Lab 3 - Connections

Code at https://github.com/jtschuster/nu-wirelessiot-base/tree/main/software/apps/lab3_conn and https://github.com/jtschuster/nu-wirelessiot-base/tree/main/software/apps/lab3_ble_ess
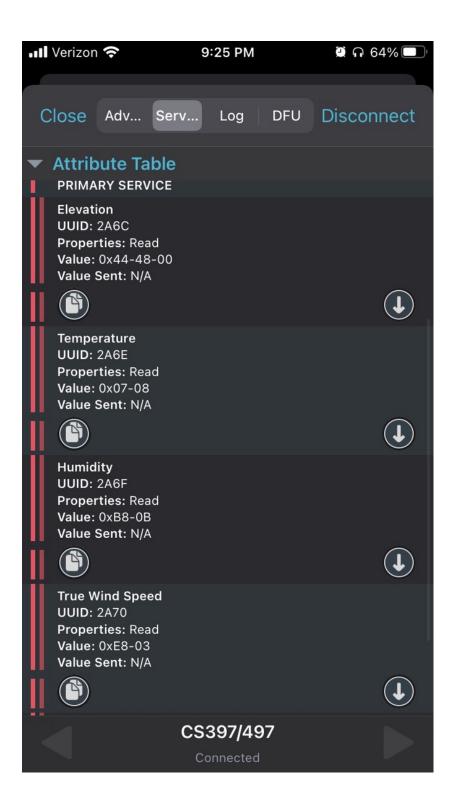
1. Wireshark. I was unable to get wireshark working. The scripts ran without an issue, but I was unable to the external capture option to appear on the wireshark app on MacOS.

2. My advanced service controls the state of LED1 and LED2, provides a "random" number, and notifies every time Button 1 is pressed with the count of presses. This code is in the `lab3_connections` folder.
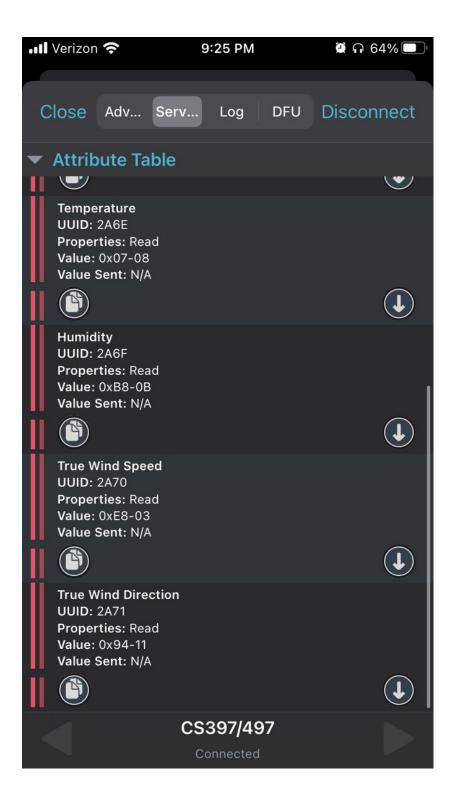


```
Board started. Initializing BLE:
ble stack setup
gap setup
gatt setup
advertising setup
services setup
I'm connected!
button pressed, counter=1, random=181
button pressed, counter=2, random=13
button pressed, counter=3, random=85
button pressed, counter=4, random=111
button pressed, counter=5, random=13
button pressed, counter=6, random=13
Got write to LED characteristic!
Turning off LED2!
Got write to LED characteristic!
Turning off LED!
Got write to LED characteristic!
Turning on LED2!
Got write to LED characteristic!
Turning on LED!

```

Figure 1: rtt from my service controls

3. I was able to transmit temperature, pressure, wind speed, wind direction,

and elevation. The iOS version of NRF Connect app knew what the fields were for, but it didn't show the values with the correct units. The code is in the `lab3_ble_ess_example` folder.

Close   Adv...   Serv...   Log   DFU   Disconnect

▼ **Attribute Table**

PRIMARY SERVICE

Elevation
UUID: 2A6C
Properties: Read
Value: 0x44-48-00
Value Sent: N/A

Temperature
UUID: 2A6E
Properties: Read
Value: 0x07-08
Value Sent: N/A

Humidity
UUID: 2A6F
Properties: Read
Value: 0xB8-0B
Value Sent: N/A

True Wind Speed
UUID: 2A70
Properties: Read
Value: 0xE8-03
Value Sent: N/A

◀   **CS397/497**   ▶
Connected

Close   Adv...   Serv...   Log   DFU   **Disconnect**

▼ Attribute Table

Temperature
UUID: 2A6E
Properties: Read
Value: 0x07-08
Value Sent: N/A

Humidity
UUID: 2A6F
Properties: Read
Value: 0xB8-0B
Value Sent: N/A

True Wind Speed
UUID: 2A70
Properties: Read
Value: 0xE8-03
Value Sent: N/A

True Wind Direction
UUID: 2A71
Properties: Read
Value: 0x94-11
Value Sent: N/A

◀   **CS397/497**   ▶
Connected

4. I ran into some issues with the desktop NRF App not being able to connect to an nrf52 board. I got it to work once, but it would time out when trying to connect when I tried it later.