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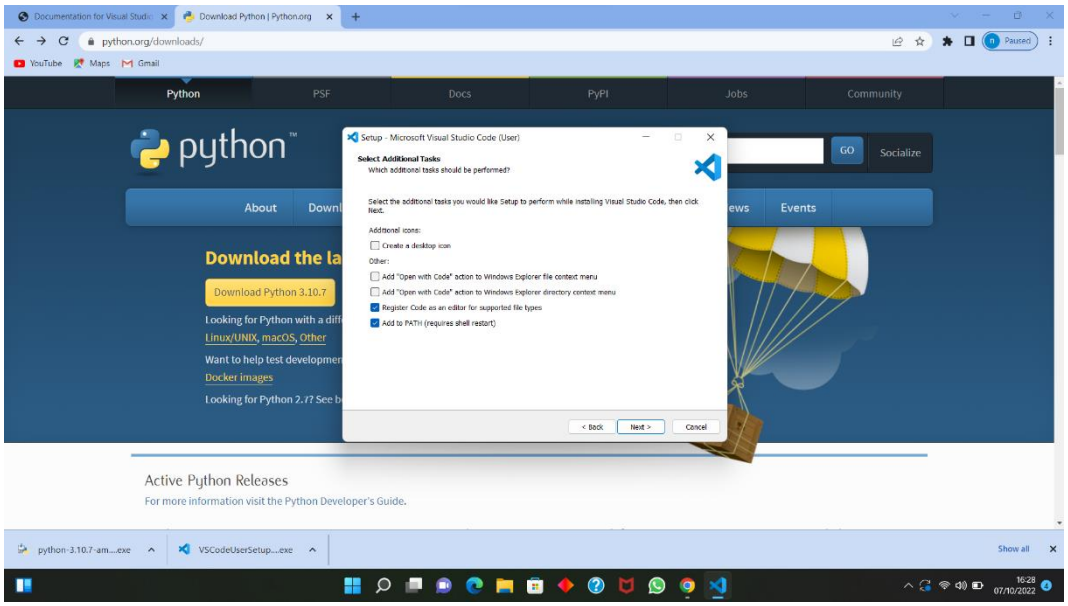
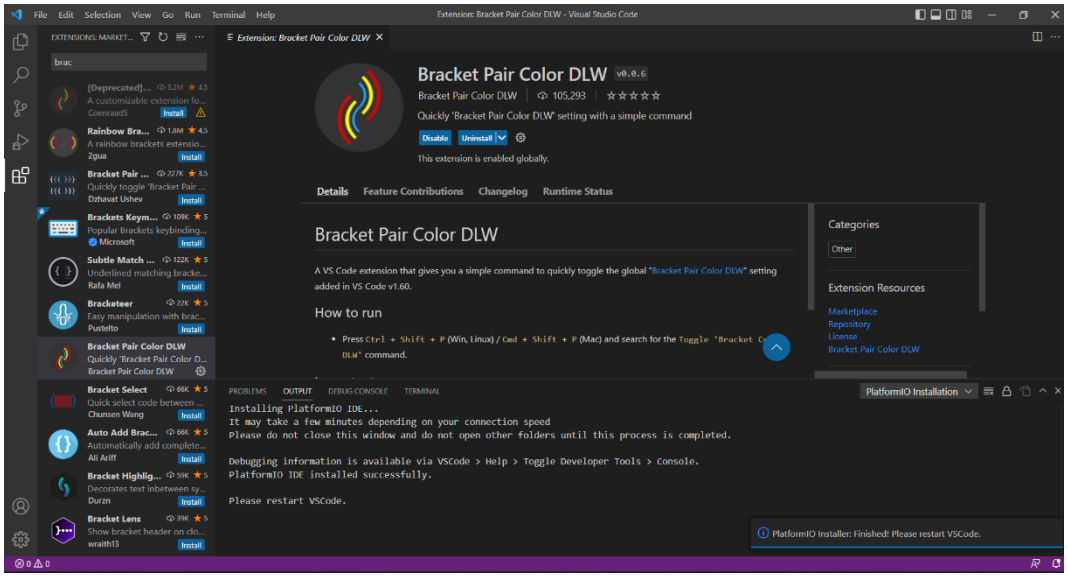
Mata Kuliah : Sistem Embedded

