



Pumo Technovation

Glow IoT

Title: Glow IoT – Smart Control System

Short description: Glow IoT is a smart lighting system controlled by ESP32 microcontroller via Blynk widgets over an ad-hoc network.

Key Features (bullet points): Remote ON/OFF control, brightness and color customization, ad-hoc Wi-Fi control, real-time monitoring.

Include a simple neat diagram showing: ESP32 → LEDs/Devices → Blynk App (smartphone).

Keep text minimal, professional, and readable. Use soft, clean colors and minimalist icons.

PRESENTED BY

Priyadarshini R

Coding & Implementation

The Glow IoT control system utilizes the ESP32 microcontroller, which integrates seamlessly with Blynk for remote management, allowing users to customize and monitor their smart lighting system efficiently.

Program

```
#include <WiFi.h>
#include <BlynkSimpleEsp32.h>
char auth[] = "YourBlynkAuthToken";
char ssid[] = "ESP32_AP";
char pass[] = "12345678";
void setup(){ Serial.begin(115200); Blynk.begin(auth, ssid, pass);
pinMode(2, OUTPUT);}
BLYNK_WRITE(V1){ digitalWrite(2, param.asInt()); }
void loop(){ Blynk.run(); }
```

The screenshot shows the Arduino IDE interface. The top menu bar includes View, Go, Run, Terminal, and Help. The title bar indicates the file is main.cpp - V. The code editor window shows the main.cpp file with the following content:

```
main.cpp x
Blink_LED > src > main.cpp > loop()
1 #include <Arduino.h>
2
3 #define LED 2
4
5 void setup() {
6     // put your setup code here, to run once:
7     Serial.begin(115200);
8     pinMode(LED, OUTPUT);
9 }
10
11 void loop() {
12     // put your main code here, to run repeatedly:
13     digitalWrite(LED, HIGH);
14     Serial.print("LED is on");
15     delay(1000);
16     digitalWrite(LED, LOW);
17     Serial.print("LED is off");
```

The terminal window at the bottom displays the following output:

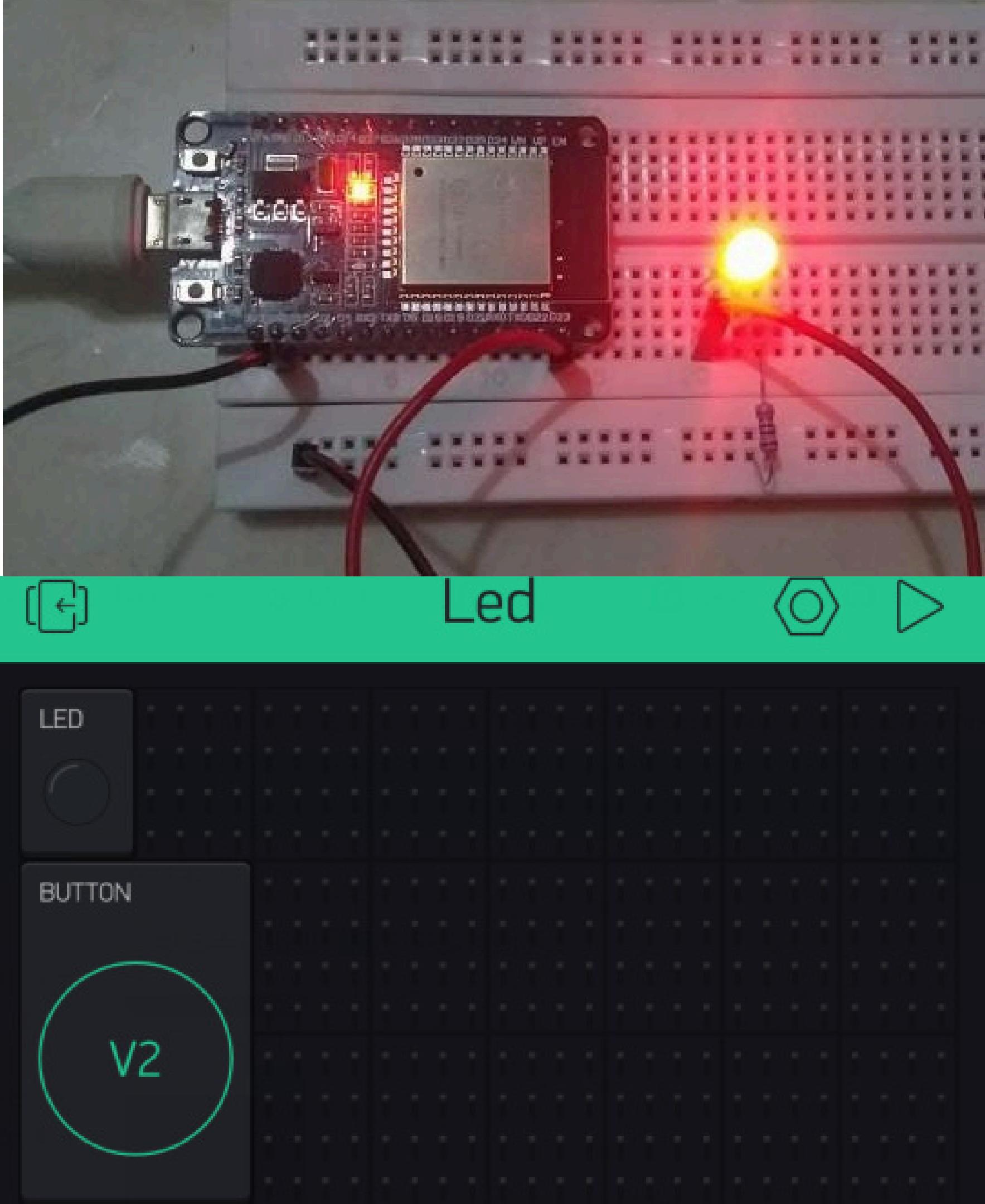
```
Wrote 216752 bytes (109861 compressed) at 0x00010000 in 2.7 seconds
Hash of data verified.

Leaving...
Hard resetting via RTS pin...
-----
[SUCCESS] Took 30.85 s
```

A red box highlights the terminal output, specifically the message "Leaving..." and "Hard resetting via RTS pin...". Below the terminal window, a message states "Terminal will be reused by tasks, press any key to close it."

Working Stage

- ESP32 Microcontroller → LED Device
- Show an arrow from ESP32 to LED to indicate control.
- Ad-hoc Wi-Fi Network
- Label it as “ESP32 creates direct Wi-Fi network for control.”
- Blynk App on Smartphone → Remote Control
- Show Button Widget (V1) for ON/OFF
- Slider Widget (V2) for brightness control
- Live Action Flow:
- Press Blynk Button → LED turns ON/OFF immediately
- Slide Slider Widget → LED brightness changes in real-time
- Optional Notes:
- Highlight real-time response
- Show power efficiency and IoT automation



Internship Completion

Gained hands-on experience with ESP32 microcontroller and IoT projects.

Learned to program and deploy code in VSCode for embedded systems.

Implemented Blynk widgets for remote device control via ad-hoc networks.

Developed problem-solving and debugging skills in hardware-software integration.

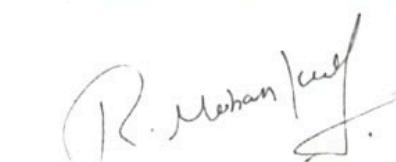
Improved teamwork, communication, and project presentation skills.

INTERNSHIP CERTIFICATE

This is to certify that **Miss. Priyadarshini R** studying BE - Electronics and Communication at **PSNA College of Engineering and Technology, Dindigul** has attended an internship in "Embedded system and IOT" in our organization from 16/01/2025 to 30/01/2025.

We found her effective in discharging the responsibilities assigned to her. During her tenure with us for the above period, we found her efficient, and her character and conduct were good.

For Pumo Technovation India Pvt Ltd



R. MOHANKUMAR

Managing Director

