INFORME PRÀCTICA 3_A

CODI

```
#include <WiFi.h>

const char* ssid = "HUAWEI P30 lite";
const char* password = "berta056";

WiFiServer server(80);

String header;

String output26State = "off";
String output27State = "off";

const int output26 = 26;
const int output27 = 27;

unsigned long currentTime = millis();
unsigned long previousTime = 0;
const long timeoutTime = 2000;

void setup() {
    Serial.begin(115200);
    pinMode(output26, OUTPUT);
    pinMode(output27, OUTPUT);
    digitalWrite(output26, LOW);
    digitalWrite(output27, LOW);

    Serial.print("Connecting to ");
    Serial.println(ssid);
    WiFi.begin(ssid, password);
    while (WiFi.status() != WL_CONNECTED) {
        delay(500);
        Serial.print(".");
    }

    Serial.println("");
    Serial.println("WiFi connected.");
    Serial.println("IP address: ");
    Serial.println(WiFi.localIP());
    server.begin();
}

void loop(){
    WiFiClient client = server.available();
    if (client) {
        currentTime = millis();
        previousTime = currentTime;
```

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                Serial.println("New Client.");
                String currentLine = "";
                while (client.connected() && currentTime - previousTime <=
timeoutTime) {
                    currentTime = millis();
                    if (client.available()) {
                        char c = client.read();
                        Serial.write(c);
                        header += c;
                        if (c == '\n') {
                            if (currentLine.length() == 0) {
                                client.println("HTTP/1.1 200 OK");
                                client.println("Content-type:text/html");
                                client.println("Connection: close");
                                client.println();
                                if (header.indexOf("GET /26/on") >= 0) {
                                    Serial.println("GPIO 26 on");
                                    output26State = "on";
                                    digitalWrite(output26, HIGH);
                                }
                                else if (header.indexOf("GET /26/off") >= 0) {
                                    Serial.println("GPIO 26 off");
                                    output26State = "off";
                                    digitalWrite(output26, LOW);
                                }
                                else if (header.indexOf("GET /27/on") >= 0) {
                                    Serial.println("GPIO 27 on");
                                    output27State = "on";
                                    digitalWrite(output27, HIGH);
                                }
                                else if (header.indexOf("GET /27/off") >= 0) {
                                    Serial.println("GPIO 27 off");
                                    output27State = "off";
                                    digitalWrite(output27, 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:,\">");
                                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:
#555555;}</style></head>");

                                // Web Page Heading
                                client.println("<body><h1>ESP32 Web Server</h1>");
                                GPIO 26
```

```
                            client.println("<p>GPIO 26 - State " +
output26State + "</p>");

                            if (output26State=="off") {
                                client.println("<p><a href=\"/26/on\"><button
class=\"button\">ON</button></a></p>");
                            }
                            else {
                                client.println("<p><a href=\"/26/off\"><button
class=\"button button2\">OFF</button></a></p>");
                            }
                            // Display current state, and ON/OFF buttons for
GPIO 27
                            client.println("<p>GPIO 27 - State " +
output27State + "</p>");
                            // If the output27State is off, it displays the ON
button
                            if (output27State=="off") {
                                client.println("<p><a href=\"/27/on\"><button
class=\"button\">ON</button></a></p>");
                            }
                            else {
                                client.println("<p><a href=\"/27/off\"><button
class=\"button button2\">OFF</button></a></p>");
                            }
                            client.println("</body></html>");
                            client.println();
                            break;
                        }
                        else {
                            currentLine = "";
                        }
                    }
                    else if (c != '\r') {
                        currentLine += c;
                    }
                }
            }
            header = "";
            client.stop();
            Serial.println("Client disconnected.");
            Serial.println("");
        }
    }
```

FUNCIONAMENT

Assignem el ssid i la contrasenya de la wifi a la que estem connectats.
Quan compilem i executem el programa veiem en el monitor que la connexió s'ha establert junt a un número d'IP del servidor. Seguidament copiem aquest IP i el busquem desde un navegador i ens porta a la pàgina web HTML que hem programat. En el nostre cas, veiem dos botons ("ON") que corresponen a dos leds

connectats a la ESP32. Si premem al ON, els leds s'encenen i seguidament veiem que els botons cambien a OFF per poder-los apagar.

VIDEO DE L'EXECUCIÓ

[https://drive.google.com/file/d/1f9z6r5Sv0lWnDifxiik98YS10x5g9xix/view?usp=sharing]