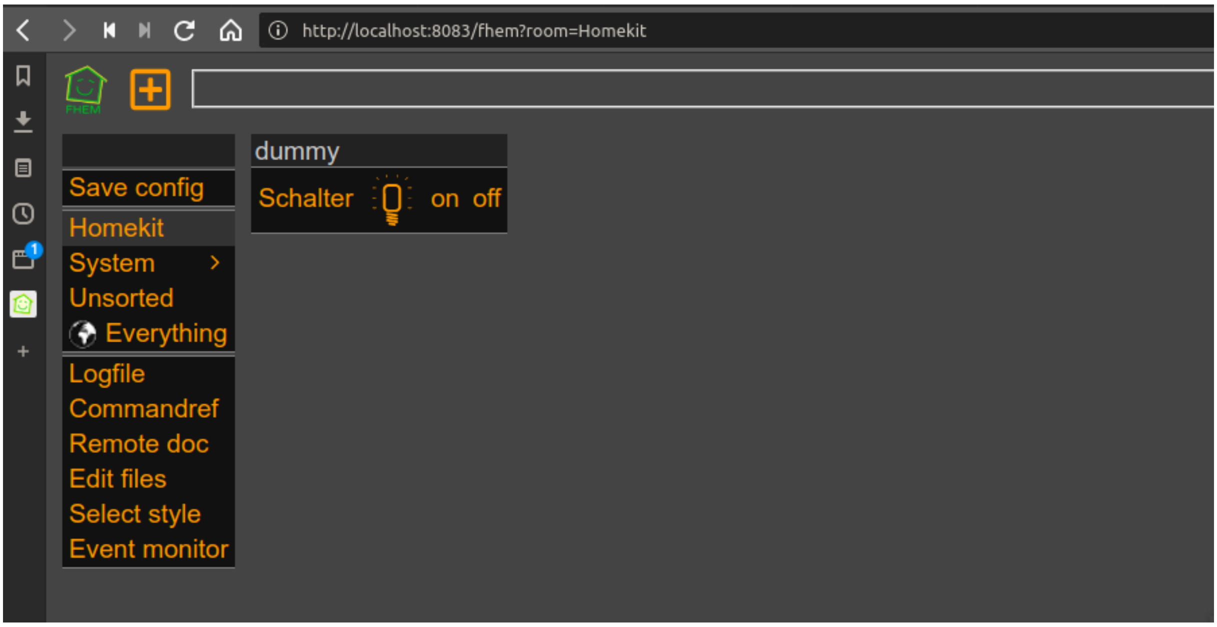
Home Automation Stack



The stack contains everything to run FHEM on a Docker host. Mosquitto is used as message broker. SIRI functions are realized with the help of a homebridge container. The complete stack runs on x86 as well as arm architectures. It is very easy to clone its complete productive environment and has a simple way to build a test system.

Todo

- deCONZ Image Container Integration
- DBLog Integration

Requirements

- docker
- docker-compose

Installation raspberrypi

Raspian Download

Download the image of your choise: Raspian Download Unzip the image and install it with:

```
sudo dd bs=4M if=2019-09-26-raspbian-buster-full.img of=/dev/mmcblk0
    conv=fsync
sync
```

Eject the card and insert it again to mount the filesystems boot & rootfs. Touch a blank file ssh to enable

```
sudo touch /media/boot/ssh
sync
umount /media/boot
umount /medua/rootfs
```

Eject the card and insert into your raspberrpi. After that power on the rpi and login with the known

```
ssh pi@raspberrypi4
```

```
pi@raspberrypi:~ $ passwd
Changing password for pi.
Current password:
New password:
Retype new password:
passwd: password updated successfully
pi@raspberrypi:~ $
```

System Update

```
sudo apt-get update
sudo apt-get dist-upgrade
```

Set timezone

```
sudo dpkg-reconfigure tzdata
```

Raspberry Config

1) Expand the root filesystem (A1 / Advanced Options)