Tugas 3

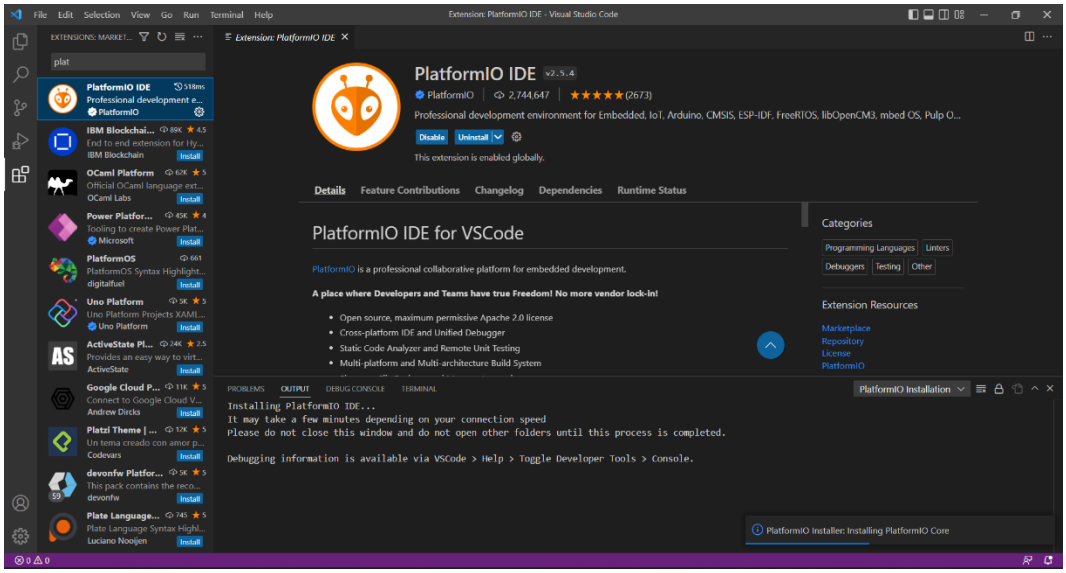
1. Mendoenload Aplikasi Visual Studio Code



