

Sketch esp8266:

```
#include <ESP8266WiFi.h>
#include <WiFiClient.h>
#include <ESP8266WebServer.h>
#include <ESP8266mDNS.h>

// впишите сюда данные, соответствующие вашей сети:
const char* ssid = "*****";
const char* password = "*****";

byte arduino_mac[] = { 0x18, 0xD6, 0xC7, 0x8F, 0xCE, 0x08 };
IPAddress ip(192,168,0,10);
IPAddress gateway(192,168,0,1);
IPAddress subnet(255,255,255,0);

ESP8266WebServer server(80);
MDNSResponder mdns;

String webPage = "";

int lamp_1 = 30; //лампа_1
int lamp_2 = 31; //лампа_2
int lamp_3 = 32; //лампа_3
int lamp_4 = 33; //лампа_4
int lamp_5 = 34; //лампа_5
int lamp_6 = 35; //лампа_6
int lamp_7 = 36; //лампа_7
int lamp_8 = 37; //лампа_8
int Led_1 = 38; //светодиод_1.1
```

```
int Led_2 = 39; //светодиод_2.2
int Led_3 = 40; //светодиод_3.3
int Led_4 = 41; //светодиод_4.4
int Led_5 = 42; //светодиод_5.5
int Led_6 = 43; //светодиод_6.6
int Led_7 = 44; //светодиод_7.7
int Led_8 = 45; //светодиод_8.8
```

```
void setup(void){
```

```
    // подготовка:
```

```
    pinMode(lamp_1, OUTPUT);
```

```
    digitalWrite(lamp_1, LOW); // реле включается при LOW
```

```
    pinMode(lamp_2, OUTPUT);
```

```
    digitalWrite(lamp_2, LOW);
```

```
    pinMode(lamp_3, OUTPUT);
```

```
    digitalWrite(lamp_3, LOW);
```

```
    pinMode(lamp_4, OUTPUT);
```

```
    digitalWrite(lamp_4, LOW);
```

```
    pinMode(lamp_5, OUTPUT);
```

```
    digitalWrite(lamp_5, LOW);
```

```
    pinMode(lamp_6, OUTPUT);
```

```
    digitalWrite(lamp_6, LOW);
```

```
    pinMode(lamp_7, OUTPUT);
```

```
digitalWrite(lamp_7, LOW);
```

```
pinMode(lamp_8, OUTPUT);
```

```
digitalWrite(lamp_8, LOW);
```

```
pinMode(Led_1, OUTPUT);
```

```
digitalWrite(Led_1, LOW); // реле включается при LOW
```

```
pinMode(Led_2, OUTPUT);
```

```
digitalWrite(Led_2, LOW);
```

```
pinMode(Led_3, OUTPUT);
```

```
digitalWrite(Led_3, LOW);
```

```
pinMode(Led_4, OUTPUT);
```

```
digitalWrite(Led_4, LOW);
```

```
pinMode(Led_5, OUTPUT);
```

```
digitalWrite(Led_5, LOW);
```

```
pinMode(Led_6, OUTPUT);
```

```
digitalWrite(Led_6, LOW);
```

```
pinMode(Led_7, OUTPUT);
```

```
digitalWrite(Led_7, LOW);
```

```
pinMode(Led_8, OUTPUT);
```

```
digitalWrite(Led_8, LOW);
```

```
Serial.begin(115200);
```

```
while (!Serial) {
  ; // wait for serial port to connect. Needed for native USB port only
}

//*****
//*****

delay(100);
Serial.begin(115200);
WiFi.begin(ssid, password);
WiFi.config(ip, gateway, subnet);
//*****
//*****

// информация о контроллере
Serial.println("");
Serial.println("ESP8266 board info:");
Serial.print("\tChip ID: ");
Serial.println(ESP.getFlashChipId());
Serial.print("\tCore Version: ");
Serial.println(ESP.getCoreVersion());
Serial.print("\tChip Real Size: ");
Serial.println(ESP.getFlashChipRealSize());
Serial.print("\tChip Flash Size: ");
Serial.println(ESP.getFlashChipSize());
Serial.print("\tChip Flash Speed: ");
Serial.println(ESP.getFlashChipSpeed());
Serial.print("\tChip Speed: ");
Serial.println(ESP.getCpuFreqMHz());
Serial.print("\tChip Mode: ");
```

```
Serial.println(ESP.getFlashChipMode());
Serial.print("\tSketch Size: ");
Serial.println(ESP.getSketchSize());
Serial.print("\tSketch Free Space: ");
Serial.println(ESP.getFreeSketchSpace());
```

```
// тело веб-страницы
```

```
webPage += "<h1 style=\"text-align: center;margin-top: 20px;margin-  
bottom: 5px;\">ESP8266 Web Server</h1>"; // h1 жирный шрифт(вроде,  