2) Update raspi-config

   sudo raspi-config sudo reboot

Intall additional packages

```
sudo apt-get install wget git apt-transport-https vim telnet zsh zsh-
    autosuggestions zsh-syntax-highlighting
```

Install oh-my-zsh

```
sh -c "$(curl -fsSL https://raw.github.com/ohmyzsh/ohmyzsh/master/
    tools/install.sh)"
```

Install log2ram (/var/log 2 ram)

```
echo "deb http://packages.azlux.fr/debian/ buster main" | sudo tee /
    etc/apt/sources.list.d/azlux.list
wget -qO - https://azlux.fr/repo.gpg.key | sudo apt-key add -
apt update
apt install log2ram
```

Setup ssh key for user

```
ssh-keygen -t rsa -b 8192
```

Install docker & docker-compose

[illegible]

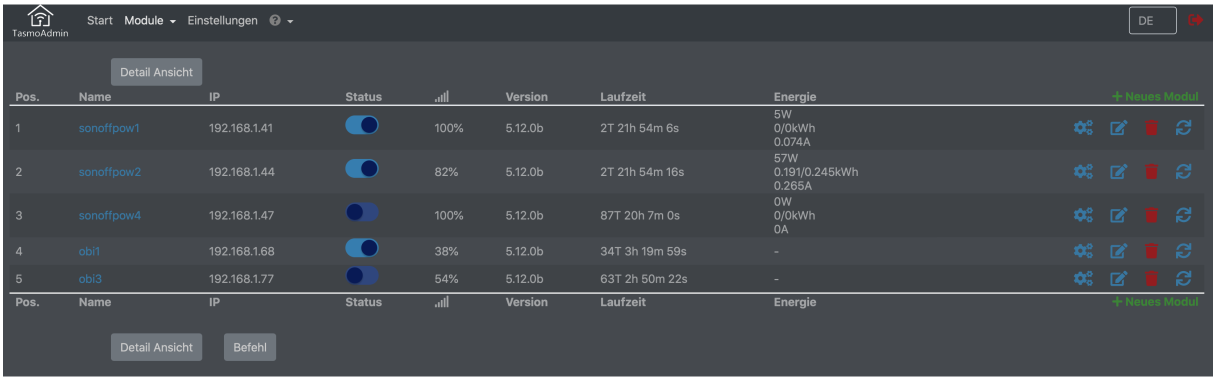
```
#curl -sSL https://get.docker.com | sh
#sudo systemctl enable docker
#sudo systemctl start docker
sudo apt-get install docker docker-compose
sudo usermod -aG docker pi
sudo reboot
```

git repository export and start all container

```
cd
git clone https://github.com/stormmurdoc/fhemdocker.git
cd fhemdocker
docker-compose up
```