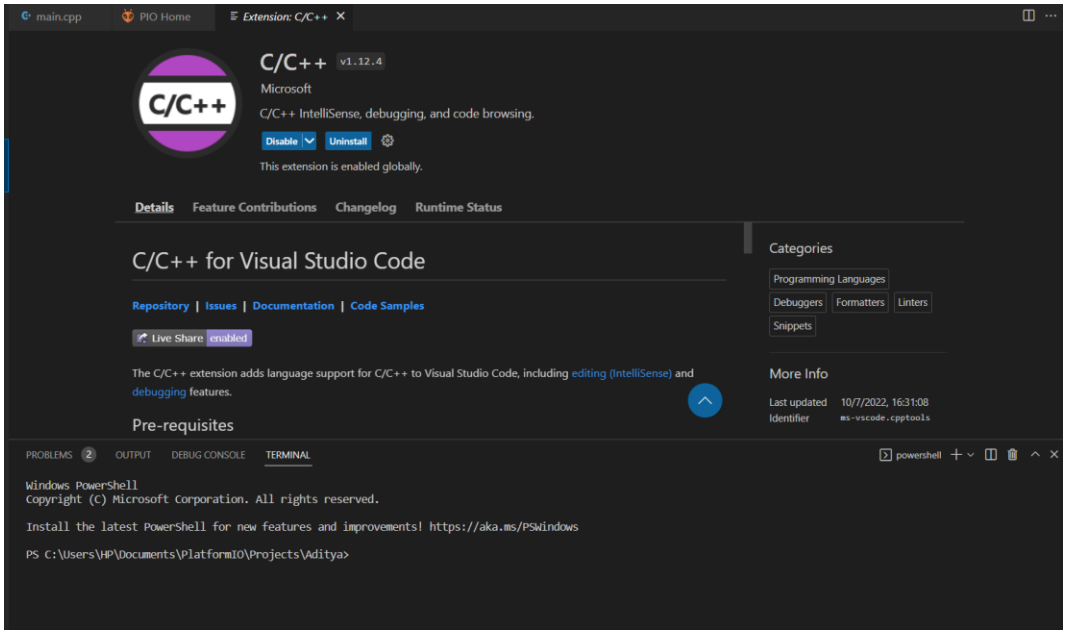
2. Menginstal Bracket Pair Color



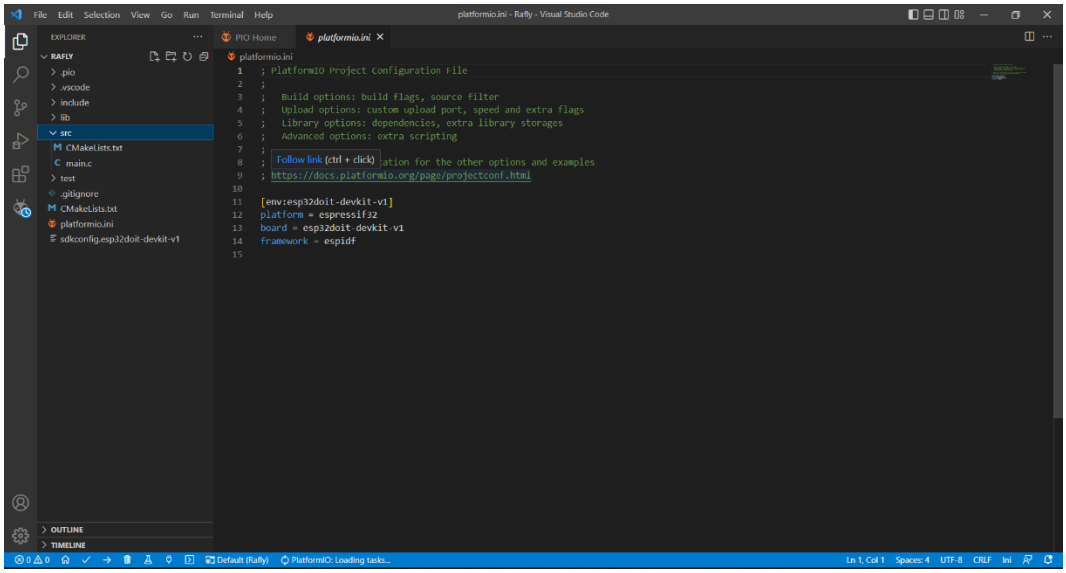
3. Menginstall PlatformIO IDE



4. Menginstall C/C++



5. Membuat File pada Visual Studio Code



6. Membuat Listing Code pada Visual Code

```
// Load Wi-Fi library
#include <ESP8266WiFi.h>

// Replace with your network credentials
const char* ssid     = "Rafly";
const char* password = "lvin2560";

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

// Variable to store the HTTP request
String header;

// Auxiliar variables to store the current output state

String output1State = "off";

// Assign output variables to GPIO pins
const int output = LED_BUILTIN;

void setup() {
  Serial.begin(115200);
  // Initialize the output variables as outputs
  pinMode(output, OUTPUT);
```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL powershell

```
Aditya > src > main.cpp > setup()

void setup() {
  Serial.begin(115200);
  // Initialize the output variables as outputs
  pinMode(output, OUTPUT);
  // Set outputs to LOW
  digitalWrite(output, LOW);

  // Connect to Wi-Fi network with SSID and password
  Serial.print("Connecting to ");
  Serial.println(ssid);
  WiFi.begin(ssid, password);
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }
  // Print local IP address and start web server
  Serial.println("");
  Serial.println("WiFi connected.");
  Serial.println("IP address: ");
  Serial.println(WiFi.localIP());
  server.begin();
}
```

