



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.

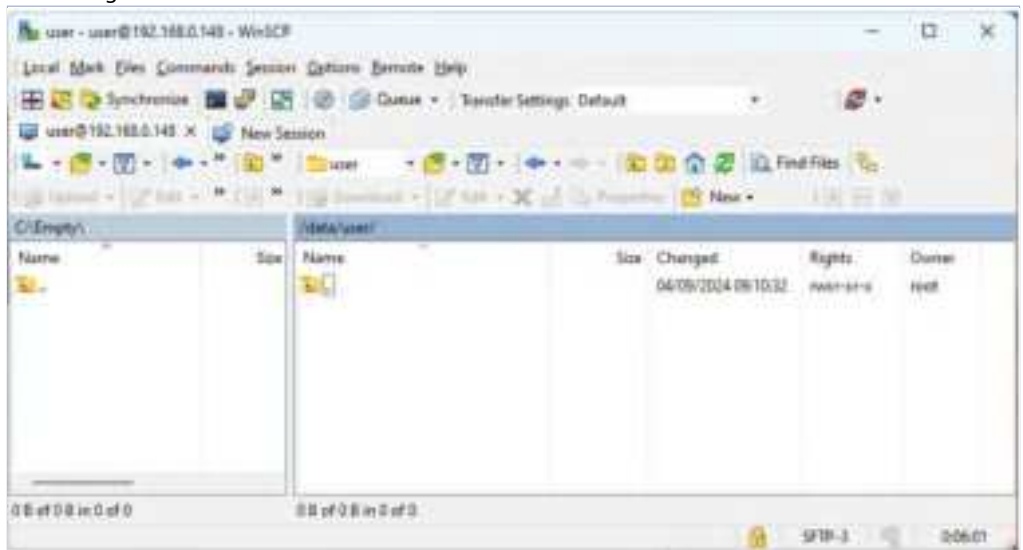
3 Creating the folder for Node-RED

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

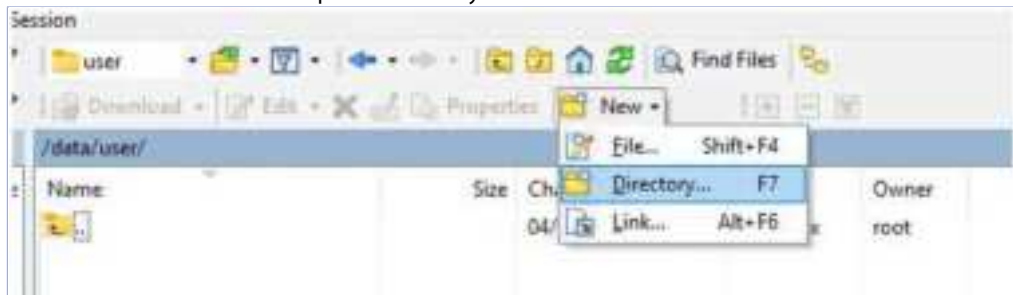
For this purpose in the devices there is a folder **/data/user**.

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...”.

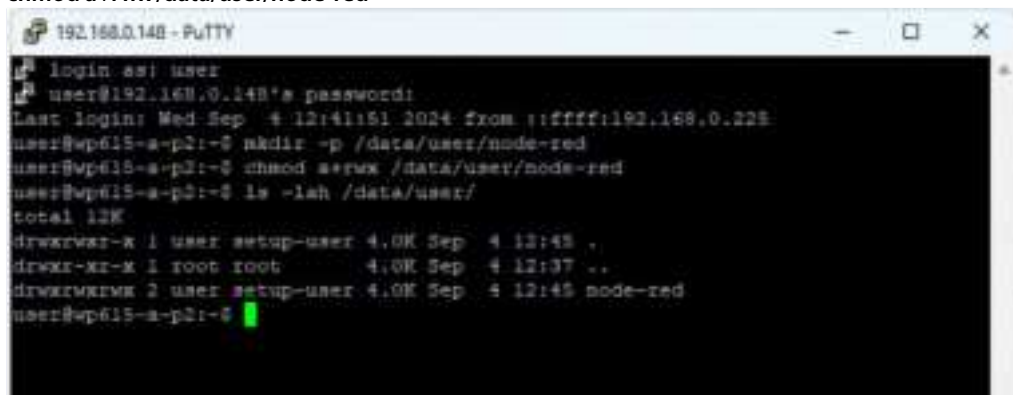


- Create the folder node-red enabling all “R/W/X”permits :



