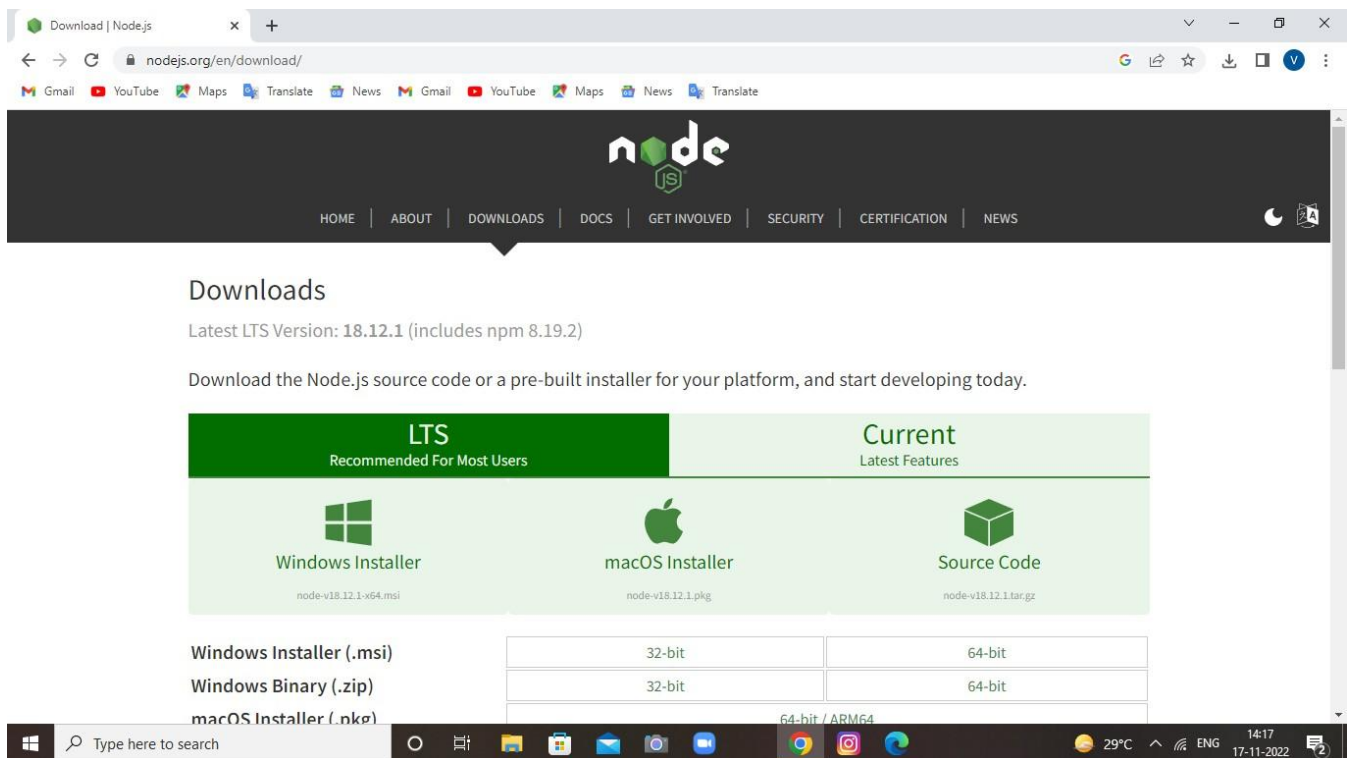


## Develop A Web Application Using Node-RED Service.

Date	17 November 2022
TEAM ID	PNT2022TMID50062
Project Name	IOT Based smart crop Protection system for agriculture
Maximum mark	20 marks

### STEP1:

Download and Install NODE JS.



