## **Create Node-RED Service**

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• To create a web application create a node-RED.

We have took an application for monitoring the River Water quality by fetching the data from online data set. For monitoring River Water quality, we have used an open source tool called Node-Red.

## **Installation of Node-Red:**

- 1. Install node.js (v18.12.1 current version).
- 2. Open command Prompt and type "node --version && npm --version".
- 3. Now, start installing Node-Red by typing a command "npm install -g --unsafe-perm nodered".
- 4. And also install some additional packages,
- a. Like dashboard typing "npm install -g node-red-dashboard".
- b. Like contrib-modbus typing "npm install -g node-red-contrib-modbus".

- 5. Once everything has been successfully installed you can now begin to run your Node-RED webserver. Open the command prompt and type the command "Node-RED", application begins.
- 6. As we installed Node-RED as a global NPM module it adds the command node-red to your system path which you can then input into a command prompt to start Node-RED. Once the server has booted up successfully the command prompt will let us know that the server is now running, and what IP address it is on.
- 7. Hence, Node-RED is successfully installed.

```
C:\WINDOWS\system32\cmd.exe
:\Users\HP>node-red
17 Nov 17:33:48 - [info]
Welcome to Node-RED
 .========
17 Nov 17:33:48 - [info] Node-RED version: v3.0.2
17 Nov 17:33:48 - [info] Node.js version: v18.12.1
17 Nov 17:33:48 - [info] Windows NT 10.0.22000 x64 LE
17 Nov 17:33:54 - [info] Loading palette nodes
Missing ENV var CONFIG PATH
17 Nov 17:33:58 - [info] Worldmap version 2.31.0
17 Nov 17:33:58 - [info] Dashboard version 3.2.0 started at /ui
17 Nov 17:33:58 - [info] Settings file : C:\Users\HP\.node-red\settings.js
17 Nov 17:33:58 - [info] Context store : 'default' [module=memory]
17 Nov 17:33:58 - [info] User directory : \Users\HP\.node-red
17 Nov 17:33:58 - [warn] Projects disabled : editorTheme.projects.enabled=false
17 Nov 17:33:58 - [info] Flows file : \Users\HP\.node-red\flows.json
17 Nov 17:33:58 - [info] Server now running at http://127.0.0.1:1880/
17 Nov 17:33:58 - [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
```

- 8. Then, open the browser and paste the webserver's IP address, Node-RED opens. (localhost:1880)
- 9. Now, here opens a blank screen containing Palette, workspace and sidebar. Palette will be on the left side consists of input nodes, output nodes and many. Workspace is the centre part where the flows will be created. And the last is sidebar which is located on the right consists debug button only.

