

ESP32 Two Switches with Independent LED Toggle

➤ Code:

```
➤ const int button1Pin = 35;    // Switch 1
➤ const int button2Pin = 34;    // Switch 2
➤ const int led1Pin      = 5;    // LED 1
➤ const int led2Pin      = 18;   // LED 2
➤
➤ // LED states
➤ int led1State = LOW;
➤ int led2State = LOW;
➤
➤ // For button 1 debounce
➤ int lastButton1 = HIGH;
➤ unsigned long lastTime1 = 0;
➤
➤ // For button 2 debounce
➤ int lastButton2 = HIGH;
➤ unsigned long lastTime2 = 0;
➤
➤ const int debounceDelay = 50; // debounce time in ms
➤
➤ void setup() {
➤   pinMode(led1Pin, OUTPUT);
➤   pinMode(led2Pin, OUTPUT);
➤
➤   pinMode(button1Pin, INPUT_PULLUP); // active LOW
➤   pinMode(button2Pin, INPUT_PULLUP); // active LOW
➤
➤   digitalWrite(led1Pin, led1State);
➤   digitalWrite(led2Pin, led2State);
➤ }
```

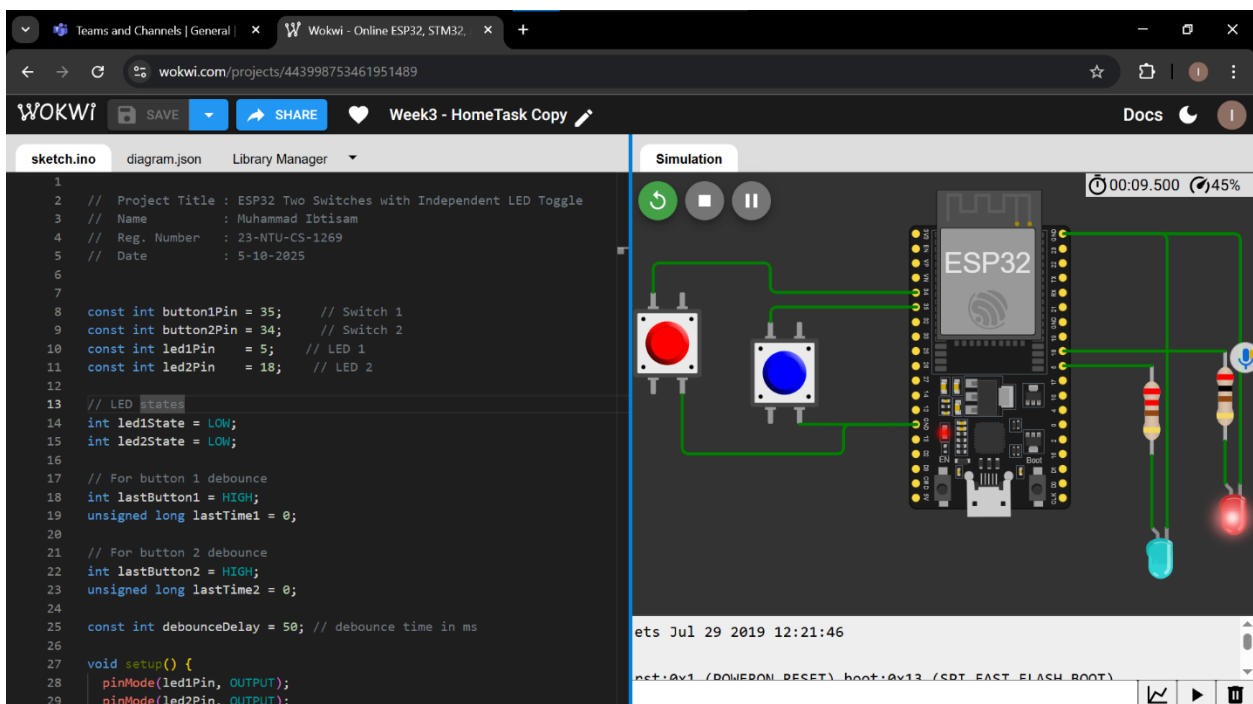
```

➤ void loop() {
➤   //Botton1
➤   int reading1 = digitalRead(button1Pin);
➤   if (reading1 == LOW && lastButton1 == HIGH && (millis() - lastTime1) >
debounceDelay) {
➤     led1State = !led1State;           // toggle LED1
➤     digitalWrite(led1Pin, led1State);
➤     lastTime1 = millis();
➤   }
➤   lastButton1 = reading1;
➤
➤   //Botton1
➤   int reading2 = digitalRead(button2Pin);
➤   if (reading2 == LOW && lastButton2 == HIGH && (millis() - lastTime2) >
debounceDelay) {
➤     led2State = !led2State;           // toggle LED2
➤     digitalWrite(led2Pin, led2State);
➤     lastTime2 = millis();
➤   }
➤   lastButton2 = reading2;
➤ }
➤