Container

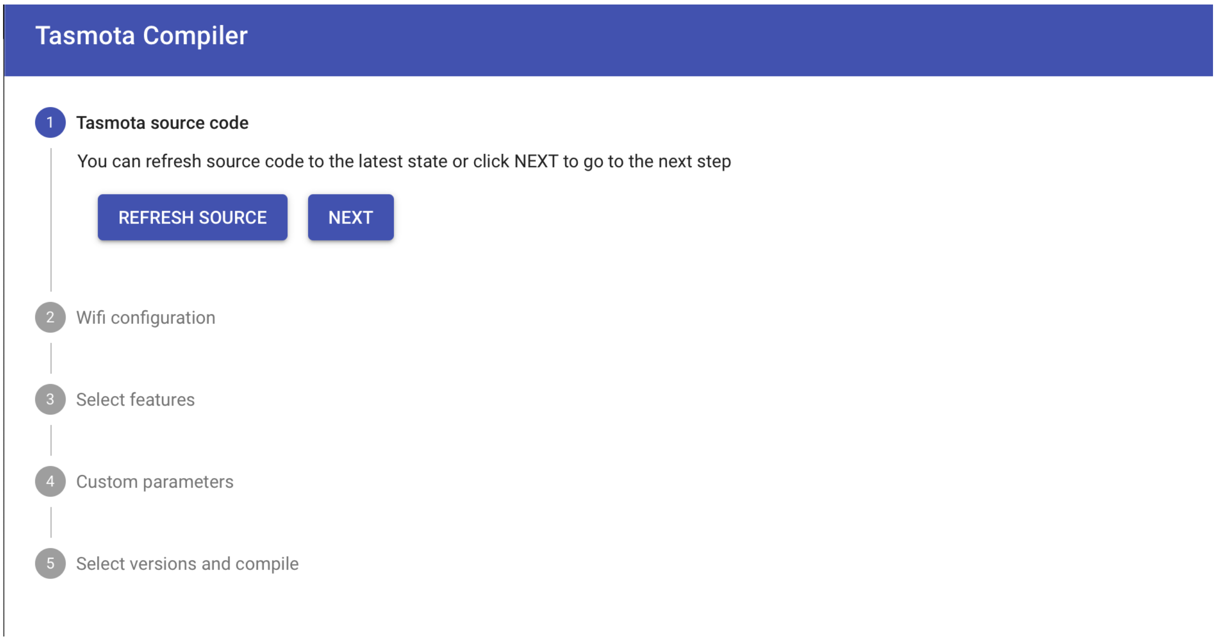
Tasmota Admin



Pos.	Name	IP	Status	.ıll	Version	Laufzeit	Energie
1	sonoffpow1	192.168.1.41	☑	100%	5.12.0b	2T 21h 54m 6s	5W 0/0kWh 0.074A
2	sonoffpow2	192.168.1.44	☑	82%	5.12.0b	2T 21h 54m 16s	57W 0.191/0.245kWh 0.265A
3	sonoffpow4	192.168.1.47	☐	100%	5.12.0b	87T 20h 7m 0s	0W 0/0kWh 0A
4	obi1	192.168.1.68	☑	38%	5.12.0b	34T 3h 19m 59s	-
5	obi3	192.168.1.77	☐	54%	5.12.0b	63T 2h 50m 22s	-
Pos.	Name	IP	Status	.ıll	Version	Laufzeit	Energie

Abbildung 1: “tasmotaadmin”

Tasmota Compiler



Tasmota Compiler

1 Tasmota source code

You can refresh source code to the latest state or click NEXT to go to the next step

2 Wifi configuration

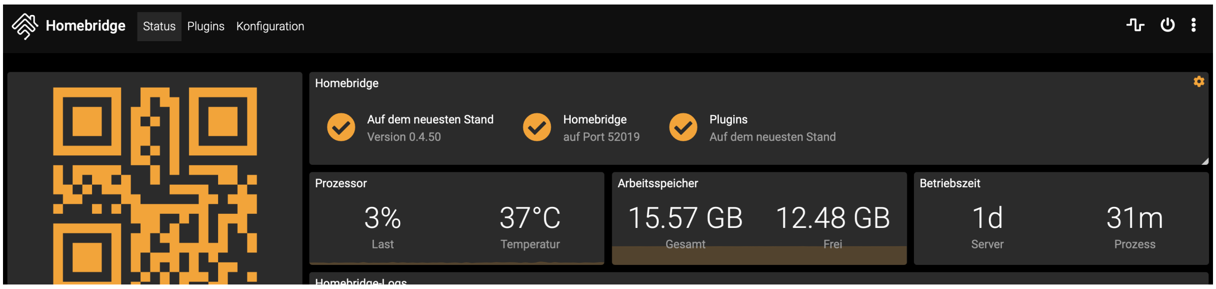
3 Select features

4 Custom parameters

5 Select versions and compile

Abbildung 2: “tasmotacompiler”

