Neuinstallation ioBroker auf einem Banana Pi M2 Ultra

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- LaCrosse Temperatur- & Feuchtesensor TX29DTH-IT, 868 MHz
- FHEM Wiki zu JeeLink/Lacrosse Klon im Eigenbau
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- Verdrahtung Arduino Nano und 868 MHz RF-Modul

Das Grundsystems

Installation

Die Verwendung von InfluxDB 2.x setzt ein 64-bit Betriebssystem voraus.
Ein Desktop bzw. eine vollständige grafische Oberfläche wird nicht benötigt. Daher bezeichnet man ein solches System als „Headless“.
Somit basiert dieses Heimautomatisierungsprojekt auf einem Banana Pi M2 Ultra (32bit).

Installation siehe hier.

Konfiguration

Während des Bootvorganges erhält der Raspberry eine IP Adresse vom Router. Diese kann über die entsprechende Weboberfläche des Routers ermittelt werden.

```
# Grundsystem auf den aktuellen Stand bringen:
ssh -l root <IP>
# default Passwort: "1234"
# Passort ändern Dialog abarbeiten!

apt-get update && sudo apt-get upgrade
apt-get install aptitude mc apt-transport-https software-properties-common
wget
```

Feste IP für eth0 einstellen

Seit Armbian auf Desibian 13 „Trixie“ basiert wird `Netplan` zur Konfiguration der Netzwerkschnittstellen verwendet.
Hier gibt es hilfreiche Konfigurationsbeispiele.

```
mv /etc/netplan/10-dhcp-all-interfaces.yaml /root/
mcedit /etc/netplan/20-static-ip.yaml

network:
  version: 2
  renderer: networkd
  ethernets:
    end0:
      addresses:
        - 192.168.10.11/24
      routes:
        - to: default
          via: 192.168.10.1
      nameservers:
        addresses:
          - 192.168.10.1
          - 192.168.100.1

reboot
#
```

System auf der SATA HDD installieren

Der EMMC-Flash hat mit 8GB (zu) wenig Platz 

```
armbian-install
```

Die folgenden Schritte sind **nicht** notwendig, wenn das System auf eine SATA HDD installiert wird.

```
mkdir -p /mnt/sda1
# UUID der externen HDD ermitteln:
blkid
# fstab Eintrag erzeugen
echo "UUID="xxxxxxxxxxxxxxxxx" /mnt/sda1  ext4  defaults  0  1" >>
/etc/fstab
systemctl daemon-reload
mount -a
```

NTP

```
# 1. Check status
timedatectl
# 2. Install if missing (usually pre-installed)
sudo apt update
sudo apt install systemd-timesyncd
# 3. Verify it's active (system clock synchronized: yes, NTP service:
active)
timedatectl
# 4. (Optional) Set your timezone
sudo timedatectl set-timezone Europe/Berlin # Or your local zone
# 5. (Optional) Configure NTP servers (defaults usually work)
sudo nano /etc/systemd/timesyncd.conf
# Uncomment and set servers like: NTP=0.pool.ntp.org 1.pool.ntp.org
# 6. Restart service (if changes made)
sudo systemctl restart systemd-timesyncd
```

InfluxDB 1.x

Quelle: https://docs.influxdata.com/influxdb/v1/introduction/install/

Installation

```
sudo su
#wget -q https://repos.influxdata.com/influxdata-archive_compat.key
#echo '393e8779c89ac8d958f81f942f9ad7fb82a25e133faddaf92e15b16e6ac9ce4c
influxdata-archive_compat.key' | sha256sum -c && cat influxdata-
archive_compat.key | gpg --dearmor | sudo tee
/etc/apt/trusted.gpg.d/influxdata-archive_compat.gpg > /dev/null
#echo 'deb [signed-by=/etc/apt/trusted.gpg.d/influxdata-archive_compat.gpg]
https://repos.influxdata.com/debian stable main' | sudo tee
/etc/apt/sources.list.d/influxdata.list

# influxdata-archive_compat.key GPG Fingerprint:
9D539D90D3328DC7D6C8D3B9D8FF8E1F7DF8B07E
#wget -q https://repos.influxdata.com/influxdata-archive_compat.key
#echo '393e8779c89ac8d958f81f942f9ad7fb82a25e133faddaf92e15b16e6ac9ce4c
influxdata-archive_compat.key' | sha256sum -c && cat influxdata-
archive_compat.key | gpg --dearmor | sudo tee
/etc/apt/trusted.gpg.d/influxdata-archive_compat.gpg > /dev/null
#echo 'deb [signed-by=/etc/apt/trusted.gpg.d/influxdata-archive_compat.gpg]
https://repos.influxdata.com/debian stable main' | sudo tee
/etc/apt/sources.list.d/influxdata.list

wget -q https://repos.influxdata.com/influxdata-archive.key
gpg --show-keys --with-fingerprint --with-colons ./influxdata-archive.key
```

```
2>&1 | grep -q '^fpr:\+24C975CBA61A024EE1B631787C3D57159FC2F927:$' && cat
influxdata-archive.key | gpg --dearmor | sudo tee
/etc/apt/keyrings/influxdata-archive.gpg > /dev/null
echo 'deb [signed-by=/etc/apt/keyrings/influxdata-archive.gpg]
https://repos.influxdata.com/debian stable main' | sudo tee
/etc/apt/sources.list.d/influxdata.list

apt-get update
apt-get install influxdb influxdb-client

systemctl unmask influxdb.service
systemctl enable influxdb
systemctl start influxdb
systemctl status influxdb
```

