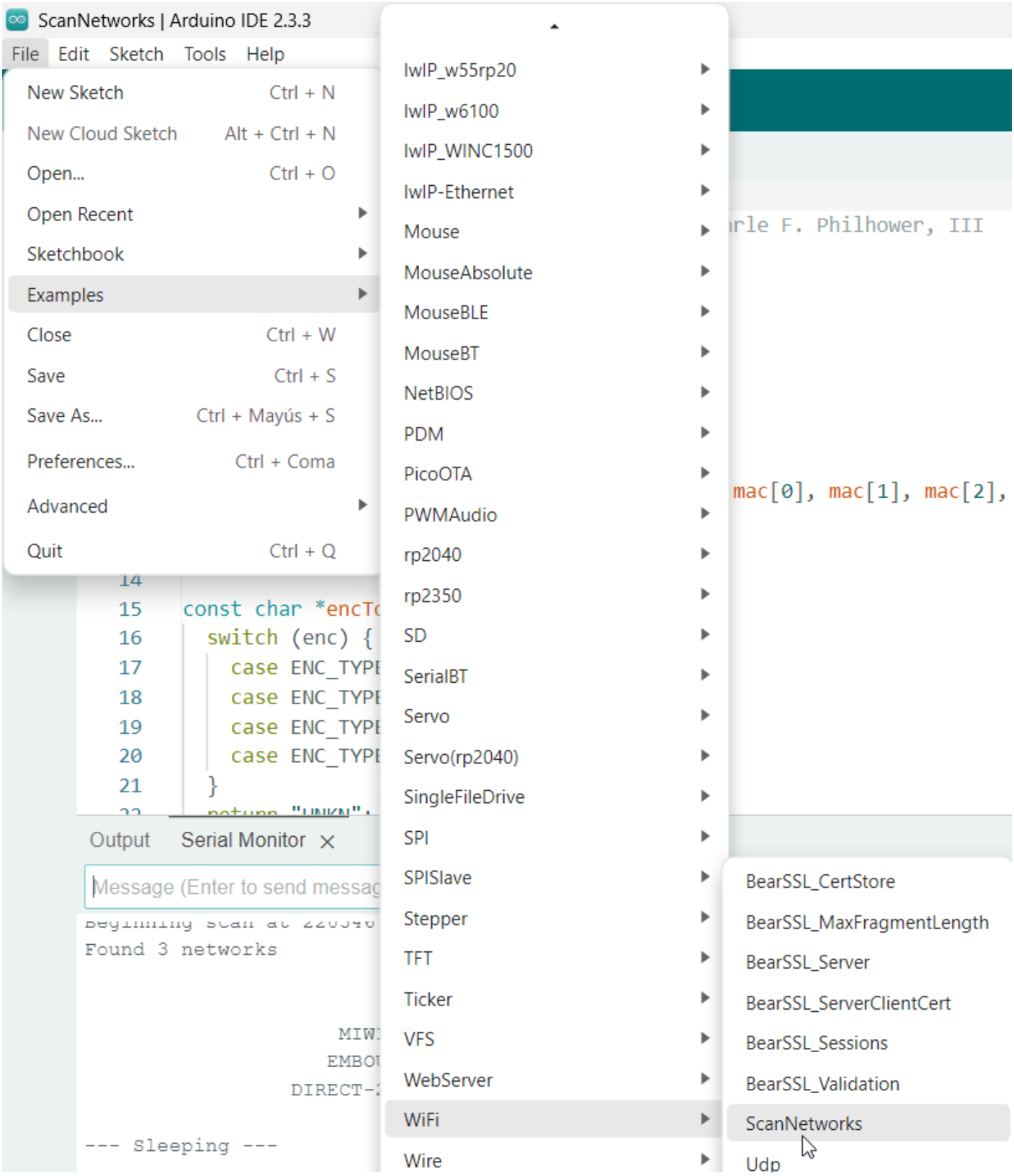
