Sprint 1

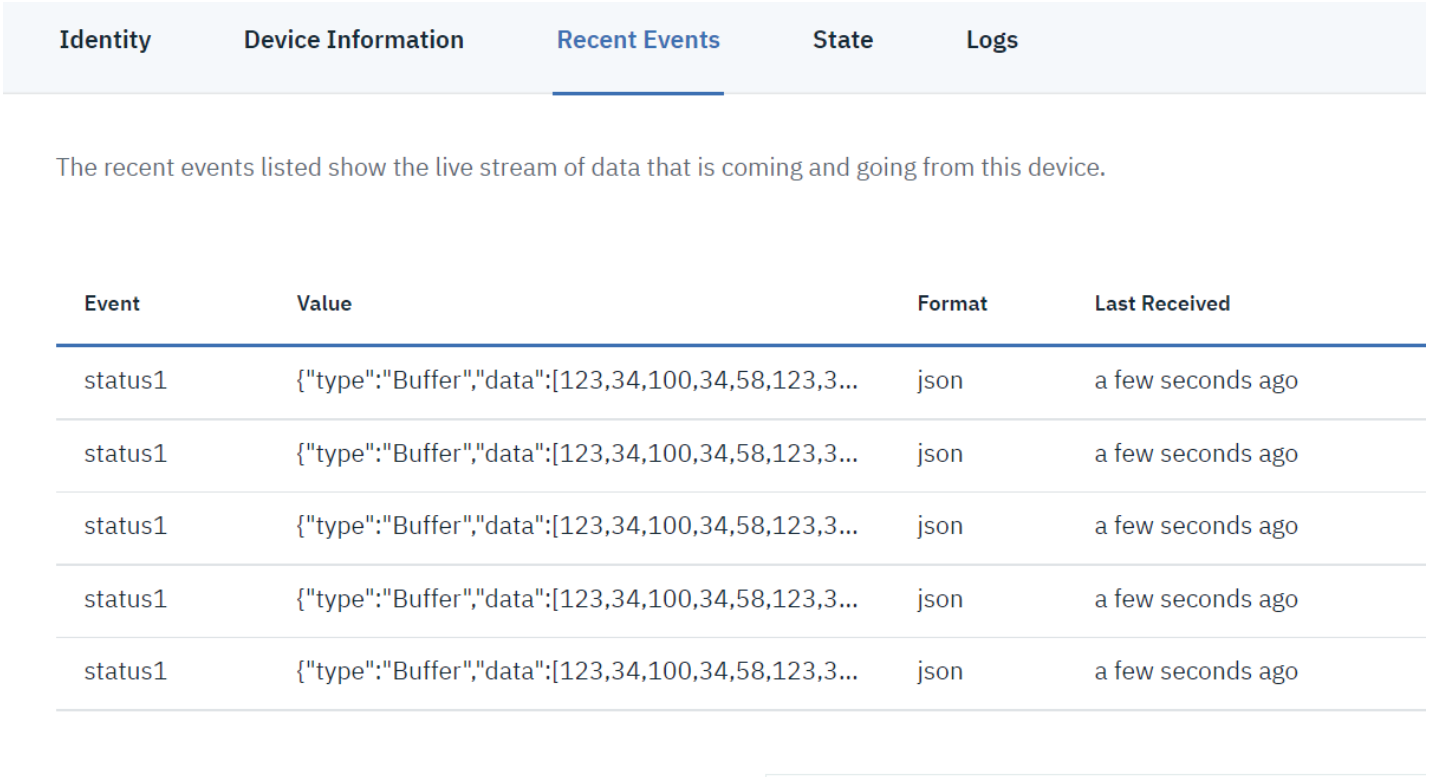
Program:

```
#include <WiFi.h>
#include <WiFiClient.h>
#include <PubSubClient.h>
const char* ssid = "Wokwi-GUEST";
const char* password = "";
#define ORG "*****"
#define DEVICE_TYPE "*****"
#define DEVICE_ID "*****"
#define TOKEN "*****"
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
char pubTopic[] = "iot-2/evt/status1/fmt/json";
char authMethod[] = "use-token-auth";
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;
WiFiClient wifiClient;
PubSubClient client(server, 1883, NULL, wifiClient);
#define ECHO_PIN 13
#define TRIG_PIN 12
#define LED_BUILTIN 5
#define DHT_PIN 15
void setup()
{
  Serial.begin(115200);
  Serial.print("Connecting to ");
  Serial.print(ssid);
  WiFi.begin(ssid, password);
  while (WiFi.status() != WL_CONNECTED)
  {
    delay(500);
    Serial.print(".");
  }
  Serial.println("");
  Serial.print("WiFi connected, IP address: ");
  Serial.println(WiFi.localIP());
  if (!client.connected())
  {
    Serial.print("Reconnecting client to ");
    Serial.println(server);
    while (!client.connect(clientId, authMethod, token))
    {
      Serial.print(".");
      delay(500);
```

```
    }
    Serial.println("Bluemix connected");
  }
}
void loop()
{
  String payload = "{\"d\":{\"Name\":\"" DEVICE_ID "\"";
  payload += ",\"GasVale\":";
  payload += random(300,10000);
  payload += "ppm";
  payload += "}}";
  Serial.print("Sending value: ");
  Serial.println(payload);
  if (client.publish(pubTopic, (char*) payload.c_str()))
  {
    Serial.println("Publish Success");
  }
  else
  {
    Serial.println("Publish Failed");
  }
  delay(100);
}
```

Output:

```
Connecting to Wokwi-GUEST...
WiFi connected, IP address: 10.10.0.2
Reconnecting client to 4fvguz.messaging.internetofthings.ibmcloud.com
Bluemix connected
Sending value: {"d":{"Name":"ultrasonic_sensor","GasVale":3173ppm}}
Publish Success
Sending value: {"d":{"Name":"ultrasonic_sensor","GasVale":9607ppm}}
Publish Success
Sending value: {"d":{"Name":"ultrasonic_sensor","GasVale":6734ppm}}
Publish Success
Sending value: {"d":{"Name":"ultrasonic_sensor","GasVale":7186ppm}}
Publish Success
Sending value: {"d":{"Name":"ultrasonic_sensor","GasVale":4407ppm}}
Publish Success
```



Link:

https://wokwi.com/projects/347287560562672211