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

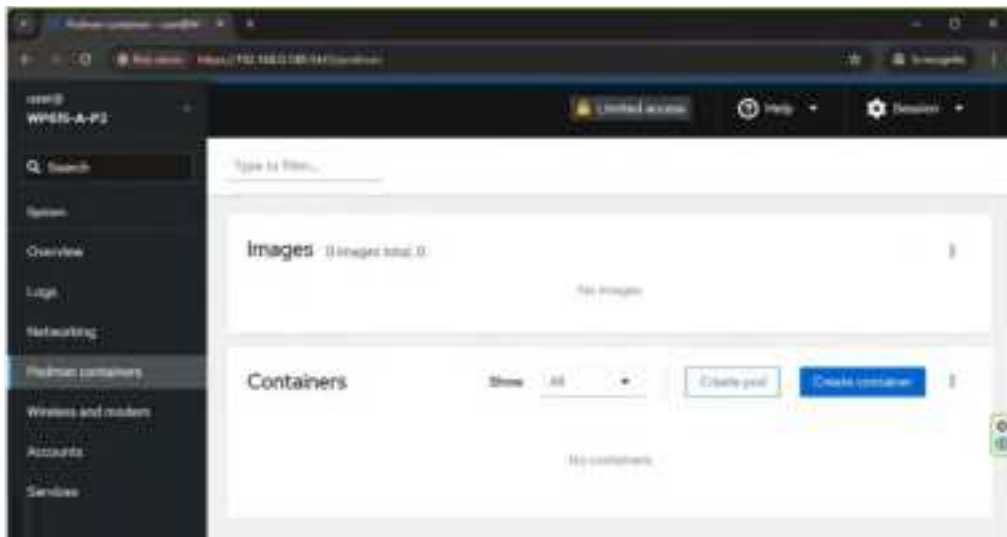
```
mkdir -p /data/user/node-red
chmod a+rwx /data/user/node-red
```



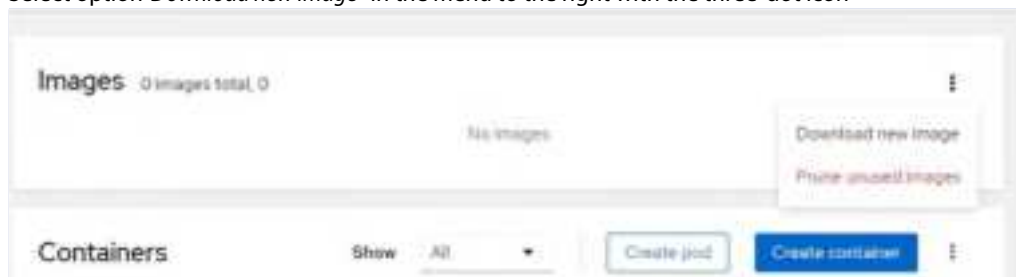
NB: be careful that the name of folders and/or files in Linux is case-sensitive, it is recommended to use only lower case letters!

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”



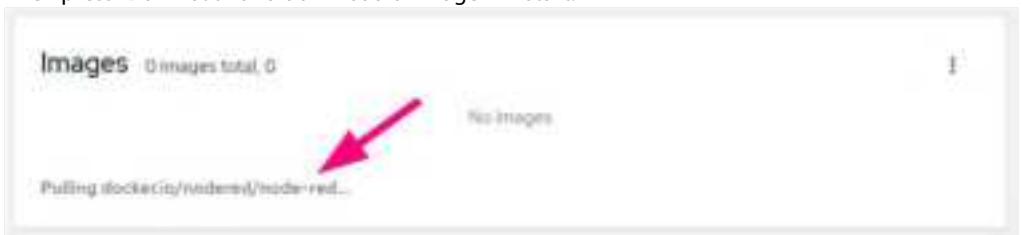
Type “node-red” in “Search for”



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

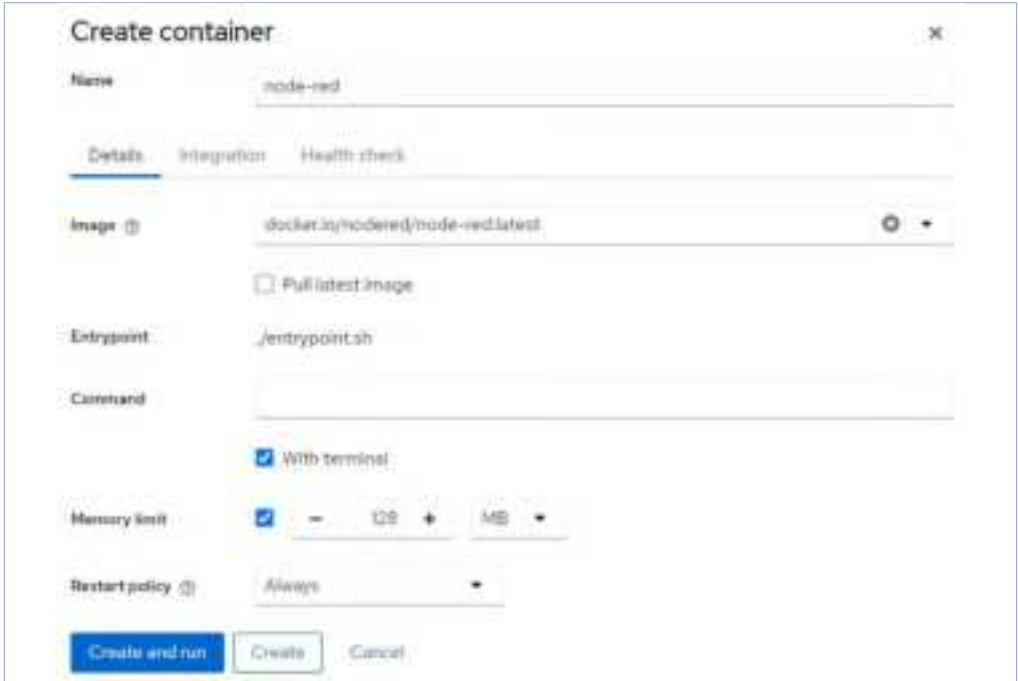
In the “Containers” Tab press the “Create container” button, a menu will open to configure the container you want to create.



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

IP address (i)

Host port (i)

