Smart Home mit RaspberryPI und ESP3688

Rollanden und Feuermelder

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2019

Inhalt

[Logbuch Smart Home 2](#_Toc22996141)

[Installation meines Raspberry Pis: 2](#_Toc22996142)

[OS 2](#_Toc22996143)

[Node Red 3](#_Toc22996144)

[Node Red über NPM 3](#_Toc22996145)

[Mosquito: 3](#_Toc22996146)

[Shelly 3](#_Toc22996147)

[Security 4](#_Toc22996148)

[Rolladen rauf und runter 4](#_Toc22996149)

[ZigBee 5](#_Toc22996150)

[ESP3688 Feuermelder 7](#_Toc22996151)

[Development mit Ardino 9](#_Toc22996152)

[Tutorials 10](#_Toc22996153)

[Node Red tutorials, mein Lieblingstutorial: 10](#_Toc22996154)

[Installation Raspberry 10](#_Toc22996155)

[MQTT tutorials 10](#_Toc22996156)

[Linux Tutorials: 10](#_Toc22996157)

[Arduino IDE vorbereiten: 11](#_Toc22996158)

[Dikussion um Stromversorgung, am Ende mit Spannungsregler mit Enable-Pin: 11](#_Toc22996159)

[Anleitung zum Programmieren: 11](#_Toc22996160)

[Sonoff DIY: 11](#_Toc22996161)

[Remote Desktop Windows 10 auf Raspberry PI 11](#_Toc22996162)

[Tuya Geräte pimpen: 11](#_Toc22996163)

[Shelly nutzen und flashen (nicht notwendig) 12](#_Toc22996164)

[Feuermelder Tutorial start!!!!! 12](#_Toc22996165)

[Andere Feuermelder Tutorials around this 13](#_Toc22996166)

[ZigBee for Thermostat!!!! 13](#_Toc22996167)

[Tasmota Flashen 13](#_Toc22996168)

[Backups 14](#_Toc22996169)

[Meine Wohnzimmerrollade zum importieren in Node Red: 14](#_Toc22996170)

# Logbuch Smart Home

## Installation meines Raspberry Pis:

Meine Schritte, um die Dinge zu installieren, kann ein Raspberry zero wh sein, kostet nichts, Stromversorgung mit 1 Ampere, ein Shelly 2.5 Schalter in der Wand.

Node Red und Mosquito (MQTT) auf Raspberry

### OS

flash the SD-card with Raspberian lite (downloaden) - <https://www.raspberrypi.org/documentation/installation/installing-images/windows.md>

Alternativer SD-card schreiber/flasher: Win32discimiger für Windows, Empfohlen von Hausautomation, balenaEtcher oder MAC: ivanx.com PiFiller

16.02.2021: Mit balenaEtcher ein altes lite aus 2019 geflashed, dann dem Plan gefolgt, sofort geklappt! Neue Node-Red Befehl, alles upgedated und upgegradet.Auf der SD-Karte: create text-file ssh without extension

RaspberryPi zero (WLAN only):

file named "wpa\_supplicant.conf":

country=DE

ctrl\_interface=DIR=/var/run/wpa\_supplicant GROUP=netdev

update\_config=1

ap\_scan=1

network={

scan\_ssid=1

ssid="KH"

psk=""

key\_mgmt=WPA-PSK

}

use WLAN-router to find out IP-adress

RaspberryPi 4: could be done like zero, but also with network cable:

use network cable to connect, auf dem Server die IP-Adresse herausfinden and open putty mit der IP-Adresse

all Raspberries: connect with SHH e.g. putty

user: pi, password:raspberry

possible to get a look with command "top", wieder raus mit "q"

sudo apt-get update

sudo apt-get upgrade

sudo raspi-config to change password

sudo raspi-config to configure Wifi with my MAC: dc:a6:32:19:e0:6c (Befehl zum Herausfinden: cat /sys/class/net/wlan0/address)

sudo ifconfig wlan0 down   -  sudo ifconfig wlan0 up

raspberrypi-4B: 192.168.0.41

raspberrypi-zero-wh:192.168.0.44

sudo raspi-config // automatic time-sync

Select Internationalisation Options.

Select I2 Change Timezone.

Select your Geographical Area.

Select your nearest City.

Select Finish.

Select Yes to reboot now

### Node Red

(following <https://nodered.org/docs/getting-started/raspberrypi>:)

is working with lite from 2019-07-10-raspbian-buster-lite without updates/upgrades

sudo apt-get install build-essential

bash <(curl -sL <https://raw.githubusercontent.com/node-red/raspbian-deb-package/master/resources/update-nodejs-and-nodered>)

Es gibt Hinweise auf neue Seiten und neue Befehle, mit denen es dann sofort geklappt hat

sudo systemctl enable nodered.service

service nodered start

sudo service nodered start

2021: (node-red-start) (sudo systemctl enable nodered.service)

192.168.0.41:1880

192.168.0.44:1880

Dashboard -> in NodeRed Palette verwalten, node-red-dashboard installieren

Dashboard -> in NodeRed Palette verwalten, node-red-contrib-sunevents installieren

neu gefunden: node-red-node-ui-lineargauge

Einstellungen -> Raster anstellen und einrasten

sudo service nodered restart

<http://192.186.0.41:1880/ui>

### Node Red über NPM

Siehe: <https://nodered.org/docs/getting-started/raspberrypi>

Dies klappte auf dem zero mit Desktop, wo das Script immer beim Updaten von node.js hängen blieb

### Mosquito:

<https://mosquitto.org/blog/2013/01/mosquitto-debian-repository/>

is working with lite from 2019-07-10-raspbian-buster-lite without updates/upgrades

wget <http://repo.mosquitto.org/debian/mosquitto-repo.gpg.key>

sudo apt-key add mosquitto-repo.gpg.key

cd /etc/apt/sources.list.d/

ls

sudo apt-get update

sudo apt-get install mosquitto mosquitto-clients python mosquitto

sudo service mosquitto start

sudo apt-get upgrade

192.186.0.41:1883

192.186.0.44:1883

What to do before you unplug the Raspberry:

!!!!!!!!!!!!!!!!!!!!! sudo reboot !!!!!!!!!!!!!!!!!!!!!

