



Podman Guide

Software

User manual / Manuale d'uso

PODMAN

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1 Creating a Node-RED container

This guide covers the installation of a Node-RED container on Pixsys WebPanel “WP” and TouchController “TC” series.

Displaying the Node-RED dashboard on the screen is possible only WP - WebPanel devices and on TC - TouchController panels with the “WebVisu” license only.

On TouchController – TC panels with a “TargetVisu” or “TargetVisu + WebVisu” license, it is not possible to display the Node-RED dashboard.

2 Login

Access the device in configuration mode by holding down the STOP button that appears at startup.

Access the configuration console by entering the following credentials:

Username: user

Password: 123456

If the device IP is known, it is also possible, and recommended, to access the configuration console from a browser on the user PC by accessing the address:

<https://device-IP-:9443/>

and using the above credentials.

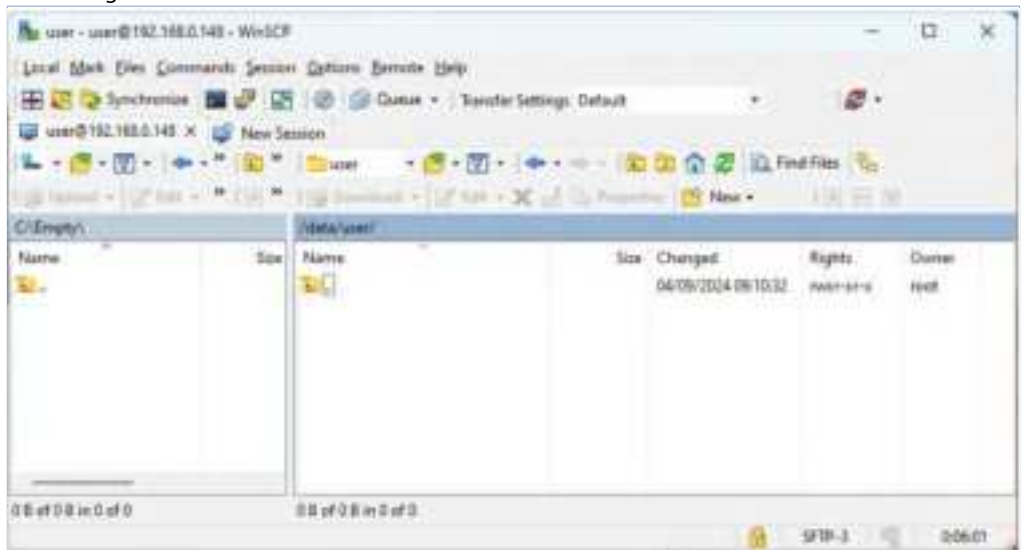
3 Creating the folder for Node-RED

The container that is going to be activated requires a space to store user data.

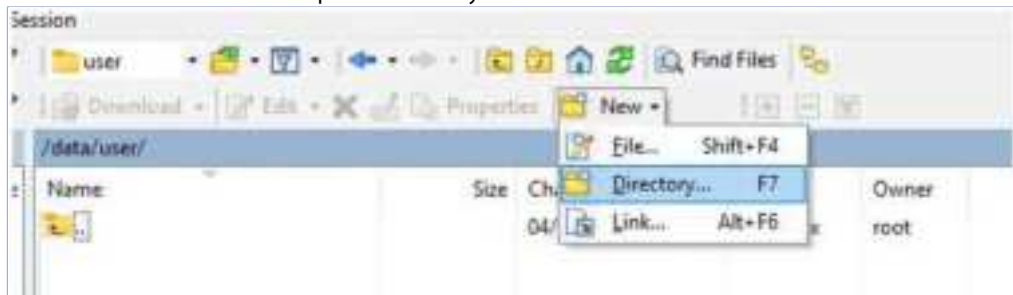
For this purpose in the devices there is a folder **/data/user**.

Using WinScp or another sFTP access software, create a folder **node-red** within the path **/data/user**, following the steps below:

- Open WinSCP, connect to the device using the IP and credentials already used to access the configuration console and choose **/data/user**



- From Menu “New” select option “Directory...”.

