

Practical-6: Get status of bulb at a remote place through LAN through Web page

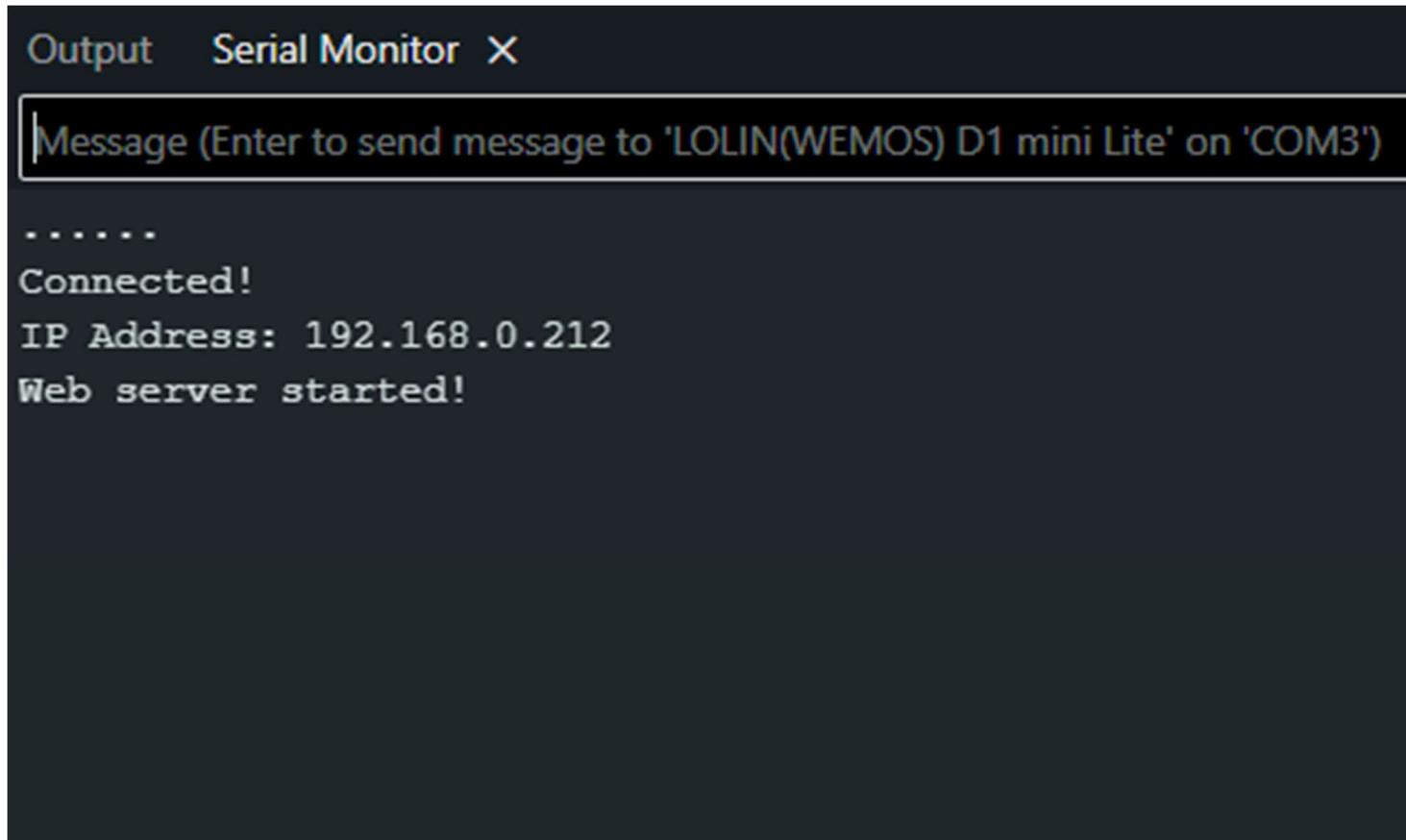
```
#include <ESP8266WiFi.h>
#include <ESP8266WebServer.h>
const char* ssid="ENTC04";
const char* password="$inhgad@2122";
ESP8266WebServer server(80);
#define S1 D1
#define S2 D2
bool loggedIn=false;
void setup(){
  Serial.begin(115200);
  pinMode(S1,OUTPUT); pinMode(S2,OUTPUT);
  digitalWrite(S1,HIGH); digitalWrite(S2,HIGH);
  WiFi.begin(ssid,password);
  Serial.print("Connecting to WiFi");
  while(WiFi.status()!=WL_CONNECTED){delay(500);Serial.print(".");}
  Serial.println("\nConnected!");
  Serial.print("IP Address: ");
  Serial.println(WiFi.localIP());
  server.on("/",[](){
    if(!loggedIn){
      server.send(200,"text/html",
      "<html><body style='text-align:center;background:#D6EAF8'>"
      "<h2>Login</h2>"
      "<form action='/login' method='POST'>"
      "Username:<input name='u'><br><br>"
      "Password:<input type='password' name='p'><br><br>"
      "<input type='submit' value='Login'>"
      "</form>"
      "</body></html>");}
    else{
      server.send(200,"text/html",
      "<html><body style='text-align:center;background:#A9DFBF'>"
      "<h2>Home Automation Control</h2>"
      "<h3>Switch 1:</h3>"
      "<a href='/on1'><button>ON</button></a> "
      "<a href='/off1'><button>OFF</button></a><br><br>"
      "<h3>Switch 2:</h3>"
      "<a href='/on2'><button>ON</button></a> "
      "<a href='/off2'><button>OFF</button></a><br><br>"
      "<a href='/logout'><button>Logout</button></a> "
      "</body></html>");}
  });
  server.on("/login",[](){
    if(server.arg("u")=="admin" && server.arg("p")=="admin123")
      loggedIn=true;
    server.sendHeader("Location","");
    server.send(303);
  });
  server.on("/logout",[]()){