!!!!!!!!!!!!!!!!!!!!! sudo halt !!!!!!!!!!!!!!!!!!!!!

You need to tell shelly which MQTT server it has to use, our shelly is reachable under <http://192.168.0.43/> -> ADVANCED - DEVELOPER SETTINGS -> Enable action execution via MQTT

Import in Node Red the existing proposed flow to have a running up and down.

### Shelly

Shelly 2.5 im Browser: <http://192.168.0.43/>

Config: <http://192.168.0.43/settings>

Kommandos unter

<https://shelly-api-docs.shelly.cloud/#shelly2-mqtt>

shellies/shellyswitch-<deviceid>/roller/0 reports the current state: open, close while in motion, stop when not moving.

shellies/shellyswitch-<deviceid>/roller/0/command accepts rc (performs roller calibration), open, close and stop.

<https://www.key-shortcut.com/schriftsysteme/35-symbole/pfeile>

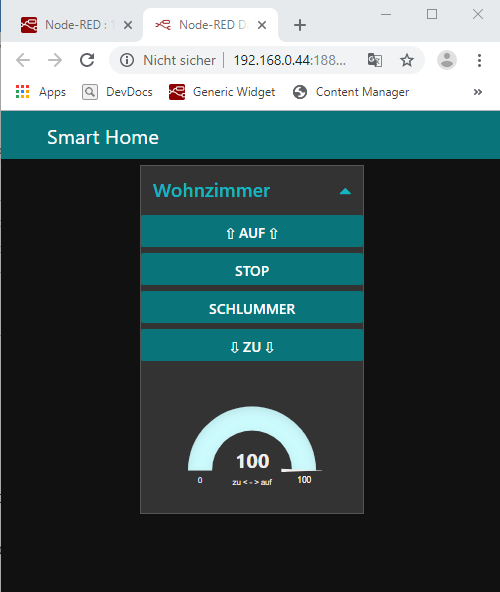
Shelly unter TASMOTA konfigurieren: <https://github.com/arendst/Sonoff-Tasmota/wiki/Shelly-2.5>

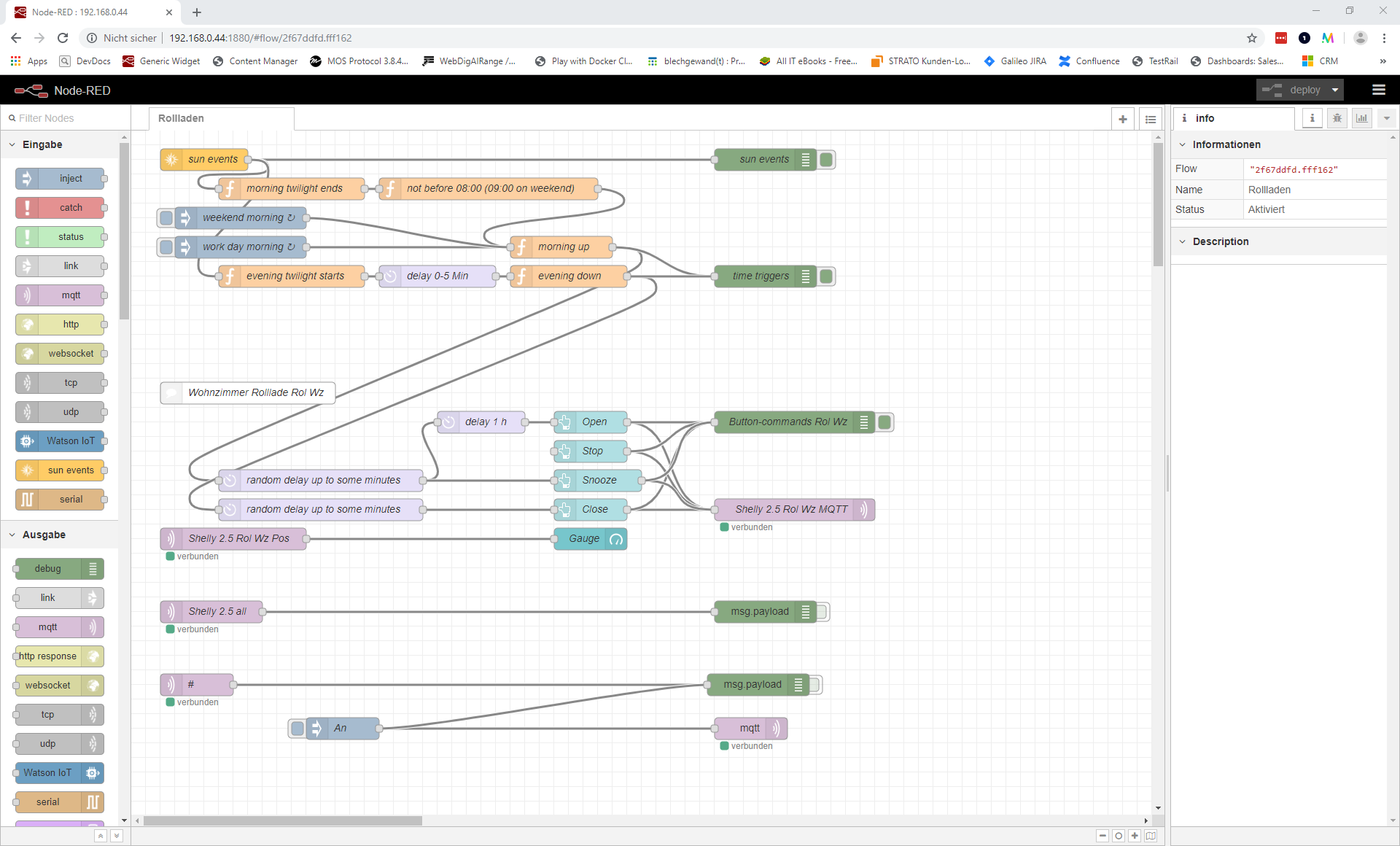
Kommandos: <https://github.com/arendst/Sonoff-Tasmota/wiki/MQTT>