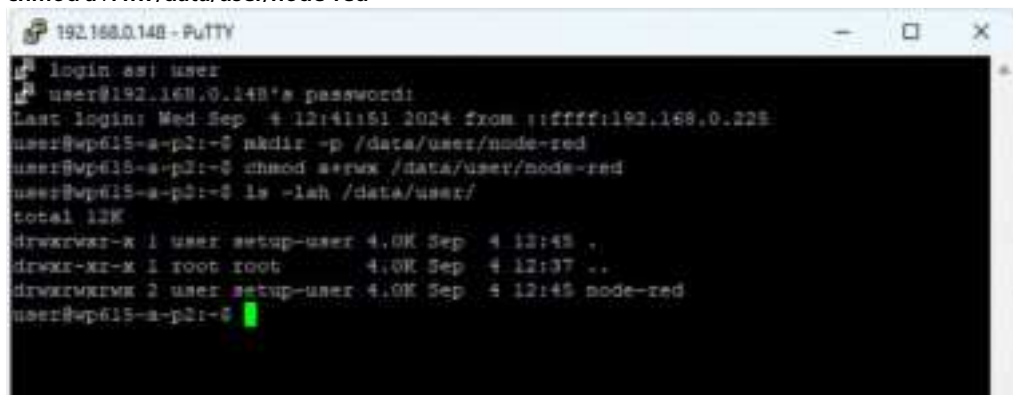


- Create the folder node-red enabling all “R/W/X”permits :



Same process is possible also by SSH access and using following prompts:

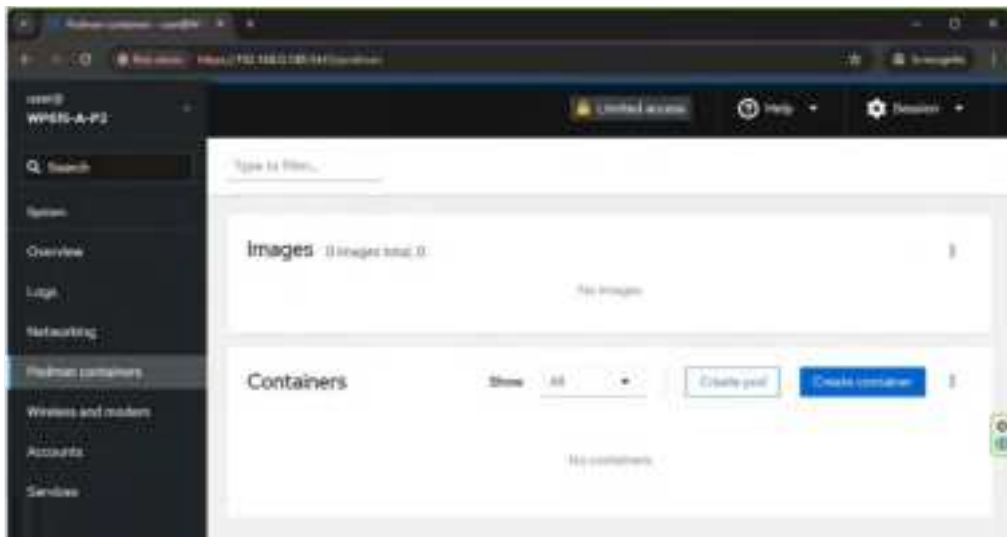
```
mkdir -p /data/user/node-red
chmod a+rwx /data/user/node-red
```



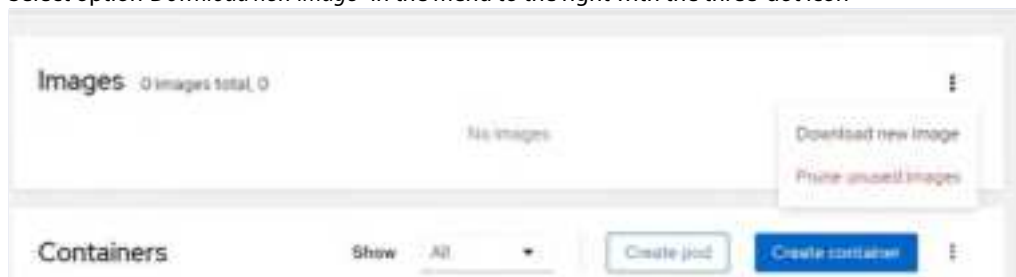
NB: be careful that the name of folders and/or files in Linux is case-sensitive, it is recommended to use only lower case letters!

