

1. Скрин трьох топіків з команди [print(topic) for topic in admin\_client.list\_topics() if "my\_name" in topic];

```
● (.venv) matvieienko@DESKTOP-T2SJU5:~/goit-de-hw-05$ Topics created successfully.
matvieienko_humidity_alerts
matvieienko_building_sensors
matvieienko_temperature_alerts
● (.venv) matvieienko@DESKTOP-T2SJU5:~/goit-de-hw-05$
```

2. Скрини генерації даних сенсорів та відправки даних в building\_sensors з демонстрацією двох (або більше) одночасних роботи двох запусків програми (два процеси запущені в один час з різними sensor\_id);

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS 1
● (.venv) matvieienko@DESKTOP-T2SJU5:~/goit-de-hw-05$ /home/matvieienko/goit-de-hw-05/.venv/bin/python /home/matvieienko/goit-de-hw-05/sensor_producer.py
Start sending data for sensor id:73851 to topic 'matvieienko building sensors'
[0] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:39:53', 'temperature': 35, 'humidity': 17}
[1] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:39:55', 'temperature': 38, 'humidity': 76}
[2] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:39:57', 'temperature': 28, 'humidity': 18}
[3] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:39:59', 'temperature': 33, 'humidity': 44}
[4] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:01', 'temperature': 40, 'humidity': 78}
[5] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:03', 'temperature': 32, 'humidity': 53}
[6] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:06', 'temperature': 39, 'humidity': 57}
[7] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:08', 'temperature': 37, 'humidity': 34}
[8] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:10', 'temperature': 41, 'humidity': 80}
[9] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:12', 'temperature': 42, 'humidity': 28}
[10] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:15', 'temperature': 35, 'humidity': 54}
[11] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:17', 'temperature': 37, 'humidity': 69}
[12] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:19', 'temperature': 45, 'humidity': 76}
[13] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:21', 'temperature': 30, 'humidity': 85}
[14] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:23', 'temperature': 34, 'humidity': 68}
[15] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:25', 'temperature': 48, 'humidity': 27}
[16] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:27', 'temperature': 42, 'humidity': 53}
[17] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:29', 'temperature': 45, 'humidity': 40}
[18] Sent message: {'sensor_id': 73851, 'timestamp': '2025-11-16 22:40:31', 'temperature': 34, 'humidity': 41}

