Problem Solving with the Internet of Things and Python

Unit 4 - BLE Connectivity

Lab 8

BLE with an MQTT gateway

BLE with an MQTT gateway

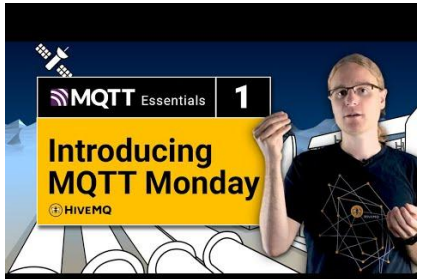
Until now, you have not connected your IoT device to the internet.

In Lab 8, you will use the Adafruit Bluefruit LE App on your phone as a gateway to the internet.

Benefits of MQTT

- requires little overhead - can be run on microcontrollers
- connects quickly
- bi-directional communication
- has a pub/sub model
- has multiple levels of message delivery - QoS
- has persistent connections

A little MQTT History

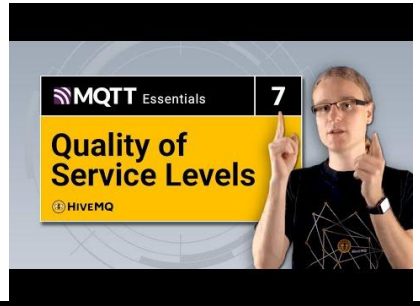


MQTT Main Features

MQTT Pub/Sub model

MQTT Topics

MQTT Quality of Service



MQTT Topics

That's a lot about MQTT

Thankfully, Adafruit again provides us the necessary tools to make the task of programming the Feather Sense to be a MQTT client pretty straight forward. We shall see in Lab 8.

But, what is our broker?

Adafruit IO Service - our MQTT broker

Adafruit IO

Your instructor will now walk you through the steps to create a new free Adafruit IO account!

More resources

https://learn.adafruit.com/mqtt-adafruit-io-and-you

https://randomnerdtutorials.com/what-is-mqtt-and-how-it-works/

Complete HiveMQ Playlist

Adafruit IO video

Complete BLE video series