

SPRINT-2

TEAM ID	PNT2022TMID40471
Project Name	IoT Based smart crop Protection system for agriculture
Maximum mark	20 marks

STEP1: Download and Install NODE JS.

Downloads

Latest LTS Version: 18.12.1 (includes npm 8.19.2)

Download the Node.js source code or a pre-built installer for your platform, and start developing today.

LTS Recommended For Most Users	Current Latest Features	
 Windows Installer node-v18.12.1-x64.msi	 macOS Installer node-v18.12.1.pkg	 Source Code node-v18.12.1.tar.gz
Windows Installer (.msi)	32-bit	64-bit
Windows Binary (.zip)	32-bit	64-bit
macOS Installer (.pkg)	64-bit / ARM64	
macOS Binary (.tar.gz)	64-bit	ARM64

STEP2: Setup node.js and configure command prompt for open node-red and the link is generated for node red.

```
node-red
18 Nov 19:32:01 - [info] Node-RED version: v3.0.2
18 Nov 19:32:01 - [info] Node.js version: v19.1.0
18 Nov 19:32:01 - [info] Windows_NT 10.0.22000 x64 LE
18 Nov 19:32:02 - [info] Loading palette nodes
18 Nov 19:32:03 - [info] Dashboard version 3.2.0 started at /ui
18 Nov 19:32:03 - [info] Settings file : C:\Users\Asus\.node-red\settings.js
18 Nov 19:32:03 - [info] Context store : 'default' [module=memory]
18 Nov 19:32:03 - [info] User directory : \Users\Asus\.node-red
18 Nov 19:32:03 - [warn] Projects disabled : editorTheme.projects.enabled=false
18 Nov 19:32:03 - [info] Flows file : \Users\Asus\.node-red\flows.json
18 Nov 19:32:03 - [info] Creating new flow file
18 Nov 19:32:03 - [warn]

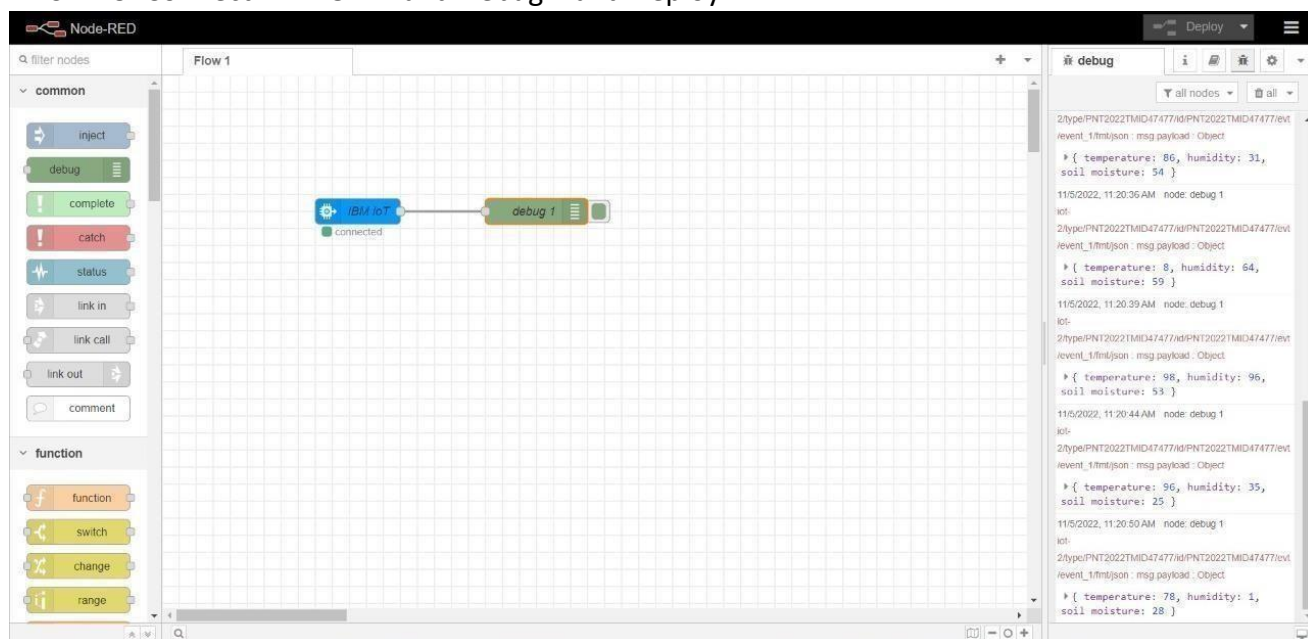
-----
Your flow credentials file is encrypted using a system-generated key.

If the system-generated key is lost for any reason, your credentials
file will not be recoverable, you will have to delete it and re-enter
your credentials.

You should set your own key using the 'credentialSecret' option in
your settings file. Node-RED will then re-encrypt your credentials
file using your chosen key the next time you deploy a change.
-----

18 Nov 19:32:03 - [warn] Encrypted credentials not found
18 Nov 19:32:03 - [info] Server now running at http://127.0.0.1:1880/
18 Nov 19:32:03 - [info] Starting flows
18 Nov 19:32:03 - [info] Started flows
```

STEP3: Connect IBM IOT in and Debug 1 and Deploy.



STEP4: Edit gauge node (Here the gauge nodes are named as Temperature, Humidity and Soil moisture).

The screenshot displays the Node-RED web interface. On the left, the 'dashboard' sidebar lists various widgets: button, dropdown, switch, slider, numeric, text input, data picker, colour picker, form, text, gauge, chart, audio out, notification, and ui control. The main workspace, titled 'Flow 1', contains a flow with an 'IBM IoT' node connected to a 'debug 1' node and a 'gauge' node. The 'gauge' node is highlighted, and its configuration panel is open on the right.

The 'Edit gauge node' panel has the following settings:

- Group: [CROP] MONITORING
- Size: auto
- Type: Gauge
- Label: TEMPERATURE
- Value format: {{value}}
- Units: C
- Range: min 0, max 100
- Colour gradient: A gradient bar with green, yellow, and red segments.
- Sectors: 0, optional, optional, 100
- Class: Optional CSS class name(s) for widget
- Name:
- Enabled: ☒

The debug console on the right shows the following JSON data:

```
2/type/PNT2022TMD47477/ad/PNT2022TMD47477/evl
/event_1/mmtjson : msg.payload : Object
{
  temperature: 28, humidity: 26,
  soil moisture: 79
}
11/5/2022, 11:24:38 AM node: debug 1
iot:
2/type/PNT2022TMD47477/ad/PNT2022TMD47477/evl
/event_1/mmtjson : msg.payload : Object
{
  temperature: 2, humidity: 82,
  soil moisture: 53
}
11/5/2022, 11:24:44 AM node: debug 1
iot:
2/type/PNT2022TMD47477/ad/PNT2022TMD47477/evl
/event_1/mmtjson : msg.payload : Object
{
  temperature: 48, humidity: 95,
  soil moisture: 82
}
11/5/2022, 11:24:50 AM node: debug 1
iot:
2/type/PNT2022TMD47477/ad/PNT2022TMD47477/evl
/event_1/mmtjson : msg.payload : Object
{
  temperature: 33, humidity: 48,
  soil moisture: 98
}
11/5/2022, 11:24:56 AM node: debug 1
iot:
2/type/PNT2022TMD47477/ad/PNT2022TMD47477/evl
/event_1/mmtjson : msg.payload : Object
{
  temperature: 43, humidity: 2,
  soil moisture: 86
}
```