Homebridge



Homebridge

Auf dem neuesten Stand
Version 0.4.50

Homebridge
auf Port 52019

Plugins
Auf dem neuesten Stand

Prozessor: 3% Last, 37°C Temperatur

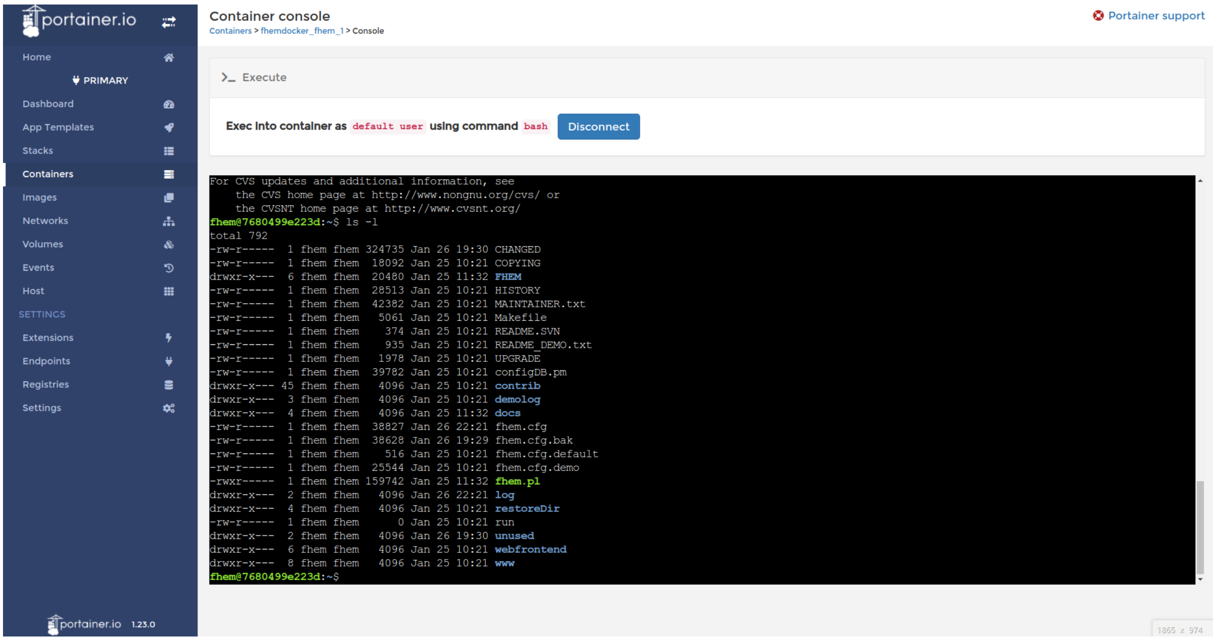
Arbeitsspeicher: 15.57 GB Gesamt, 12.48 GB Frei

Betriebszeit: 1d Server, 31m Prozess

Homebridge-Logs

Abbildung 3: "homebridge"