Container port +

Protocol

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

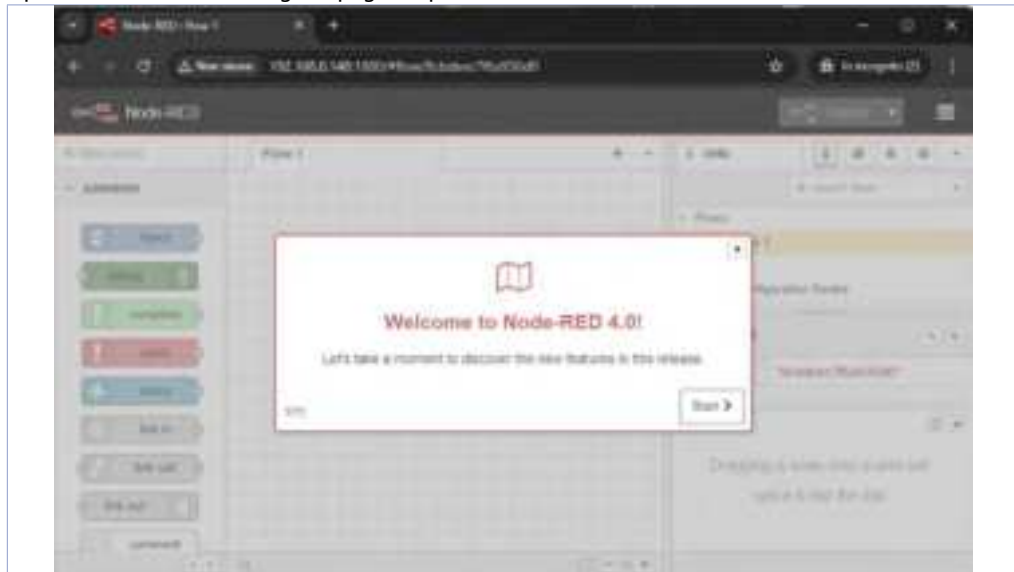
Cancel

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.

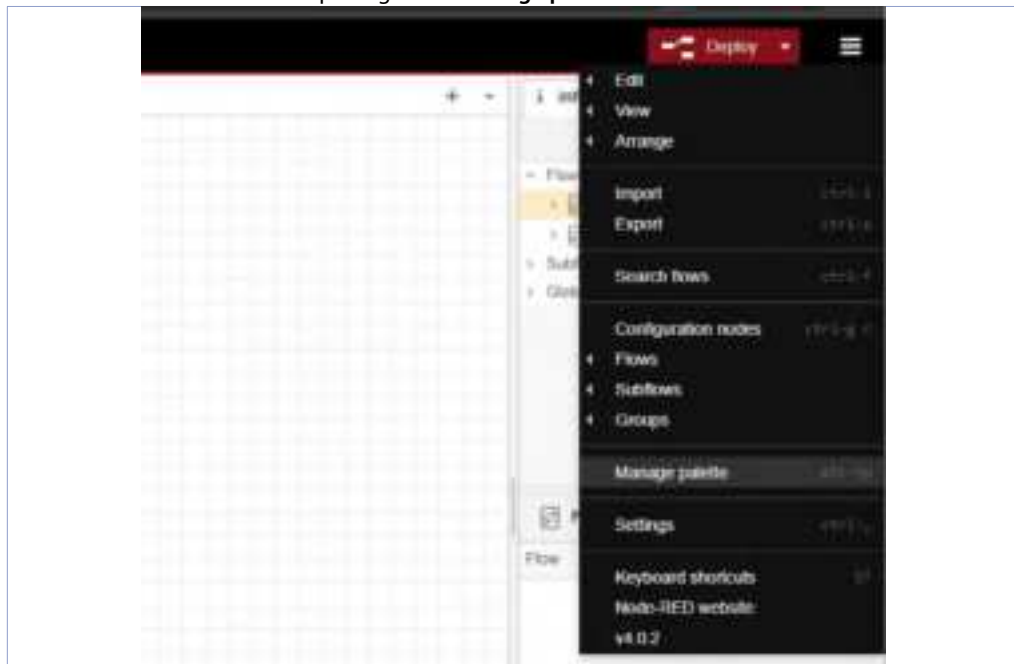
The image below shows the default parameters:

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



7 Creating a dashboard

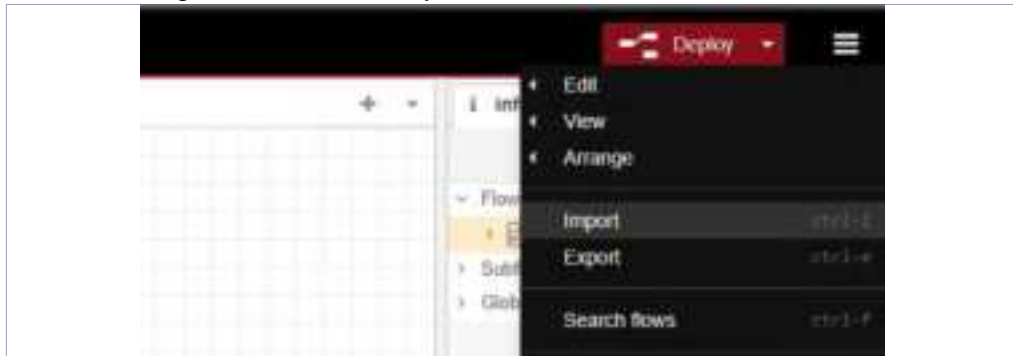
Dashboard allows Node-RED to present/publish a dynamic web page.
Install “node-red-dashboard” opening Menu **Manage palette**:



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

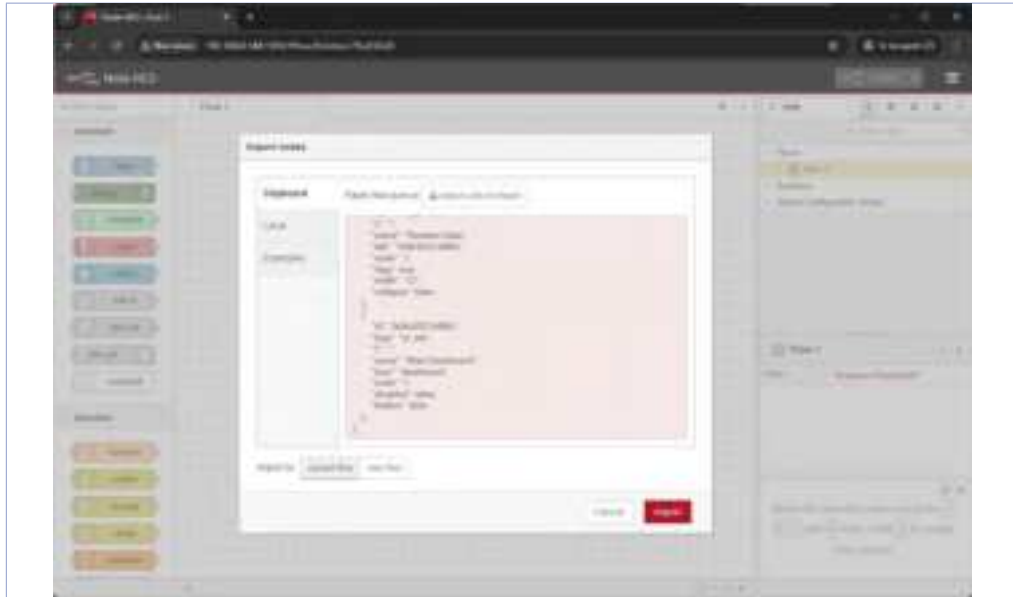


Wait for the installation to be completed and then log in to the console and import the Flow entered at the end of the guide from the menu **Import**:

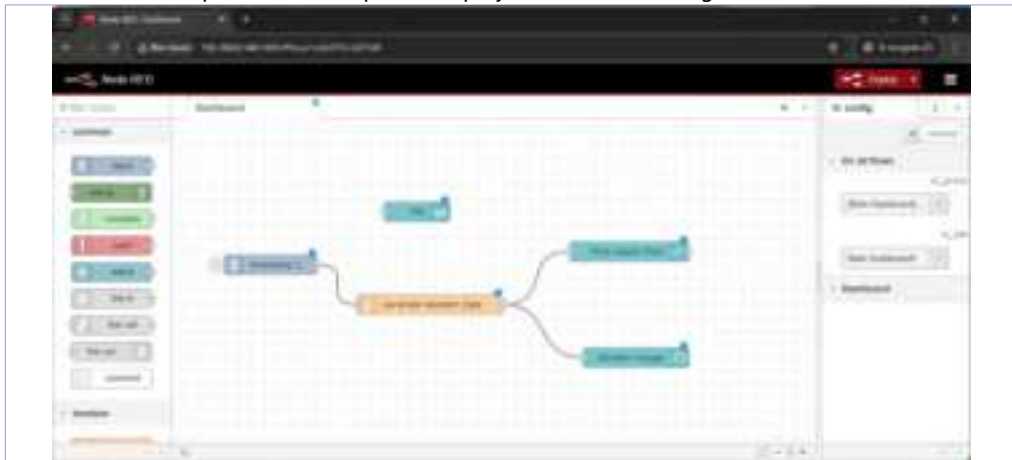


******This is example code with no real use purpose.

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

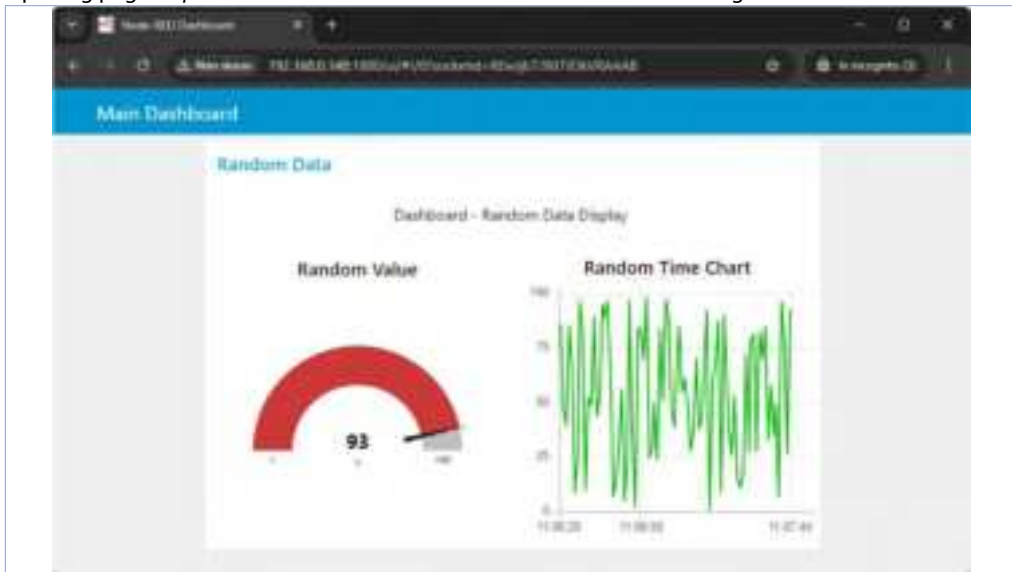


Once the code is imported, this will provide a project like the following one:



Press  to compile and start the project.

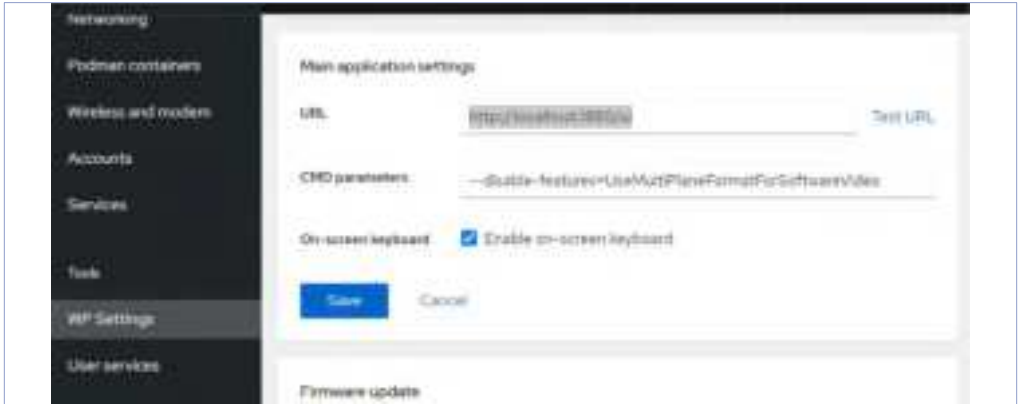
Opening page <http://device-IP:1880/ui> the result will look like the following:



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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