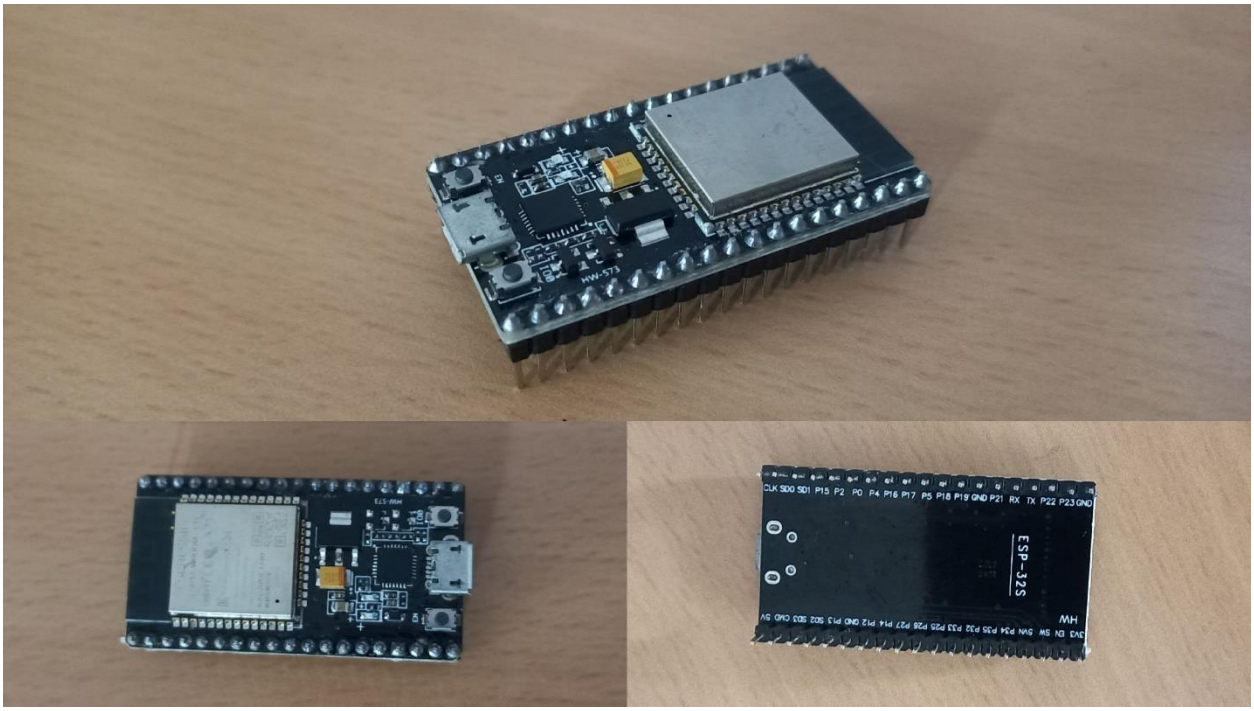
ESP 32

First Project: Web Server (In Access Point (AP))

In this project, we make ESP32 as a server which work as a static html content deliver. It is a learning purpose only, after we can connect sensors and so more!

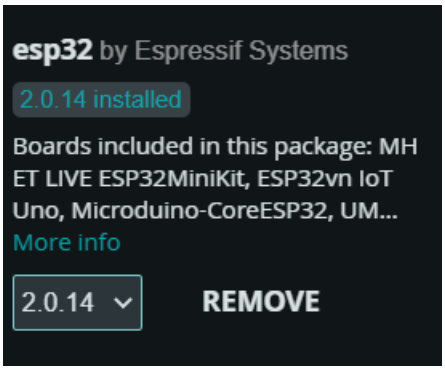


In this case, we no need any jumper wires and sensors, just ESP32 bord and Micro-USB cable.