### Security

Security ist bislang nicht beachtet, https/SSH muss konfiguriert werden, z.B. im Tutorial kommt vor: nutzt <https://de.wikipedia.org/wiki/GNU_Privacy_Guard>

### Rolladen rauf und runter





### ZigBee

Install:

<https://www.zigbee2mqtt.io/getting_started/running_zigbee2mqtt.html>

sudo apt-get install git

sudo git clone https://github.com/Koenkk/zigbee2mqtt.git /opt/zigbee2mqtt

sudo chown -R pi:pi /opt/zigbee2mqtt

cd /opt/zigbee2mqtt

npm install

added 2097 packages from 594 contributors and audited 877679 packages in 1297.569s

found 3 vulnerabilities (2 moderate, 1 high)

run `npm audit fix` to fix them, or `npm audit` for details

edit configuration.yaml:

nano /opt/zigbee2mqtt/data/configuration.yaml

# MQTT settings

mqtt:

# MQTT base topic for zigbee2mqtt MQTT messages

base\_topic: zigbee2mqtt

# MQTT server URL

server: 'mqtt://192.168.0.44:1883'

# MQTT server authentication, uncomment if required:

# user: my\_user

# password: my\_password

Save and exit

cd /opt/zigbee2mqtt

npm start

2018-5-18 20:35:07 INFO Starting zigbee-shepherd

2018-5-18 20:35:09 INFO zigbee-shepherd started

2018-5-18 20:35:09 INFO Currently 0 devices are joined:

2018-5-18 20:35:09 INFO Connecting to MQTT server at mqtt://localhost

2018-5-18 20:35:09 INFO zigbee-shepherd ready

2018-5-18 20:35:09 INFO Connected to MQTT server

igbee2mqtt can be stopped by pressing CTRL + C.

see <https://www.zigbee2mqtt.io/getting_started/running_zigbee2mqtt.html> to start this in background as daemon!!!!!!!!!!!!!!!!!

To run zigbee2mqtt as daemon (in background) and start it automatically on boot we will run Zigbee2mqtt with systemctl.

# Create a systemctl configuration file for zigbee2mqtt

sudo nano /etc/systemd/system/zigbee2mqtt.service

Add the following to this file:

[Unit]

Description=zigbee2mqtt

After=network.target

[Service]

ExecStart=/usr/bin/npm start

WorkingDirectory=/opt/zigbee2mqtt

StandardOutput=inherit

StandardError=inherit

Restart=always

User=pi

[Install]

WantedBy=multi-user.target

Save the file and exit.

Verify that the configuration works:

# Start zigbee2mqtt

sudo systemctl start zigbee2mqtt

# Show status

systemctl status zigbee2mqtt.service

Output should look like:

pi@raspberry:/opt/zigbee2mqtt $ systemctl status zigbee2mqtt.service

● zigbee2mqtt.service - zigbee2mqtt

Loaded: loaded (/etc/systemd/system/zigbee2mqtt.service; disabled; vendor preset: enabled)

Active: active (running) since Thu 2018-06-07 20:27:22 BST; 3s ago

Main PID: 665 (npm)

CGroup: /system.slice/zigbee2mqtt.service

├─665 npm

├─678 sh -c node index.js

└─679 node index.js

Jun 07 20:27:22 raspberry systemd[1]: Started zigbee2mqtt.

Jun 07 20:27:23 raspberry npm[665]: > zigbee2mqtt@0.1.0 start /opt/zigbee2mqtt

Jun 07 20:27:23 raspberry npm[665]: > node index.js

Jun 07 20:27:24 raspberry npm[665]: 2018-6-7 20:27:24 INFO Starting zigbee-shepherd

Jun 07 20:27:25 raspberry npm[665]: 2018-6-7 20:27:25 INFO zigbee-shepherd started

Now that everything works, we want systemctl to start zigbee2mqtt automatically on boot, this can be done by executing:

sudo systemctl enable zigbee2mqtt.service

But error:

<https://github.com/Koenkk/zigbee2mqtt/issues/1892>

If git status shows the following:

modified: npm-shrinkwrap.json

modified: package.json

the problem can be fixed by running the following commands:

git checkout npm-shrinkwrap.json

git checkout package.json

rm -rf node\_modules && npm install

npm start

Yes!!!!!

# Stopping zigbee2mqtt

sudo systemctl stop zigbee2mqtt

# Starting zigbee2mqtt

sudo systemctl start zigbee2mqtt

# View the log of zigbee2mqtt

sudo journalctl -u zigbee2mqtt.service -f

To update Zigbee2mqtt to the latest version, execute:

# Stop zigbee2mqtt and go to directory

sudo systemctl stop zigbee2mqtt

cd /opt/zigbee2mqtt

# Backup configuration

cp -R data data-backup

# Update

git checkout HEAD -- npm-shrinkwrap.json

git pull

rm -rf node\_modules

npm install

# Restore configuration

cp -R data-backup/\* data

rm -rf data-backup

# Start zigbee2mqtt

sudo systemctl start zigbee2mqtt

### ESP3688 Feuermelder

Back to the Firealarm:

Requirements:

Power-supply:

1. 3,3V for ESP8266 (power supply): Fire-detector needs 7,4 V until it gives low-battery alarm. This is a good value for 2 cells of Lithium in accu with nominell 8,4V. I could replace the 9 V with that. From the 9 or 7,4 V I need to grap 3,3 V for the ESP8266, !!!with an enable-pin to wake the ESP8266 up.
   1. Kein Schaltregler, buck-module, etc, da zuviel Strom verbraucht wird.
   2. Linearregler AMS1117 needs current, even without use
   3. Low current
   4. Enable PIN
   5. Vin 12,5 – 6V
   6. Vout 3,3V
2. Interrupt via enable-Pin: Deep sleep with wake up via flashing LED every 30 sec. This flashes quicker with alarm, but it only used as wake up signal here. ?Goes to RST for the moment, if the power-supply does not work for sleeping alone? It needs an inverse signal, as RST works with grounding!!!

Read from fire-detector:

1. RST in (?Optokoppler): Reset with grounding inverted from flashing LED for waking up if power supply cannot do it.
2. Digital interrupt in (?Optokoppler): Read I/O Pin that is low normally and goes high in case of alarm from inside (interrupt-Pin) - ! only transitions will be red !
3. Digital in (?Optokoppler): Read low-battery alarm for knowing which fire-detector gave the alarm
4. Analog in: Measure battery to control being above 7,4 V also to avoid deep un-charging the accu. Sending this to MQTT regular
5. Analog in: Measure temperature

Send to fire-detector:

1. OK: Feed I/O Pin with a high when you want to start alarm from outside (so far my alarm LED)
2. Digital out: for setting Power supply to sleep.

MQTT:

1. ID to recognize the messages in MQTT

Reading about MQTT quality things and last will etc.

DYP-ME0010-A Smoke Detector

[](https://i2.wp.com/henrysbench.capnfatz.com/wp-content/uploads/2014/08/DSC00141-e1413304905679.jpg)

The DYP-ME0010-A is a smoke detector based on the Freescale Semiconductor MC145012DW smoke detector chip.

<http://henrysbench.capnfatz.com/henrys-bench/arduino-projects-tips-and-more/dyp-me0010-smoke-detector/>

<http://www.mystoopidstuff.com/lectronics/initial-design-for-a-smoke-detector-relay-with-nodemcu>

[https://www.youtube.com/watch?v=lo71vZERF7cI](https://www.youtube.com/watch?v=lo71vZERF7cII) IOT Smoke Detector:Update Existing Smoke Detector With IOT !!!!!!!!!!!!

<https://easyeda.com/tedder/printer-smoke-alarm>

<https://reprap.org/forum/read.php?1,574923>

Proposal ATMega that uses less power!!!! No WLAN but other radio-control with NRFL24, but without MQTT, so different!

JLCPCB for a PCB board using EasyEDA software.

### Development mit Ardino

In Zakros:

Arduino NodeMCU ESP8266:

<https://www.heise.de/ct/artikel/Arduino-IDE-installieren-und-fit-machen-fuer-ESP8266-und-ESP32-4130814.html>

<https://smarthome-blogger.de/tutorial/nodemcu-esp8266-einfuehrung/>

NodeMCU v3.2 – ESP8266 Dev Kit ausgepackt und per USB angeschlossen, zunächst unbekannt.

arduino-1.8.10-windows.exe installiert

zusätzlcihe Bordverwalter URL <http://arduino.esp8266.com/stable/package_esp8266com_index.json> eingetragen

Board Manager ESP8266 gesucht und installiert v2.5.2

BordVerwalter ESP8266 generivc module ausgewählt.

Port COM3

ExMPLAS -> Basics:1 -> Blink

Upload

Runs!

Note that with the NodeMCU module, you will have to translate the pins from the module to the pins defined in the ESP8266 Arduino IDE, which we are going to use. You will find the correspondence between pins here:

https://github.com/nodemcu/nodemcu-firmware/wiki/nodemcu\_api\_en#new\_ gpio\_map

Docu:

<https://www.instructables.com/id/NodeMCU-ESP8266-Details-and-Pinout/><https://nodemcu.readthedocs.io/en/master/modules/gpio/#gpio-module>

DeepSleep:

<https://randomnerdtutorials.com/esp8266-deep-sleep-with-arduino-ide/>

<https://tutorials-raspberrypi.de/monatelanger-esp8266-batteriebetrieb-mittels-deep-sleep/>

More with ESP8266:

<https://randomnerdtutorials.com/home-automation-using-esp8266/>

Now there are many things to read until my ESP8266 was running.

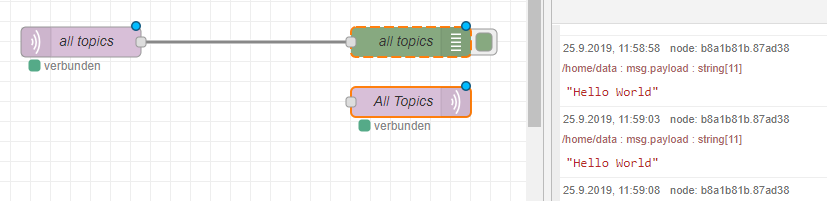
This have been my first sources when making familiar with ESP8266, but later I did not update any more for special samples, especially when going in the multiple things at one time mode.

Tutorials MQTT and ESP8266

* Anleitung unter Verwendung PubSubClient aus der Arduino-Libriary Bibliothek mit vollständigem Sample-Code auf NodeMCU ESP8266  
  <https://smarthome-blogger.de/tutorial/esp8266-mqtt-tutorial/> wie du mit dem ESP8266 MQTT-Daten versenden kannst, die gesammelten Daten an ein leistungsfähigeres Gerät, wie beispielsweise einen [Raspberry Pi](https://smarthome-blogger.de/produkte/raspberry-pi-3-b-plus/) zu senden, der sie auswertet und die nötigen Befehle an den ESP8266 senden kann.
* Anleitung unter Verwendung der libary #include <PubSubClient.h> mit Download und Samplecode  
  <http://www.bytesofgigabytes.com/mqtt/esp8266-as-mqtt-publisher-and-subscriber/> ESP8266 as MQTT publisher and subscriber
* <https://www.baldengineer.com/mqtt-tutorial.html>

From smarthome-blogger.de: <https://smarthome-blogger.de/tutorial/esp8266-mqtt-tutorial/>

Sending to notebook mqtt is working! (start mosquito.exe and node.js cmd-line with node-red on nodebook 192.168.8.104 while ESP8266 is 192.168.8.108)



Book:

1. Arduino, to understand the different boards, how to power them, boards with and without pins, in my case ESP6288, here the NodeMCU ESP8266
2. Pins and interrupts (delay)
3. How to overcome that an Arduino cannot work on multiple tasks in one time

## Tutorials

Weitere Themen:

### Node Red tutorials, mein Lieblingstutorial:

Hausautomatisierung

<https://www.youtube.com/watch?v=ktGprvHi5jU> Auch Installation Node-Red und Mosquitto auf Raspberry , nutzt <https://de.wikipedia.org/wiki/GNU_Privacy_Guard>

<https://entwickler.de/online/iot/node-red-iot-prototypen-2-579809637.html> wie man selbst Nodes machen kann.

### Installation Raspberry

<https://www.youtube.com/watch?v=YIbBRDW1HHI> (6 things to do after buying Raspberry Pi 4) oder besser <https://www.youtube.com/watch?v=BkJRS9Z-tgY> von Hausautomation ioBroker, der von Anfang an beschreibt.

### MQTT tutorials

<https://haus-automatisierung.com/mqtt-kurs/Uecezbg6FMMfMyC6u/>

<https://files.haus-automatisierung.com/MQTT.pdf>

<https://www.youtube.com/watch?v=tQmXWNd1pNk> How to Get Started with MQTT, Prinzip Publish and Subscribe with a public server/broker at goove.com, MQTT.fx to send messages

To install not as a service, but by command line: <https://www.youtube.com/watch?v=nkFS_7dQL-Y>

Habe setup von <https://mosquitto.org/> für Windows benutzt

Starte mit C:\Program Files\mosquitto\mosquitto.exe

MQTT.fx:

Setup download: <https://mqttfx.jensd.de/index.php/download>

### Linux Tutorials:

<https://www.linux-community.de/ausgaben/linuxuser/2004/02/zu-befehl-su-sudo/>

!!!!!!!!!!!!!!!!!!!!!Smoke detector with ESP8266 WLAN on battery that sends MQTT message.

### Arduino IDE vorbereiten:

Die Vorbereitung und Hello World (Blink) für die ESP8266s:

<https://itler.net/arduino-ide-fuer-die-programmierung-von-esp8266-chips-vorbereiten/>

<https://m.heise.de/make/artikel/ESP-Boards-mit-der-Arduino-IDE-programmieren-4130861.html?seite=all>

Das gleiche nochmal, also die Vorbereitung bis zum Blinken: <https://www.kollino.de/arduino/esp8266-01-wlan-modul-mit-dem-arduino-uno-programmieren/>

Aber das alles sagt einem nicht, wie man das WLAN anspricht.

### Dikussion um Stromversorgung, am Ende mit Spannungsregler mit Enable-Pin:

<https://www.mikrocontroller.net/topic/455855> and <https://www.youtube.com/watch?v=7ZcnPoZn_O0>

### Anleitung zum Programmieren:

<https://www.youtube.com/watch?v=SxPYNPPobRY>

<https://wiki.fhem.de/wiki/Hauptseite>

### Sonoff DIY:

<https://www.youtube.com/watch?v=7EDoIntJk9c> Sonoff Basic mit Tasmota flashen über SonOTA.exe (ohne löten oder Python) [Tutorial] [HD]

<https://www.youtube.com/watch?v=fzEDFmB0UYU> Tutorial Sonoff Mini (incl. DIY Mode and how to Flash Tasmota)

-> Tasmota on this device! Refers to Hausautomatisierung Tutorial

<https://www.youtube.com/watch?v=O5GYh470m5k> Flash Tuya Smart Switches, Plugs, and others all Over the Air - No soldering!