Portainer



Container console

Exec into container as `default user` using command `bash`

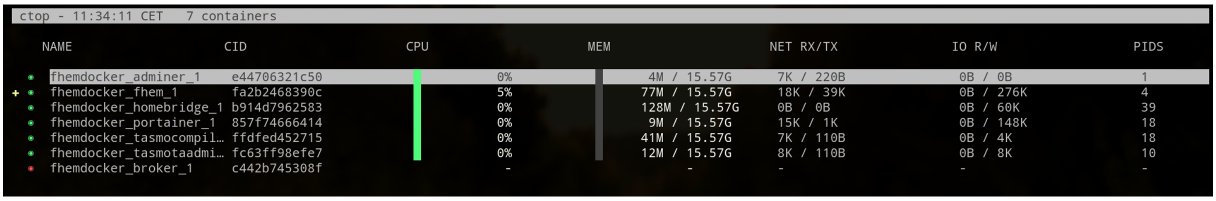
```
For CVS updates and additional information, see
    the CVS home page at http://www.nongnu.org/cvs/ or
    the CVSNT home page at http://www.cvsnt.org/
fhem@7680499e223d:~$ ls -l
total 792
-rw-r-----  1 fhem fhem 324735 Jan 26 19:30 CHANGED
-rw-r-----  1 fhem fhem  18092 Jan 25 10:21 COPYING
drwxr-x---  6 fhem fhem  20480 Jan 25 11:32 FHEM
-rw-r-----  1 fhem fhem  28513 Jan 25 10:21 HISTORY
-rw-r-----  1 fhem fhem  42382 Jan 25 10:21 MAINTAINER.txt
-rw-r-----  1 fhem fhem   5061 Jan 25 10:21 Makefile
-rw-r-----  1 fhem fhem    374 Jan 25 10:21 README.SVN
-rw-r-----  1 fhem fhem    935 Jan 25 10:21 README_DEMO.txt
-rw-r-----  1 fhem fhem   1978 Jan 25 10:21 UPGRADE
-rw-r-----  1 fhem fhem  39782 Jan 25 10:21 configDB.pm
drwxr-x--- 45 fhem fhem   4096 Jan 25 10:21 contrib
drwxr-x---  3 fhem fhem   4096 Jan 25 10:21 demolog
drwxr-x---  4 fhem fhem   4096 Jan 25 11:32 docs
-rw-r-----  1 fhem fhem  38827 Jan 26 22:21 fhem.cfg
-rw-r-----  1 fhem fhem  38628 Jan 26 19:29 fhem.cfg.bak
-rw-r-----  1 fhem fhem    516 Jan 25 10:21 fhem.cfg.default
-rw-r-----  1 fhem fhem  25544 Jan 25 10:21 fhem.cfg.demo
-rwxr-----  1 fhem fhem 159742 Jan 25 11:32 fhem.pl
drwxr-x---  2 fhem fhem   4096 Jan 26 22:21 log
drwxr-x---  4 fhem fhem   4096 Jan 25 10:21 restoreDir
-rw-r-----  1 fhem fhem      0 Jan 25 10:21 run
drwxr-x---  2 fhem fhem   4096 Jan 26 19:30 unused
drwxr-x---  6 fhem fhem   4096 Jan 25 10:21 webfrontend
drwxr-x---  8 fhem fhem   4096 Jan 25 10:21 www
fhem@7680499e223d:~$
```

Abbildung 4: "portainer"

ctop

Description

ctop is a commandline monitoring tool for linux containers



```
ctop - 11:34:11 CET   7 containers

    NAME                   CID                CPU                    MEM                   NET RX/TX          IO R/W          PIDS

  ● fhemdocker_adminer_1   e44706321c50            0%          4M / 15.57G     7K / 220B        0B / 0B         1
+ ● fhemdocker_fhem_1      fa2b2468390c            5%         77M / 15.57G     18K / 39K        0B / 276K       4
  ● fhemdocker_homebridge_1 b914d7962583           0%        128M / 15.57G     0B / 0B          0B / 60K        39
  ● fhemdocker_portainer_1  857f74666414           0%          9M / 15.57G     15K / 1K         0B / 148K       18
  ● fhemdocker_tasmocompil… ffdfed452715           0%         41M / 15.57G     7K / 110B        0B / 4K         18
  ● fhemdocker_tasmotaadmi… fc63ff98efe7           0%         12M / 15.57G     8K / 110B        0B / 8K         10
  ● fhemdocker_broker_1     c442b745308f            -               -           -                -              -
```

Abbildung 5: “ctop”

Installation

ctop is available in AUR, so you can install it using AUR helpers, such as YaY, in Arch Linux and its variants such as Antergos and Manjaro Linux.

Installation Linux

```
sudo wget https://github.com/bcicen/ctop/releases/download/v0.7.3/ctop-0.7.3-linux-amd64 -O /usr/local/bin/ctop
sudo chmod +x /usr/local/bin/ctop
```

```
sudo wget https://github.com/bcicen/ctop/releases/download/v0.7.3/ctop-0.7.3-linux-arm -O /usr/local/bin/ctop
sudo chmod +x /usr/local/bin/ctop
```