The screenshot shows the Node.js download page in a web browser. The page has a dark header with the Node.js logo and navigation links: HOME, ABOUT, DOWNLOADS, DOCS, GET INVOLVED, SECURITY, CERTIFICATION, and NEWS. Below the header, the 'Downloads' section is highlighted. It states 'Latest LTS Version: 18.12.1 (includes npm 8.19.2)' and 'Download the Node.js source code or a pre-built installer for your platform, and start developing today.' There are two main tabs: 'LTS Recommended For Most Users' and 'Current Latest Features'. Under the 'LTS' tab, there are three options: 'Windows Installer' (node-v18.12.1-x64.msi), 'macOS Installer' (node-v18.12.1.pkg), and 'Source Code' (node-v18.12.1.tar.gz). Below these, there are links for 'Windows Installer (.msi)', 'Windows Binary (.zip)', and 'macOS Installer (.pkg)'. A table shows the available architectures: 32-bit and 64-bit for both Windows and macOS. The browser's taskbar at the bottom shows the Windows Start button, search bar, and various application icons. The system tray on the right shows the temperature (29°C), time (14:17), and date (17-11-2022).

Download | Node.js

nodejs.org/en/download/

node

HOME | ABOUT | DOWNLOADS | DOCS | GET INVOLVED | SECURITY | CERTIFICATION | NEWS


### 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)

32-bit	64-bit
32-bit	64-bit

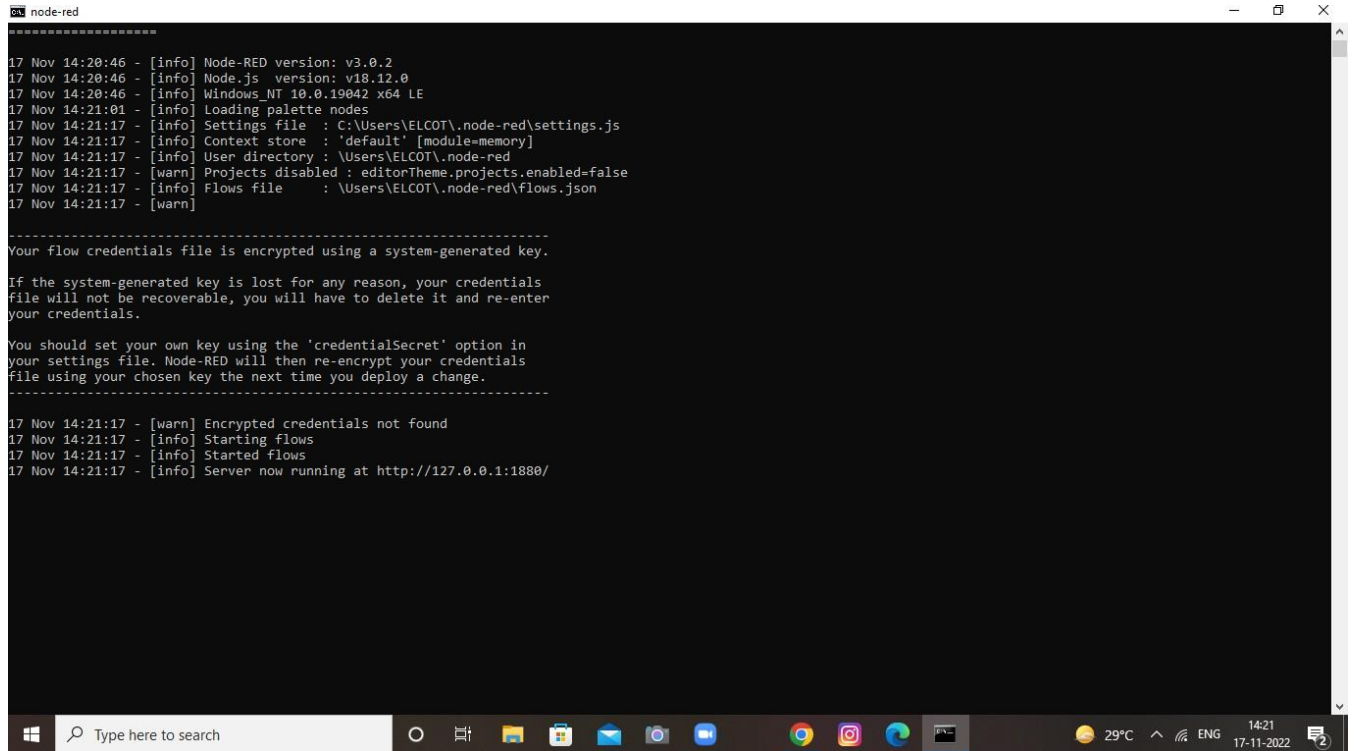
64-bit / ARM64

Type here to search

29°C 14:17 17-11-2022

## STEP2:

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



```
node-red
17 Nov 14:20:46 - [info] Node-RED version: v3.0.2
17 Nov 14:20:46 - [info] Node.js version: v18.12.0
17 Nov 14:20:46 - [info] Windows_NT 10.0.19042 x64 LE
17 Nov 14:21:01 - [info] Loading palette nodes
17 Nov 14:21:17 - [info] Settings file : C:\Users\ELCOT\.node-red\settings.js
17 Nov 14:21:17 - [info] Context store : 'default' [module=memory]
17 Nov 14:21:17 - [info] User directory : \Users\ELCOT\.node-red
17 Nov 14:21:17 - [warn] Projects disabled : editorTheme.projects.enabled=false
17 Nov 14:21:17 - [info] Flows file : \Users\ELCOT\.node-red\flows.json
17 Nov 14:21:17 - [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.
-----

17 Nov 14:21:17 - [warn] Encrypted credentials not found
17 Nov 14:21:17 - [info] Starting flows
17 Nov 14:21:17 - [info] Started flows