50 это отступ от верха, 5 отступ после
```

```
webPage += "</p>";
```

```
webPage += "<p style=\"text-align: center;\">lamp_1 state <a  
href=\"lamp_1_ON\"><button>ON</button></a>&nbsp;<a  
href=\"lamp_1_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">lamp_2 state <a  
href=\"lamp_2_ON\"><button>ON</button></a>&nbsp;<a  
href=\"lamp_2_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">lamp_3 state <a  
href=\"lamp_3_ON\"><button>ON</button></a>&nbsp;<a  
href=\"lamp_3_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">lamp_4 state <a  
href=\"lamp_4_ON\"><button>ON</button></a>&nbsp;<a  
href=\"lamp_4_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">lamp_5 state <a  
href=\"lamp_5_ON\"><button>ON</button></a>&nbsp;<a  
href=\"lamp_5_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">lamp_6 state <a  
href=\"lamp_6_ON\"><button>ON</button></a>&nbsp;<a  
href=\"lamp_6_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">lamp_7 state <a  
href=\"lamp_7_ON\"><button>ON</button></a>&nbsp;<a  
href=\"lamp_7_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">lamp_8 state <a  
href=\"lamp_8_ON\"><button>ON</button></a>&nbsp;<a  
href=\"lamp_8_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">Led_1 state <a  
href=\"Led_1_ON\"><button>ON</button></a>&nbsp;<a  
href=\"Led_1_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">Led_2 state <a  
href=\"Led_2_ON\"><button>ON</button></a>&nbsp;<a  
href=\"Led_2_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">Led_3 state <a  
href=\"Led_3_ON\"><button>ON</button></a>&nbsp;<a  
href=\"Led_3_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">Led_4 state <a  
href=\"Led_4_ON\"><button>ON</button></a>&nbsp;<a  
href=\"Led_4_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">Led_5 state <a  
href=\"Led_5_ON\"><button>ON</button></a>&nbsp;<a  
href=\"Led_5_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">Led_6 state <a  
href=\"Led_6_ON\"><button>ON</button></a>&nbsp;<a  
href=\"Led_6_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">Led_7 state <a  
href=\"Led_7_ON\"><button>ON</button></a>&nbsp;<a  
href=\"Led_7_OFF\"><button>OFF</button></a></p>";
```

```
webPage += "<p style=\"text-align: center;\">Led_8 state <a  
href=\"Led_8_ON\"><button>ON</button></a>&nbsp;<a  
href=\"Led_8_OFF\"><button>OFF</button></a></p>";
```

```
// подключение к WiFi
```

```
WiFi.begin(ssid, password);
```

```
Serial.println("");
```

```
// ожидание соединения:
```

```
while (WiFi.status() != WL_CONNECTED) {
```

```
    delay(1000);
```

```
    Serial.print(".");
```

```
}
```

```
Serial.println("");
Serial.print("Connected to "); // "Подключились к "
Serial.println(ssid);
Serial.print("IP address: "); // "IP-адрес: "
Serial.println(WiFi.localIP());

// Проверка запуска MDNS
if (mdns.begin("esp8266", WiFi.localIP())) {
  Serial.println("MDNS responder started");
}

server.on("/", [](){
  server.send(200, "text/html", webPage);
});

server.on("/lamp_1_ON", [](){
  server.send(200, "text/html", webPage);
  digitalWrite(lamp_1, LOW);
  Serial.println("[lamp_1_ON]");
  delay(1000);
});

server.on("/lamp_1_OFF", [](){
  server.send(200, "text/html", webPage);
  digitalWrite(lamp_1, HIGH);
  Serial.println("[lamp_1_OFF]");
  delay(1000);
});

//*****
```



```
server.on("/lamp_2_ON", [](){
  server.send(200, "text/html", webPage);
