Node-RED on Docker

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:
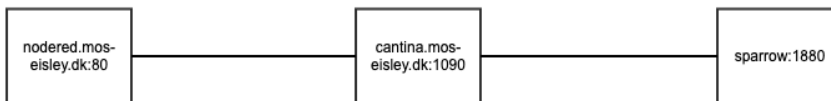
Setting the browser to http://nodered.mos-eisley.dk it hits my Confluence Server (in a Datacenter) and the Apache2 on it proxies it to http://cantina,mos-eisley.dk:1890 (Fiber Router with port forward to Home laptop), and the Apache2 on the Laptop proxies it to sparrow:1880 (the Docker container on the 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.xxx
        Allow from yyy.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>
```
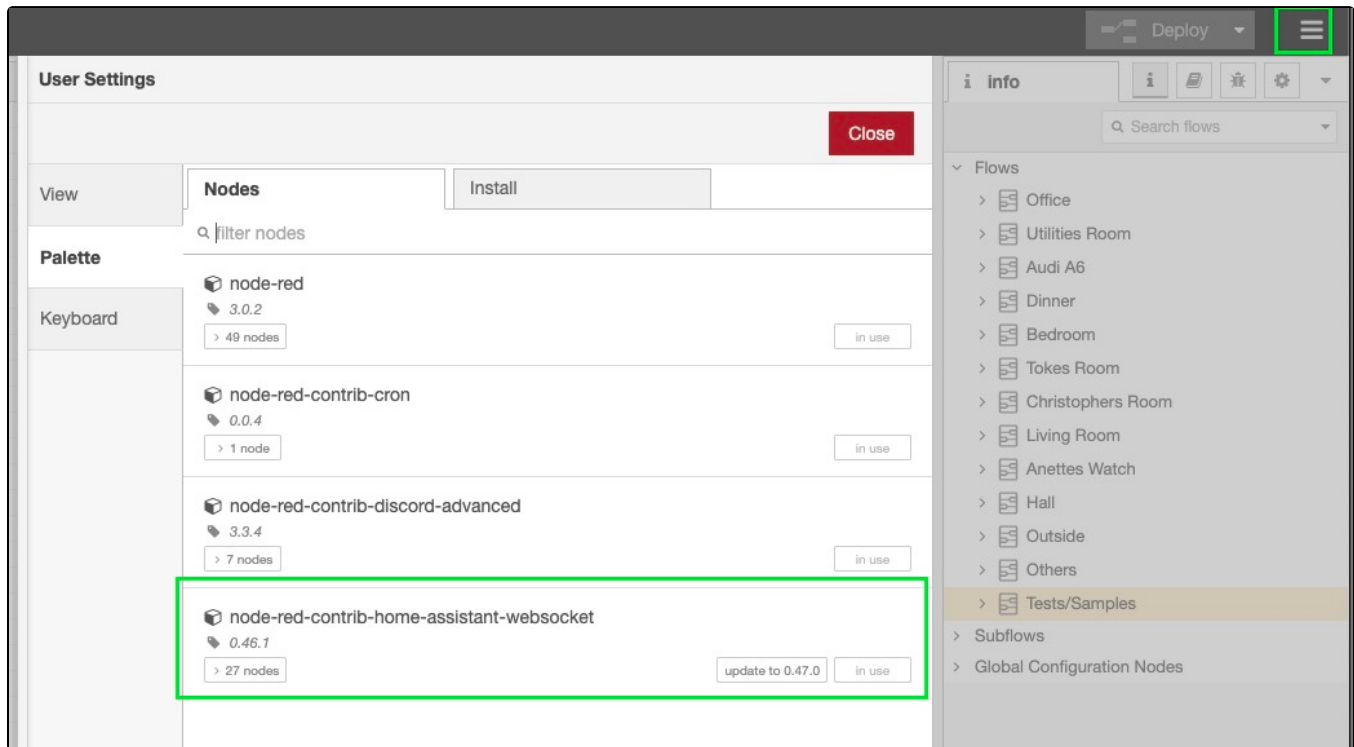
With this setup I can use it from xxx.xxx.xxx.xxx and yyy.yyy.yyy.yyy that represents some well known adresses like work and fiber.