4 Download of container

Access "Podman containers" on the Menu bar:



Select option "Download new image" in the menu to the right with the three-dot icon



Select the search area "docker.io"



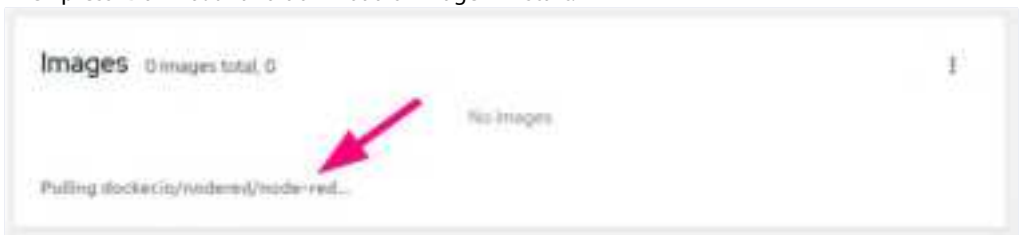
Type “node-red” in “Search for”



Select official image “docker.io/nodered/node-red”:



Then press “Download” and download of image will start.



This is a several hundred Mb file, depending on the internet connection it may take several minutes.

When the download is complete, it will be possible to view the image on the device:



5 Container creation

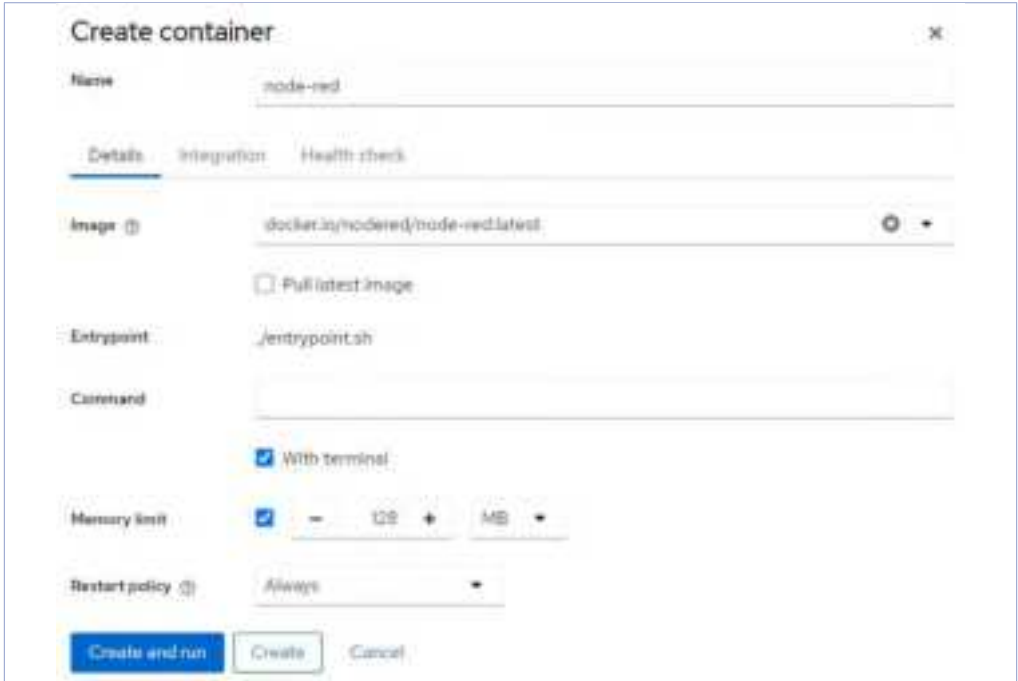
In the “Containers” Tab press the “Create container” button, a menu will open to configure the container you want to create.



Fill in the “Name” field with a name of your choice replacing the automatically generated random one.

Tab Details:

From the “Image” box, choose the downloaded image as described in the previous chapter:



Configure “Memory limit” to 128 or 256 MB .
“Restart Policy” set to “Always” sets the container to start automatically and be restarted even in the event of a user-commanded shutdown.