<https://www.youtube.com/watch?v=SxPYNPPobRY> Cloudfreie Software für Sonoff-Schalter (Tasmota) Computer:Club2 <http://www.cc2.tv> <http://www.cczwei-forum.de>

<https://www.youtube.com/watch?v=BkJRS9Z-tgY> Hausautomatisierung ioBroker Tutorial

<https://haus-automatisierung.com/mqtt-kurs/> Kostenlos 50 Minuten

<https://www.klick-tipp.com/info/tmhdz5zbf9szwca4pz1zz3z3>

### Remote Desktop Windows 10 auf Raspberry PI

SSH mit Putty ginge am Anfang, zum Installieren von Dingen

<https://www.youtube.com/watch?v=6jP6XZV5Nyo> für xrdp server installieren

Use xrdp!!!!??

<https://www.youtube.com/watch?v=WAFaw2Mbnko>

<https://www.youtube.com/watch?v=RWLxZ9egzJ0> Raspberry Pi Beschreibung und Einstieg älter aus dem Fernsehen, gut, aber alt

<https://www.youtube.com/watch?v=PUDqPHvSXV0> Raspberry Pi - System installieren und einrichten

### Tuya Geräte pimpen:

Sonof: Geräte mit Wifi zum Integrieren Sonoff

<https://www.heise.de/select/ct/2019/4/1550226849835235>

<https://www.heise.de/ct/artikel/Tuya-Convert-IoT-Geraete-ohne-Loeten-vom-Cloud-Zwang-befreien-4283623.html>

<https://www.heise.de/select/ct/2019/4/softlinks/yaev?wt_mc=pred.red.ct.ct042019.018.softlink.softlink>

<https://github.com/ct-Open-Source/tuya-convert>

<https://github.com/ct-Open-Source/tuya-convert/wiki/Compatible-devices>

<https://www.youtube.com/watch?v=O5GYh470m5k>

<https://www.vtrust.de/nachbereitung-35c3-vortrag-anleitung-und-skripte-fuer-den-betrieb-von-smart-home-devices-ausserhalb-der-hersteller-cloud/>

### Shelly nutzen und flashen (nicht notwendig)

<https://www.youtube.com/watch?v=MBR2HxEqL9w&vl=de> Shelly 1+2 als Sonoff-Alternative - erster Eindruck | haus-automatisierung.com [4K]

<https://www.youtube.com/watch?v=V2aWc_caE5k> Shelly 1 - Einbau in die bestehende Hauselektrik / Rauminstallation

zurückflashen: <https://www.shelly-support.eu/forum/index.php?thread/288-originalfirmware-flashen/>

<https://www.youtube.com/watch?v=hPdfBSHjUtQ> Hausautomation shelly Temperatur und Luftfeuchtigkeit

### Feuermelder Tutorial start!!!!!

Dies hier endet in einer Sackgasse

Billiglösung ohne MQTT: <https://www.pearl.de/a-ZX2542-3111.shtml;jsessionid=jA538B473BA1522920F7DF5C40A306421?vid=917&wa_id=40&wa_num=5116&utm_source=googleps&utm_medium=cpc&gclid=EAIaIQobChMI3N2qsei-5AIVhuJ3Ch2nQgToEAQYAiABEgKP-_D_BwE>

<https://forum.creationx.de/forum/index.php?thread/905-rauchmelder-mit-pot-relaisausgang-einbinden/>

<https://forum.iobroker.net/topic/16012/shelly-rauchmelder>

Der lockere Typ mit den Holzdecken:

<https://www.youtube.com/watch?v=P91DrKHeKo4> und Teil 2 <https://www.youtube.com/watch?v=VCHHPmy_HRI>

Sucht den Hauptchip: CS2105GO-S10: <https://www.instructables.com/id/Modify-a-6-EUR-smoke-detector-for-use-with-microco/>, <http://www.crossic.com/display.php?ic=776>

Der Chip ist kompatibel mit MC145010, also gibt es Datenblatt

7,4 V Lithium Akk mit Anschlussdrähten, JST Anschluss?

ATMega und NRF24L01, ohne WLAN

LED als Aufwecksignal

Taster als prüfung, IO Pin, mit LED bei Alarm und wir können es auslösen. Gegen plus anschließen, dann geht buzzer los

ESP8266 3,3V

4 fach Optokoppler, 487, Adoino blinkt, wenn der Rauchmelder blinkt

Stromversorgung, direkt an Akku, AVR läuft mit 3,3 V, also von 8,4 auch 3,3 V runterregeln.

vielleicht? Schaltregler/Buck-Modul geht nicht wegen Stromverbrauch

AMS1117 geht nciht ohne Last dahinter

quiescent current (geringer Ruhestrom):

Platine bestellen und belöten

Not finnished!

Feuermelder Tutorial end!!!!!

### Andere Feuermelder Tutorials around this

Here it is so far that two wires com out of it that indicate the alarm!

<https://www.instructables.com/id/Modify-a-6-EUR-smoke-detector-for-use-with-microco>

Read this into another device!

Here with an Arduino:

<http://complexit.se/publications/Network.based.smoke.alarm-using.Arduino.and.iPhone.pdf>

Use        Arduino               Uno

### ZigBee for Thermostat!!!!

ZigBee über einen USB Stick als Gateway (Zigbee CC2531) in einem Raspberry, dann auf MQTT?