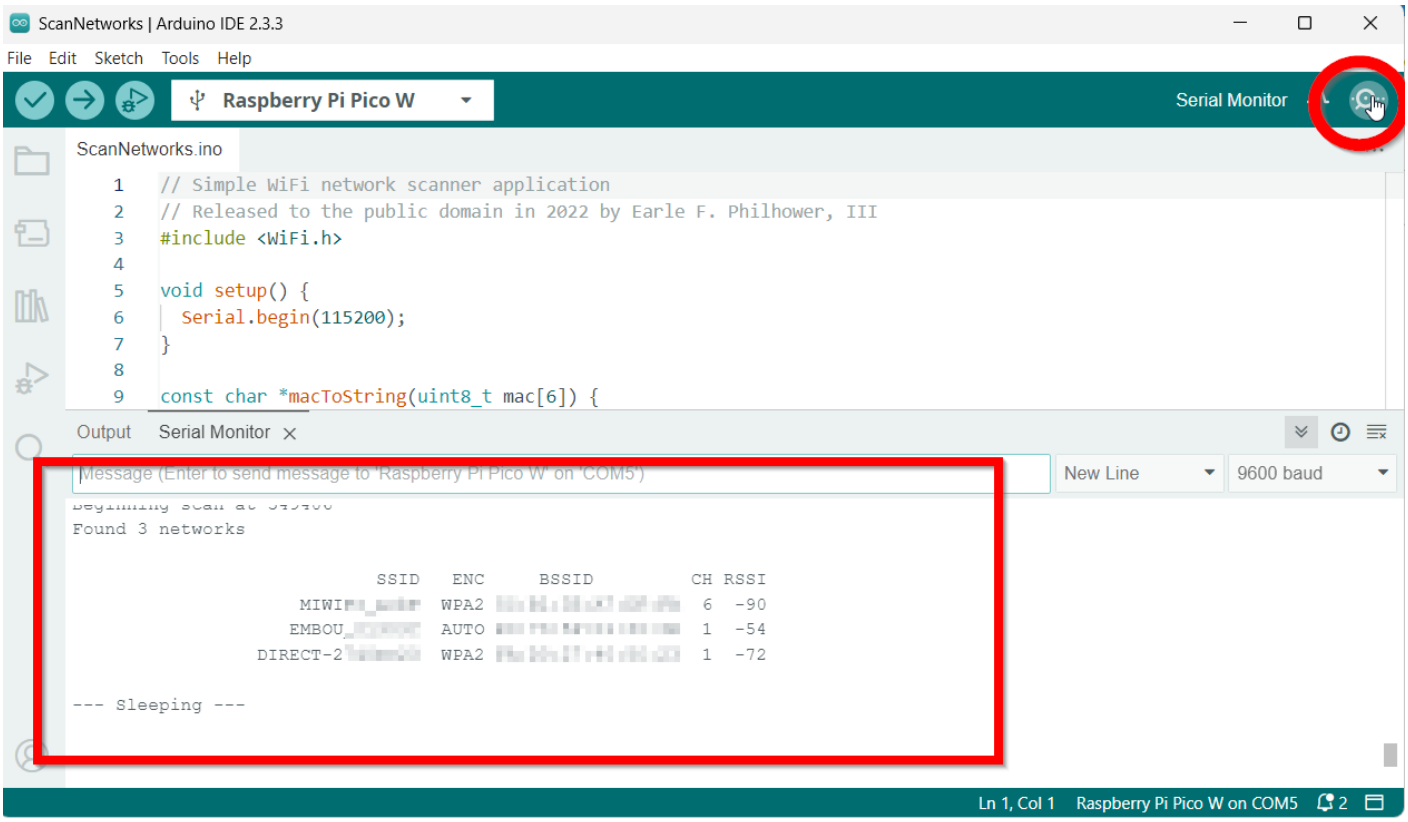
Proyectos con Wifi