```

```
loggedIn=false;
server.sendHeader("Location","/");
server.send(303);
});
server.on("/on1",[](){digitalWrite(S1,LOW);server.sendHeader("Location","/");
server.send(303);});
server.on("/off1",[](){digitalWrite(S1,HIGH);server.sendHeader("Location","/");
server.send(303);});
server.on("/on2",[](){digitalWrite(S2,LOW);server.sendHeader("Location","/");
server.send(303);});
server.on("/off2",[](){digitalWrite(S2,HIGH);server.sendHeader("Location","/");
server.send(303);});
server.begin();
Serial.println("Web server started!");
}
void loop(){
server.handleClient();
}
```

OUTPUT:

Serial Monitor-



The screenshot shows the Arduino Serial Monitor interface. At the top, there are tabs for "Output" and "Serial Monitor" with an "X" button. Below the tabs, a message box says "Message (Enter to send message to 'LOLIN(WEMOS) D1 mini Lite' on 'COM3')". The main text area displays the following output:

```
.....
Connected!
IP Address: 192.168.0.212
Web server started!
```

Webpages -

1. Login Page

A screenshot of a web browser window titled "192.168.0.212". The main content area displays a "Login" form. It includes two input fields: "Username:" followed by an empty text input, and "Password:" followed by another empty text input. Below these fields is a single "Login" button.

Control Page

A screenshot of a web browser window titled "192.168.0.212". The main content area displays a "Home Automation Control" page. It features two sections: "Switch 1:" with "ON" and "OFF" buttons, and "Switch 2:" also with "ON" and "OFF" buttons. At the bottom of the page is a "Logout" button.

Hardware Output:



Steps:

1. Connect the USB Pin from kit to PC and Bulb pin to light socket.
2. Select Board: LOLIN(WEMOS) D1 mini Lite
PORT: COM3
3. Write the program and click ‘verify’.
4. Once verified, click ‘upload’ and wait till program is loaded in the MCU.
5. Open Serial Monitor from “Tools” section.
6. Set Baud rate to 115200.
7. Type the IP address given in the output(On serial monitor) in any browser to launch the website.

LOGIN PASSWORD:

ID: admin Password: admin123