

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 :

New folder name:			
node-red			1
Attributes	Set UID Set GID Sticky bit	telp	2

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:

Y 💿 Podman containers - user@WP 🔅	× +			- 0 ×
← → C S Non sicuro	x;//192.168.0.148:9443/podman		☆ ⇔	In incognito
user@ WP615-A-P2		🔒 Limited access	Help • Start St	ession 🔻
Q Search	Type to filter			
System				
Overview	Images 0 images total, 0			1
Logs		No images		
Networking				
Podman containers	Containers	Show All	create containe	er i
Wireless and modem				0
Accounts		No containers		۲
Services				

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

		Ν	√o images		Download ne	w image
Containers	Show	All	•	Create poo	d Create containe	
ect the search area "do	ocker.io"					
ect the search area "do iearch for an image Parch for	ocker.io" e	in	docker.io	· .		×
ect the search area "do Gearch for an image earch for Indered docker.io/reamon/node-re	ocker.io" -red	in	docker.io	×.		×

Search for	an image	/		×
Search for	node-red	in	docker.io 🝷	
docker.io/ream	non/node-re			
docker.io/node	ered/node-red		Low-code programming for event-driven ap	plications
docker.io/node	ered/node-red-dev		Dev/Test builds for Node-RED project (NOT	Estable)

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

Search for a	an image				×
Search for	node-red	in	docker.io	•	
docker.io/reamo	on/node-re				
docker.io/noder	ed/node-red		Low-code prog	ramm <mark>in</mark> g for event-driven	applications
docker.io/noder	red/no <mark>de</mark> -red-dev		Dev/Test builds	for Node-RED project (N	OT sta <mark>bl</mark> e)
docker.io/noder	red/no <mark>de</mark> -red-docker		Deprecated - o	lder Node- <mark>RED D</mark> ocker ima	ages.
docker.io/library	//node		Node.js is a Jav	aScript-based platform for	server-side and net
docker.io/okteto	o/node				
Tag	latest				
Download	Cancel				

Then press "Download" and download of image will start.

Images 0 images total, 0	1
No images	
Pulling docker.io/nodered/node-red	

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.

Containers	Show	All 🔹	Create pod	Create container	:
		No containers			

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:

Name	node-red	
Details Integ	ration Health check	
lmage 🍞	docker.io/nodered/node-red:latest	0 -
	Pull latest image	
Entrypoint	./entrypoint.sh	
Command		
	Vith terminal	
Memory limit	✓ – 128 + MB ▼	
Restart policy ③	Always	

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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

Name node-r	red					
Details Integration He	ealth check					
Port mapping				Add	port ma	pping
IP address ⑦		Host port ③	Container port *	Protocol		
		1880	1880	TCP	•	Î
IP address ③		Host port 🍘	Container port *	Protocol		
		1880	1880	UDP	•	Ŵ
Volumes				(Add vo	olume
Host path	Container path *	Mode				
/data/user/node-r 😢 🝷	/data	🗹 Wr	itable			Ŵ
Environment variables				[Add va	riable
	No environm	ent variables spe	ecified			
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:

Name	node-	red			
Details Integrati	on H	ealth chec	k		
Command					
Interval 🍞	-	30	+	seconds	
Timeout ⑦	-	30	+	seconds	
Start period ③	-	0	+	seconds	
Retries ⑦	-	3 +			
When unhealthy	O No	action 🤇	Re	start 🔿 Stop 🔿 Force stop	

At this stage press "Create and run" and wait for the creation of the container.

6 Testing the container When the container creation procedure is finished, the *"Containers"* list will display the new running container (State: Running):