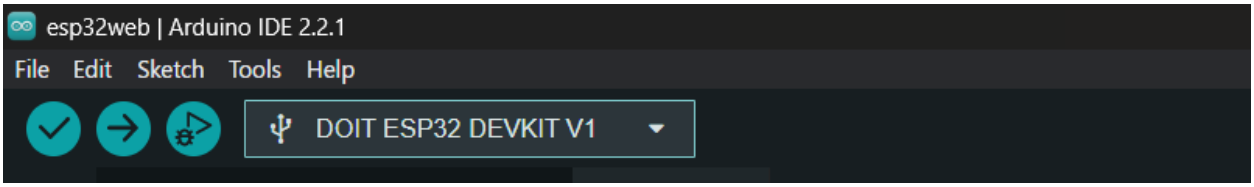
Download Arduino IDE and install it.

Got to **Tools > Bord: > Bords Manager…**

Search **ESP 32** and install **esp32 by Espressif Systems**



Now select bord for esp32 : DOIT ESP32 DEVKIT V1

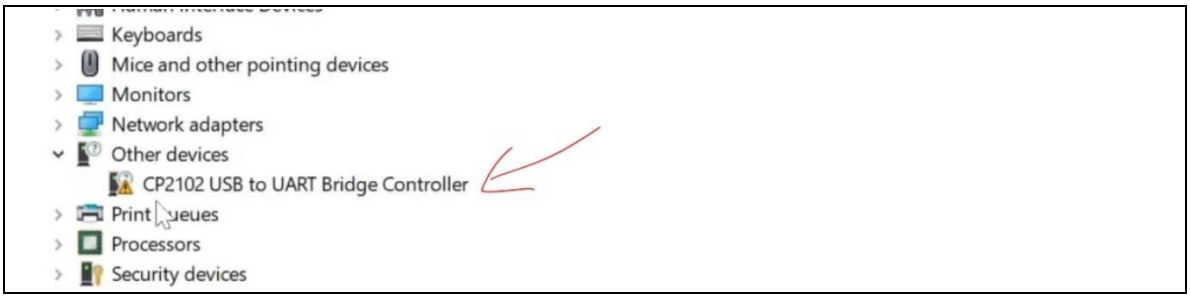


If port option disables the update driver:

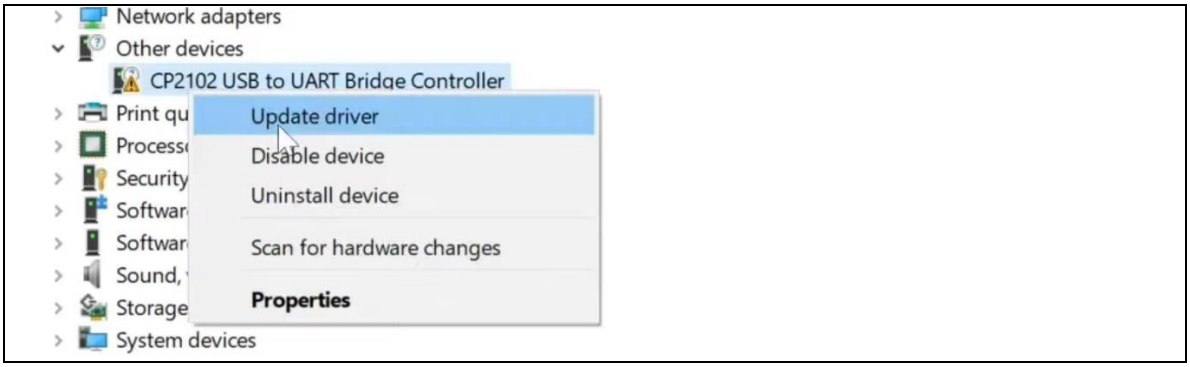
Download from here and unzip it:

[CP210x USB to UART Bridge VCP Drivers - Silicon Labs (silabs.com)]