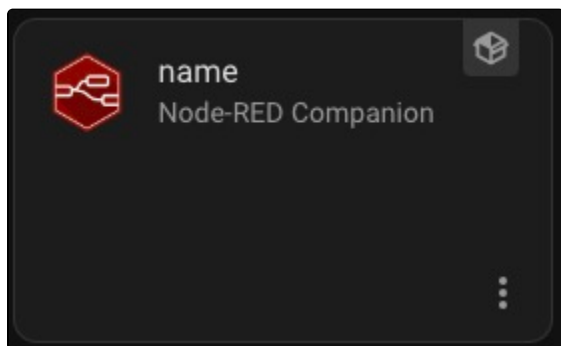
Adding Node-RED To Home Assistant

Node-RED

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

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:

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

So, I moved this to Node-Red:
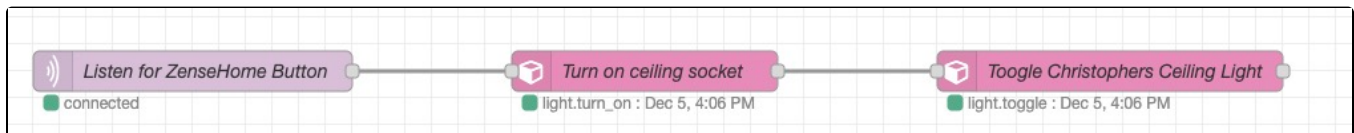
The "Listen" is listening om MQTT Directly and turns on the ZenseHome ceiling outlet (just to be sure) and turns on the Philips Hue lightbulbs through Home Assistant.

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 autheticatications 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:

Edit http in node

Delete   Cancel   **Done**

⚙ **Properties**   ⚙ 📄 ▣

☰ Method   GET   ⌄

🌐 URL   switch-vr

🏷 Name   Http Req Toggle VR

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

Edit device node

Delete   Cancel   **Done**

⚙ **Properties**   ⚙ 📄 ▣

> Alpha version: At this point anything could change or not work.
> Found an issue? Post it in issues . Have questions or comments? Post them here .

Name   Toogle VR

Server   Home Assistant   ⌄   ✏

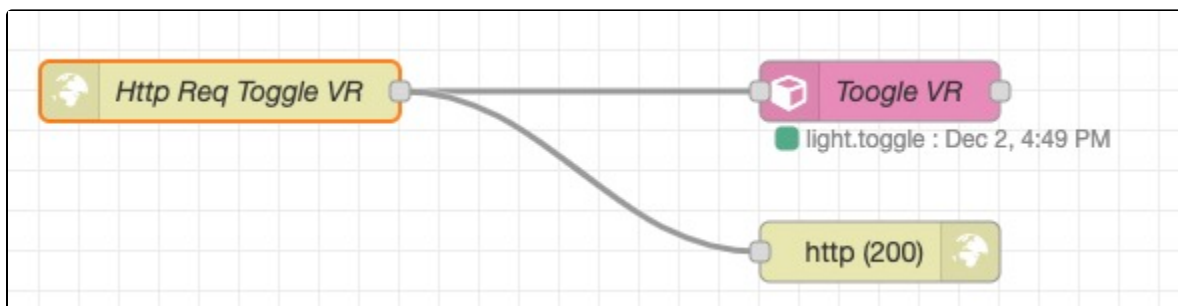Type   Action   ⌄

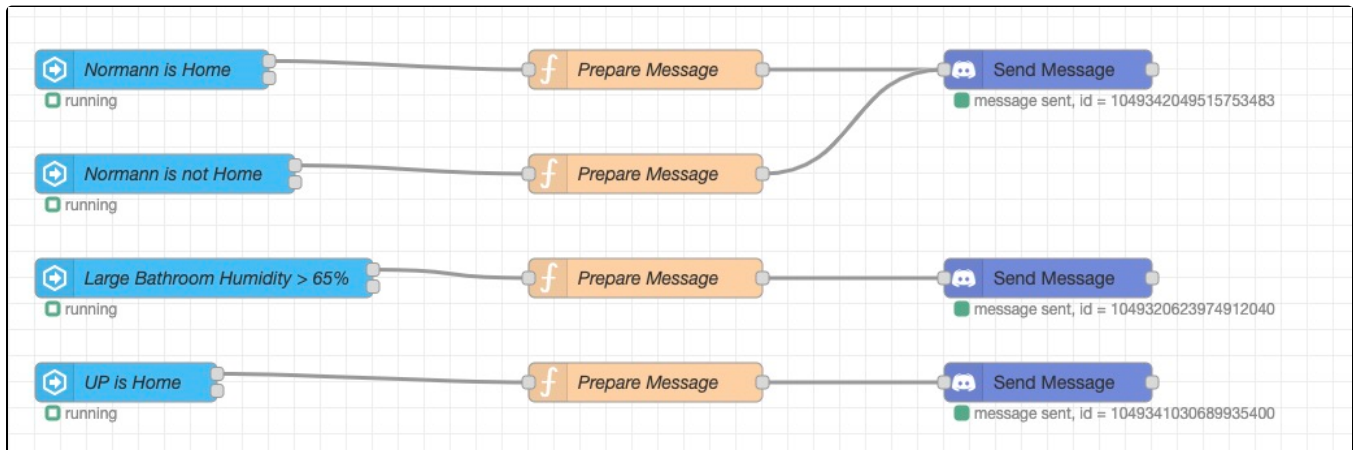Device   VR Base Stations   ▾

Trigger   toggle   ⌄

And wired them together:

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

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":

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":

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 "#home-assistant". Thank for Support from the coders.

And so, a few messages to Discord:

Result: