Node-RED on Docker

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After seeing some of the stuff my colleague Martin has done with Node-RED, I wanted to switch to oit, despite my KISS strategy, and Node-RED just introduces another device to mange.

Installing Node-RED as a Docker container

But, starting it on Docker on my Home Laptop (also used for Home Assistant on Docker and Plex Media Server):

```
mkdir /opt/node-red
docker run -d --restart unless-stopped --network=host -v /opt/node-red:/data --name nodered nodered/node-red
```

And it was running on http://sparrow:1880. I saw some wierd stuff in the start, until i pressed "Deploy" the first time, after that every thing has just bee working.

Node-RED has no (as far as I know currently, any users or admin/management in front of it by default, and I wanted to be able to use it from home and work/work-vpn... so I created a dual stack of Reverse Proxies:



Setting the browser to http://nodered.mos-eisley.dk it hits my Confluence Server (in a Datacenter) and the Apache2 on it proxies it to http://cantina,moseisley.dk:1890 (Fiber Router with port forward to Home laptop), and the Apache2 on the Laptop proxies it to sparrow:1880 (the Docker container on the Home Laptop).

On both Apache2 I have IP Restrictions, and on the first, username/password - otherwise all people at work could change my Node-RED setup:

```
<VirtualHost nodered.mos-eisley.dk:80>
       ServerName nodered.mos-eisley.dk
       LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-agent}i\"" combined
       ErrorLog ${APACHE_LOG_DIR}/nodered.mos-eisley.dk-error.log
       CustomLog ${APACHE_LOG_DIR}/nodered.mos-eisley.dk-access.log combined
               RewriteEngine on
       RewriteCond %{HTTP:Upgrade} ^WebSocket$ [NC]
       RewriteCond %{HTTP:Connection} Upgrade$ [NC]
       RewriteRule .*/(.*) "ws://cantina.mos-eisley.dk:1890/$1" [P,L]
       ProxyPreserveHost On
       ProxyRequests Off
       ProxyPass / http://cantina.mos-eisley.dk:1890/
       ProxyPassReverse / http://cantina.mos-eisley.dk:1890/
       <Proxy *>
       Order deny,allow
       Deny from all
       Allow from xxx.xxx.xxx
       Allow from yyy.yyy.yyy
               Authtype Basic
       Authname "Password Required"
       AuthUserFile /etc/apache2/.htpasswd
       Require valid-user
       </Proxy>
</VirtualHost>
```

Creating password:

sudo htpasswd -c /etc/apache2/.htpasswd <username>

```
cantina.mos-eisley.dk
```

```
<VirtualHost *:1890>
       ServerAdmin webmaster@localhost
               RewriteEngine on
       RewriteCond %{HTTP:Upgrade} ^WebSocket$ [NC]
       RewriteCond %{HTTP:Connection} Upgrade$ [NC]
       RewriteRule .*/(.*) "ws://localhost:1880/$1" [P,L]
       ProxyPreserveHost On
       ProxyRequests Off
       ProxyPass / http://localhost:1880/
       ProxyPassReverse / http://localhost:1880/
       <Proxy *>
       Order deny,allow
       Deny from all
       Allow from 77.243.52.144 # www.mos-eisley.dk
       Allow from 10
                              # Local Lan
       </Proxy>
</VirtualHost>
```

With this setup I can use it from xxx.xxx.xxx and yyy.yyy.yyy that represents some well known adresses like work and fiber.

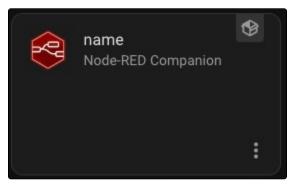
Adding Node-RED To Home Assistant

Node-RED

In Node-RED, under Settings Palette - Add "node-red-contrib-home-assistant-websocket":

				=/ Deploy -
User Settings				i Info i 🖉 🔅 💠
			Clos	Se Q. Search flows
View	Nodes	Install		✓ Flows> 闫 Office
Palette	۹ filter nodes			> 🔁 Utilities Room
Keyboard	 node-red 3.0.2 			> 🔄 Audi A6 > 🔄 Dinner
	> 49 nodes		in us	> 🗟 Bedroom
	node-red-contrib 0.0.4 1 node	o-cron	in us	
	 node-red-contrib 3.3.4 	o-discord-advanced		> 🔄 Anettes Watch > 🔄 Hall
	> 7 nodes		in us	> 🗟 Outside
	 node-red-contrit 0.46.1 	o-home-assistant-websocket		> 🔁 Tests/Samples > Subflows
	> 27 nodes		update to 0.47.0 in us	Se Slobal Configuration Nodes

Home Assistant



In Home Assistant, Add "Node-RED Companion" as an Integration:

Check out https://zachowj.github.io/node-red-contrib-home-assistant-websocket/guide/custom_integration/ for some tips also.