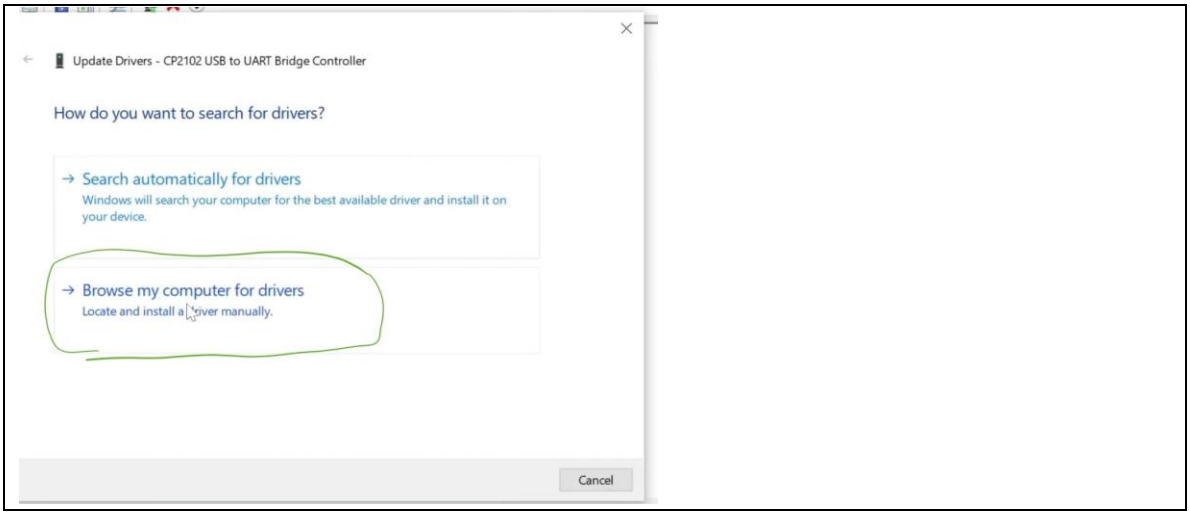
1. Go to Device Manager and update:



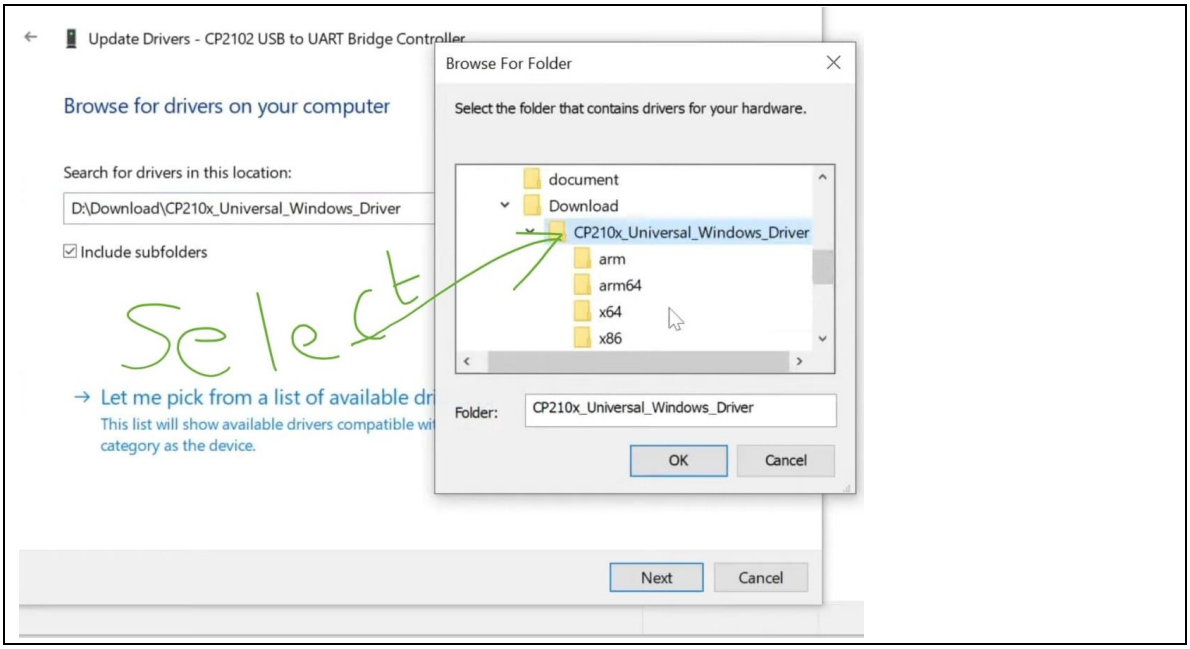
2. Update:



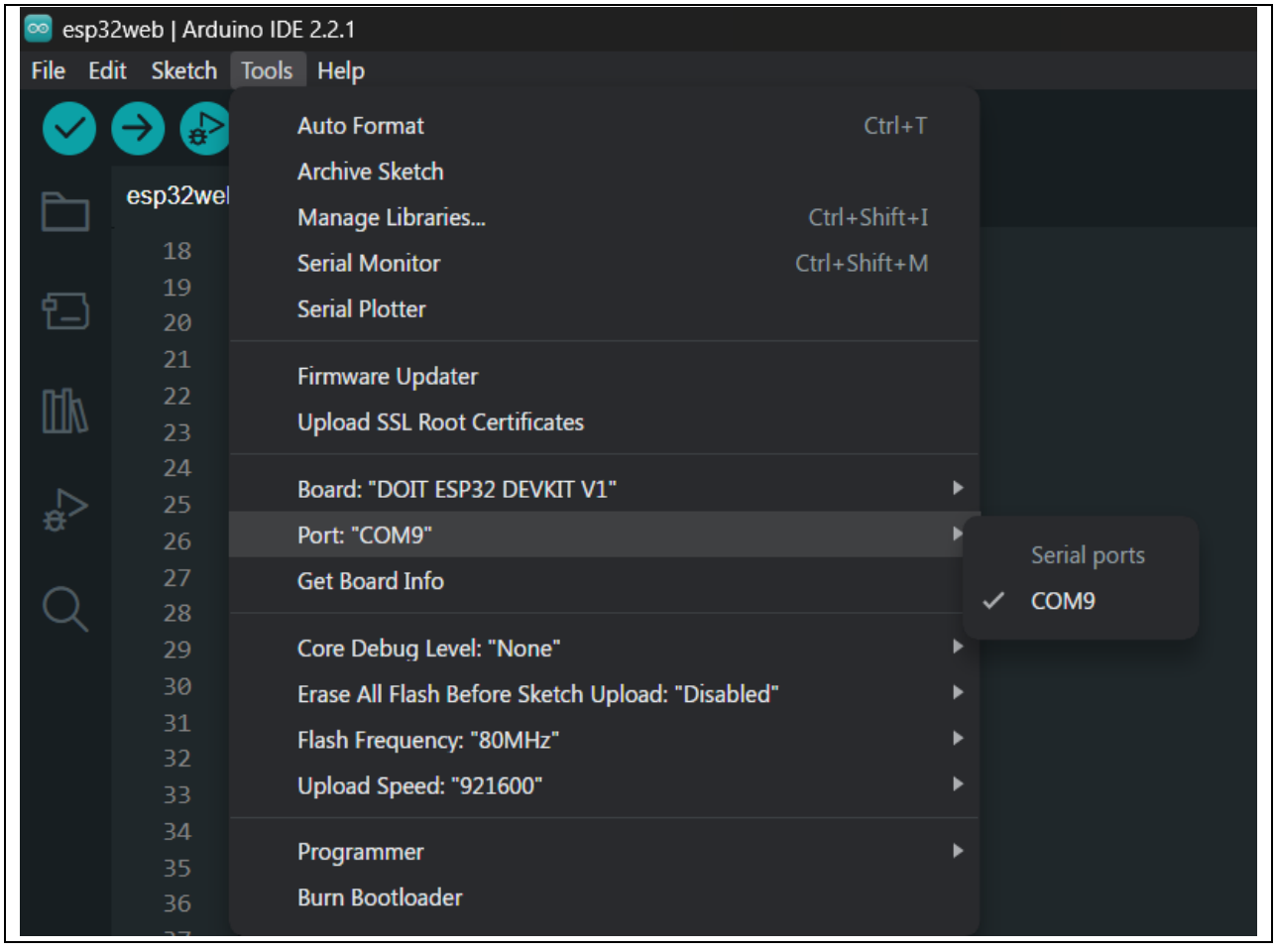
3. Browse my computer for drivers



4. Chose Downloaded and unzipped file and clock on OK and Next.



Done. Now Port Number is show.



Make new sketch and upload code for ESP32 Web-Server:

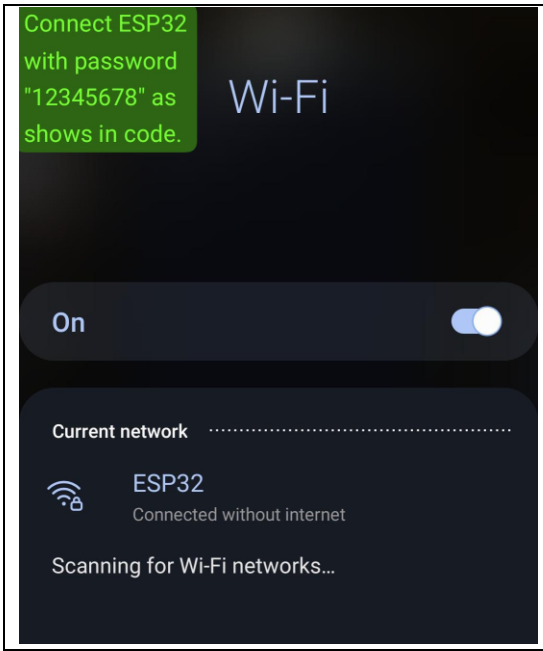
```
#include <WiFi.h>
#include <WebServer.h>

/* Put your SSID & Password */
const char *ssid = "ESP32";         // Enter SSID here
const char *password = "12345678"; // Enter Password here

/* Put IP Address details */
IPAddress local_ip(192, 168, 1, 1);
IPAddress gateway(192, 168, 1, 1);
IPAddress subnet(255, 255, 255, 0);

WebServer server(80);

void setup()
{
    Serial.begin(115200);

    WiFi.softAP(ssid, password);
    WiFi.softAPConfig(local_ip, gateway, subnet);
    delay(100);

    server.on("/", handle_OnConnect);
    server.onNotFound(handle_NotFound);

    server.begin();
    Serial.println("HTTP server started");
}
void loop()
{
    server.handleClient();
}

void handle_OnConnect()
{

    server.send(200, "text/html", SendHTML());
}

void handle_NotFound()
{
    server.send(404, "text/plain", "Not found");
}
```

```
String SendHTML()
{
    String ptr = "<!DOCTYPE html>\n";
    ptr += "<html lang=' en '>\n";
    ptr += "<head>\n";
    ptr += "    <meta charset=' UTF - 8 '>\n";
    ptr += "    <meta name=' viewport ' content=' width = device - width, initial
- scale = 1.0 '>\n";
    ptr += "    <title>Nayan ESP32 First Server</title>\n";
    ptr += "    <style>\n";
    ptr += "        body{\n";
    ptr += "            color: rgb(227, 224, 255);\n";
    ptr += "            background-color: #0f131f;\n";
    ptr += "            font-family: sans-serif;\n";
    ptr += "            word-spacing: 1px;\n";
    ptr += "        }\n";
    ptr += "    </style>\n";
    ptr += "</head>\n";
    ptr += "<body>\n";
    ptr += "    <div>\n";
    ptr += "        <h1>Hello Nayan!</h1>\n";
    ptr += "        <p>Welcome to ESP32</p>\n";
    ptr += "        <p>Here is the first demo of ESP32 Server (AP).</p>\n";
    ptr += "        <hr>\n";
    ptr += "        <h5>04 Jan, 2024</h5>\n";
    ptr += "    </div>\n";
    ptr += "</body>\n";
    ptr += "</html>\n";
    return ptr;
}
```

Upload Code and press Boot button on bord.

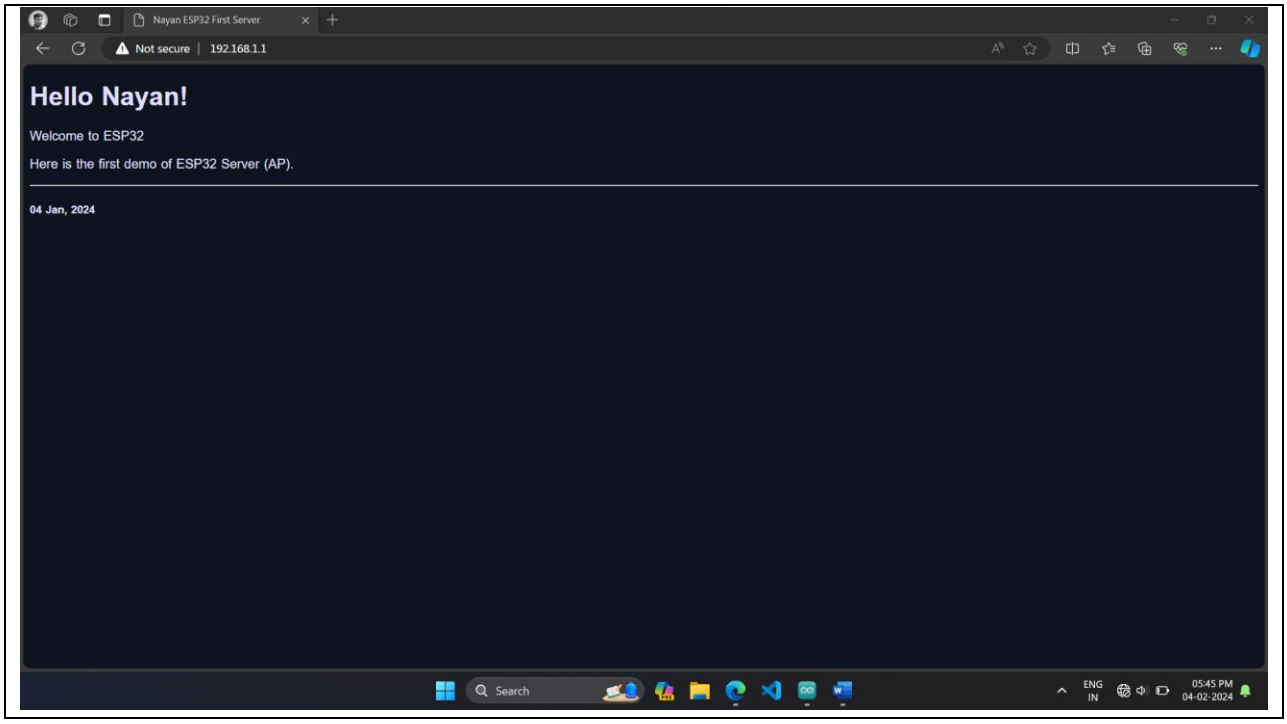
Done!

Connect through WI-FI:



After connecting with Wi-Fi, search in browser http://192.168.1.1:80

In Laptop:


Nayan ESP32 First Server
Not secure | 192.168.1.1
Hello Nayan!
Welcome to ESP32
Here is the first demo of ESP32 Server (AP).
04 Jan, 2024
Search
ENG
IN
05:45 PM
04-02-2024