  digitalWrite(lamp_2, LOW);
  Serial.println("[lamp_2_ON]");
  delay(1000);
});

server.on("/lamp_2_OFF", [](){
  server.send(200, "text/html", webPage);
  digitalWrite(lamp_2, HIGH);
  Serial.println("[lamp_2_OFF]");
  delay(1000);
});
//*****

server.on("/lamp_3_ON", [](){
  server.send(200, "text/html", webPage);
  digitalWrite(lamp_3, LOW);
  Serial.println("[lamp_3_ON]");
  delay(1000);
});

server.on("/lamp_3_OFF", [](){
  server.send(200, "text/html", webPage);
  digitalWrite(lamp_3, HIGH);
  Serial.println("[lamp_3_OFF]");
  delay(1000);
});
//*****

server.on("/lamp_4_ON", [](){
```

```
server.send(200, "text/html", webPage);  
digitalWrite(lamp_4, LOW);  
Serial.println("[lamp_4_ON]");  
delay(1000);  
});
```

```
server.on("/lamp_4_OFF", [](){  
    server.send(200, "text/html", webPage);  
    digitalWrite(lamp_4, HIGH);  
    Serial.println("[lamp_4_OFF]");  
    delay(1000);  
});
```

```
//*****
```

```
server.on("/lamp_5_ON", [](){  
    server.send(200, "text/html", webPage);  
    digitalWrite(lamp_5, LOW);  
    Serial.println("[lamp_5_ON]");  
    delay(1000);  
});
```

```
server.on("/lamp_5_OFF", [](){  
    server.send(200, "text/html", webPage);  
    digitalWrite(lamp_5, HIGH);  
    Serial.println("[lamp_5_OFF]");  
    delay(1000);  
});
```

```
//*****
```

```
server.on("/lamp_6_ON", [](){
```

```
server.send(200, "text/html", webPage);
digitalWrite(lamp_6, LOW);
Serial.println("[lamp_6_ON]");
delay(1000);
});

server.on("/lamp_6_OFF", [](){
server.send(200, "text/html", webPage);
digitalWrite(lamp_6, HIGH);
Serial.println("[lamp_6_OFF]");
delay(1000);
});
//*****

server.on("/lamp_7_ON", [](){
server.send(200, "text/html", webPage);
digitalWrite(lamp_7, LOW);
Serial.println("[lamp_7_ON]");
delay(1000);
});

server.on("/lamp_7_OFF", [](){
server.send(200, "text/html", webPage);
digitalWrite(lamp_7, HIGH);
Serial.println("[lamp_7_OFF]");
delay(1000);
});
//*****

server.on("/lamp_8_ON", [](){
server.send(200, "text/html", webPage);
```

```
digitalWrite(lamp_8, LOW);
Serial.println("[lamp_8_ON]");
delay(1000);
});

server.on("/lamp_8_OFF", [](){
  server.send(200, "text/html", webPage);
  digitalWrite(lamp_8, HIGH);
  Serial.println("[lamp_8_OFF]");
  delay(1000);
});

//*****
//*****
//*****

server.on("/Led_1_ON", [](){
  server.send(200, "text/html", webPage);
  digitalWrite(Led_1, LOW);
  Serial.println("[Led_1_ON]");
  delay(1000);
});

server.on("/Led_1_OFF", [](){
  server.send(200, "text/html", webPage);
  digitalWrite(Led_1, HIGH);
  Serial.println("[Led_1_OFF]");
  delay(1000);
});

//*****

server.on("/Led_2_ON", [](){
```

```
server.send(200, "text/html", webPage);
digitalWrite(Led_2, LOW);
Serial.println("[Led_2_ON]");
delay(1000);
});

server.on("/Led_2_OFF", [](){
server.send(200, "text/html", webPage);
digitalWrite(Led_2, HIGH);
Serial.println("[Led_2_OFF]");
delay(1000);
});
//*****

server.on("/Led_3_ON", [](){
server.send(200, "text/html", webPage);
digitalWrite(Led_3, LOW);
Serial.println("[Led_3_ON]");
delay(1000);
});

server.on("/Led_3_OFF", [](){
server.send(200, "text/html", webPage);
digitalWrite(Led_3, HIGH);
Serial.println("[Led_3_OFF]");
delay(1000);
});
//*****

server.on("/Led_4_ON", [](){
server.send(200, "text/html", webPage);
```

```
digitalWrite(Led_4, LOW);  
Serial.println("[Led_4_ON]");  
delay(1000);  
});
```

```
server.on("/Led_4_OFF", [](){  
  server.send(200, "text/html", webPage);  
