

Practical 7

AIM: Node-RED: Connect LED to Internet of Things

Theory:

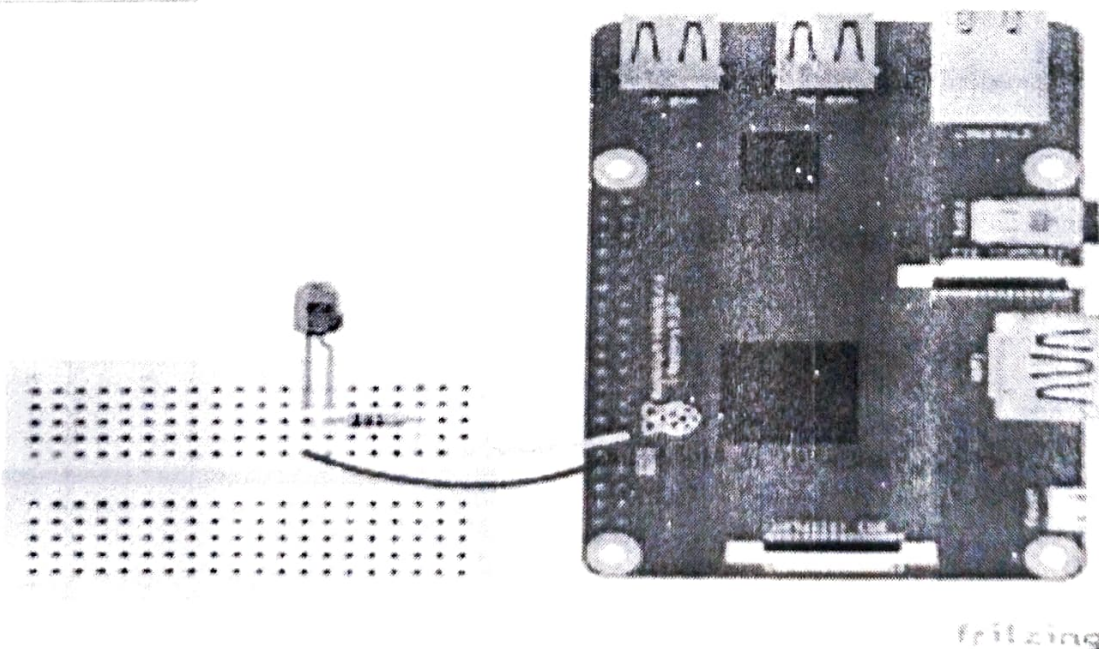
- Node-RED is a drag-and-drop visual tool that comes pre-installed with Raspbian. In this lesson, we will use Node-RED to control LEDs via the Raspberry Pi's GPIO pins.

Hardware Guide:

- Along with the basic setup, you will require the following components to get started with Node-RED as follows:
 1. LED
 2. Resistor
 3. Connecting wires
 4. Breadboard

Wiring up the Circuit:

1. Connect the Raspberry Pi to the internet by:
Using an ethernet cable.
Or connecting the on-board WiFi module to the router.
2. Wire up an LED to GPIO17 (i.e., Physical pin 11) on your Raspberry Pi as shown in the diagram.



Software Guide:

1. Start up your Raspberry Pi. Click on the Raspberry icon, then the Programming menu to open Node-RED.
2. You should see a window displaying information about Node-RED starting up.
3. Now go to the Internet menu and open the Chromium Web Browser.
4. In Chromium, locate the address bar at the top and type in localhost:1880, then press Enter. This will display the Node-RED interface. (Your Raspberry Pi does not need to be connected to the internet to use Node-RED: localhost is the address the Raspberry Pi uses to refer to itself, and :1880 means that it is looking at port 1880.)