

# **Unit 4 Lab 8**

## **Learning Targets**

### **Essential Questions**

- What is Adafruit IO?
- What is MQTT?

### **Key takeaways**

- Adafruit IO is a free to use (paid options are available) IoT service for data collection and visualization.
- Adafruit IO can react to data it receives.
- MQTT - as mentioned in Unit 1 - is one of the most popular IoT communication protocols.
- MQTT is a publication and subscribe model.
- Lab 8 uses the Adafruit LE Connect as an MQTT gateway to the internet.

### **Teaching Tips**

Spend some time helping set up the student's Adafruit IO accounts and allowing the students to explore and get a feel for the AIO web site.

Lab 8 will expose students to a truly internet connected IoT device. This lab will allow the students to see data being sent from a remote Feather Sense going through an internet gateway and being stored in a service remotely. Students will create an end to end IoT device for data storage and will have the remote service send a command based on the data it receives.

Mention to students - an old cellphone with a Wi-Fi connection could run the Adafruit LE connect app and provide MQTT gateway access to Feather Sense devices. There are likely old cell phones lying around doing nothing that would get a new lease on life when combined with an IoT device.

IoT security can be mentioned during this lab. Connecting through the Bluefruit Connect App requires the students to use their specific AIO key.