Guide to Finding the MAC Address of ESP32-WROOM-32

Introduction

The MAC (Media Access Control) address is a unique identifier assigned to network interfaces for communication on a network. The ESP32-WROOM-32 module has a built-in Wi-Fi module, and each device has a unique MAC address. This guide provides step-by-step instructions to retrieve the MAC address of your ESP32-WROOM-32 module using the Arduino IDE.

Requirements

- ESP32-WROOM-32 module

- USB cable (for connecting ESP32 to the computer)

- Arduino IDE installed

- ESP32 board package installed in Arduino IDE

Steps to Find the MAC Address

Step 1: Connect the ESP32 to Your Computer

1. Plug the ESP32-WROOM-32 module into your computer using a USB cable.

2. Open the Arduino IDE.

3. Select the correct board by navigating to **Tools > Board > ESP32 Dev Module**.

4. Select the correct **COM port** under **Tools > Port**.

Step 2: Upload the MAC Address Code

1. Open a new Arduino sketch and enter the following code:

   Code is given in the repository

2. Click the **Upload** button and wait for the code to compile and upload successfully.

Step 3: Open Serial Monitor

1. Once the upload is complete, open the Serial Monitor in the Arduino IDE (**Tools > Serial Monitor**).

2. Ensure the baud rate is set to **115200**.

3. You will see an output similar to:

ESP32 MAC Address: 24:6F:28:3A:BC:D4

Understanding MAC Address Usage

- The MAC address is a **unique identifier** used in networking.

- ESP32 has two MAC addresses:
  - **Wi-Fi MAC Address** (default retrieved using WiFi.macAddress())
  - **Bluetooth MAC Address** (retrieved using esp_bt_dev_get_address() in ESP-IDF)
- The MAC address can be used for network security, ESP-NOW communication, and device identification.

Troubleshooting

- If you don't see the MAC address:
  - Ensure the correct **COM port** is selected in Arduino IDE.
  - Check the **Serial Monitor baud rate** (should be **115200**).
  - Ensure the **ESP32 board package** is installed.

Conclusion

By following these steps, you can easily find the MAC address of your ESP32-WROOM-32 module. This information is essential for configuring network communication and implementing secure connections.