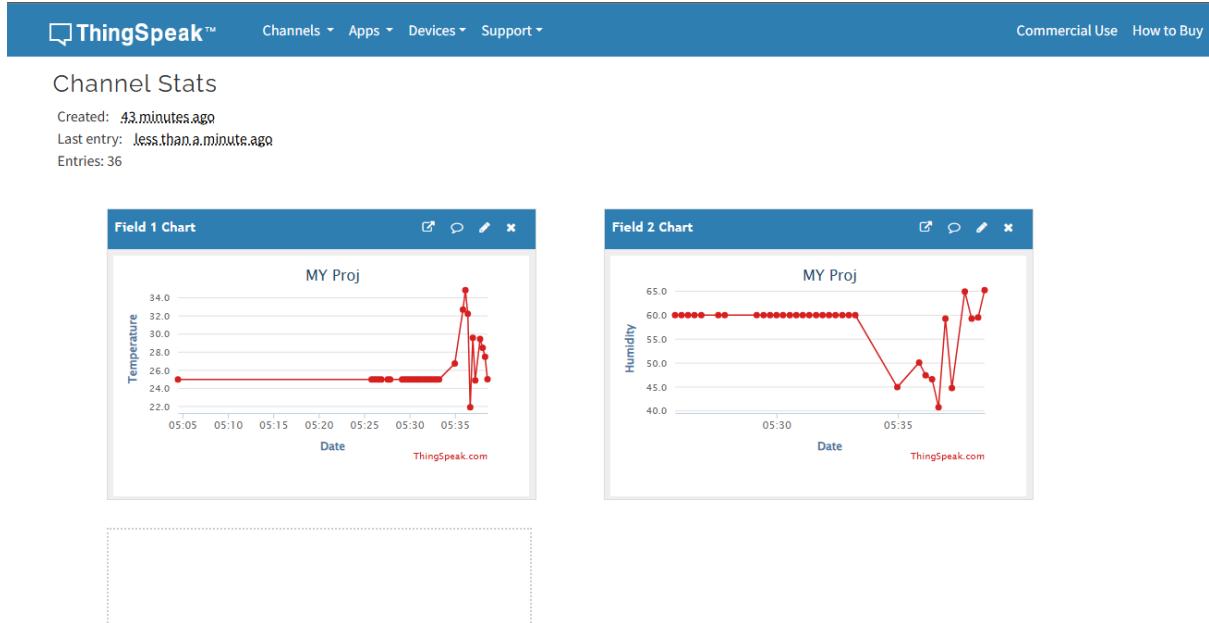


PRACTICAL 4

Create a small dashboard application to be deployed on cloud. Different publisher devices can publish their information and interested application can subscribe.



PROGRAM:

```
import requests  
import time  
import random  
  
# -----  
# ThingSpeak Settings  
# -----  
WRITE_API_KEY = "9PTQ0KFIO6NSCSZD" # Replace with your Write API Key  
URL = f"https://api.thingspeak.com/update?api_key={WRITE_API_KEY}"  
  
# -----  
# Function to generate sensor data
```

```

# -----
def get_sensor_data():

    temperature = round(random.uniform(20, 35), 2) # Simulated temperature
    humidity = round(random.uniform(40, 70), 2)    # Simulated humidity
    distance = round(random.uniform(5, 100), 2)    # Simulated distance in cm
    return temperature, humidity, distance

# -----
# Main loop: Send data every 15 seconds
# -----

while True:

    temp, hum, dist = get_sensor_data()

    response = requests.get(f"{{URL}}&field1={{temp}}&field2={{hum}}&field3={{dist}}")

    print(f"Sent Temperature={{temp}}, Humidity={{hum}}, Distance={{dist}} | Response={{response.text}}")

    time.sleep(15) # ThingSpeak minimum interval

```

OUTPUT:

```

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C:\Users\DELL>cd Desktop

C:\Users\DELL\Desktop>python thingspeak_dashboard.py
Sent Temperature=32.69, Humidity=50.12, Distance=93.43 | Response=26
Sent Temperature=34.84, Humidity=47.44, Distance=28.27 | Response=27
Sent Temperature=32.24, Humidity=46.65, Distance=84.82 | Response=28
Sent Temperature=21.93, Humidity=40.79, Distance=33.39 | Response=29
Sent Temperature=29.59, Humidity=59.28, Distance=84.37 | Response=30
Sent Temperature=24.89, Humidity=44.77, Distance=53.35 | Response=31
Sent Temperature=27.59, Humidity=49.09, Distance=88.62 | Response=32
Sent Temperature=29.45, Humidity=64.97, Distance=14.39 | Response=33
Sent Temperature=28.48, Humidity=59.28, Distance=22.48 | Response=34
Sent Temperature=27.48, Humidity=59.52, Distance=60.48 | Response=35
Sent Temperature=25.02, Humidity=65.23, Distance=88.17 | Response=36
Sent Temperature=34.64, Humidity=49.41, Distance=93.09 | Response=37
Sent Temperature=34.61, Humidity=64.03, Distance=44.93 | Response=38

```