17 Nov 14:21:17 - [info] Server now running at http://127.0.0.1:1880/
```

STEP3:

Connect IBM IOT in and Debug 1 and Deploy.

The screenshot displays the Node-RED web interface in a browser. The address bar shows the URL `127.0.0.1:1880/#flow/4d938979156a8224`. The main workspace, titled 'Flow 1', contains a flow with two nodes: a 'Test' node (orange) and a 'debug 1' node (green). The 'Test' node is connected to the 'debug 1' node. The left sidebar shows the 'common' and 'function' node categories. The right sidebar shows the 'debug' console, which displays a list of log messages. The messages are all 'undefined' and include timestamps and the node name 'debug 1'. The Windows taskbar is visible at the bottom, showing the search bar, task view, and various application icons.

Timestamp	Node	Message
11/17/2022, 2:30:23 PM	debug 1	msg.hi : undefined
11/17/2022, 2:30:33 PM	debug 1	msg.hi : undefined
11/17/2022, 2:30:38 PM	debug 1	msg.hi : undefined
11/17/2022, 2:30:43 PM	debug 1	msg.hi : undefined
11/17/2022, 2:30:53 PM	debug 1	msg.hi : undefined
11/17/2022, 2:31:03 PM	debug 1	msg.hi : undefined

#### STEP4:

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

The screenshot shows the Node-RED web interface in a browser. The 'Edit inject node' dialog is open for a node named 'Test'. The 'Properties' section shows the node name 'Test'. Below, there are two message fields, each set to 'global.'. The 'Repeat' section is configured with 'Interval' and 'every 10 seconds'. The 'Inject once after 0.1 seconds, then' checkbox is unchecked. The 'Enabled' checkbox is checked. The right sidebar shows the 'info' panel with a search bar and a list of flows, including 'Flow 1'. The bottom status bar shows the system clock as 14:44 on 17-11-2022.

The screenshot shows the Node-RED web interface with the 'Edit inject node' dialog open for a node named 'Test'. The 'Properties' section shows the node name 'Test'. Below, there are three message fields, each set to 'a\_z'. The 'Repeat' section is configured with 'Interval' and 'every 10 seconds'. The 'Inject once after 0.1 seconds, then' checkbox is unchecked. The 'Enabled' checkbox is checked. The right sidebar shows the 'debug' panel with a list of all nodes. The bottom status bar shows the system clock as 14:50 on 17-11-2022.