LAB MANUAL 4

Post Tweets on Twitter using IoT Devices

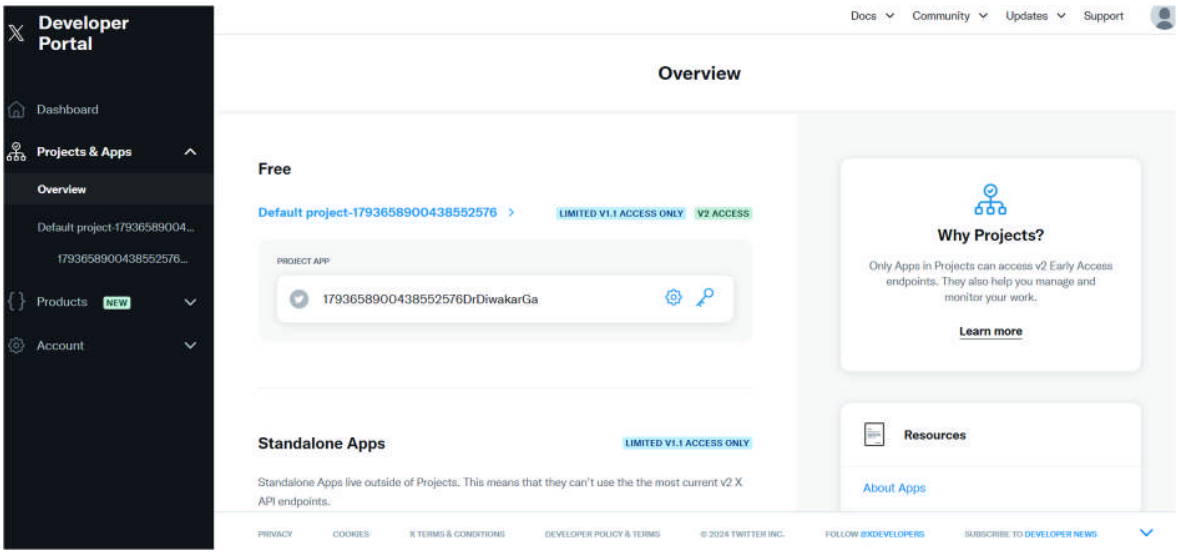
Disclaimer: The content is curated from online/offline resources and used for educational purpose only

Practical: Post tweets on Twitter using IoT devices

Steps

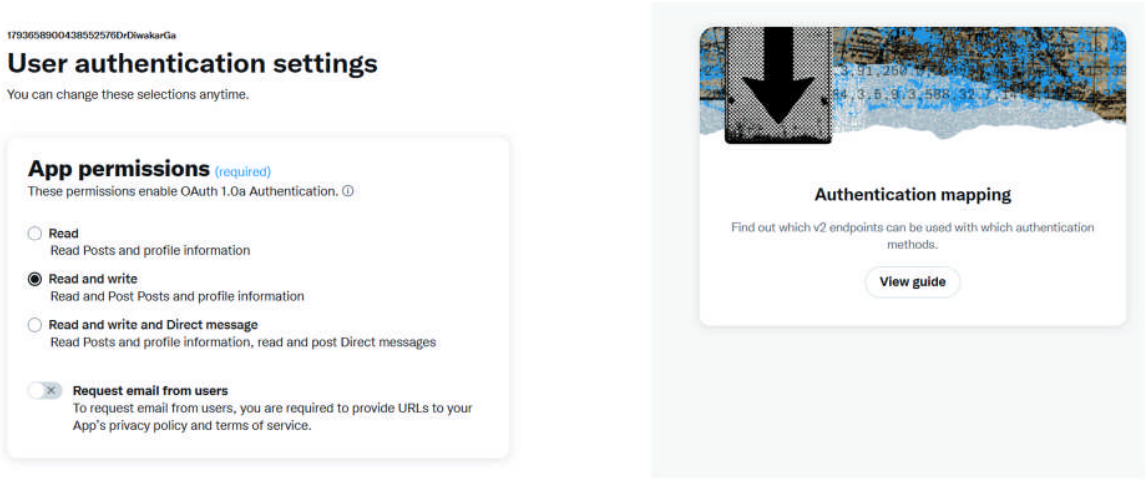
1. Apply for a Twitter Developer Account
   Go to the Twitter developer site (https://developer.x.com/en/portal/projects-and-apps) to apply for a developer account. Here, you have to select the Twitter user responsible for this account. It should probably be you or your organization. Here's what this page looks like:

   Link: https://developer.x.com/en/portal/projects-and-apps

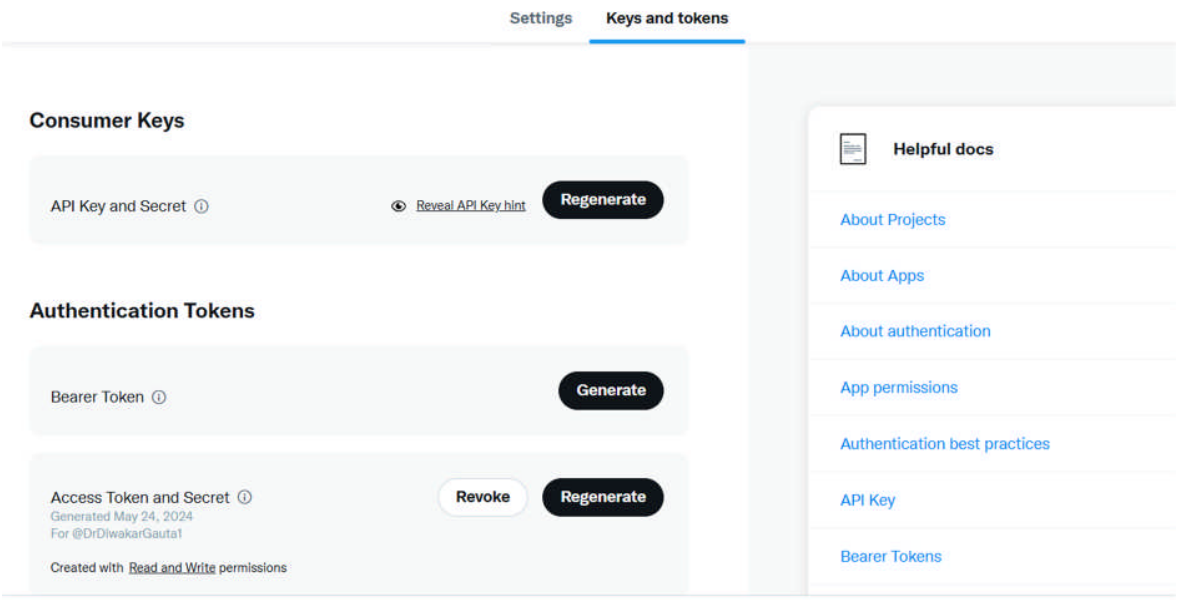


2. Make sure to **enable read & write permission** in authentication settings

Disclaimer: The content is curated from online/offline resources and used for educational purpose only



3. Fetch your API key and access tokens



4. Connect temperature & humidity sensor (A0 & A1) to DFRobot hat on RaspberryPI and run below code. Make sure to replace with your Twitter API credentials.
Install tweepy library using command, **pip3 install tweepy**

