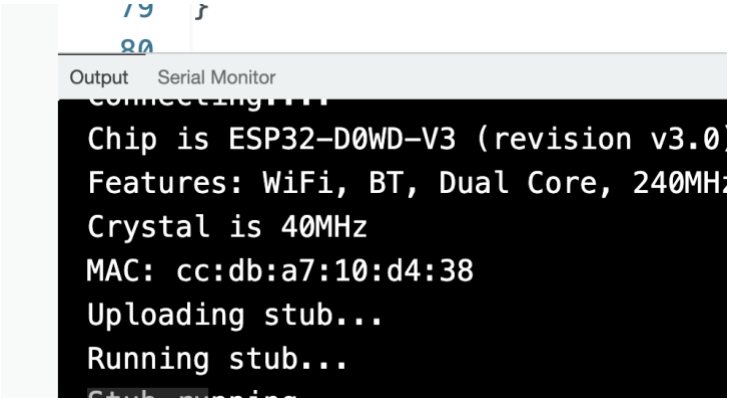
CSC 5930 9030 Spring 2025 Week 5 Assignment

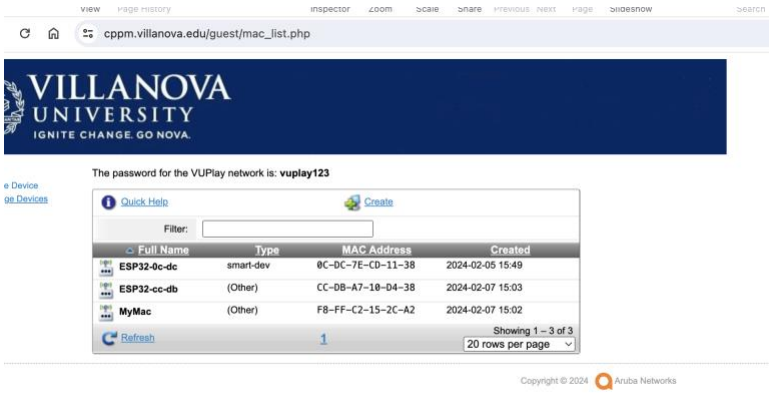
VUPlay registration. WiFi Examples completed. Submit screenshots showing items from assignment completed:

VUPlay registration:

EEK MAC address value

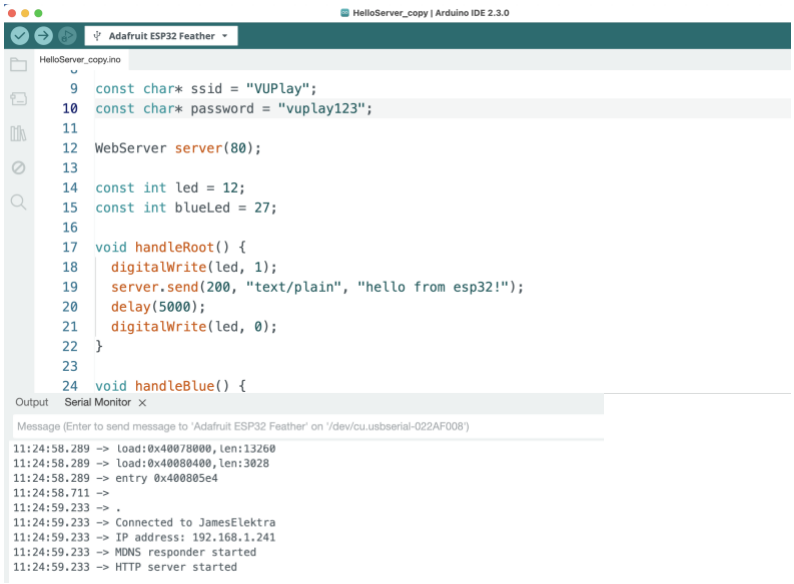


ESP32 registered

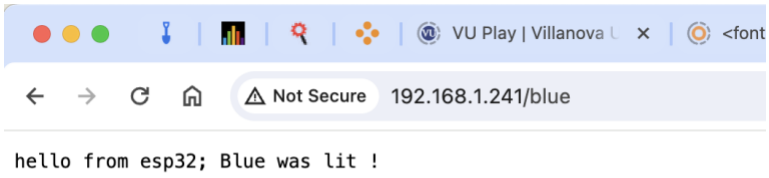


WiFi Examples:

Hello Web Server in IDE



Hello Web Server URL in Browser



WiFi Manager Hello Server in IDE

WiFi Manager Hello Server Serial Monitor

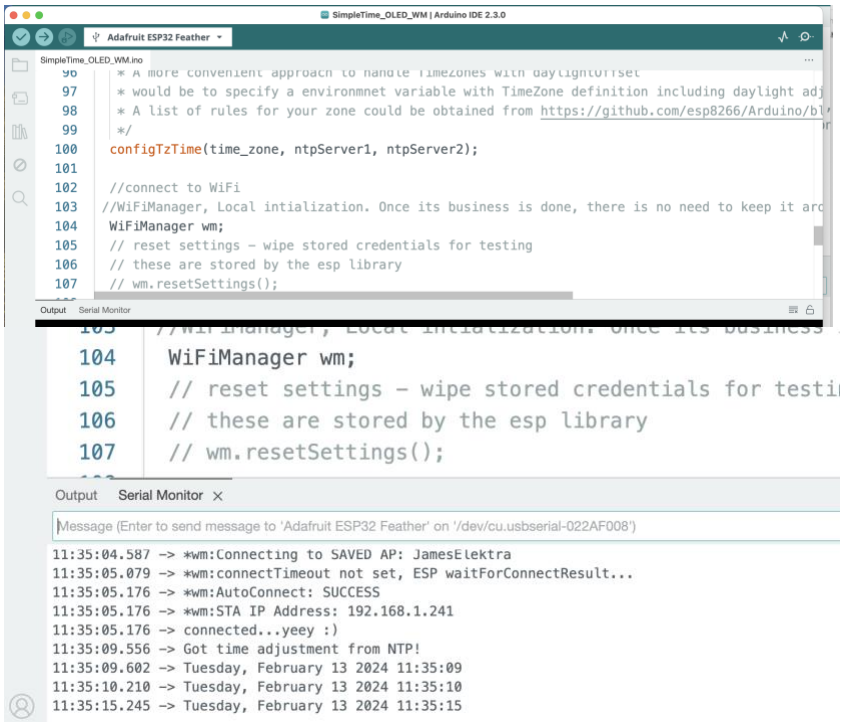
```
67  // then goes into a blocking loop awaiting configuration and will return
68
69  bool res;
70  // res = wm.autoConnect(); // auto generated AP name from chipid
71  // res = wm.autoConnect("AutoConnectAP"); // anonymous ap
72  res = wm.autoConnect("EEKConnectHS", "password");  // password protected
```

Output Serial Monitor ×

Message (Enter to send message to 'Adafruit ESP32 Feather' on '/dev/cu.usbserial-022AF008')

```
11:30:10.211 -> entry 0x400805e4
11:30:10.669 -> *wm:AutoConnect
11:30:10.669 -> *wm:Connecting to SAVED AP: JamesElektra
11:30:11.158 -> *wm:connectTimeout not set, ESP waitForConnectResult...
11:30:11.288 -> *wm:AutoConnect: SUCCESS
11:30:11.288 -> *wm:STA IP Address: 192.168.1.241
11:30:11.288 -> connected...yeey :)
11:30:11.288 -> MDNS responder started
11:30:11.288 -> HTTP server started
```

SimpleTime with OLED and WM in IDE




```
104  WiFiManager wm;
105  // reset settings - wipe stored credentials for testi
106  // these are stored by the esp library
107  // wm.resetSettings();
```

