



LAB MANUAL 4

Post Tweets on Twitter using IoT Devices

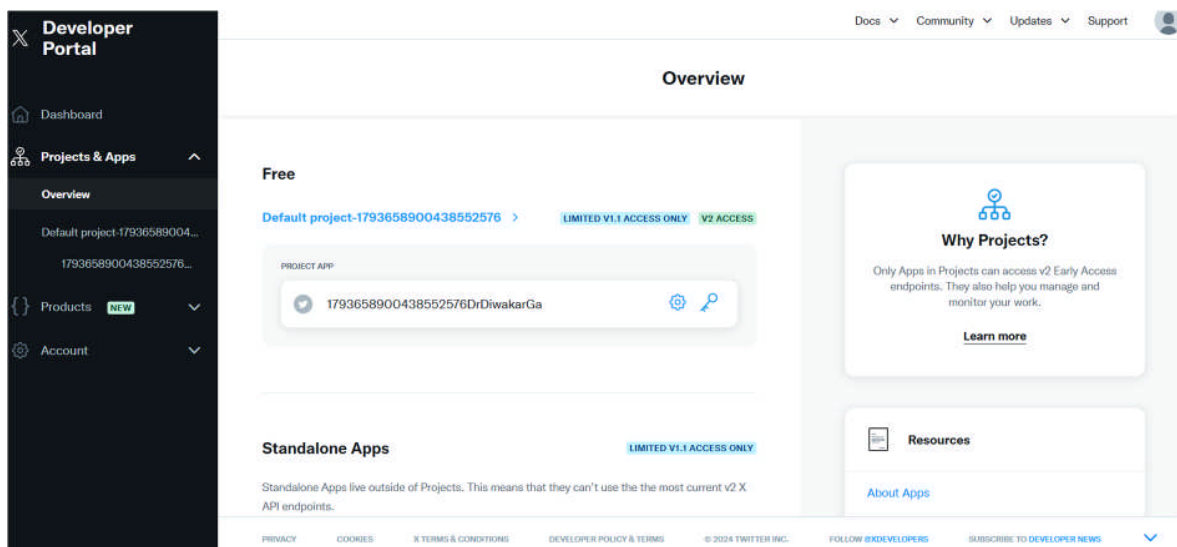
Practical: Post tweets on Twitter using IoT devices

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

User authentication settings

You can change these selections anytime.

App permissions (required)

These permissions enable OAuth 1.0a Authentication. ⓘ

- ☐ Read
Read Posts and profile information
- ☒ Read and write
Read and Post Posts and profile information
- ☐ Read and write and Direct message
Read Posts and profile information, read and post Direct messages
- ☒ Request email from users
To request email from users, you are required to provide URLs to your App's privacy policy and terms of service.



Authentication mapping

Find out which v2 endpoints can be used with which authentication methods.

[View guide](#)

3. Fetch your API key and access tokens

Settings

Keys and tokens

Consumer Keys

API Key and Secret ⓘ

Reveal API Key hint

Regenerate

Authentication Tokens

Bearer Token ⓘ

Generate

Access Token and Secret ⓘ

Generated May 24, 2024

For @DrDiwakarGautam

Created with [Read and Write](#) permissions

Revoke

Regenerate

Helpful docs

- [About Projects](#)
- [About Apps](#)
- [About authentication](#)
- [App permissions](#)
- [Authentication best practices](#)
- [API Key](#)
- [Bearer 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
```

```

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 = '2IWIVt3Px1GtUfM7T6n1thTGC'
consumer_secret =
'YasyTDfoMXRakvxLWLtyVXatC98T8lTIXdy96kiZyT7ClgXGad'
access_token = '1043489874559397888-Ok5ZP06n6kaPIHHrgSk41flhJPfArK'
access_token_secret =
'gFmwTsr9lH7b5v8t8BR8mTpDwyJ7M7GttYMu4UL4zm6cz'

client =
tweepy.Client(consumer_key=consumer_key,consumer_secret=consumer_secret,access_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)

```

```
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-Ok5ZP06n6kaPIHHrgSk41flhJPfArK'
access_token_secret =
'gFmwTsr9lH7b5v8t8BR8mTpDwyJ7M7GttYMu4UL4zm6cz'

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

```
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)
```


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Joined September 2018

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**Dr. Diwakar Gautam** @DrDiwakarGauta1 · 2h

...

24-05-24 07:20:49 Temp=30.5°C Humidity=0.0%

**Dr. Diwakar Gautam** @DrDiwakarGauta1 · 2h

...

24-05-24 07:20:43 Temp=30.6°C Humidity=0.0%

**Dr. Diwakar Gautam** @DrDiwakarGauta1 · 2h

...

24-05-24 07:20:38 Temp=30.6°C Humidity=0.0%

**Dr. Diwakar Gautam** @DrDiwakarGauta1 · 2h

...

24-05-24 07:20:22 Temp=30.5°C Humidity=47.0%