ScanNetworks

Podemos ir a Ejemplos y vamos a ejecutar el **ScanNetworks** que no requiere contraseñas de wifi

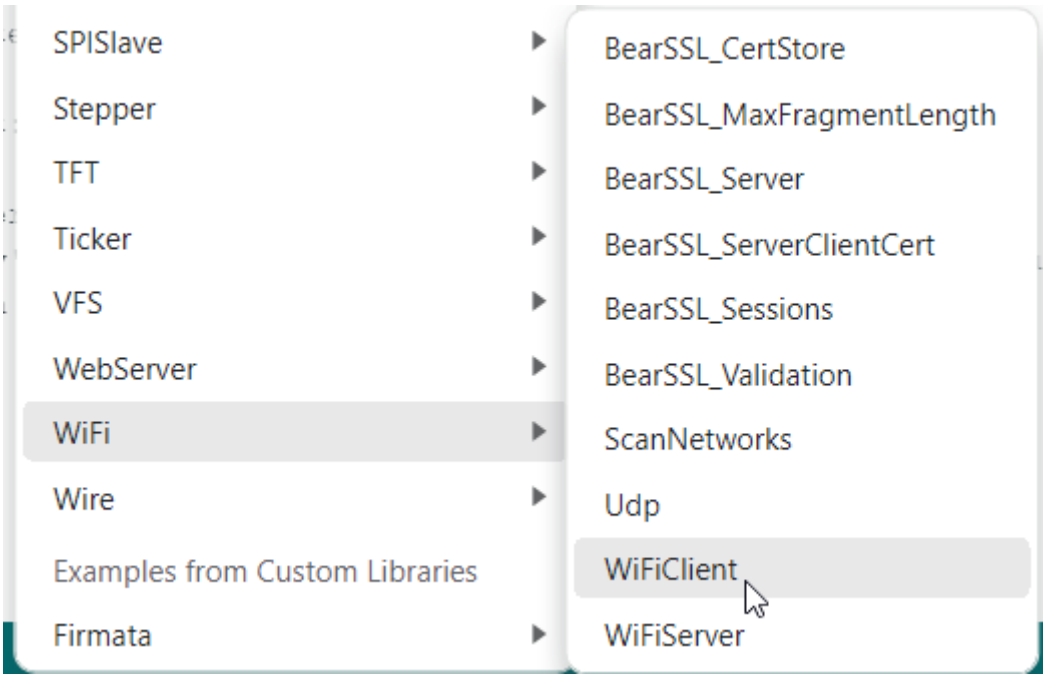


Al ejecutarlo nos sale en la ventana de monitor serie las wifis que encuentra



WifiClient

Si nos vamos a este ejemplo:



Tenemos que ir a las líneas 9 y 10 para poner nuestra wifi y contraseña:

```
#define STASSID "aquituwifi"
#define STAPSK "aqui tu contraseña"
```

Al ejecutarlo llama a esta dirección definida en las líneas 16 y 17

```
const char* host = "djxmmx.net";
const uint16_t port = 17;
```

Y sale **la cita del día** cada 5 minutos en el puerto serie

```
WiFi connected
IP address:
192.168.1.48
connecting to djxmmx.net:17
sending data to server
receiving from remote server
"Thomas wants to get it in quickly, and...Now there's a steal by Bird!
 Underneath to DJ, lays it in!
 1 second left, what a play by Bird!"
 - 1987 NBA Eastern Conference Finals

closing connection
connecting to djxmmx.net:17
sending data to server
receiving from remote server
"Oh oh oh oh oh ooh, why'd you have to go oh, away from all, me love, why you leave me, w-why
you leave me?..."
 - Sean Kingston (Me Love)

closing connection
connecting to djxmmx.net:17
sending data to server
receiving from remote server
"I wanna run away, with you, cuz baby you're my everything..."
 - Frankie J. (Run Away)
```

```
closing connection
```

Encender y apagar un led

De https://dronebotworkshop.com/picow-arduino/ hemos conseguido este código, donde Raspberry actúa como cliente, pero esta pensado para encender y apagar el led integrado en la Rasberry Pi Pico W, así que le hemos añadido el Led rojo de PicoBrick que esta en GPI7