Output Serial Monitor ×

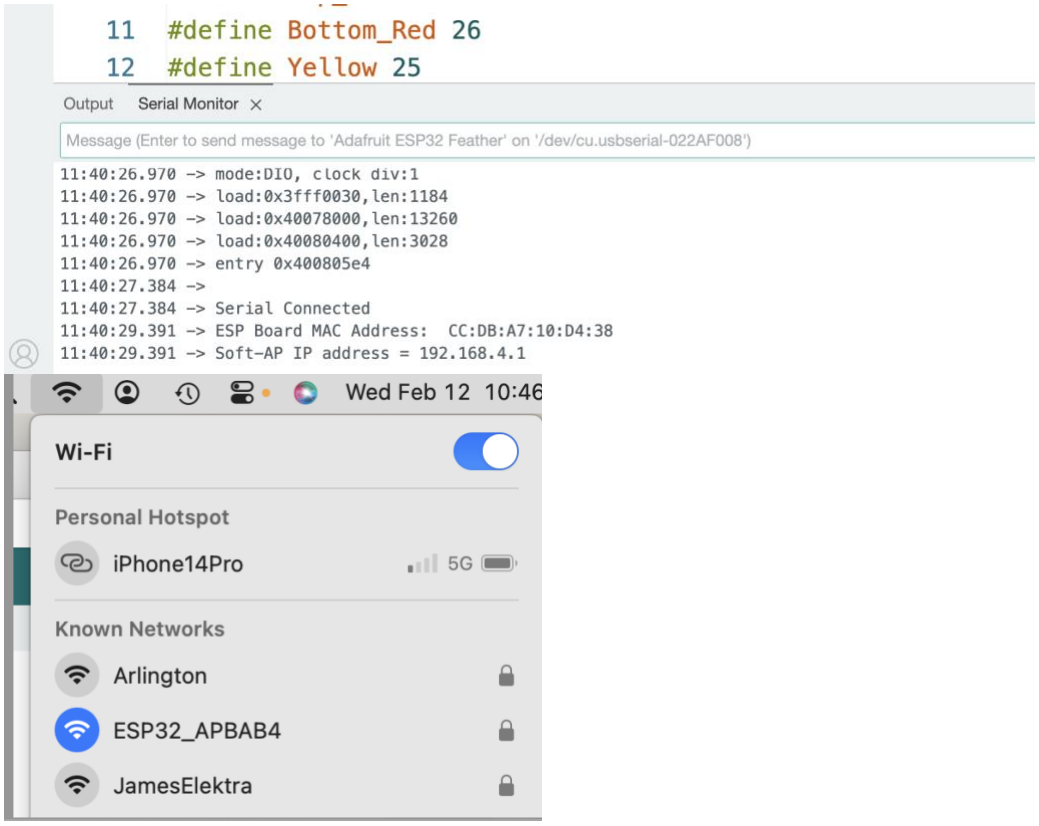
Message (Enter to send message to 'Adafruit ESP32 Feather' on '/dev/cu.usbserial-022AF008')

```
11:35:04.587 -> *wm:Connecting to SAVED AP: JamesElektra
11:35:05.079 -> *wm:connectTimeout not set, ESP waitForConnectResult...
11:35:05.176 -> *wm:AutoConnect: SUCCESS
11:35:05.176 -> *wm:STA IP Address: 192.168.1.241
11:35:05.176 -> connected...yeey :)
11:35:09.556 -> Got time adjustment from NTP!
11:35:09.602 -> Tuesday, February 13 2024 11:35:09
11:35:10.210 -> Tuesday, February 13 2024 11:35:10
11:35:15.245 -> Tuesday, February 13 2024 11:35:15
```