```



Screenshots:



Wokwi - Online ESP32, STM32

wokwi.com/projects/443998753461951489

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sketch.ino diagram.json Library Manager

```
1
2 // Project Title : ESP32 Two Switches with Independent LED Toggle
3 // Name : Muhammad Ibtisam
4 // Reg. Number : 23-NTU-CS-1269
5 // Date : 5-10-2025
6
7
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10 const int led1Pin = 5; // LED 1
11 const int led2Pin = 18; // LED 2
12
13 // LED states
14 int led1State = LOW;
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16
17 // For button 1 debounce
18 int lastButton1 = HIGH;
19 unsigned long lastTime1 = 0;
20
21 // For button 2 debounce
22 int lastButton2 = HIGH;
23 unsigned long lastTime2 = 0;
24
25 const int debounceDelay = 50; // debounce time in ms
26
27 void setup() {
28   pinMode(led1Pin, OUTPUT);
29   pinMode(led2Pin, OUTPUT);
30 }
```

Simulation

ets Jul 29 2019 12:21:46

ret:0x1 (POWERON_RESET) boot:0x13 (SPI_FLASH_BOOT)

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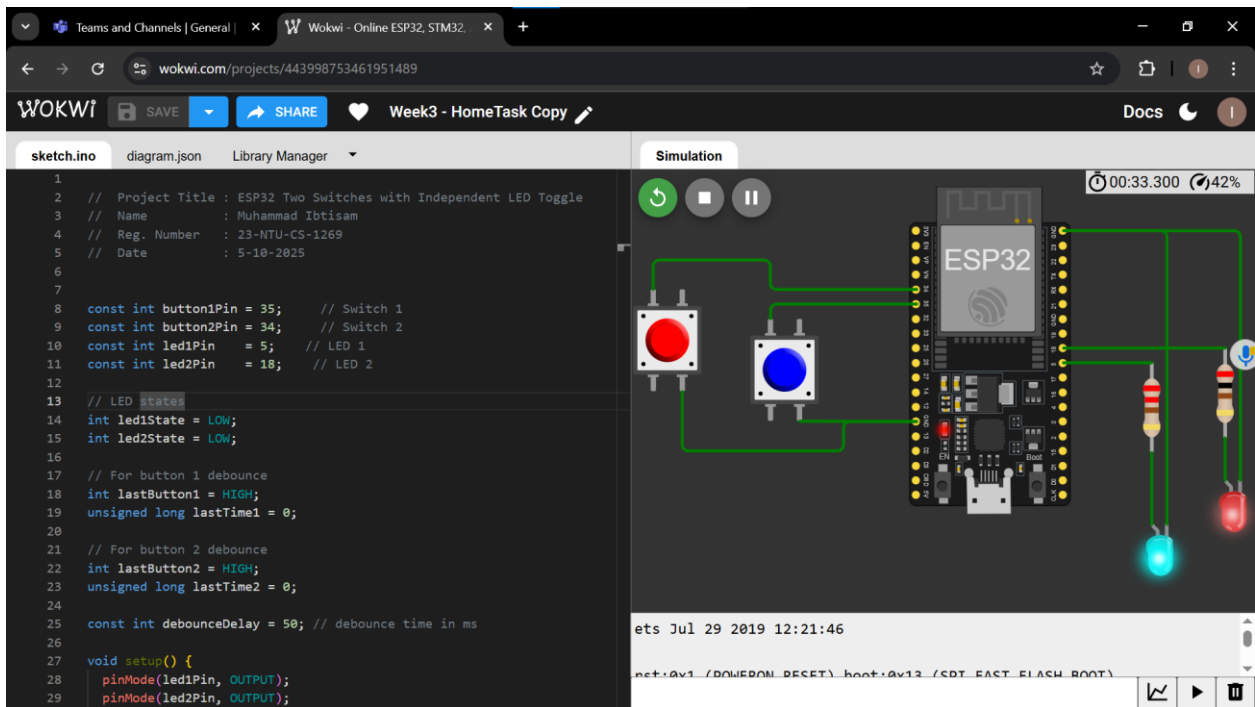
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Wokwi project link:

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