

## CODE

```
from sense_hat import SenseHat
from Adafruit_IO import Client, Feed, RequestError
import time

# Adafruit IO credentials
ADAFRUIT_IO_USERNAME = 'XXXXXXXXXXXX'
ADAFRUIT_IO_KEY = 'XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX'
TEMPERATURE_FEED_NAME = 'temperature'
HUMIDITY_FEED_NAME = 'humidity'

# Create an instance of the REST client
aio = Client(ADAFRUIT_IO_USERNAME, ADAFRUIT_IO_KEY)

# Set up Sense HAT
sense = SenseHat()

# Function to initialize Sense HAT
def initialize_sense_hat():
    sense.clear() # Clear any previous LED matrix display

# Function to display data on Sense HAT
def display_data_on_sense_hat(temperature, humidity):
    # Format the data for display
    message = f"Temp: {temperature:.2f} C\nHumidity: {humidity:.2f} %"

    # Display the data on Sense HAT
    sense.show_message(message, scroll_speed=0.05)

# Function to read sensor data and upload to Adafruit IO
def upload_data_to_adafruit():
    try:
        humidity = sense.get_humidity()
        temperature = sense.get_temperature()
        if humidity is not None and temperature is not None:
            print(f'Temperature: {temperature:.2f} C, Humidity: {humidity:.2f} %')
            # Send temperature data to Adafruit IO
            temperature_feed = aio.feeds(TEMPERATURE_FEED_NAME)
            aio.send_data(temperature_feed.key, temperature)

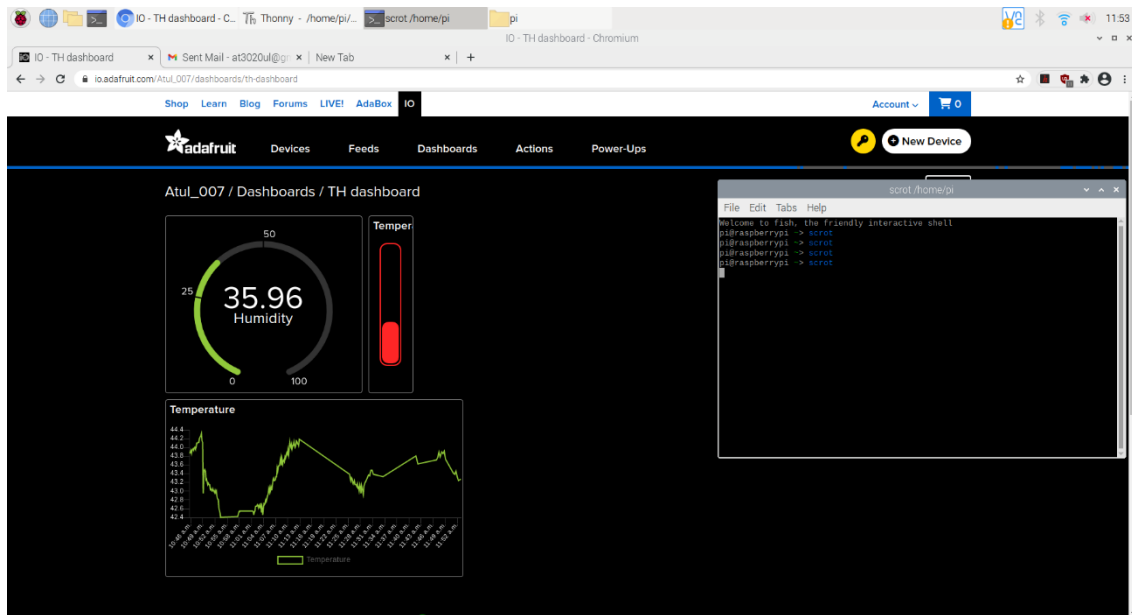
            # Send humidity data to Adafruit IO
            humidity_feed = aio.feeds(HUMIDITY_FEED_NAME)
            aio.send_data(humidity_feed.key, humidity)

            # Display data on Sense HAT
            display_data_on_sense_hat(temperature, humidity)
        else:
            print('Failed to retrieve data from sensor')
    except Exception as e:
        print(f'Error: {e}')
```

```
# Main loop to continuously read and upload data
while True:
    initialize_sense_hat()

    upload_data_to_adafruit()
    time.sleep(5) # Adjust the sleep interval as needed
```

## RESULTS



### adafruit output

```
File Edit View Run Tools Help
+ [Icons] [ChatGPT - Chromium] Thonny - /home/pi/Desktop/Adi.py @ 33:46
Thonny - /home/pi/Desktop/Adi.py @ 33:46

Adi.py x
30 def upload_data_to_adafruit():
31     try:

Shell x
Temperature: 43.79 C, Humidity: 35.72 %
Temperature: 43.90 C, Humidity: 35.13 %
Temperature: 43.86 C, Humidity: 35.43 %
Temperature: 43.91 C, Humidity: 35.58 %
Temperature: 43.73 C, Humidity: 35.33 %

Python 3.7.3 (/usr/bin/python3)
>>> %Run Adi.py

Python 3.7.3 (/usr/bin/python3)
>>> %Run Adi.py
WARNING:root:Failed to initialise TCS34725 colour sensor. (sensor not present)
Temperature: 43.40 C, Humidity: 35.76 %

Python 3.7.3 (/usr/bin/python3)
>>> %Run Adi.py
WARNING:root:Failed to initialise TCS34725 colour sensor. (sensor not present)
Temperature: 43.39 C, Humidity: 36.39 %
Temperature: 43.46 C, Humidity: 35.69 %
Temperature: 43.33 C, Humidity: 35.88 %
Temperature: 43.24 C, Humidity: 35.30 %

Assistant x
scrot /home/pi
File Edit Tabs Help
Welcome to fish, the friendly interactive shell
pi@raspberrypi ~$ scrot
pi@raspberrypi ~$ scrot
pi@raspberrypi ~$ scrot
pi@raspberrypi ~$ scrot
```

### Output at terminal screen