<https://www.heise.de/ratgeber/Zigbee-ohne-Hersteller-Cloud-und-Bridge-betreiben-4246717.html>

<https://hackaday.io/project/163487-zigbee-cc2531-smart-home-usb-adapter>

<https://www.panbachi.de/zigbee-geraete/>

<https://www.amazon.de/Wireless-Sniffer-Protokoll-Analysator-Modul-USB-SchnittStelle-Capture/dp/B07JBWF1DG/ref=as_li_ss_tl?__mk_de_DE=%C3%85M%C3%85%C5%BD%C3%95%C3%91&keywords=CC2531&qid=1553508493&s=gateway&sr=8-8&linkCode=sl1&tag=panbachi-21&linkId=6f6866ac5fe7b34e493e05291099cf29&language=de_DE>

<https://www.zigbee2mqtt.io/>

Flashen: <https://www.zigbee2mqtt.io/getting_started/flashing_the_cc2531.html>

<https://www.zigbee2mqtt.io/information/supported_devices.html>

<https://www.idealo.de/productpage/5773103?siteId=1&src=DESKTOP&leadOutUrl=%2Fpreisvergleich%2FRelocate%2F3242052464861512051.html%3Fcamp%3Dpreisdk2%26categoryId%3D14592%26pos%3D1%26price%3D44.95%26productid%3D5773103%26ref%3Dpreisdk2%26sid%3D283030%26type%3Doffer&offerKey=690e15bbe0bb82bf18f27740d2264058&offerListId=5773103-336DA3FA12479B0D5F4F2A6A182AC94D&osId=3242052464861512051&disc=OVmZkGB_uKK7K3wYM-iHFuiRX0uRUS5-CDmmrg2PWxsz3blxhfszvmuucQ9SXRnL&cancelUrl=https%3A%2F%2Fwww.idealo.de%2Fpreisvergleich%2FOffersOfProduct%2F5773103_-spirit-zigbee-eurotronic-technology.html&lcb=ej8T5FmfHEIPzH8jJMNBmA>

<https://www.zigbee2mqtt.io/devices/1TST-EU.html>

<https://www.ebay.de/itm/eCozy-Smart-Heating-Starter-Kit-Zentrale-Thermostat/143222916736?epid=1895205895&hash=item2158c04680:g:-K0AAOSwRI1cx2jR>

<https://www.ebay.de/itm/372671349323>

### Tasmota Flashen

<https://www.ebay.de/itm/2-Kanal-WLAN-WiFi-Relais-ESP8266-ESP07-NodeMcu-2-Channel-Rolladenschalter-Karte/264307946629?hash=item3d89fb3485:g:Z4cAAOSwmIlcyssP>

