

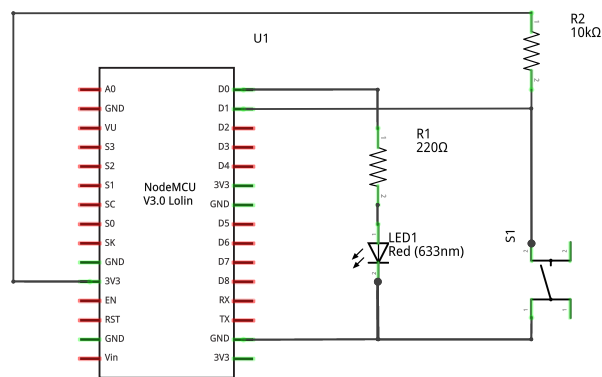
# Assignment: MQTT with button and LED

## Goals

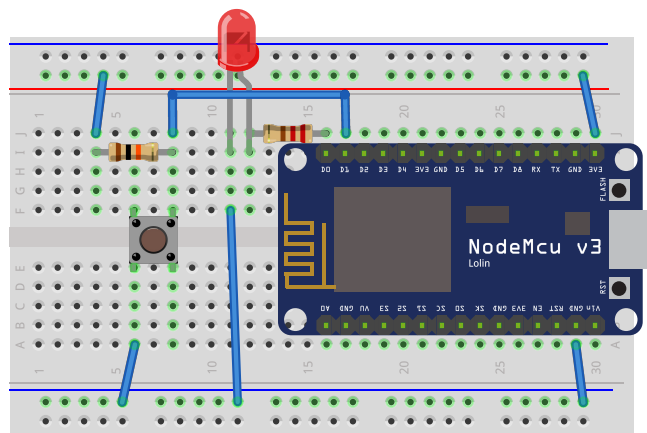
- Get acquainted with MQTT.
- Publish a message when a button is pressed.
- Subscribe to a topic to control the LED

## Step 1

Wire up this schematic on the bread board:



fritzing



fritzing

## Step 2

- Tip: change upload speed to max.
- Read button, print message on terminal

## Step 3

- Connect to the Wi-Fi network
  - Use `WiFi.localIP()`
- Connect to MQTT broker

## Step 4

- Publish a message on button press on the topic `ndc/$device-id/button`

## Step 5 (Bonus)

- Subscribe to the topic `ndc/$device-id/led`.
- Use the value to for example turn the LED on/off, or change the LED's blinking pattern.

## Tips

To generate a client id make something with `ESP.getChipId()`

Creating a `String` from a number:

- `String(123) => "123"`
- Hex formatted: `String(0x123abc, HEX) => "123abc"`

Some APIs require “plain C strings” aka a `char *`. They can be converted with `String::c_str()`:

```
char *cStr = myString.c_str();
```