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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS 1
● (.venv) matvieienko@DESKTOP-T2SJU5:~/goit-de-hw-05$ /home/matvieienko/goit-de-hw-05/.venv/bin/python /home/matvieienko/goit-de-hw-05/sensor_producer.py
Start sending data for sensor id:98473 to topic 'matvieienko building sensors'
[0] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:39:49', 'temperature': 36, 'humidity': 29}
[1] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:39:51', 'temperature': 26, 'humidity': 38}
[2] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:39:53', 'temperature': 27, 'humidity': 68}
[3] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:39:55', 'temperature': 34, 'humidity': 53}
[4] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:39:57', 'temperature': 44, 'humidity': 51}
[5] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:39:59', 'temperature': 29, 'humidity': 16}
[6] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:01', 'temperature': 41, 'humidity': 25}
[7] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:02', 'temperature': 36, 'humidity': 76}
[8] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:04', 'temperature': 30, 'humidity': 84}
[9] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:06', 'temperature': 41, 'humidity': 16}
[10] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:08', 'temperature': 45, 'humidity': 75}
[11] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:10', 'temperature': 41, 'humidity': 18}
[12] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:12', 'temperature': 44, 'humidity': 16}
[13] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:14', 'temperature': 46, 'humidity': 16}
[14] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:16', 'temperature': 30, 'humidity': 29}
[15] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:18', 'temperature': 36, 'humidity': 53}
[16] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:20', 'temperature': 37, 'humidity': 24}
[17] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:22', 'temperature': 40, 'humidity': 80}
[18] Sent message: {'sensor_id': 98473, 'timestamp': '2025-11-16 22:40:24', 'temperature': 29, 'humidity': 21}
```

3. Скрин отримання даних та фільтрації саме тих даних, що будуть далі використані, відфільтровані та послані у відповідні топіки;

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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS 1
● (.venv) matvieienko@DESKTOP-T2SJU5:~/goit-de-hw-05$ /home/matvieienko/goit-de-hw-05/.venv/bin/python /home/matvieienko/goit-de-hw-05/sensor_processor.py
Subscribed to 'matvieienko building sensors'
Temperature alerts topic: 'matvieienko_temperature_alerts'
Humidity alerts topic: 'matvieienko_humidity_alerts'
Received from matvieienko_building_sensors: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:23', 'temperature': 40, 'humidity': 26}
Received from matvieienko_building_sensors: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:25', 'temperature': 42, 'humidity': 16}
Sent temperature alert: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:25', 'temperature': 42, 'humidity': 16, 'alert_type': 'temperature', 'message': 'Temperature 42°C is above 40°C'}
Sent humidity alert: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:25', 'temperature': 42, 'humidity': 16, 'alert_type': 'humidity', 'message': 'Humidity 16% is below 20%'}

Received from matvieienko_building_sensors: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:27', 'temperature': 41, 'humidity': 39}
Sent temperature alert: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:27', 'temperature': 41, 'humidity': 39, 'alert_type': 'temperature', 'message': 'Temperature 41°C is above 40°C'}
Received from matvieienko_building_sensors: {'sensor_id': 28143, 'timestamp': '2025-11-16 23:27:27', 'temperature': 41, 'humidity': 46}
Sent temperature alert: {'sensor_id': 28143, 'timestamp': '2025-11-16 23:27:27', 'temperature': 41, 'humidity': 46, 'alert_type': 'temperature', 'message': 'Temperature 41°C is above 40°C'}
Received from matvieienko_building_sensors: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:29', 'temperature': 42, 'humidity': 36}
Sent temperature alert: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:29', 'temperature': 42, 'humidity': 36, 'alert_type': 'temperature', 'message': 'Temperature 42°C is above 40°C'}
Received from matvieienko_building_sensors: {'sensor_id': 28143, 'timestamp': '2025-11-16 23:27:31', 'temperature': 43, 'humidity': 77}
Sent temperature alert: {'sensor_id': 28143, 'timestamp': '2025-11-16 23:27:31', 'temperature': 43, 'humidity': 77, 'alert_type': 'temperature', 'message': 'Temperature 43°C is above 40°C'}
Received from matvieienko_building_sensors: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:32', 'temperature': 39, 'humidity': 77}
Received from matvieienko_building_sensors: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:34', 'temperature': 37, 'humidity': 41}
Received from matvieienko_building_sensors: {'sensor_id': 28143, 'timestamp': '2025-11-16 23:27:35', 'temperature': 35, 'humidity': 65}
Received from matvieienko_building_sensors: {'sensor_id': 95266, 'timestamp': '2025-11-16 23:27:37', 'temperature': 25, 'humidity': 53}

In 99, Col 1  Spaces: 4  UTF-8  LF  { } Python  Finish Setup 3.10.12 (venv)  C
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## 4. Скрини з результатом запису відфільтрованих даних

```
(.venv) matvielenko@DESKTOP-T25JU55:~/goit-de-hw-05$ /home/matvielenko/goit-de-hw-05/.venv/bin/python /home/matvielenko/goit-de-hw-05/sensor_producer.py
[9] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:16:59", "temperature": 25, "humidity": 84}
[10] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:01", "temperature": 30, "humidity": 51}
[11] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:04", "temperature": 41, "humidity": 42}
[12] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:06", "temperature": 41, "humidity": 47}
[13] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:08", "temperature": 40, "humidity": 51}
[14] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:10", "temperature": 42, "humidity": 62}
[15] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:12", "temperature": 25, "humidity": 24}
[16] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:14", "temperature": 27, "humidity": 77}
[17] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:16", "temperature": 39, "humidity": 73}
[18] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:18", "temperature": 25, "humidity": 20}
[19] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:20", "temperature": 35, "humidity": 20}
[20] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:23", "temperature": 31, "humidity": 81}
[21] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:25", "temperature": 34, "humidity": 22}
[22] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:27", "temperature": 25, "humidity": 29}
[23] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:29", "temperature": 45, "humidity": 73}
[24] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:31", "temperature": 34, "humidity": 15}
[25] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:33", "temperature": 32, "humidity": 25}
[26] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:35", "temperature": 31, "humidity": 89}
[27] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:38", "temperature": 31, "humidity": 16}
[28] Sent message: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:40", "temperature": 29, "humidity": 74}
```

  

