

ADIY Nodemcu ESP32 User Manual



ADIY Nodemcu ESP32:

ESP-32 series contains varies sub-boards like ESP32E, ESP32U etc. Supporting 2.4 GHz Wi-Fi + Bluetooth® + Bluetooth LE module. Built around ESP32 series of SoCs, Xtensa® dual-core 32-bit LX6 microprocessor. 4MB flash memory.





Installing the Arduino IDE Software

Here, will start with the basic program which will be blink LED. Firstly we need to install Arduino IDE software in our system to upload the code in ADIY ESP Board. You can install this software by clicking on below link:-

https://www.arduino.cc/en/software

According to your operating system you can select OS from given options. In my case its Windows 10.

Installing the USB-to-Serial Bridge Driver:

Depending on the design, you need to install additional drivers for your USB-to-serial converter before you can upload code to your ADIY ESP32.

For example, the ADIY Nodemcu ESP32 CP2102 uses the CP2102 to convert USB signals to UART signals, whereas ADIY Nodemcu ESP32 CH340C uses the CH340C.



Make sure to inspect your board carefully to identify the USB-to-serial converter that is present. You'll probably have either CP2102 or CH340 populated on the board.

If you've never installed drivers for these USB-to-serial converters on your computer before, you should do so right now.

Link for CP2102:

https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers?tab=downloads





Link for CH340C: <u>https://learn.sparkfun.com/tutorials/how-to-install-ch340-drivers/all</u> Accordingly, to your system select OS.

Installing the ESP32 board Library in Arduino IDE software

To see ESP32 board name in list of board, first you need to save URL in Arduino IDE. **Step 1:** Open Arduino IDE software, Go to File -> Preferences

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Fill in the "Additional Board Manager URLs" field with the following.

 $https://raw.githubusercontent.com/espressif/arduino-esp32/gh-pages/package_esp32_index.json$

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en, click the "OK" b	utton. to Tools -> Board -> Boards Manager	
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Filter your search by entering 'esp32'. Look for ESP32 by Espressif Systems. Click on that entry, and then choose Install.

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After installing the board library.

Congratulations!!! Now you can write a code.



Testing the Installation

As discussed in the beginning, will start with the basic code. i.e. Blink LED.

In following Sketch we are using onboard led which is connected to digital pin D2.

Step 1: Go to File -> New Sketch

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Step 2: After clicking on New Sketch, one window will be pop-up as shown below,

step 2: After clicking on New Sketch, one window will be pop-up as shown below,

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Clear the existing code (Blank code) and write your code.

```
int ledPin = 2;
void setup() {
    pinMode(ledPin, OUTPUT);
}
void loop() {
    digitalWrite(ledPin, HIGH);
    delay(500);
    digitalWrite(ledPin, LOW);
    delay(500);
}
```

Step 3: Selecting the Board and Port

After installing the ESP32 board, restart your Arduino IDE and navigate to Tools > Board, to ensure you have ESP32 boards available.



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Step 4: Now select your board in the Tools -> Board -> esp32 -> ESP32 Dev Module. Connect ADIY ESP32 board to your computer.



Step 5: Select a port by clicking on Tools -> Port -> COM34 (In my case its COM34, yours will be different)

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		PSRAM: "Disabled"	•	
		Upload Speed: "921600"	•	
		Zigbee Mode: "Disabled"	•	
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		Burn Bootloader		
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Note: If shows multiple com ports in your software then you can check exact COM port in device manager.



Step 6: Press and hold the BOOT switch on the ADIY Nodemcu ESP32 board and click on \bigcirc upload icon in software.





If everything worked, the on-board LED on your ESP32 should now be blinking!

Just like shown in above Image

Note :-

To upload a new code we need to press and hold BOOT switch with this board. If you want by pass this process you can add one 10uf electrolytic between EN and GND pin.