Container T	Owner I	CPU	Memory I	State	
node-red docker io/node-red latest	user user	1.07%	39.3/128 MB	Running	1
Details Integration Logs Console					
ID Created					
2768a15db157 today at 12:55 PM					
Image State					
docker.io/nodered/node-red:latest Up since today at 1	2:55 PM				
Command					
ontainers			Show All -	Create pod C	reate container
					Contraction of the second
Container 1	Owner 1	CPU 1	Memory I	State I	
Container 1 • node-red docker inprodered/mode-red latest	Owner 1 user:user	CPU] 0.68%	Memory 1 37.1/128 MB	State I	1
Container T Container T dockermoderedforder-red takest Details Integration Logs Console	Owner 1 user: user	CPU 1 0.68%	Memory I 37.1/128 MB	State I Running	1
Container T Container T dockeringshodered/nod-inditient dockeringshodered/node-inditient Details integration Logs Console Ports Volumes	Owner I user user	CPU 1 0.68%	Memory T 37.1/128 MB	State I (Dunning)	I
Container T v node-red dsstaringhotered/mode-red tatest Details Integration Logs Console Ports Volumes Volumes	Owner 1 user: user Environment variables HOSTNAME-2785a15db157	CPU 1	Memory 1 37.1/128 MB	State Curring	1
Container T • node-red sackaraphoterstinde-reditact	Owner 1 User User Environment variables HOSTNAME-2768a15db157 NODE_RED_VERSION=40.2	CPU 0.68%	Memory [371/128 MB	State I	1
Container T • node-red addres notifieren, mode-red tatest	Owner I user: user Environment variables HOSTNAME-2768a15db157 NODE_RED_VERSION=44.0.2 NODE_RED_VERSION=4.4.2	CPU 1 0.68%	Memory T 37.1/128 MB	State I	1
Container T • node-red dickering/hodered/heid-ierd tatest dickering/hodered/heide-ierd tatest Detalls Integration Ports Volumes 00.001880 - 1880/tcp /data/trse/inode-ierd/data 00.001880 - 1880/tdp -	Owner 1 user: user	CPU 1 0.68%	Memory I 37.1/128 MB	State I Conveg	1
Container T • node-red exclusi integration Logs Cansole Details Integration Logs Cansole Ports Volumes //data/use//rode-red → //data //data 0.00.01880 → 1880/udp -1880/udp //data //data	Owner 1 user: User: Environment variables 1 HOSTNAME-2768a15db157. NODE,RED,VERSION-v4.0.2 NODE,RED,VERSION-v4.0.2 NODE,RED,VERSION-v4.0.2 NDER_PATH-/ust/ver/inde-red/inde_mode_mode_mode_mode_mode_mode_mode_mo	CPU 1 0.65%	Memory 1 37.1/128 MB	State I	1
Container T node-red ischeringhoterstmotored taset Details Integration Logs Console Port Volumes 00.00.1880 – 1880/rbp //data/user/inode-red/data	Owner 1 user: user Environment variables HOSTNAME-2768a1580157. NOGE_PATH-fuxtyret_inode-ined/inode_modules/b OKDE_PATH-fuxtyret_inode-ined/inode_modules/b container-podman	CPU 1 0.68%	Memory 1 37.1/128 MB	State I	1
Container T node-red distartsmothered-tends restatest Details Integration Logs Console Ports Volumes 00.00.1880 - 1880/rdp //data/user/mode-red/data	Owner 1 User: User: Environment variables HOSTNAME-2785a15db157. NODE_RED_VERSION=40.22 NODE_RED_VERSION=40.2 RTIH-/usr/urc/node-red/node_modules/.b containe-rp.ofman ELIOMS-fong-ion	CPU 1 0.68%	Memory 1 37.1/128 MB	State I	1
Container T • node-red iscientinoterent/moti-reditect	Owner 1 user: user: Environment variables HOSTNAME-2268a15db157: NODE_RED_VERSION-v4.0.2 NODE_RED_VERSION-v4.0.2 NODE_RED_VERSION-v4.0.2 NOTER-RED_RATH+/ust/ver/inde=red/inde_imodules/ b Cottiline=rpodman FLOWSFlows jion FLOWSFlows jion NODE_VERSION+v3.0.2	CPU 1 0.68% bules:/dats/nose_modules m/usr/locel/bim/usr/locel/bim/usr/	Memory 1 37.1/128 MB	State I	1
Container T • node-red ischeringhoterstmitheten Details Integration Logs Console Port Volumes 00.00.1880 – 1880/rbp //data/vser/inode-red/data	Owner I user: user User: user Environment variables HOSTNAME-2786a1580157. NODE_PATY-Monte-med/indeg.mod.emmod.emmodules/b NODE_PATY-Monte-med/indeg.modules/b VODE*_PATY-Monte-med/indeg.modules/b container*podman ELOWS*flows/ion PATY-/user/use/indeg.modules/b VODE*_PATY-Monte-med/indeg.modules/b variation ELOWS*flows/ion NOD VARIVERSION=12.22 VARIVERSION=12.22	CPU 1 0.68%	Memory 1 37.1/128 MB	State I	1
Container T Container T Container T Container Autor end tatest Details Integration Logs Console Ports Volumes 000.01880-+1880/rcp /dsta/user/node-red ++/dsta 000.01880 -+1880/rdp	Owner 1 user user Environment variables HOSTNAME-27884154b157 NODE,RED,VERSION-40.2 NODE,RED,VERSION-40.2 NODE,RATH-/ Nutriter/node-med/mode_mode/mode_mode/mode_mode/mode/mode/mode/mode/mode/mode/mode/	CPU 1 0.68% fuller:/data/node_modules m/aur/local/binr/aur/local/binr/aur/	Memory I 37.1/128 MB	State I	1