```
(.venv) matvielenko@DESKTOP-T25JU55:~/goit-de-hw-05$ /home/matvielenko/goit-de-hw-05/.venv/bin/python /home/matvielenko/goit-de-hw-05/sensor_alert.py
Sent temperature alert: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:10", "temperature": 42, "humidity": 62, "alert_type": "temperature", "message": "Temperature 42°C is above 48°C"}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:12", "temperature": 25, "humidity": 24}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:14", "temperature": 27, "humidity": 77}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:16", "temperature": 39, "humidity": 73}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:18", "temperature": 43, "humidity": 17}
Sent temperature alert: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:18", "temperature": 43, "humidity": 17, "alert_type": "temperature", "message": "Temperature 43°C is above 40°C"}
Sent humidity alert: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:20", "temperature": 35, "humidity": 20, "alert_type": "humidity", "message": "Humidity 17% is below 20%"}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:22", "temperature": 36, "humidity": 15}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:23", "temperature": 31, "humidity": 81}
Sent humidity alert: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:23", "temperature": 31, "humidity": 81, "alert_type": "humidity", "message": "Humidity 81% is above 80%"}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:25", "temperature": 34, "humidity": 22}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:27", "temperature": 25, "humidity": 29}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:29", "temperature": 45, "humidity": 73}
Sent temperature alert: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:29", "temperature": 73, "humidity": 73, "alert_type": "temperature", "message": "Temperature 45°C is above 40°C"}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:31", "temperature": 34, "humidity": 15}
Sent humidity alert: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:31", "temperature": 34, "humidity": 15, "alert_type": "humidity", "message": "Humidity 15% is below 20%"}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:33", "temperature": 32, "humidity": 25}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:35", "temperature": 31, "humidity": 89}
Received from matvielenko building sensors: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:38", "temperature": 31, "humidity": 16}
Sent humidity alert: {"sensor_id": 24064, "timestamp": "2025-11-17 00:17:38", "temperature": 31, "humidity": 16, "alert_type": "humidity", "message": "Humidity 16% is below 20%"}
```

  

```
(.venv) matvielenko@DESKTOP-T25JU55:~/goit-de-hw-05$ /home/matvielenko/goit-de-hw-05/.venv/bin/python /home/matvielenko/goit-de-hw-05/alert_message.py
[ALERT from matvielenko_temperature_alerts]
{"sensor_id": 24064, "timestamp": "2025-11-17 00:17:06", "temperature": 41, "humidity": 47, "alert_type": "temperature", "message": "Temperature 41°C is above 40°C"}

[ALERT from matvielenko_temperature_alerts]
{"sensor_id": 24064, "timestamp": "2025-11-17 00:17:10", "temperature": 42, "humidity": 62, "alert_type": "temperature", "message": "Temperature 42°C is above 40°C"}

[ALERT from matvielenko_temperature_alerts]
{"sensor_id": 24064, "timestamp": "2025-11-17 00:17:18", "temperature": 43, "humidity": 17, "alert_type": "temperature", "message": "Temperature 43°C is above 40°C"}

[ALERT from matvielenko_humidity_alerts]
{"sensor_id": 24064, "timestamp": "2025-11-17 00:17:23", "temperature": 31, "humidity": 81, "alert_type": "humidity", "message": "Humidity 81% is above 80%"}

[ALERT from matvielenko_humidity_alerts]
{"sensor_id": 24064, "timestamp": "2025-11-17 00:17:29", "temperature": 45, "humidity": 73, "alert_type": "temperature", "message": "Temperature 45°C is above 40°C"}

[ALERT from matvielenko_humidity_alerts]
```