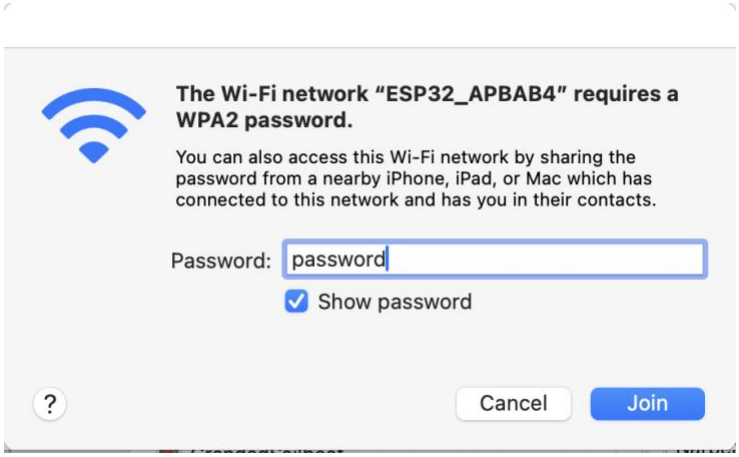
OLED Photo SimpleTime with OLED and WM

IDE of UDP Server with OLED and LEDs

Serial Monitor output UDP Server with OLED and LEDs

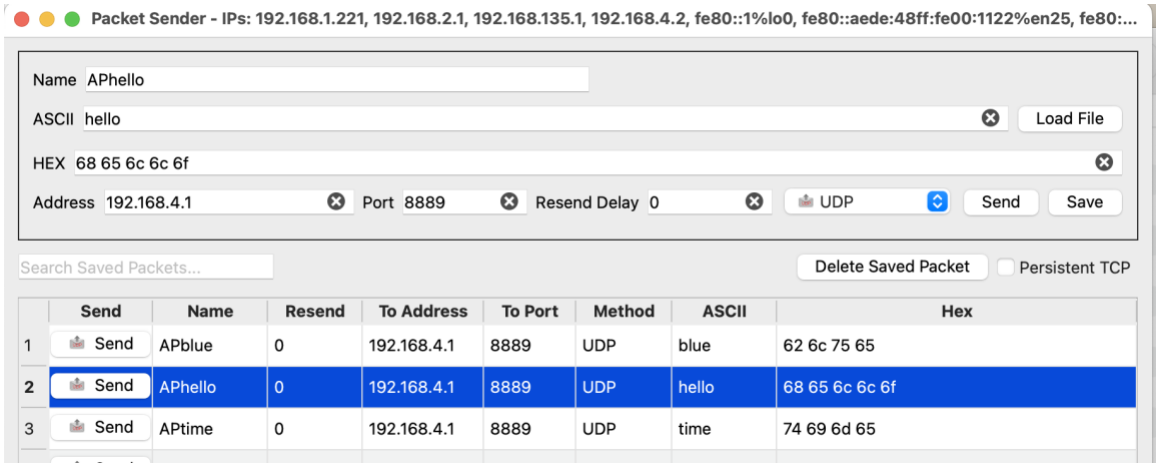


Dual AP STA Password Prompt

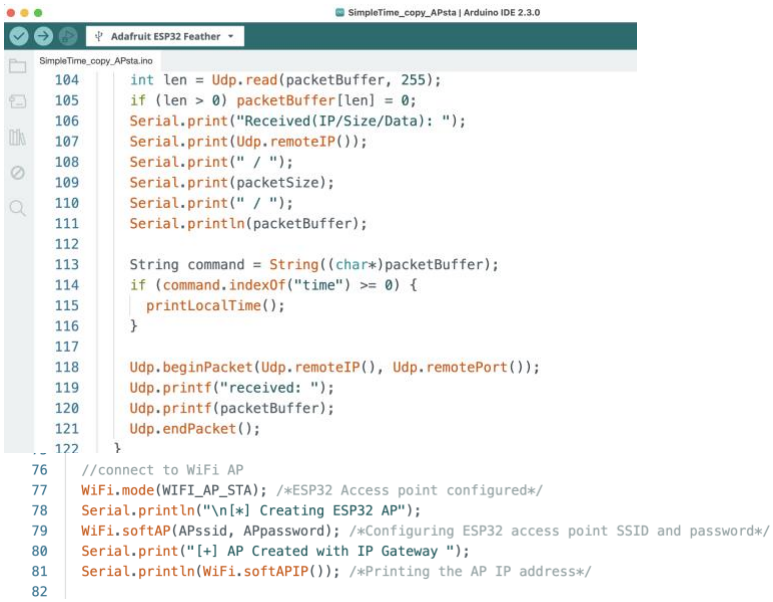


Dual AP STA Serial Monitor

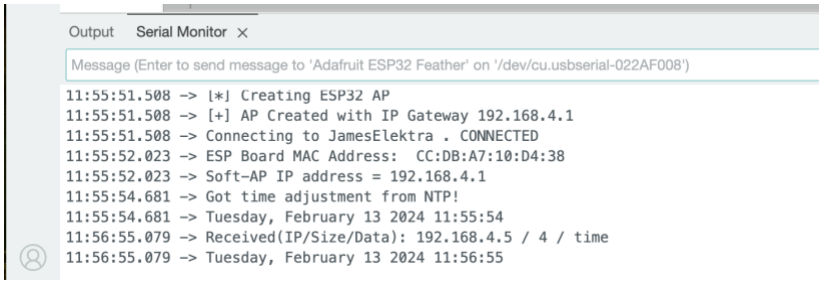
PacketSender view for UDP Server with OLED and LEDs



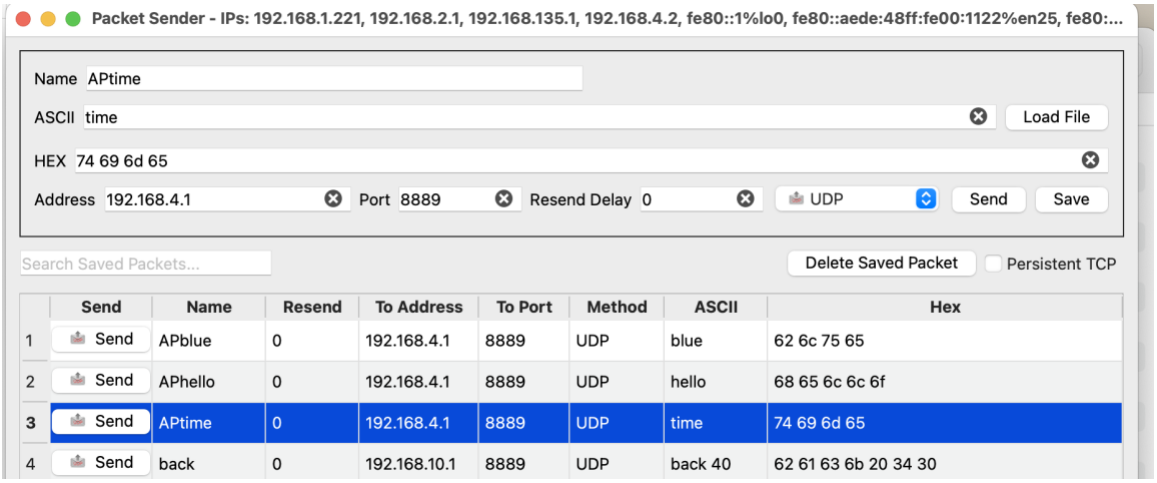
IDE with SimpleTime with Dual WiFi modes



Serial Monitor of SimpleTime with Dual WiFi modes



Packet Sender for SimpleTime with Dual WiFi modes

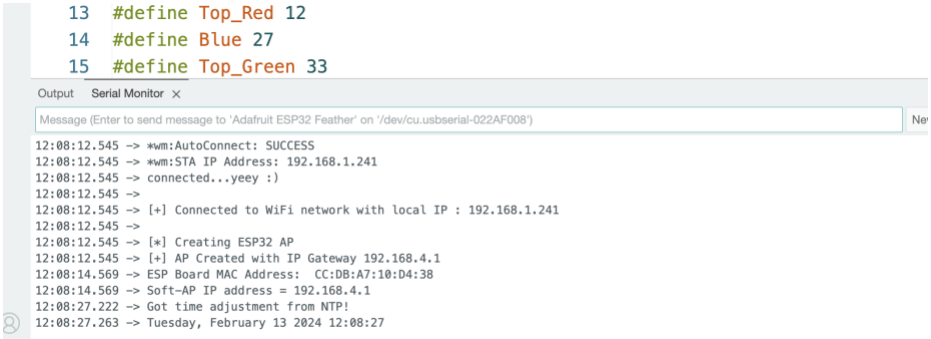


	Send	Name	Resend	To Address	To Port	Method	ASCII	Hex
1	Send	APblue	0	192.168.4.1	8889	UDP	blue	62 6c 75 65
2	Send	APhello	0	192.168.4.1	8889	UDP	hello	68 65 6c 6c 6f
3	Send	APtime	0	192.168.4.1	8889	UDP	time	74 69 6d 65
4	Send	back	0	192.168.10.1	8889	UDP	back 40	62 61 63 6b 20 34 30

IDE with Full UDP Server and OLED with Dual WiFi


```
114  WiFiManager wm;
115  // reset settings - wipe stored credentials for testing
116  // these are stored by the esp library
117  // wm.resetSettings();
118  bool res;
119  // res = wm.autoConnect(); // auto generated AP name from chipid
120  // res = wm.autoConnect("AutoConnectAP"); // anonymous ap
121  res = wm.autoConnect(ssid, password);  // password protected ap
122
123  if (!res) {
124    Serial.println("Failed to connect");
125    // ESP.restart();
126  } else {
127    //if you get here you have connected to the WiFi
128    Serial.println("connected...yeey :)");
129    Serial.print("\n[+] Connected to WiFi network with local IP : ");
130    Serial.println(WiFi.localIP()); /*Printing IP address of Connected network*/
131  }
132
```

Serial Monitor of Full UDP Server and OLED with Dual WiFi



```
13  #define Top_Red 12
14  #define Blue 27
15  #define Top_Green 33
```

Output | Serial Monitor

Message (Enter to send message to 'Adafruit ESP32 Feather' on '/dev/cu.usbserial-022AF008')

```
12:08:12.545 -> *wm:AutoConnect: SUCCESS
12:08:12.545 -> *wm:STA IP Address: 192.168.1.241
12:08:12.545 -> connected...yeey :)
12:08:12.545 ->
12:08:12.545 -> [+] Connected to WiFi network with local IP : 192.168.1.241
12:08:12.545 ->
12:08:12.545 -> [*] Creating ESP32 AP
12:08:12.545 -> [+] AP Created with IP Gateway 192.168.4.1
12:08:14.569 -> ESP Board MAC Address:  CC:DB:A7:10:D4:38
12:08:14.569 -> Soft-AP IP address = 192.168.4.1
12:08:27.222 -> Got time adjustment from NTP!
12:08:27.263 -> Tuesday, February 13 2024 12:08:27
```

PacketSender for Full UDP Server and OLED with Dual WiFi

Packet Sender - IPs: 192.168.1.221, 192.168.2.1, 192.168.135.1, 192.168.4.2, fe80::1%lo0, fe80::aede:48ff:fe00:1122%en25, fe80:...

Name APblue

ASCII blue Load File

HEX 62 6c 75 65

Address 192.168.4.1 Port 8889 Resend Delay 0 UDP Send Save

Search Saved Packets... Delete Saved Packet Persistent TCP

	Send	Name	Resend	To Address	To Port	Method	ASCII	Hex
1	Send	APblue	0	192.168.4.1	8889	UDP	blue	62 6c 75 65
2	Send	APhello	0	192.168.4.1	8889	UDP	hello	68 65 6c 6c 6f
3	Send	APtime	0	192.168.4.1	8889	UDP	time	74 69 6d 65

Photo of EEK for Full UDP Server and OLED with Dual WiFi