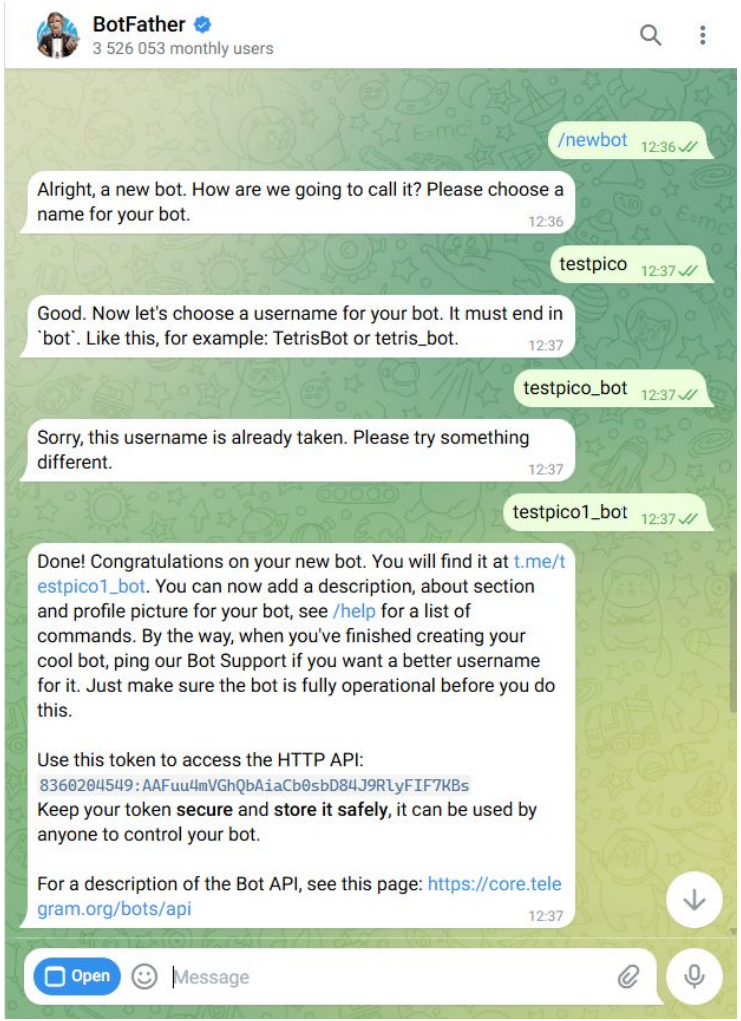
4. Search “botfather”

5. Select the correct “botfather” that looks like this.



6. Key '/start

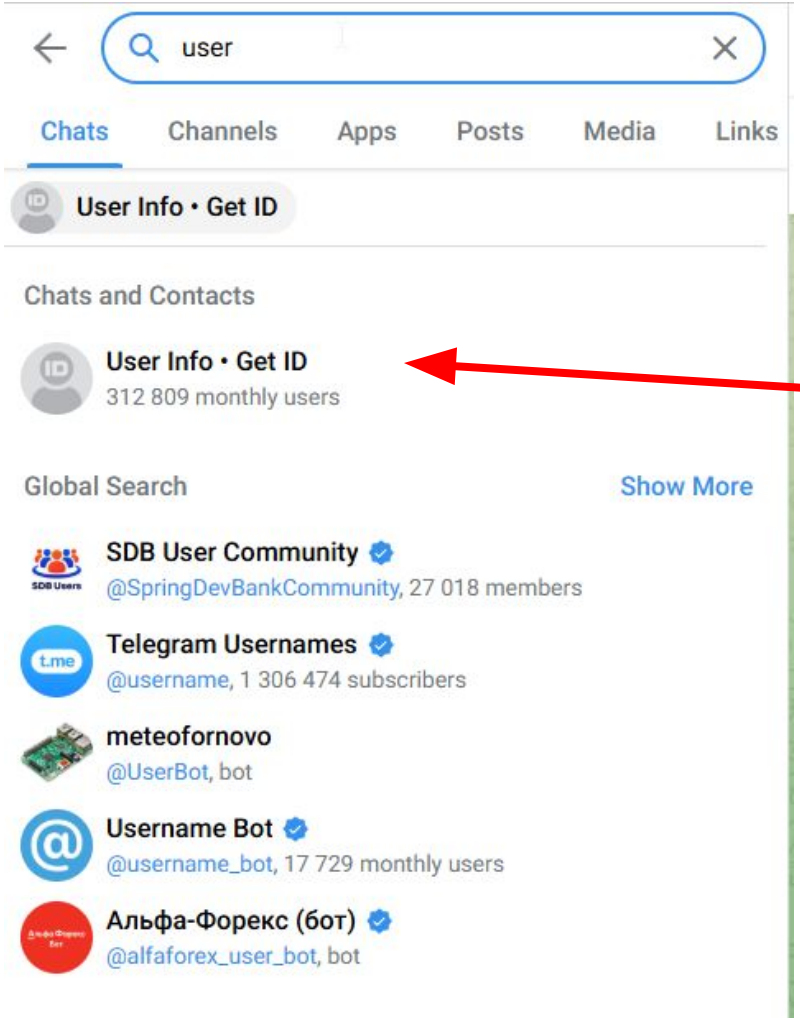
7. Click '/newbot



8. Choose a name for your bot. This name will be displayed on top of the chat session.

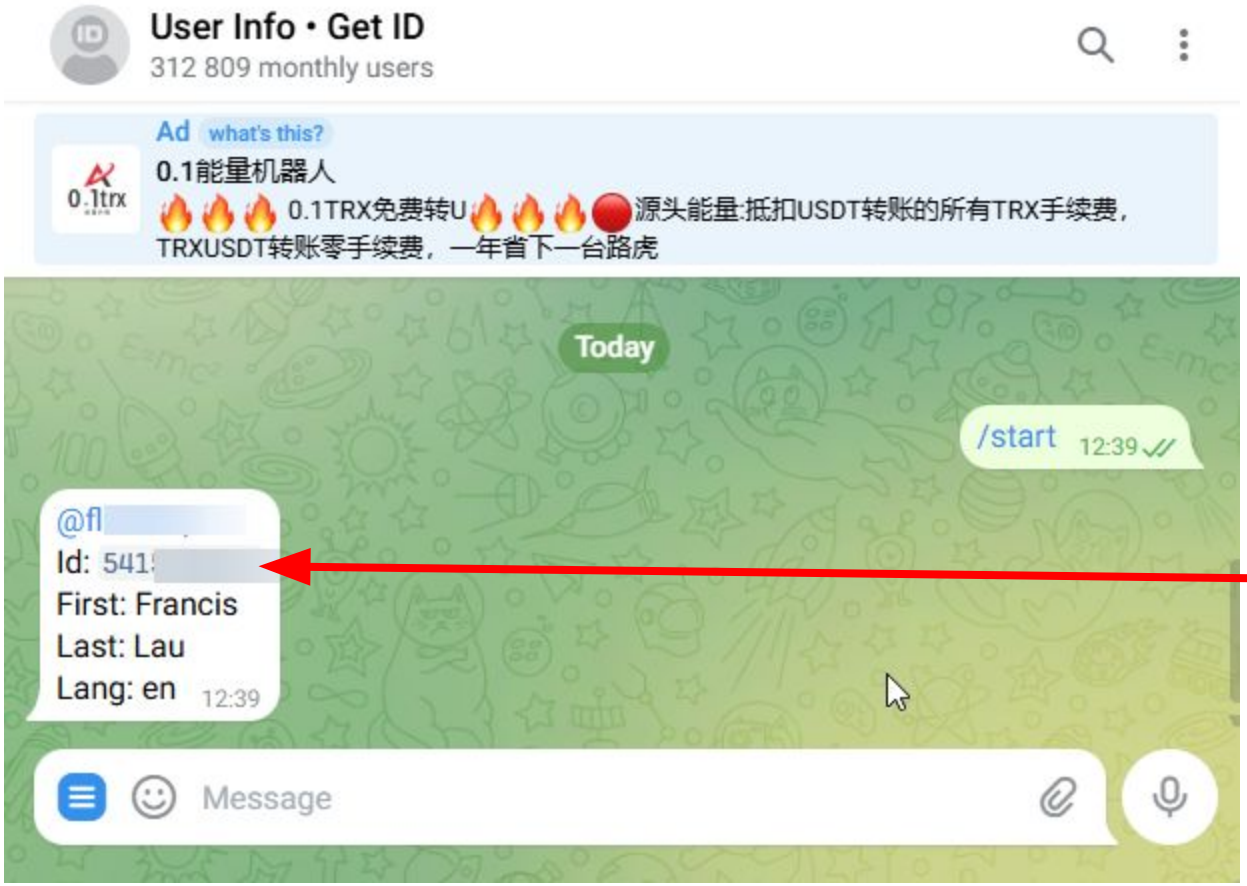
9. Then, you will be asked to choose a username which must be unique and is not taken by someone yet.

10. You will be given the API token. Copy it for your micropython code in Thonny.



11. Go to search bar and key in user to search for “User Info Get ID” Bot

12. Click this contact to open chat.



13. Key “/start”

14. Your chat ID will be shown. Copy it for the micropython code in Thonny

wificonfig.py *

```
22 # this is Telegram bot token for pico_api_bot
23 api_token='8360204549:AAFuu4mVGhQbAiaCb0sbD84J9RlyFIF7KBs'
24 # this is telegram chat_id
25 telegram_chat_id='1234567890'
```

15. In Thonny, assign the API token and chat_ID accordingly.

dht11_telegram.py *

```
print('Connected to :' ,wlan.ifconfig() )
print('This Pico Server IP Address :' ,wlan.ifconfig()[0])


bot_token=wificonfig.api_token
chat_id=wificonfig.telegram_chat_id

#logic / program
while True:
    sensor.measure()
    temperature = sensor.temperature()  #I use my wife's hair dryer to increase the temperature :-)
    humidity = sensor.humidity()
    print(temperature,humidity)

    if temperature > 30:
        #this is the messsage we are going to send to our whatsapp number
        #there should be no spacing in the message. otherwise you get an send request error

        # f-string - use chatGPT to find out about f string if you are unsure what is happening here
        message=f'Temp={temperature}_deg_C_and_humidity={humidity}_%'
        #this is the API given to us by
        url = f'https://api.telegram.org/bot{bot_token}/sendMessage?chat_id={chat_id}&text={message}'
        response = requests.get(url)

        # check if it was successful
        if (response.status_code == 200):
            print('Message Delivered!')
        else:
            print('Error')
            print(response.text)

    sleep(15) #measure temp and humidity every 15 seconds.  CallMeBot will protest if we send too many
```

16. In the main python file, you only need to update the changes to the code marked in red.

For your convenience, copy and Paste the url below into your code. If copy-paste does not copy exact characters, then type in the url instead.

url = f'https://api.telegram.org/bot{bot_token}/sendMessage?chat_id={chat_id}&text={message}'

17. Everything else coded for Telegram and Whatsapp remains the same. The chat_ID for Telegram is like the phone number used in whatsapp.

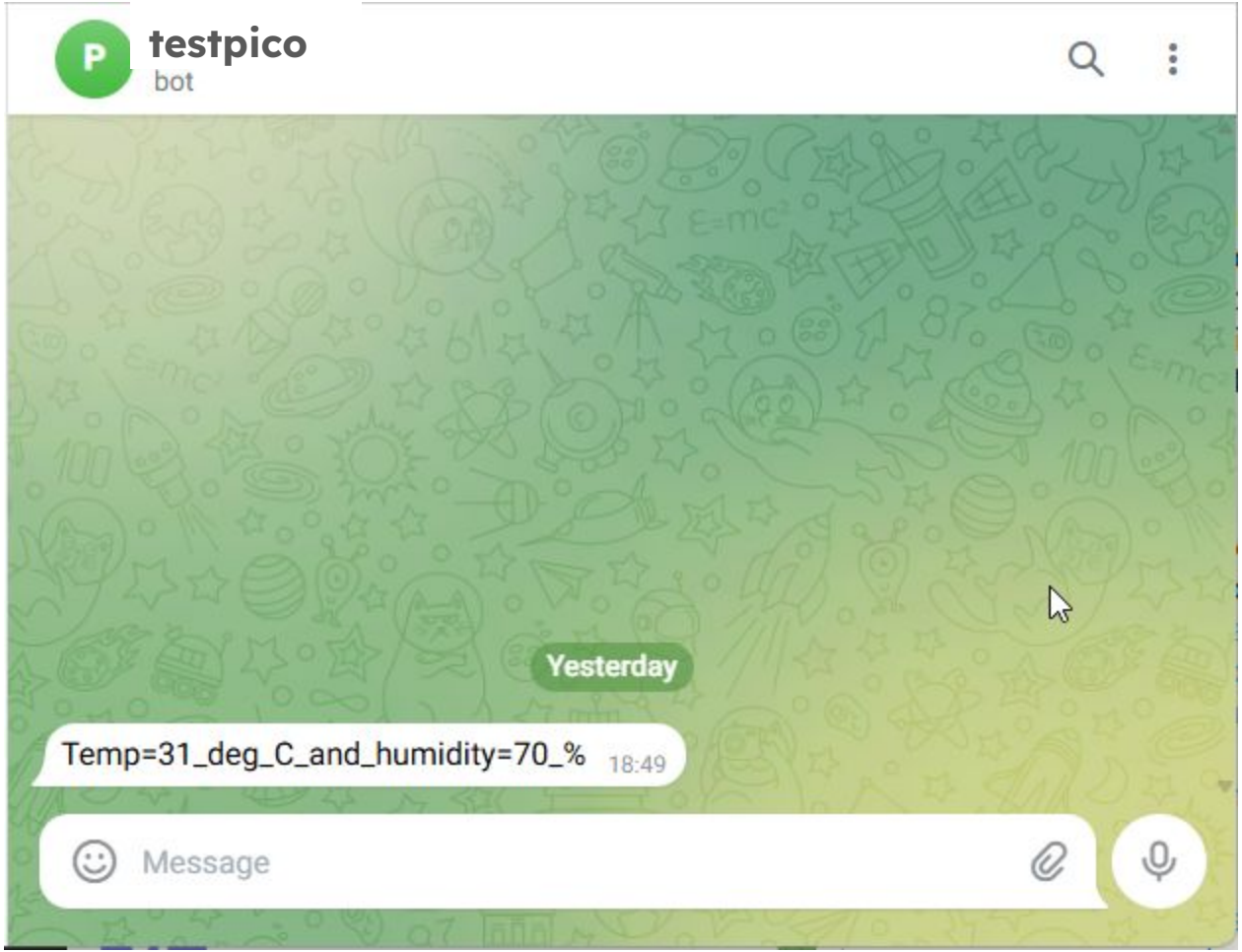
Using Telegram

dht11_telegram.py *

```
print('Connected to :' ,wlan.ifconfig() )
print('This Pico Server IP Address :' ,wlan.ifconfig()[0])


bot_token=wificonfig.api_token
chat_id=wificonfig.telegram_chat_id

#logic / program
while True:
    sensor.measure()
    temperature = sensor.temperature()  #I use my wife's hair dryer to increase the temperature :-)
    humidity = sensor.humidity()
    print(temperature,humidity)

    if temperature > 30:
        #this is the messsage we are going to send to our whatsapp number
        #there should be no spacing in the message. otherwise you get an send request error

        # f-string - use chatGPT to find out about f string if you are unsure what is happening here
        message=f'Temp={temperature}_deg_C_and_humidity={humidity}_%'
        #this is the API given to us by
        url = f'https://api.telegram.org/bot{bot_token}/sendMessage?chat_id={chat_id}&text={message}'
        response = requests.get(url)

        # check if it was successful
        if (response.status_code == 200):
            print('Message Delivered!')
        else:
            print('Error')
            print(response.text)

    sleep(15) #measure temp and humidity every 15 seconds.  CallMeBot will protest if we send too many
```

Using Whatsapp

```
print('Connected to :' ,wlan.ifconfig() )
print('This Pico Server IP Address :' ,wlan.ifconfig()[0])


api_key=wificonfig.whatsapp_api_key
phone_number=wificonfig.whatsapp_phone_no

#logic / program
while True:
    sensor.measure()
    temperature = sensor.temperature()  #I use my wife's hair dryer to increase the temperature :-)
    humidity = sensor.humidity()
    print(temperature,humidity)

    if temperature > 30:
        #this is the messsage we are going to send to our whatsapp number
        #there should be no spacing in the message. otherwise you get an send request error

        # f-string - use chatGPT to find out about f string if you are unsure what is happening here
        message=f'Temp={temperature}_deg_C_and_humidity={humidity}_%'
        #this is the API given to us by CallMeBot
        url = f'https://api.callmebot.com/whatsapp.php?phone={phone_number}&text={message}&apikey={api_key}'
        response = urequests.get(url)

        # check if it was successful
        if (response.status_code == 200):
            print('Message Delivered!')
        else:
            print('Error')
            print(response.text)

    sleep(15) #measure temp and humidity every 15 seconds.  CallMeBot will protest if we send too many messag
```



18. The message from the microcontroller will be delivered to you via this bot.