  digitalWrite(Led_4, HIGH);  
  Serial.println("[Led_4_OFF]");  
  delay(1000);  
});
```

```
//*****
```

```
server.on("/Led_5_ON", [](){  
  server.send(200, "text/html", webPage);  
  digitalWrite(Led_5, LOW);  
  Serial.println("[Led_5_ON]");  
  delay(1000);  
});
```

```
server.on("/Led_5_OFF", [](){  
  server.send(200, "text/html", webPage);  
  digitalWrite(Led_5, HIGH);  
  Serial.println("[Led_5_OFF]");  
  delay(1000);  
});
```

```
//*****
```

```
server.on("/Led_6_ON", [](){
```

```
server.send(200, "text/html", webPage);
digitalWrite(Led_6, LOW);
Serial.println("[Led_6_ON]");
delay(1000);
});

server.on("/Led_6_OFF", [](){
server.send(200, "text/html", webPage);
digitalWrite(Led_6, HIGH);
Serial.println("[Led_6_OFF]");
delay(1000);
});
//*****

server.on("/Led_7_ON", [](){
server.send(200, "text/html", webPage);
digitalWrite(Led_7, LOW);
Serial.println("[Led_7_ON]");
delay(1000);
});

server.on("/Led_7_OFF", [](){
server.send(200, "text/html", webPage);
digitalWrite(Led_7, HIGH);
Serial.println("[Led_7_OFF]");
delay(1000);
});
//*****

server.on("/Led_8_ON", [](){
server.send(200, "text/html", webPage);
```

```
digitalWrite(Led_8, LOW);
Serial.println("[Led_8_ON]");
delay(1000);
});

server.on("/Led_8_OFF", [](){
  server.send(200, "text/html", webPage);
  digitalWrite(Led_8, HIGH);
  Serial.println("[Led_8_OFF]");
  delay(1000);
});
//*****

server.begin();
Serial.println("HTTP server started");

}

void loop(void){
  server.handleClient();
}
```


Sketch mega-esp:

```
#include <MemoryFree.h>
```

```
#include <EEPROM.h>
```

```
String inString;
```

```
int lamp_1 = 30; //лампа_1
```

```
int lamp_2 = 31; //лампа_2
```

```
int lamp_3 = 32; //лампа_3
```

```
int lamp_4 = 33; //лампа_4
```

```
int lamp_5 = 34; //лампа_5
```

```
int lamp_6 = 35; //лампа_6
```

```
int lamp_7 = 36; //лампа_7
```

```
int lamp_8 = 37; //лампа_8
```

```
int Led_1 = 38; //светодиод_1.1
```

```
int Led_2 = 39; //светодиод_2.2
```

```
int Led_3 = 40; //светодиод_3.3
```

```
int Led_4 = 41; //светодиод_4.4
```

```
int Led_5 = 42; //светодиод_5.5
```

```
int Led_6 = 43; //светодиод_6.6
```

```
int Led_7 = 44; //светодиод_7.7
```

```
int Led_8 = 45; //светодиод_8.8
```

```
// Настройка
```

```
void setup() {
```

```
    // Инициализация портов и выходов
```

```
    Serial.begin(115200);
```

```
    Serial3.begin(115200);
```

```
pinMode(lamp_1, OUTPUT);  
digitalWrite(lamp_1, LOW); // реле включается при LOW
```

```
pinMode(lamp_2, OUTPUT);  
digitalWrite(lamp_2, LOW);
```

```
pinMode(lamp_3, OUTPUT);  
digitalWrite(lamp_3, LOW);
```

```
pinMode(lamp_4, OUTPUT);  
digitalWrite(lamp_4, LOW);
```

```
pinMode(lamp_5, OUTPUT);  
digitalWrite(lamp_5, LOW);
```

```
pinMode(lamp_6, OUTPUT);  
digitalWrite(lamp_6, LOW);
```

```
pinMode(lamp_7, OUTPUT);  
digitalWrite(lamp_7, LOW);
```

```
pinMode(lamp_8, OUTPUT);  
digitalWrite(lamp_8, LOW);
```

```
pinMode(Led_1, OUTPUT);  
digitalWrite(Led_1, LOW); // реле включается при LOW
```

```
pinMode(Led_2, OUTPUT);  
digitalWrite(Led_2, LOW);
```

```
pinMode(Led_3, OUTPUT);  
digitalWrite(Led_3, LOW);
```

```
pinMode(Led_4, OUTPUT);  
digitalWrite(Led_4, LOW);
```

```
pinMode(Led_5, OUTPUT);  
digitalWrite(Led_5, LOW);
```

```
pinMode(Led_6, OUTPUT);  
digitalWrite(Led_6, LOW);
```

```
pinMode(Led_7, OUTPUT);  
digitalWrite(Led_7, LOW);
```

```