Sonoff Tasmota kompatibel bzw. aufgespielt/geflasht

Habe mal ein paar Platinen erworben um meinen Wohnraum zu automatisieren,

einige sind noch übrig geblieben und benötige ich nicht mehr

Projekt: <https://luani.de/projekte/esp8266-hvio/>

Zu Testzwecken habe ich die TASMOTA Sonoff Firmware aufgespielt

siehe Fotos von der Webseite, dort kann man die zwei Relais per Webbrowser

schalten

<https://github.com/arendst/Sonoff-Tasmota/wiki>

learn Wifi Hacking for 10,- <http://pnpera.com/>

## Backups

### Meine Wohnzimmerrollade zum importieren in Node Red:

[{"id":"c746f021.4119f","type":"tab","label":"Rollladen","disabled":false,"info":""},{"id":"ac25d11f.76591","type":"mqtt out","z":"c746f021.4119f","name":"Shelly 2.5 Rol Wz MQTT","topic":"","qos":"","retain":"","broker":"2d65010c.3b9ede","x":830,"y":460,"wires":[]},{"id":"8c224df5.2a086","type":"debug","z":"c746f021.4119f","name":"Button-commands Rol Wz","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","targetType":"msg","x":830,"y":340,"wires":[]},{"id":"3af02c57.c1c7d4","type":"ui\_button","z":"c746f021.4119f","name":"Open","group":"af449489.3ef7f8","order":1,"width":0,"height":0,"passthru":true,"label":"? Auf ?","tooltip":"","color":"","bgcolor":"","icon":"","payload":"open","payloadType":"str","topic":"shellies/shellyswitch25-688C76/roller/0/command","x":470,"y":340,"wires":[["ac25d11f.76591","8c224df5.2a086"]]},{"id":"4b9ec159.8c747","type":"ui\_button","z":"c746f021.4119f","name":"Close","group":"af449489.3ef7f8","order":4,"width":0,"height":0,"passthru":true,"label":"? Zu ?","tooltip":"","color":"","bgcolor":"","icon":"","payload":"close","payloadType":"str","topic":"shellies/shellyswitch25-688C76/roller/0/command","x":470,"y":460,"wires":[["ac25d11f.76591","8c224df5.2a086"]]},{"id":"3c3856de.8dc45a","type":"ui\_button","z":"c746f021.4119f","name":"Stop","group":"af449489.3ef7f8","order":2,"width":0,"height":0,"passthru":true,"label":"Stop","tooltip":"","color":"","bgcolor":"","icon":"","payload":"stop","payloadType":"str","topic":"shellies/shellyswitch25-688C76/roller/0/command","x":470,"y":380,"wires":[["ac25d11f.76591","8c224df5.2a086"]]},{"id":"7331c6e5.61d258","type":"sun events","z":"c746f021.4119f","testmode":false,"verbose":false,"topic":"sunevents","name":"","x":120,"y":60,"wires":[["14af2012.ea449","73a7ce2.1ddb13","6476e76e.d21448"]]},{"id":"6476e76e.d21448","type":"function","z":"c746f021.4119f","name":"evening twilight starts","func":"if (\"dusk\" === msg.payload) {\n    return msg;\n}\n","outputs":1,"noerr":0,"x":220,"y":220,"wires":[["347060b9.6b42d"]]},{"id":"73a7ce2.1ddb13","type":"function","z":"c746f021.4119f","name":"morning twilight ends","func":"if (\"dawn\" === msg.payload) {\n    return msg;\n}\n","outputs":1,"noerr":0,"x":220,"y":100,"wires":[["19f8d97b.a73977"]]},{"id":"19f8d97b.a73977","type":"function","z":"c746f021.4119f","name":"not before 08:00 (09:00 on weekend)","func":"var dt = msg.datetime;\nif((0 === dt.getDay || 6 === dt.getDay) && 9 <= dt.getHours){ // weekend\n    return msg;\n}\nelse if((dt.getDay > 0 && dt.getDay < 6) && 8 <= dt.getHours){ // work day\n    return msg;    \n} else {\n  //nothing, stop here    \n}\n","outputs":1,"noerr":0,"x":490,"y":100,"wires":[["99cdc41c.4686f8"]]},{"id":"14af2012.ea449","type":"debug","z":"c746f021.4119f","name":"sun events","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","targetType":"msg","x":790,"y":60,"wires":[]},{"id":"7751fef6.f0177","type":"inject","z":"c746f021.4119f","name":"work day morning","topic":"","payload":"workday morning up","payloadType":"str","repeat":"","crontab":"00 08 \* \* 1,2,3,4,5","once":false,"onceDelay":0.1,"x":150,"y":180,"wires":[["99cdc41c.4686f8"]]},{"id":"aa00dec1.5fd5a","type":"inject","z":"c746f021.4119f","name":"weekend morning","topic":"sunevents","payload":"weekend morning up","payloadType":"str","repeat":"","crontab":"00 09 \* \* 6,0","once":false,"onceDelay":0.1,"x":150,"y":140,"wires":[["99cdc41c.4686f8"]]},{"id":"ba087011.ad128","type":"ui\_button","z":"c746f021.4119f","name":"Snooze","group":"af449489.3ef7f8","order":3,"width":0,"height":0,"passthru":true,"label":"Schlummer","tooltip":"","color":"","bgcolor":"","icon":"","payload":"30","payloadType":"num","topic":"shellies/shellyswitch25-688C76/roller/0/command/pos","x":480,"y":420,"wires":[["ac25d11f.76591","8c224df5.2a086"]]},{"id":"340fa873.5447d8","type":"delay","z":"c746f021.4119f","name":"random delay up to some minutes","pauseType":"random","timeout":"1","timeoutUnits":"minutes","rate":"1","nbRateUnits":"1","rateUnits":"second","randomFirst":"0","randomLast":"5","randomUnits":"minutes","drop":false,"x":240,"y":340,"wires":[["3af02c57.c1c7d4"]]},{"id":"514a0648.aa36f8","type":"delay","z":"c746f021.4119f","name":"random delay up to some minutes","pauseType":"random","timeout":"1","timeoutUnits":"minutes","rate":"1","nbRateUnits":"1","rateUnits":"second","randomFirst":"0","randomLast":"5","randomUnits":"minutes","drop":false,"x":240,"y":460,"wires":[["4b9ec159.8c747"]]},{"id":"30747905.d3d366","type":"ui\_gauge","z":"c746f021.4119f","name":"Gauge","group":"af449489.3ef7f8","order":6,"width":0,"height":0,"gtype":"gage","title":"","label":"zu    <  -  >    auf","format":"{{value}}","min":0,"max":"100","colors":["#000000","#76a5a5","#ccfafd"],"seg1":"","seg2":"","x":470,"y":500,"wires":[]},{"id":"24ca2d60.460702","type":"mqtt in","z":"c746f021.4119f","name":"Shelly 2.5 Rol Wz Pos","topic":"shellies/shellyswitch25-688C76/roller/0/pos","qos":"2","datatype":"auto","broker":"2d65010c.3b9ede","x":140,"y":500,"wires":[["30747905.d3d366"]]},{"id":"99cdc41c.4686f8","type":"function","z":"c746f021.4119f","name":"morning up","func":"\nreturn msg;","outputs":1,"noerr":0,"x":570,"y":180,"wires":[["340fa873.5447d8"]]},{"id":"bb4dbb37.981a08","type":"function","z":"c746f021.4119f","name":"evening down","func":"\nreturn msg;","outputs":1,"noerr":0,"x":560,"y":220,"wires":[["514a0648.aa36f8"]]},{"id":"425dd2a5.128d0c","type":"comment","z":"c746f021.4119f","name":"Wohnzimmer Rolllade Rol Wz","info":"","x":160,"y":300,"wires":[]},{"id":"347060b9.6b42d","type":"delay","z":"c746f021.4119f","name":"delay","pauseType":"delay","timeout":"1","timeoutUnits":"milliseconds","rate":"1","nbRateUnits":"1","rateUnits":"second","randomFirst":"1","randomLast":"5","randomUnits":"seconds","drop":false,"x":390,"y":220,"wires":[["bb4dbb37.981a08"]]},{"id":"2d65010c.3b9ede","type":"mqtt-broker","z":"","name":"mosquitto local","broker":"127.0.0.1","port":"1883","clientid":"","usetls":false,"compatmode":true,"keepalive":"60","cleansession":true,"birthTopic":"","birthQos":"0","birthPayload":"","closeTopic":"","closeQos":"0","closePayload":"","willTopic":"","willQos":"0","willPayload":""},{"id":"af449489.3ef7f8","type":"ui\_group","z":"","name":"Wohnzimmer","tab":"c7b35518.b12e38","disp":true,"width":"6","collapse":true},{"id":"c7b35518.b12e38","type":"ui\_tab","z":"","name":"Smart Home","icon":"dashboard","disabled":false,"hidden":false}]