

SPRINT-2

TEAM ID	PNT2022TMID51110
Project Name	IoT Based smart crop Protection system for agriculture
Maximum mark	20 marks

STEP1: Download and Install NODE JS.

node

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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 <small>node-v18.12.1-x64.msi</small>	 macOS Installer <small>node-v18.12.1.pkg</small>	 Source Code <small>node-v18.12.1.tar.gz</small>

Windows Installer (.msi)
Windows Binary (.zip)
macOS Installer (.pkg)
macOS Binary (.tar.gz)
Linux Binaries (x64)

32-bit	64-bit
32-bit	64-bit
64-bit / ARM64	
64-bit	ARM64
64-bit	

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

```
node-red
4 Nov 18:48:05 - [info] Node-RED version: v3.0.2
4 Nov 18:48:05 - [info] Node.js version: v18.12.0
4 Nov 18:48:05 - [info] Windows_NT 10.0.19044 x64 LE
4 Nov 18:48:26 - [info] Loading palette nodes
4 Nov 18:48:44 - [info] Settings file : C:\Users\ELCOT\.node-red\settings.js
4 Nov 18:48:45 - [info] Context store : 'default' [module=memory]
4 Nov 18:48:45 - [info] User directory : \Users\ELCOT\.node-red
4 Nov 18:48:45 - [warn] Projects disabled : editorTheme.projects.enabled=false
4 Nov 18:48:45 - [info] Flows file : \Users\ELCOT\.node-red\flows.json
4 Nov 18:48:45 - [info] Creating new flow file
4 Nov 18:48:45 - [warn]

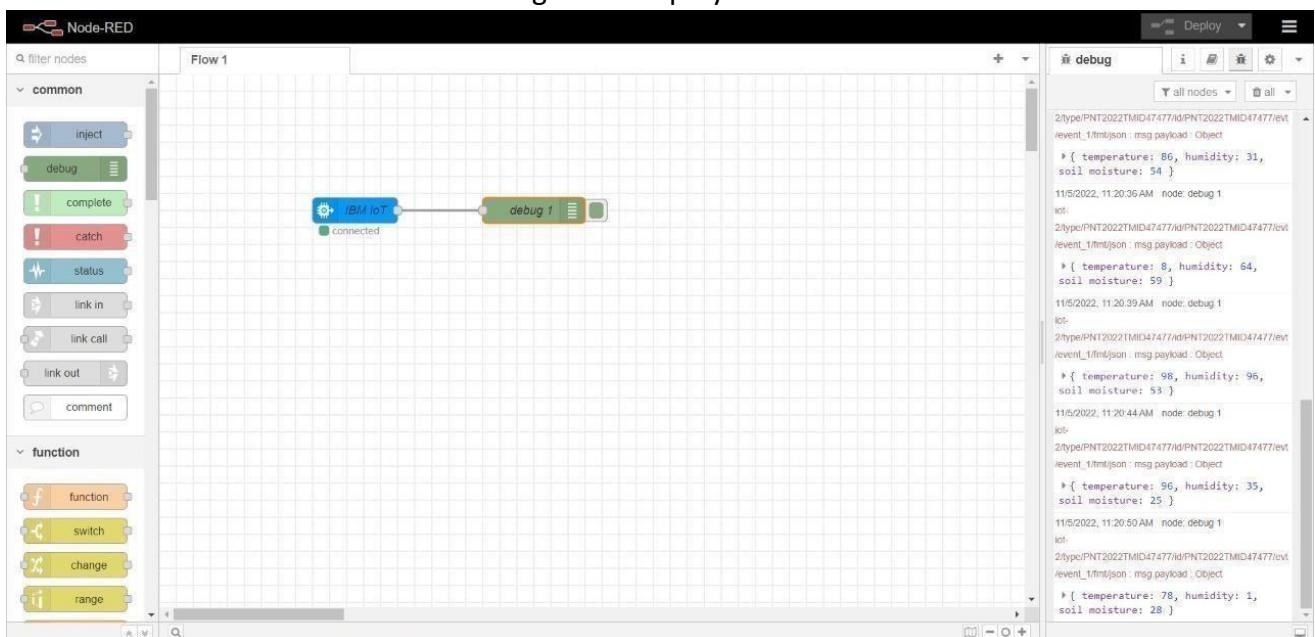
-----
Your flow credentials file is encrypted using a system-generated key.

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.
-----

4 Nov 18:48:45 - [warn] Encrypted credentials not found
4 Nov 18:48:45 - [info] Starting flows
4 Nov 18:48:46 - [info] Started flows
4 Nov 18:48:46 - [info] Server now running at http://127.0.0.1:1880/
```

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).

Node-RED interface showing the configuration of a gauge node.

Flow 1: A flow containing an **IBM IoT** node connected to a **gauge** node.

Edit gauge node properties:

- Group:** [CROP PRODUCTION] MONITORIN
- Size:** auto
- Type:** Gauge
- Label:** gauge
- Value format:** {(value)}
- Units:** units
- Range:** min 0 max 10
- Colour gradient:** Green, Yellow, Red
- Sectors:** 0 optional optional 10
- Class:** Optional CSS class name(s) for widget
- Enabled:** ☐ Enabled

Info panel:

- Flows:** Flow 1
- Subflows:**
- Global Configuration Nodes:**
- gauge** node details: Node "2fa1b50866f72a6e", Type ui_gauge
- Hold down** [] when you **click** on a node to also select all of its connected nodes.

Node-RED interface showing the configuration of a gauge node and the debug console.

Flow 1: A flow containing an **IBM IoT** node connected to a **debug 1** node, which is connected to a **gauge** node.

Edit gauge node properties:

- Group:** [CROP] MONITORING
- Size:** auto
- Type:** Gauge
- Label:** TEMPERATURE
- Value format:** {(value)}
- Units:** C
- Range:** min 0 max 100
- Colour gradient:** Green, Yellow, Red
- Sectors:** 0 optional optional 100
- Class:** Optional CSS class name(s) for widget
- Name:**
- Enabled:** ☐ Enabled

Debug console:

```
2/type/PNT2022TMD47477/Id/PNT2022TMD47477/rev/
event_1/midjson : msg.payload : Object
{
  temperature: 28, humidity: 26,
  soil moisture: 75
}
11/5/2022, 11:24:38 AM node debug 1
IoT:
2/type/PNT2022TMD47477/Id/PNT2022TMD47477/rev/
event_1/midjson : msg.payload : Object
{
  temperature: 2, humidity: 82,
  soil moisture: 53
}
11/5/2022, 11:24:44 AM node debug 1
IoT:
2/type/PNT2022TMD47477/Id/PNT2022TMD47477/rev/
event_1/midjson : msg.payload : Object
{
  temperature: 48, humidity: 95,
  soil moisture: 82
}
11/5/2022, 11:24:50 AM node debug 1
IoT:
2/type/PNT2022TMD47477/Id/PNT2022TMD47477/rev/
event_1/midjson : msg.payload : Object
{
  temperature: 33, humidity: 40,
  soil moisture: 90
}
11/5/2022, 11:24:56 AM node debug 1
IoT:
2/type/PNT2022TMD47477/Id/PNT2022TMD47477/rev/
event_1/midjson : msg.payload : Object
{
  temperature: 43, humidity: 2,
  soil moisture: 86
}
```