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

$\leftarrow \rightarrow C \triangle$ Non side	suro 192.168.0.148:1880/#flow/8cbdeec7f6a936d0		☆ 읎 In incognito (2)
Node-RED			= 📰 Deploy 👻 🚍
Q filter nodes	Flow 1 +	* i info	i 🖉 û Ø 🤉
~ common			Q. Search flows
-		~ Flows	
anject		×	1
debug		hf	iguration Nodes
complete	Welcome to Node-RED 4.0!		
catch	Let's take a moment to discover the new features in thi	is release.	(%) C
-tr status			"8cbdeec7f6a936d0"
linkin	1/11	Start >	C 1
link call			o a node onto a wire will
min can			plice it into the link
Ci link out			

7 Creating a dashboard Dashboard allows Node-RED to present/publish a dynamic web page. Install "node-red-dashboard" opening Menu Manage palette:

	■/ [■] Deniov →
+ *	i inf View Arrange
	Flow Import ctrl-i
	> Subf > Glob
	Configuration nodes ctrl-g c Flows Subflows Groups
	Manage palette alt-0p
	Settings ctrl-,
	Flow Keyboard shortcuts SR Node-RED website v4.0.2

Search for node-red-dashboard within tab Install

Q node-red-dashboard	33/5037 😠
node-red-dashboard Z	
A set of dashboard nodes for Node-RED	
🕒 3.6.5 🗰 6 months ago	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:

	•	Edit	
+ *	i inf	View	
	•	Arrange	
	~ Flow		
	> 5	Import	
	> Subf	Export	
	> Glob	Cooreb flows	

**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.

← → C △ Non	icuro 192.168.0.148:1880/#flow/8cbdeec7f6a936d0	☆ 융 In incognito (2)
Recently Node-RED		= Deploy 👻 🚍
Q filter nodes	Flow 1 +	 i info i 刷 命 の
common injacz injacz idubug completa completa idubug id	Import nodes Clipboard Date flow joon or the standard st	Q South River → Flow 1 → Solutions → Grow 1 → Solutions → Grobal Configuration Nodes → Grobal Configuration Nodes → Grobal Configuration Nodes → Grow 1 → Grow 1 → Grow 1 → Grow 1 → Solutions → Grow 1 → Gr
switch change range template	Import to current flow new flow Cancel Import	Move the selected nodes using the + T 1 and + keys Hold © to nudge Them further

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

			🗖 Deploy 👻
9. filter nodes	Dashboard	+ - 0 c	onfig i
inject debug complete catch dw status ink in kat	Titre 💼	· 0 [] ; ; ;	n all flows U_grr Main Dashboard] 3 u_ Main Dashboard 1 ashboard
<pre>comment </pre>	Random Gauge (n)		

Press **Deploy** 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.

	Main application sett	ings	
Wireless and modem	URL	http://localhost:1880/ui	Test URL
Accounts	CMD parameters	disable-features=UseMultiPlaneFormat	ForSoftwareVideo
Services			
	On-screen keyboard	Enable on-screen keyboard	
Tools			
Tools WP Settings	Save	icel	

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<sup>″</sup>: 330,
                       "y": 120,
                      "wires": []
           },
{
                      "id": "2e4a56f8.cfa23a",
                      "type": "ui_gauge",
                       "ź": "1e6b97b5.687fd8",
                      "name": "Random Gauge",
                       "group": "dd4567b9.6a4c18",
                       "order": 2,
                       "width": "6",
                      "height": "6",
                      "atype": "gage",
```

```
"title": "Random Value",
            "label": "%",
           uoer: %o',
"format": "{{value}}",
"min": "0",
"max": "100",
"colors": ["#00b500", "#e6e600", "#ca3838"],
"seg1": "30",
"seg2': "70",
"*"seg2': "70",
            "x": 320,
"y": 240,
            "wires": []
},
{
            "id": "3b9ddefd.32b9d",
            "type": "ui_chart",
            "ź": "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,
            "v":240,
            "wires": []
},
{
            "id": "74b1aef8.e7e0d8",
            "type": "function",
            "ź": "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"
                        1
           1
},
{
            "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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