And You are ready to go.

Automations

Lights

Now, Home Assistent is my "heart" of the Installation, but starting to use it, I realize that it has Integrations for Philips Hue and MQTT directly, so Home Assistant could be bypassed for several automations.... I guess that more religion than tech...

My first Automatins in Home Assistant was to bridge my propritary ZenseHome system to Philips Hue:

Triggers	0
\checkmark → When an MQTT message has been received	:
+ ADD TRIGGER	
Conditions	0
+ ADD CONDITION	
Actions	0
✓ [₀] Turn on 10598	:
✓ Lo□ Toggle Christopher Ceiling 1	:
✓ ↓ □ □ Toggle Christopher Ceiling 2	:
✓□ Toggle Christopher Ceiling 3	:

Later on, ZenseHome actually got native Hue support... but Im stil using Home Assistant.

So, I moved this to Node-Red:

Listen for ZenseHome Button	Turn on ceiling socket	Toogle Christophers Ceiling Light
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The "Listen" is listening om MQTT Directly and turns on the ZenseHome ceiling outlet (just to be sure) and turns on the Philips Hue lightbulbs through Home Assistant.

I have also used the Philips Hue Zone "Christophers Ceiling Light" instead of turning on all three bulbs indivudually.

So, I moved all these similar automations from Home Assistant to Node-Red in no time!

Stream Deck Support

My youngest son got a Stream Deck and we wanted to be able to trigger stuff from the buttons, so I looked into the Home Assistant API - and well, You need authetications and all sorts of "complicated" stuff.

So I turned to Node-Red, and found the "http in" node, which setup and url that Node-RED listens on:

Delete		Cancel	Done
Properties		4	
Method	GET		~
O URL	switch-vr		

Added the toogle for the Home Assistant entity (A Philips Hue Plug):

Delete		Cancel Done
Propertie	5	۵
	ion: At this point anything could ssue? Post it in <mark>issues</mark> . Have qu	change or not work. uestions or comments? Post them here .
Name	Toogle VR	
Server	Home Assistant	~
	Action	~
Туре		
Type Device	VR Base Stations	•

And wired them together:

Http Req Toggle VR	Toogle VR Ight.toggle : Dec 2, 4:49 PM
	http (200)

Now, going to http://sparrow:1880/switch-vr simply toggles the VR on/off - no authentication or similar needed, the URL can be put directly into the Stream Deck software and assigned to a Button.

Messaging

 ${}_{\oslash}$

I looked into messaging (Home Assistant already setup for twillo) and found that Facebook Messenger are possible, but the setup is complicated.

So I turned (as and SMS alternative) to Discord, from the Settings Palette - Add "node-red-contrib-discord-advanced":

				Deploy 👻 🗮	
User Settings		i info 🗾 i 🖉 🕸 🔻			
			Close	Q Search flows	
View	Nodes	Install		✓ Flows →	
Palette	a liiter nodes			> 🔁 Utilities Room	
Keyboard	 node-red 3.0.2 49 nodes 		in use	 > I Audi A6 > I Dinner > I Bedroom > I Tokes Room 	
	 node-red-contril 0.0.4 1 node 	o-cron	in use	Christophers Room El Living Room	
	 node-red-contril 3.3.4 7 nodes 	o-discord-advanced	in use	> I Anettes Watch > I Hall > I Outside > I Others	
	 node-red-contril 0.46.1 27 nodes 	o-home-assistant-websocket	update to 0.47.0 in use	 Fasts/Samples Subflows Global Configuration Nodes 	

The setup is a bit complicated - follow the links on https://github.com/Markoudstaal/node-red-contrib-discord-advanced

Before sending the Discord Message, a "function" node will set the message (msg) - that is the Yellow/orabge "Prepare Message":

Delete			Cancel	Done
Properties				•
Name Name	Prepare Message			
Setup	On Start	On Messag	On Stop	
1 nsg.pa	ayload = "UP'pen er	hjemme";		UNI SALANS.
2 msg.ct	nannel = "			

The "msg.channel" is and ID and can be found in the URL for the Channel when running Discord in a Browser, its NOT a string like "#homeassistant". Thank for Support from the coders.

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And so, a few messages to Discord:

Normann is Home running	Prepare Message	Send Message message sent, id = 1049342049515753483
Normann is not Home running	f Prepare Message	
Large Bathroom Humidity > 65% running	f Prepare Message	Send Message message sent, id = 1049320623974912040
UP is Home	f Prepare Message	Send Message message sent, id = 1049341030689935400

Result:

