

How to connect a Push Button with Digital Input Pull-Up resistor

What is Digital Input Pull-Up resistor?

In Arduino, a Digital Input Pull-Up Resistor is an internal resistor that you can enable on digital input pins to ensure a known default voltage level (HIGH) when the pin is not actively connected to anything (i.e. it's "floating").

We have another [**tutorial**](#) showing how to use a button the *normal* way.

Advantage of using a button this way

1. **Fewer External Components**

- No need for an external resistor—the internal pull-up does the job.
- Makes circuits simpler and saves space, especially on a breadboard.

2. **Stable Default State (HIGH)**

- Ensures the input pin has a known state (HIGH) when the button is not pressed.
- Prevents floating inputs, which can cause random or noisy readings.

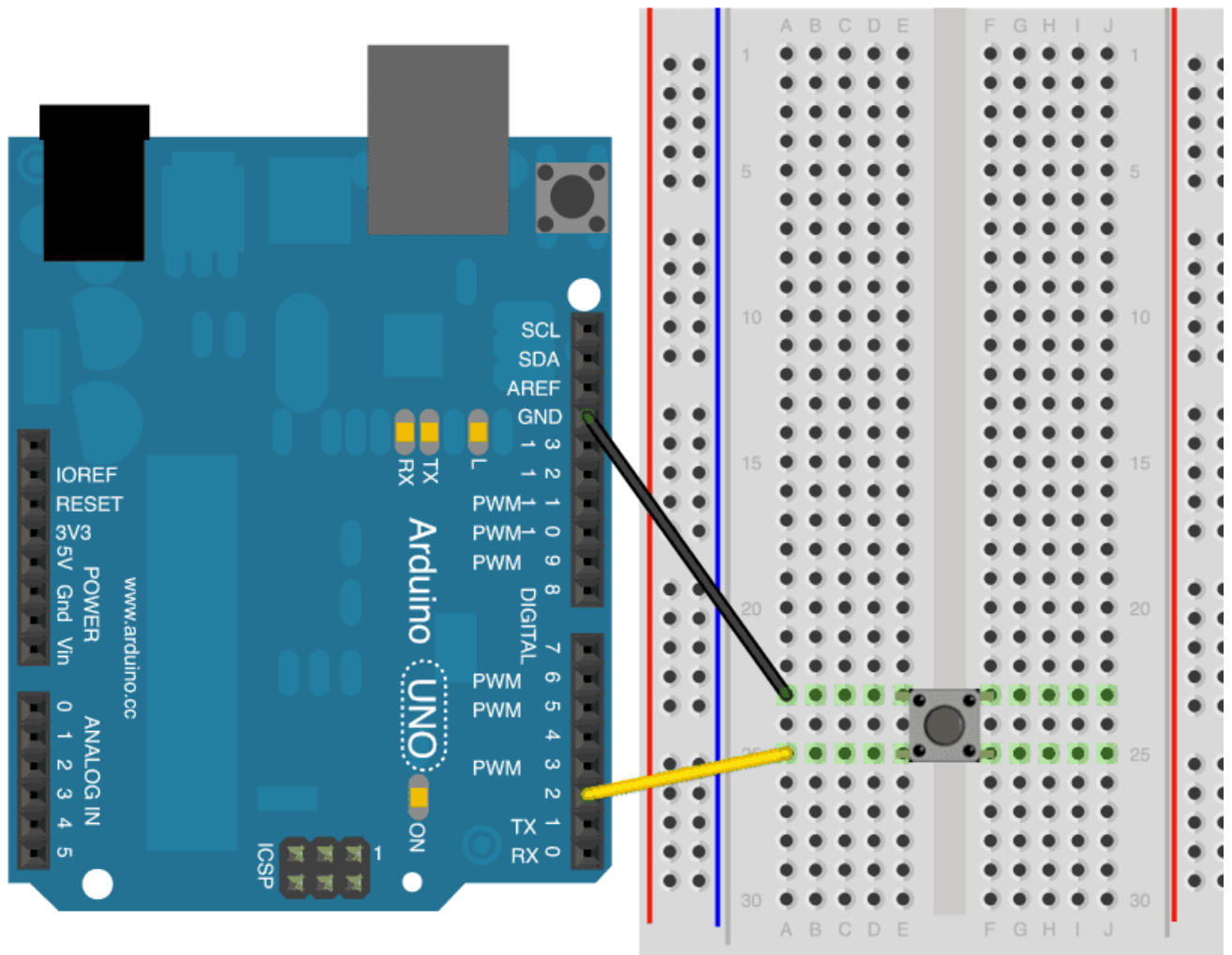
3. **Simpler Wiring**

- You only need to wire the button between the pin and GND.
- Ground is often easier to route in a circuit than Vcc (especially with many buttons).

Wiring

- one pin to GND

- one pin to 2



Getting started

```
void setup() {  
  pinMode(2, INPUT_PULLUP); // Internal pull-up enabled  
  Serial.begin(9600);  
}  
  
void loop() {  
  int buttonState = digitalRead(2);  
  Serial.println(buttonState); // Reads HIGH when not pressed, LOW when pressed (to GND)  
  delay(100);  
}
```

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