

Problem Solving with the Internet of Things and Python

Unit 1

Unit 1 Topics

- 1.1 What is IOT? What is a Thing?
- 1.2 IOT Connectivity
- **1.3 IOT Communication Protocols**
- 1.4 IOT Services
- 1.5 IOT Security

Unit 1.3

IOT Communication Protocols

What are IoT Communication Protocols?

We are really talking about network protocols.

“A network protocol is an established set of rules that determine how data is transmitted between different devices in the same network.”

taken from: <https://www.comptia.org/content/guides/what-is-a-network-protocol>

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In general we are talking about:

- ❖ HTTP
with REST urls
- ❖ MQTT
with Topics
- ❖ CoAP

Adafruit has another excellent video about IoT Protocols. Check it out on the next slide.



HTTP or MQTT or CoAP?

The choice of protocol is often linked to the data requirements and the connectivity chosen.

HTTP/Rest used for large data on connections with faster data speeds.

MQTT used for smaller data packets on slower IoT connections

We will explore both HTTP and MQTT in greater detail in Labs 8, 9, 10 and 11!

More resources

<https://learn.adafruit.com/alltheiot-protocols>

<https://data-flair.training/blogs/iot-messaging-protocol/>

<https://www.postscapes.com/internet-of-things-protocols/>