Code-

```
import tweepy
import RPi.GPIO as GPIO
```

Disclaimer: The content is curated from online/offline resources and used for educational purpose only

```
import time
import atexit
from dfadc import *
board_detect()
while board.begin() != board.STA_OK:
    print_board_status()
    print("board begin faild")
    time.sleep(2)
print("board begin success")
board.set_adc_enable()

atexit.register(GPIO.cleanup)
GPIO.setmode(GPIO.BCM)
from time import sleep
from math import isnan
from time import strftime
import math
consumer_key = '2IWlVt3Px1GtUfM7T6n1thTGC'
consumer_secret =
'YasyTDfoMXRakvxLWLtyVXatC98T8lTIXdy96kiZyT7ClgXGad'
access_token = '1043489874559397888-Ok5ZP06n6kaPIHHrgSk41fIhJPfArK'
access_token_secret =
'gFmwTsr9lH7b5v8t8BR8mTpDwyJ7M7GttYMu4UL4zm6cz'

client =
tweepy.Client(consumer_key=consumer_key,consumer_secret=consumer_secret,a
ccess_token=access_token,access_token_secret=access_token_secret)

location="Jaipur"
while True:
    # Print the values to the serial port
    temp = board.get_adc_value(board.A0)   # A0 channels read
    humidity = board.get_adc_value(board.A1)
    temperature = (temp/4096)* 100+20
    humidity = (humidity/4096)* 100
    print(temperature)
    print(humidity)
    time_stamp=strftime("%d-%m-%y %H:%M:%S", time.localtime())
    print('Temp={0:0.1f}*C  Humidity={1:0.1f}%'.format(temperature, humidity))
    sd='Temp={0:0.1f}*C  Humidity={1:0.1f}%'.format(temperature, humidity)
```

Disclaimer: The content is curated from online/offline resources and used for educational purpose only

```
sd=time_stamp+" "+sd
print(sd)
client.create_tweet(text=sd)
print("Sent to Twitter")
time.sleep(5.0)
```

Now you can observe streams of sensor data visible on Twitter post of your account

