# Unit 5 Lab 9
# Learning Targets

## Essential Questions

- What IS Wi-Fi?
- How do we add Wi-Fi connectivity to the Feather Sense?
- What is HTTP?

## Key takeaways

- Wi-Fi is the common name for an IEEE defined wireless type of connection.
- Wi-Fi uses specific frequency provided by the FCC (2.4GHz/5Ghz/6Ghz)
- An Adafruit Airlift FeatherWing is used to provide Wi-Fi connectivity to the Feather Sense.
- With Wi-Fi connectivity, IoT security comes front and center since we typically log into an access point with usernames and passwords.
- HTTP is Hyper Text Transfer Protocol
- HTTP has a few common commands used to send and receive information:
    - get
    - post
    - Put
- HTTP requires a loop to poll for new data

## Teaching Tips

Make sure to provide students with the additional adafruit libraries required for the Airlift Featherwings. Make sure they are for the same release of CP running on the Feather Sense devices.

When working with Wi-Fi in a school environment, you more than likely will need to provide that MAC address of all the Airlift FeatherWings to

your IT Department. The IT Department can add your Airlifts to their database and allow the Airlifts to connect to the Wi-Fi access points. Lab 9 Part 1 should display the Airlift MAC address for you to use.

Make sure to talk about the “secrets.py” file and what it contains. It is simply a python dictionary.

In Part 2 students should study the requests.get commands. These commands are similar to them typing in a new Uniform Resource Locator (URL) directly into a web browser.

When using HTTP, a polling loop must be set up to continually look for requests.