- En la línea 43 el pin 7 como salida **pinMode(7,OUTPUT);**
- En la línea 97 que encienda el pin 7 también **digitalWrite(7, HIGH);**
- En la línea 102 que apague el pin 7 también **digitalWrite(7, LOW);**
- Acuérdate de poner en las líneas 17 y 18 tu wifi

```
/*
  Pico W Web Interface Demo
  picow-web-control-demo.ino
  Web Interface & WiFi Connection
  Control the onboard LED with Pico W

  Adapted from ESP32 example by Rui Santos - https://randomnerdtutorials.com

  DroneBot Workshop 2022
  https://dronebotworkshop.com
*/

// Load Wi-Fi library
#include <WiFi.h>

// Replace with your network credentials
const char* ssid = "pontuwifi";
const char* password = "pontucontraseña";

// Set web server port number to 80
WiFiServer server(80);

// Variable to store the HTTP request
String header;
```

```
// Variable to store onboard LED state
String picoLEDState = "off";

// Current time
unsigned long currentTime = millis();
// Previous time
unsigned long previousTime = 0;
// Define timeout time in milliseconds (example: 2000ms = 2s)
const long timeoutTime = 2000;

void setup() {

  // Start Serial Monitor
  Serial.begin(115200);

  // Initialize the LED as an output
  pinMode(LED_BUILTIN, OUTPUT);
  pinMode(7,OUTPUT);//initialize digital pin 7 as an output

  // Set LED off
  digitalWrite(LED_BUILTIN, LOW);

  // Connect to Wi-Fi network with SSID and password
  WiFi.begin(ssid, password);

  // Display progress on Serial monitor
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }

  // Print local IP address and start web server
  Serial.println("");
  Serial.print("WiFi connected at IP Address ");
  Serial.println(WiFi.localIP());
```

```
  // Start Server
  server.begin();
}

void loop() {

  WiFiClient client = server.available();   // Listen for incoming clients

  if (client) {                             // If a new client connects,
    currentTime = millis();
    previousTime = currentTime;
    Serial.println("New Client.");          // print a message out in the serial port
    String currentLine = "";                // make a String to hold incoming data from the
client
    while (client.connected() && currentTime - previousTime <= timeoutTime) {  // loop while
the client's connected
      currentTime = millis();
      if (client.available()) {             // if there's bytes to read from the client,
        char c = client.read();             // read a byte, then
        Serial.write(c);                    // print it out the serial monitor
        header += c;
        if (c == '\n') {                    // if the byte is a newline character
          // if the current line is blank, you got two newline characters in a row.
          // that's the end of the client HTTP request, so send a response:
          if (currentLine.length() == 0) {
            // HTTP headers always start with a response code (e.g. HTTP/1.1 200 OK)
            // and a content-type so the client knows what's coming, then a blank line:
            client.println("HTTP/1.1 200 OK");
            client.println("Content-type:text/html");
            client.println("Connection: close");
            client.println();

            // Switch the LED on and off
            if (header.indexOf("GET /led/on") >= 0) {
              Serial.println("LED on");
              picoLEDState = "on";
```

```
              digitalWrite(LED_BUILTIN, HIGH);
              digitalWrite(7, HIGH);
            } else if (header.indexOf("GET /led/off") >= 0) {
              Serial.println("LED off");
              picoLEDState = "off";
              digitalWrite(LED_BUILTIN, LOW);
              digitalWrite(7, LOW);
            }

            // Display the HTML web page
            client.println("<!DOCTYPE html><html>");
            client.println("<head><meta name=\"viewport\" content=\"width=device-width,
initial-scale=1\">");
            client.println("<link rel=\"icon\" href=\"data:,\">");

            // CSS to style the on/off buttons
            client.println("<style>html { font-family: Helvetica; display: inline-block;
margin: 0px auto; text-align: center;}");
            client.println(".button { background-color: #4CAF50; border: none; color: white;
padding: 16px 40px;");
            client.println("text-decoration: none; font-size: 30px; margin: 2px; cursor:
pointer;}");
            client.println(".button2 {background-color: #F23A3A;}</style></head>");

            // Web Page Heading
            client.println("<body><h1>Pico W LED Control</h1>");

            // Display current state, and ON/OFF buttons for Onboard LED
            client.println("<p>Onboard LED is " + picoLEDState + "</p>");

            // Set buttons
            if (picoLEDState == "off") {

              //picoLEDState is off, display the ON button
              client.println("<p><a href=\"/led/on\"><button
class=\"button\">ON</button></a></p>");
```

```
            } else {

              //picoLEDState is on, display the OFF button
              client.println("<p><a href=\"/led/off\"><button class=\"button
button2\">OFF</button></a></p>");
            }

            client.println("</body></html>");

            // The HTTP response ends with another blank line
            client.println();
            // Break out of the while loop
            break;
          } else { // if you got a newline, then clear currentLine
            currentLine = "";
          }
        } else if (c != '\r') {  // if you got anything else but a carriage return character,
          currentLine += c;      // add it to the end of the currentLine
        }
      }
    }
    // Clear the header variable
    header = "";
    // Close the connection
    client.stop();
    Serial.println("Client disconnected.");
    Serial.println("");
  }
}
```

Al ejecutarlo, nos aparece por el puerto serie la IP que se ha conectado:

Entramos en un navegador en un ordenador conectado a la misma wifi en la dirección 192.168.1.48 y este es el resultado:

https://www.youtube.com/embed/haE4GdOd4zo

¿Y con un servo?

Si tienes un servo puedes conectarlo y también puedes utilizar el código que aparece en De https://dronebotworkshop.com/picow-arduino/ con las conexiones que indican

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