pinMode(Led_8, OUTPUT);  
digitalWrite(Led_8, LOW);  
}
```

```
// Выполнение
```

```
void loop() {  
}
```

```
// Проверка события на порту Serial3
```

```
void serialEvent3() {  
  while (Serial3.available()) {  
    // Чтение данных из порта Serial3  
    char inChar = Serial3.read();  
    // Вывод прочитанных данных в порт Serial
```

```
Serial.write(inChar);

// Поиск команды в полученных данных (команда должна быть в
квadratных скобках)
inString += inChar;

if (inChar == ']') {
    if (inString.indexOf("[lamp_1_ON]")>0) {
        digitalWrite(lamp_1, LOW);
    }
    else if (inString.indexOf("[lamp_1_OFF]")>0) {
        digitalWrite(lamp_1, HIGH);
    }
    //*****
    if (inString.indexOf("[lamp_2_ON]")>0) {
        digitalWrite(lamp_2, LOW);
    }
    else if (inString.indexOf("[lamp_2_OFF]")>0) {
        digitalWrite(lamp_2, HIGH);
    }
    //*****
    if (inString.indexOf("[lamp_3_ON]")>0) {
        digitalWrite(lamp_3, LOW);
    }
    else if (inString.indexOf("[lamp_3_OFF]")>0) {
        digitalWrite(lamp_3, HIGH);
    }
    //*****
    if (inString.indexOf("[lamp_4_ON]")>0) {
        digitalWrite(lamp_4, LOW);
    }
}
```

```
else if (inString.indexOf("[lamp_4_OFF]")>0) {
    digitalWrite(lamp_4, HIGH);
}
//*****
if (inString.indexOf("[lamp_5_ON]")>0) {
    digitalWrite(lamp_5, LOW);
}
else if (inString.indexOf("[lamp_5_OFF]")>0) {
    digitalWrite(lamp_5, HIGH);
}
//*****
if (inString.indexOf("[lamp_6_ON]")>0) {
    digitalWrite(lamp_6, LOW);
}
else if (inString.indexOf("[lamp_6_OFF]")>0) {
    digitalWrite(lamp_6, HIGH);
}
//*****
if (inString.indexOf("[lamp_7_ON]")>0) {
    digitalWrite(lamp_7, LOW);
}
else if (inString.indexOf("[lamp_7_OFF]")>0) {
    digitalWrite(lamp_7, HIGH);
}
//*****
if (inString.indexOf("[lamp_8_ON]")>0) {
    digitalWrite(lamp_8, LOW);
}
else if (inString.indexOf("[lamp_8_OFF]")>0) {
    digitalWrite(lamp_8, HIGH);
}
```

```
}  
//*****  
//*****  
//*****  
if (inString.indexOf("[Led_1_ON]")>0) {  
    digitalWrite(Led_1, LOW);  
}  
else if (inString.indexOf("[Led_1_OFF]")>0) {  
    digitalWrite(Led_1, HIGH);  
}  
//*****  
if (inString.indexOf("[Led_2_ON]")>0) {  
    digitalWrite(Led_2, LOW);  
}  
else if (inString.indexOf("[Led_2_OFF]")>0) {  
    digitalWrite(Led_2, HIGH);  
}  
//*****  
if (inString.indexOf("[Led_3_ON]")>0) {  
    digitalWrite(Led_3, LOW);  
}  
else if (inString.indexOf("[Led_3_OFF]")>0) {  
    digitalWrite(Led_3, HIGH);  
}  
//*****  
if (inString.indexOf("[Led_4_ON]")>0) {  
    digitalWrite(Led_4, LOW);  
}  
else if (inString.indexOf("[Led_4_OFF]")>0) {  
    digitalWrite(Led_4, HIGH);  
}
```

```
}  
//*****  
if (inString.indexOf("[Led_5_ON]")>0) {  
    digitalWrite(Led_5, LOW);  
}  
else if (inString.indexOf("[Led_5_OFF]")>0) {  
    digitalWrite(Led_5, HIGH);  
}  
//*****  
if (inString.indexOf("[Led_6_ON]")>0) {  
    digitalWrite(Led_6, LOW);  
}  
else if (inString.indexOf("[Led_6_OFF]")>0) {  
    digitalWrite(Led_6, HIGH);  
}  
//*****  
if (inString.indexOf("[Led_7_ON]")>0) {  
    digitalWrite(Led_7, LOW);  
}  
else if (inString.indexOf("[Led_7_OFF]")>0) {  
    digitalWrite(Led_7, HIGH);  
}  
//*****  
if (inString.indexOf("[Led_8_ON]")>0) {  
    digitalWrite(Led_8, LOW);  
}  
else if (inString.indexOf("[Led_8_OFF]")>0) {  
    digitalWrite(Led_8, HIGH);  
}  
//*****
```

```
else
{
    Serial.println("Wrong command");
}
inString = "";
}
}
}
```