Using GrovePI & RaspberryPI

Steps

4. Connect DHT sensor to port D7
5. Connect LCD to I2C port
6. Install library **pip3 install tweepy** & Run below code

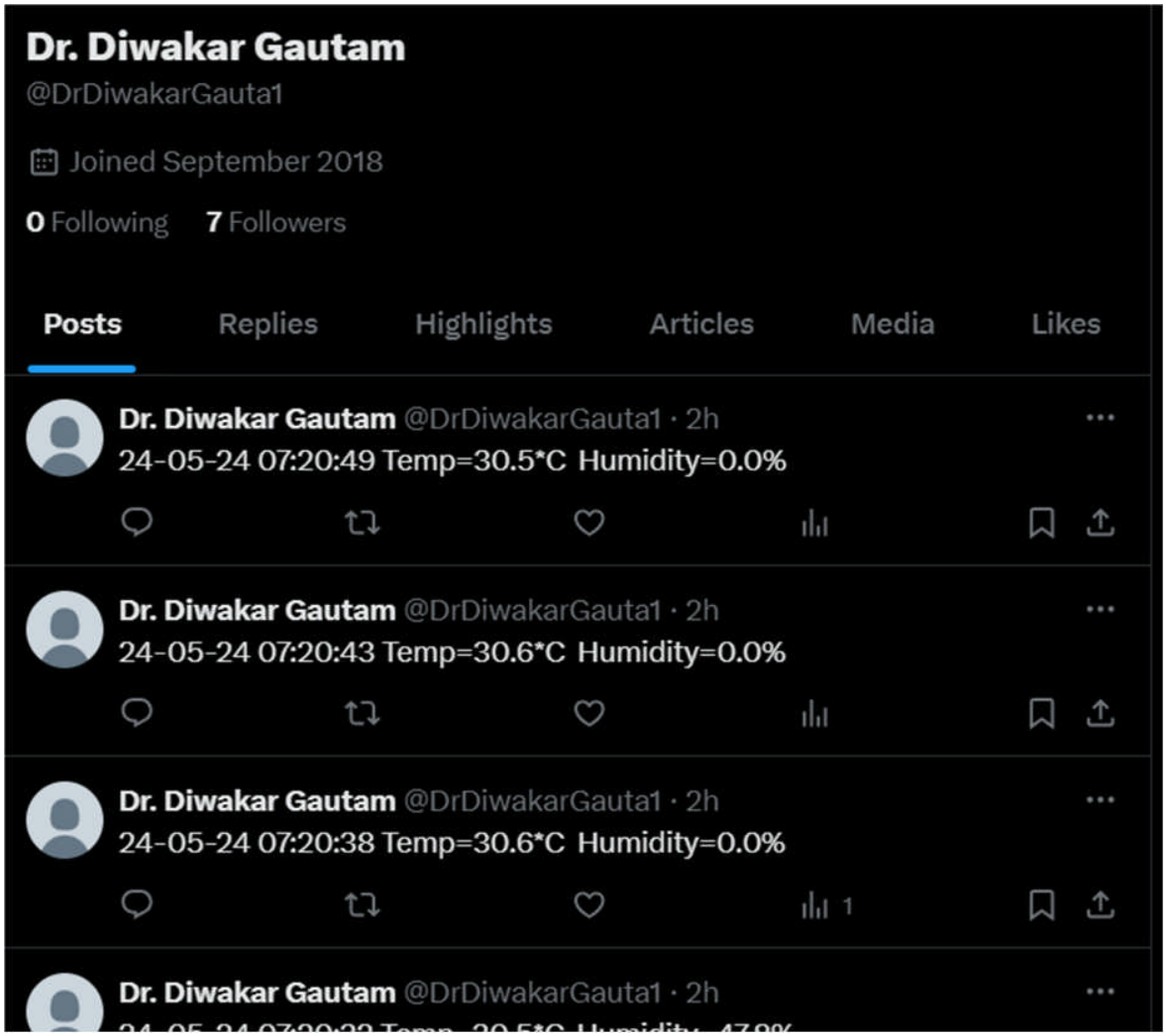
Code

```
import tweepy
from grovepi import *
from grove_rgb_lcd import *
import time
from math import isnan
from time import strftime
import math

consumer_key = '2IWlVt3Px1GtUfM7T6n1thTGC'
consumer_secret =
'YasyTDfoMXRakvxLWLtyVXatC98T8lTIXdy96kiZyT7ClgXGad'
access_token = '1043489874559397888-Ok5ZP06n6kaPIHHrgSk41fIhJPfArK'
access_token_secret =
'gFmwTsr9lH7b5v8t8BR8mTpDwyJ7M7GttYMu4UL4zm6cz'

client =
tweepy.Client(consumer_key=consumer_key,consumer_secret=consumer_secret,a
ccess_token=access_token,access_token_secret=access_token_secret)
```

Disclaimer: The content is curated from online/offline resources and used for educational purpose only

```
location="Jaipur"
#time_stamp=strftime("%d-%m-%y %H:%M:%S", time.localtime())
#print(time_stamp)
dht_sensor_port = 7

dht_sensor_type = 0 # 0 for DHT11 and 1 for DHT22
setRGB(0,255,0)
while True:
    # Print the values to the serial port
    [t,h] = dht(dht_sensor_port,dht_sensor_type)
    print(f"Temp:{t} C Humidity:{h}%")
    setText_norefresh(f"Temp:{t} C\nHumidity:{h}%")
    print(t)
    print(h)
    time_stamp=strftime("%d-%m-%y %H:%M:%S", time.localtime())
    print('Temp={0:0.1f}*C  Humidity={1:0.1f}%'.format(t, h))
    sd='Temp={0:0.1f}*C  Humidity={1:0.1f}%'.format(t, h)
    sd=time_stamp+" "+sd
    print(sd)
    client.create_tweet(text=sd)
    print("Sent to Twitter")
    time.sleep(5.0)
```

Disclaimer: The content is curated from online/offline resources and used for educational purpose only



Disclaimer: The content is curated from online/offline resources and used for educational purpose only