


PROJECT DEVELOPMENT PHASE



SPRINT-2

Date	29 October 2022
Team ID	PNT2022TMID24163
Project Name	IoT based smart crop protection system for agriculture

STEP1: Download and Install NODE JS.






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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 node-v18.12.1-x64.msi	 macOS Installer node-v18.12.1.pkg	 Source Code node-v18.12.1.tar.gz

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
Microsoft Windows [Version 10.0.19044.2130]
(c) Microsoft Corporation. All rights reserved.

C:\Users\user>node --version
v18.12.0

C:\Users\user>npm --version
8.19.2
```

```
node-red
C:\Users\user>npm install -g --unsafe-perm node-red

changed 292 packages, and audited 293 packages in 2m

39 packages are looking for funding
  run `npm fund` for details

5 vulnerabilities (4 low, 1 moderate)

To address issues that do not require attention, run:
  npm audit fix

To address all issues (including breaking changes), run:
  npm audit fix --force

Run `npm audit` for details.

C:\Users\user>node-red
10 Nov 12:46:26 - [info]

Welcome to Node-RED
=====
```

```
node-red
Run `npm audit` for details.

C:\Users\user>node-red
10 Nov 12:46:26 - [info]

Welcome to Node-RED
=====

10 Nov 12:46:26 - [info] Node-RED version: v3.0.2
10 Nov 12:46:26 - [info] Node.js version: v18.12.0
10 Nov 12:46:26 - [info] Windows_NT 10.0.19044 x64 LE
10 Nov 12:46:30 - [info] Loading palette nodes
10 Nov 12:46:33 - [info] Settings file : C:\Users\user\.node-red\settings.js
10 Nov 12:46:33 - [info] Context store : 'default' [module=memory]
10 Nov 12:46:33 - [info] User directory : \Users\user\.node-red
10 Nov 12:46:33 - [warn] Projects disabled : editorTheme.projects.enabled=false
10 Nov 12:46:33 - [info] Flows file : \Users\user\.node-red\flows.json
10 Nov 12:46:33 - [info] Creating new flow file
10 Nov 12:46:33 - [warn]

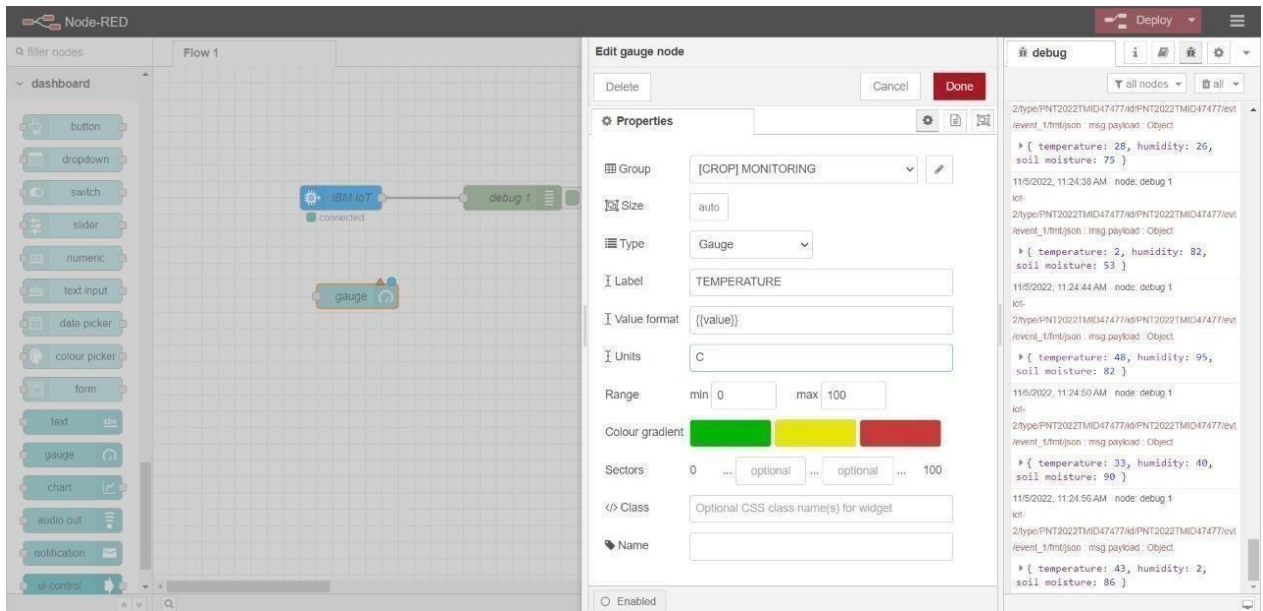
-----
Your flow credentials file is encrypted using a system-generated key.
```

```
Select node-red
10 Nov 12:46:33 - [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.
-----
10 Nov 12:46:33 - [warn] Encrypted credentials not found
10 Nov 12:46:33 - [info] Starting flows
10 Nov 12:46:33 - [info] Started flows
10 Nov 12:46:33 - [info] Server now running at http://127.0.0.1:1880/
```

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

The screenshot shows the Node-RED web interface. On the left, the 'common' nodes palette is visible. In the center workspace, a flow named 'Flow 1' contains two nodes: 'IBM IoT' (blue) and 'debug 1' (green), connected by a wire. The 'IBM IoT' node has a 'connected' status indicator. On the right, the 'debug' console is open, displaying a log of messages received from the IoT node. The messages are JSON objects containing temperature, humidity, and soil moisture data, timestamped with the date 11/5/2022.

```
2/type/PNT2022TMD47477/id/PNT2022TMD47477/evt
/event_1fmt/json : msg.payload : Object
  { temperature: 86, humidity: 31,
    soil moisture: 54 }
11/5/2022, 11:20:36 AM node debug 1
iot:
2/type/PNT2022TMD47477/id/PNT2022TMD47477/evt
/event_1fmt/json : msg.payload : Object
  { temperature: 8, humidity: 64,
    soil moisture: 59 }
11/5/2022, 11:20:39 AM node debug 1
iot:
2/type/PNT2022TMD47477/id/PNT2022TMD47477/evt
/event_1fmt/json : msg.payload : Object
  { temperature: 98, humidity: 96,
    soil moisture: 53 }
11/5/2022, 11:20:44 AM node debug 1
iot:
2/type/PNT2022TMD47477/id/PNT2022TMD47477/evt
/event_1fmt/json : msg.payload : Object
  { temperature: 96, humidity: 35,
    soil moisture: 25 }
11/5/2022, 11:20:50 AM node debug 1
iot:
2/type/PNT2022TMD47477/id/PNT2022TMD47477/evt
/event_1fmt/json : msg.payload : Object
  { temperature: 78, humidity: 1,
    soil moisture: 28 }
```



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