Tab Integration:

Configure port mapping to expose port 1880 in both TCP and UDP and map the Container Path **/data**, visible from node-red, in Host Path **/data/user/node-red**

Create container

Name

node-red

Details

Integration

Health check

Port mapping

Add port mapping

IP address (i)	Host port (i)	Container port	Protocol
	1880	1880	TCP
	1880	1880	UDP

Volumes

Add volume

Host path	Container path	Mode
/data/user/node-r...	/data	Writable

Environment variables

Add variable

No environment variables specified

Create and run

Create

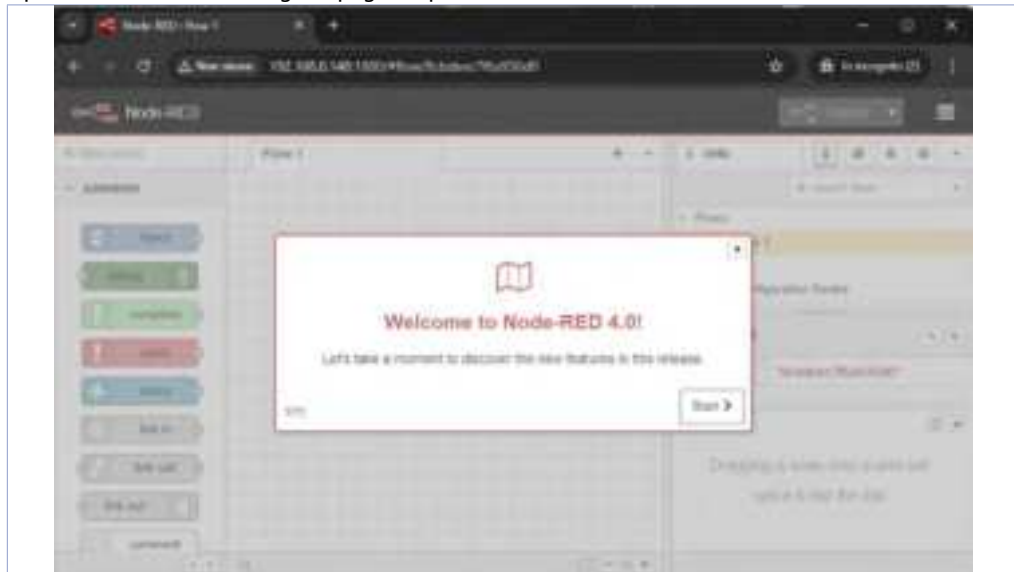
Cancel

Tab Health check:

This Tab defines the control checks on the correct operation of the container and how it will behave in case of an error.

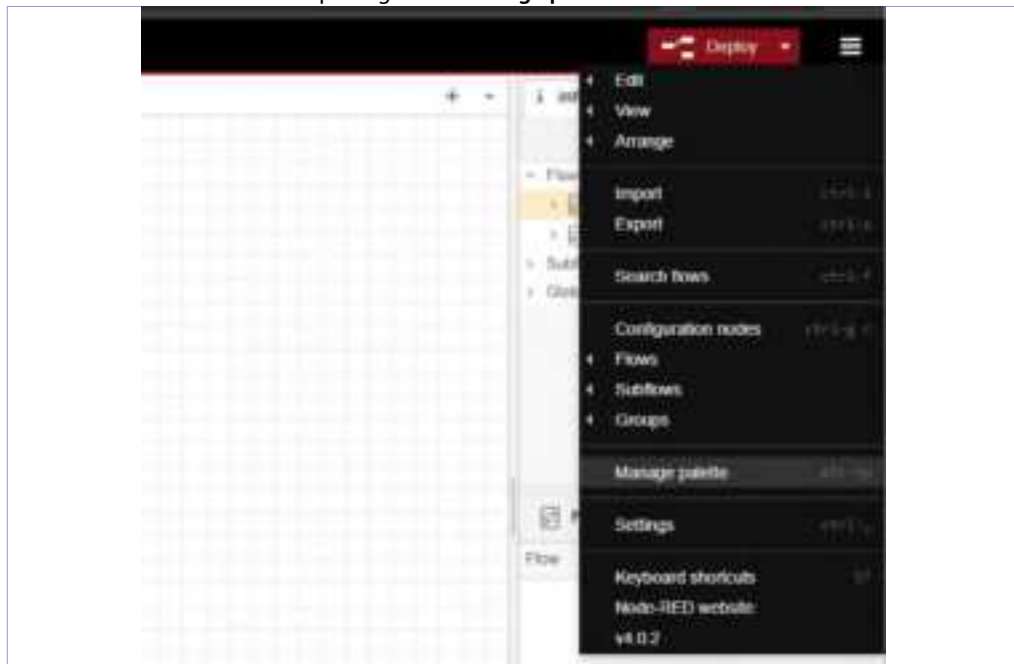
The image below shows the default parameters:

Open a browser on PC and go to page: <http://device-IP:1880>



7 Creating a dashboard

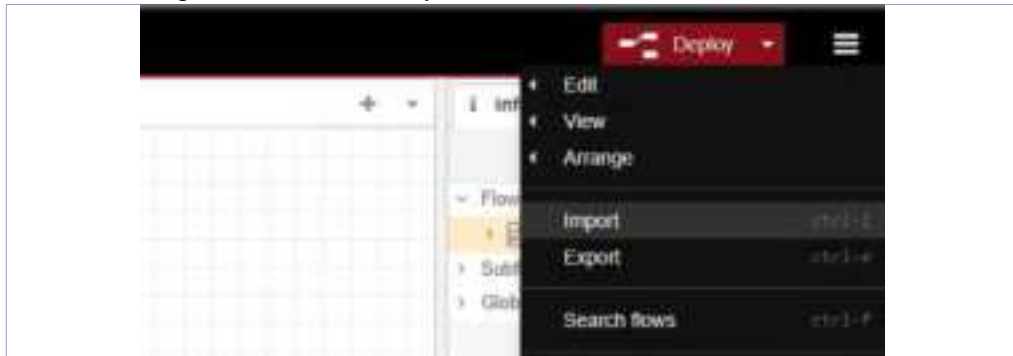
Dashboard allows Node-RED to present/publish a dynamic web page.
Install “node-red-dashboard” opening Menu **Manage palette**:



Search for node-red-dashboard within tab **Install**

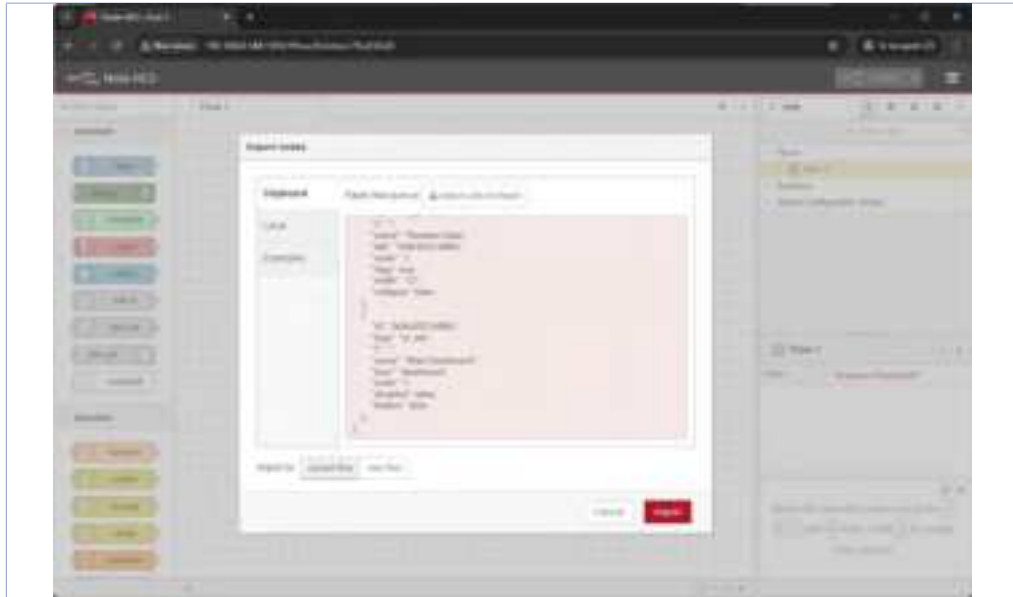


Wait for the installation to be completed and then log in to the console and import the Flow entered at the end of the guide from the menu **Import**:

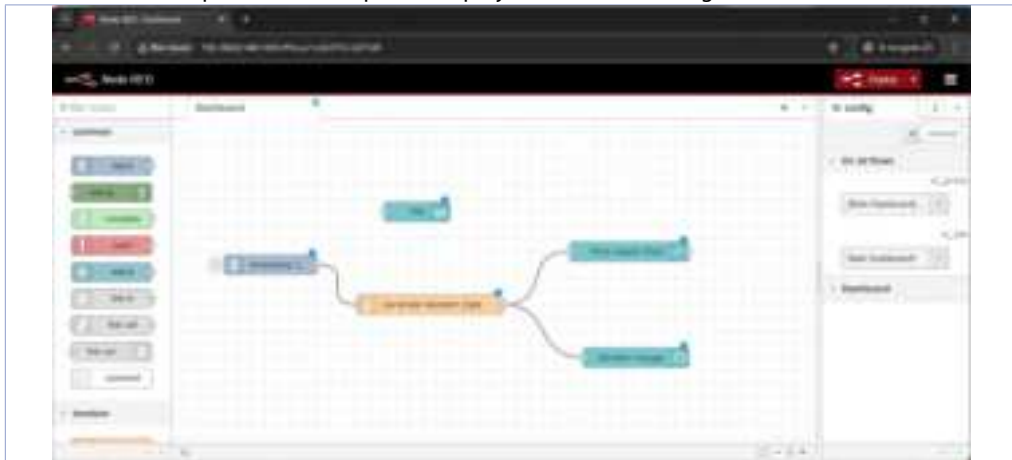


******This is example code with no real use purpose.

NB for the use of Node-RED and the Dashboard, please refer to the documentation available online.

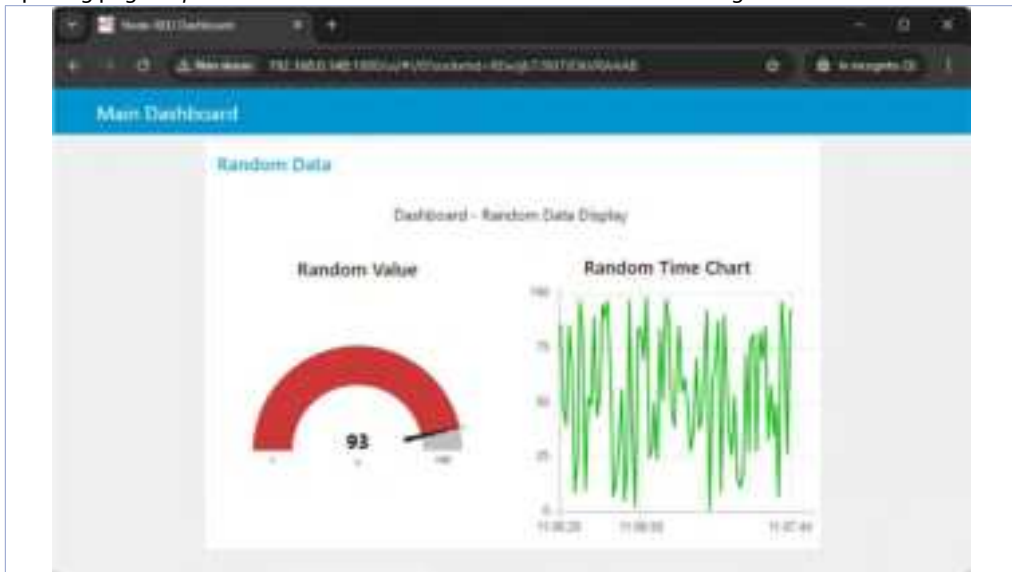


Once the code is imported, this will provide a project like the following one:



Press  to compile and start the project.

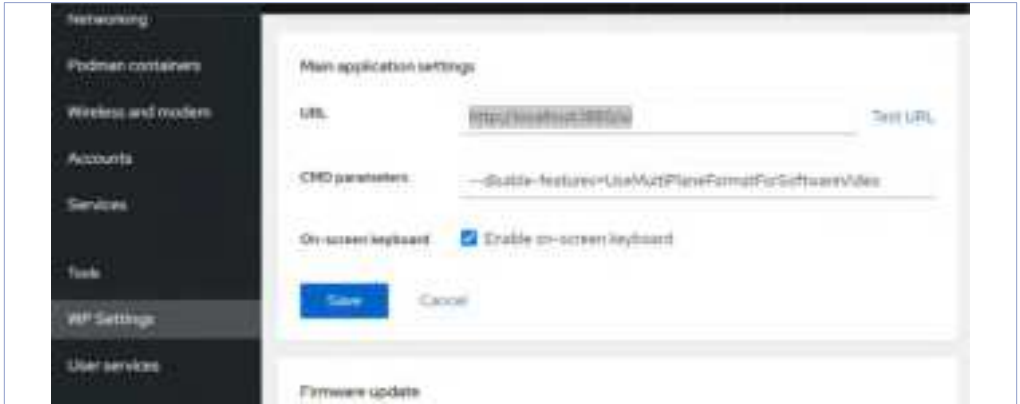
Opening page <http://device-IP:1880/ui> the result will look like the following:



8 Configuring the panel to display the dashboard

At this point, for panels that allow it, access the menu **WP Settings** , then **Main application settings** and enter URL <http://localhost:1880/ui>

Use term *localhost* or IP *127.0.0.1* to make the browser access the device itself regardless of its actual IP.