Aditya > src > main.cpp > setup()

```
50
51  void loop(){
52    WiFiClient client = server.available();   // Listen for incoming clients
53
54    if (client) {                             // If a new client connects,
55      //Serial.println("New Client.");          // print a message out in the serial port
56      String currentLine = "";                // make a String to hold incoming data from the client
57      while (client.connected()) {            // loop while the client's connected
58        if (client.available()) {             // if there's bytes to read from the client,
59          char c = client.read();             // read a byte, then
60         // Serial.write(c);                    // print it out the serial monitor
61          header += c;
62          if (c == '\n') {                    // if the byte is a newline character
63            // if the current line is blank, you got two newline characters in a row.
64            // that's the end of the client HTTP request, so send a response:
65            if (currentLine.length() == 0) {
66              // HTTP headers always start with a response code (e.g. HTTP/1.1 200 OK)
67              // and a content-type so the client knows what's coming, then a blank line:
68              client.println("HTTP/1.1 200 OK");
69              client.println("Content-type:text/html");
70              client.println("Connection: close");
71              client.println();
72
73              // turns the GPIOs on and off
```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL powershell

```
73              // turns the GPIOs on and off
74              if (header.indexOf("GET /1/on") >= 0) {
75                Serial.println("RLON01");
76                output1State = "on";
77                digitalWrite(output, HIGH);
78              } else if (header.indexOf("GET /1/off") >= 0) {
79                //Serial.println("GPIO 5 off");
80                Serial.println("RLOF01");
81                output1State = "off";
82                digitalWrite(output, LOW);
83              }
84
85              // Display the HTML web page
86              client.println("<!DOCTYPE html><html>");
87              client.println("<head><meta name=\"viewport\" content=\"width=device-width, initial-scale=1\">");
88              client.println("<link rel=\"icon\" href=\"data:,\">");
89              // CSS to style the on/off buttons
90              // Feel free to change the background-color and font-size attributes to fit your preferences
91              client.println("<style>html { font-family: Helvetica; display: inline-block; margin: 0px auto; text-align: center;}");
92              client.println(".button { background-color: #195B6A; border: none; color: white; padding: 16px 40px;");
93              client.println("text-decoration: none; font-size: 30px; margin: 2px; cursor: pointer;}");
94              client.println(".button2 {background-color: #77878A;}</style></head>");
95
```

Aditya > src > main.cpp > setup()

```
96              // Web Page Heading
97              client.println("<body><h1>ESP8266 Web Server</h1>");
98
99              // Display current state, and ON/OFF buttons for GPIO 5
100             client.println("<p>GPIO 1 - State " + output1State + "</p>");
101             // If the output5State is off, it displays the ON button
102             if (output1State=="off") {
103               client.println("<p><a href=\"/1/on\"><button class=\"button\">ON</button></a></p>");
104             } else {
105               client.println("<p><a href=\"/1/off\"><button class=\"button button2\">OFF</button></a></p>");
106             }
107
108             client.println("</body></html>");
109
110             // The HTTP response ends with another blank line
111             client.println();
112             // Break out of the while loop
113             break;
114           } else { // if you got a newline, then clear currentLine
115             currentLine = "";
116           }
117         } else if (c != '\r') {  // if you got anything else but a carriage return character,
118           currentLine += c;      // add it to the end of the currentLine
```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL powershell

```
Aditya > src > main.cpp > setup()
108                 client.println("</body></html>");
109
110                 // The HTTP response ends with another blank line
111                 client.println();
112                 // Break out of the while loop
113                 break;
114               } else { // if you got a newline, then clear currentLine
115                 currentLine = "";
116               }
117             } else if (c != '\r') {  // if you got anything else but a carriage return character,
118               currentLine += c;      // add it to the end of the currentLine
119             }
120           }
121         }
122         // Clear the header variable
123         header = "";
124         // Close the connection
125         client.stop();
126         //Serial.println("Client disconnected.");
127         //Serial.println("");
128       }
129     }
```

7. Running Succes