Upon reboot, the device will show full screen the Node-RED Dashboard.

9 Example flow

The following code is the text to be imported as Flow in Node-RED:

```
[
  {
    "id": "1e6b97b5.687fd8",
    "type": "tab",
    "label": "Dashboard",
    "disabled": false,
    "info": ""
  },
  {
    "id": "7c8f99d9.196b98",
    "type": "ui_text",
    "z": "1e6b97b5.687fd8",
    "group": "dd4567b9.6a4c18",
    "order": 1,
    "width": "12",
    "height": "1",
    "name": "Title",
    "label": "Dashboard - Random Data Display",
    "format": "[{msg.payload}]",
    "layout": "col-center",
    "x": 330,
    "y": 120,
    "wires": []
  },
  {
    "id": "2e4a56f8.cfa23a",
    "type": "ui_gauge",
    "z": "1e6b97b5.687fd8",
    "name": "Random Gauge",
    "group": "dd4567b9.6a4c18",
    "order": 2,
    "width": "6",
    "height": "6",
    "gtype": "gage",
```

```

        "title": "Random Value",
        "label": "%",
        "format": "{{value}}",
        "min": "0",
        "max": "100",
        "colors": ["#00b500", "#e6e600", "#ca3838"],
        "seg1": "30",
        "seg2": "70",
        "x": 320,
        "y": 240,
        "wires": []
    },
    {
        "id": "3b9ddefd.32b9d",
        "type": "ui_chart",
        "z": "1e6b97b5.687fd8",
        "name": "Time-based Chart",
        "group": "dd4567b9.6a4c18",
        "order": 3,
        "width": "6",
        "height": "6",
        "label": "Random Time Chart",
        "chartType": "line",
        "legend": "false",
        "xformat": "HH:mm:ss",
        "interpolate": "linear",
        "nodata": "",
        "ymin": "0",
        "ymax": "100",
        "removeOlder": 1,
        "removeOlderPoints": "",
        "removeOlderUnit": "3600",
        "cutout": 0,
        "useOneColor": false,
        "colors": ["#00b500", "#e6e600", "#ca3838"],
        "outputs": 1,
        "useDifferentColor": false,
        "x": 600,
        "y": 240,
        "wires": []
    },
    {
        "id": "74b1aef8.e7e0d8",
        "type": "function",
        "z": "1e6b97b5.687fd8",
        "name": "Generate Random Data",
        "func": "msg.payload = Math.floor(Math.random() * 100);\nreturn msg;",
        "outputs": 1,
        "noerr": 0,
        "initialize": "",
        "finalize": "",
        "libs": [],
        "x": 130,
        "y": 240,
        "wires": [
            [
                "2e4a56f8.cfa23a",
                "3b9ddefd.32b9d"
            ]
        ]
    },
    {
        "id": "e0e9bd3c.a8ae2",
        "type": "inject",
        "z": "1e6b97b5.687fd8",
        "name": "",
        "props": [
            {

```

```

        "p": "payload"
      }
    ],
    "repeat": "1",
    "crontab": "",
    "once": true,
    "onceDelay": 0.1,
    "topic": "",
    "payloadType": "date",
    "x": 130,
    "y": 160,
    "wires": [
      [
        "74b1aef8.e7e0d8"
      ]
    ]
  },
  {
    "id": "dd4567b9.6a4c18",
    "type": "ui_group",
    "z": "",
    "name": "Random Data",
    "tab": "fe9b4293.8df8e",
    "order": 1,
    "disp": true,
    "width": "12",
    "collapse": false
  },
  {
    "id": "fe9b4293.8df8e",
    "type": "ui_tab",
    "z": "",
    "name": "Main Dashboard",
    "icon": "dashboard",
    "order": 1,
    "disabled": false,
    "hidden": false
  }
]

```




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