Konfiguration

```
sudo su
influx
> CREATE USER "admin" WITH PASSWORD 'influxdbadmin' WITH ALL PRIVILEGES
> CREATE USER "iobroker" WITH PASSWORD 'iobroker'
> CREATE DATABASE "iobroker"
> GRANT ALL ON "iobroker" TO "iobroker"
> exit
#
mcedit /etc/influxdb/influxdb.conf
[http]
 enabled = true
 bind-address = ":8086"
 auth-enabled = true
 log-enabled = true
 write-tracing = false
 pprof-enabled = true
 https-enabled = false
#
systemctl restart influxdb
```

Datenbankgröße ermitteln

```
sudo su
du -sh /var/lib/influxdb/data/iobrokerdb/
```

Backups

Quelle:
https://docs.influxdata.com/influxdb/v1/administration/backup_and_restore/#back-up-all-databases

Erstellen

```
sudo su
influxd backup -portable /path/to/backup-destination
# or do it in one line:
cd /; influxd backup -portable /mnt/usb-stick/backup/influxdb/`date +%Y%m%d`
```

Wiederherstellen

```
sudo su
influxd restore -portable /path/to/backup-destination
```

InfluxDB 2.x

Installation

```
sudo su
cd ~
wget -q https://repos.influxdata.com/influxdata-archive_compat.key
echo '393e8779c89ac8d958f81f942f9ad7fb82a25e133faddaf92e15b16e6ac9ce4c
influxdata-archive_compat.key' | sha256sum -c && cat influxdata-
archive_compat.key | gpg --dearmor | sudo tee
/etc/apt/trusted.gpg.d/influxdata-archive_compat.gpg > /dev/null
echo 'deb [signed-by=/etc/apt/trusted.gpg.d/influxdata-archive_compat.gpg]
https://repos.influxdata.com/debian stable main' | sudo tee
/etc/apt/sources.list.d/influxdata.list
apt-get update
apt-get install influxdb2
systemctl start influxdb
systemctl status influxdb
```

Konfiguration

Die Konfiguration der InfluxDB erfolgt über den Browser via http://RASPI-IP:8086.

Grafana

Installation

```
sudo su
#wget -q -O /usr/share/keyrings/grafana.key https://apt.grafana.com/gpg.key
#echo "deb [signed-by=/usr/share/keyrings/grafana.key]
```

```
https://apt.grafana.com stable main" | sudo tee -a
/etc/apt/sources.list.d/grafana.list
#wget -q -O - https://packages.grafana.com/gpg.key | sudo apt-key add -
#echo "deb https://packages.grafana.com/oss/deb stable main" | sudo tee -a
/etc/apt/sources.list.d/grafana.list

sudo mkdir -p /etc/apt/keyrings/
wget -q -O - https://apt.grafana.com/gpg.key | gpg --dearmor | sudo tee
/etc/apt/keyrings/grafana.gpg > /dev/null
echo "deb [signed-by=/etc/apt/keyrings/grafana.gpg] https://apt.grafana.com
stable main" | sudo tee -a /etc/apt/sources.list.d/grafana.list

apt-get update
# Install the latest OSS release:
apt-get install -y grafana
# Start System Service aka. Server
systemctl daemon-reload
systemctl start grafana-server
systemctl status grafana-server
systemctl enable grafana-server.service
```

Grafana Server: http://IP:3000

Grafana ohne Login

```
mcedit /etc/grafana/grafana.ini
# [auth.anonymous]
enabled = true
systemctl restart grafana-server
```

Backup

Quelle: http://cactusprojects.com/backup-restore-grafana/

Erstellen

```
sudo su
cp /var/lib/grafana/grafana.db /path/to/backup-destination
cp /etc/grafana/grafana.ini /path/to/backup-destination
# or do it in one line:
cd /; mkdir /mnt/usb-stick/backup/grafana/`date +%Y%m%d`; cp
/etc/grafana/grafana.ini /mnt/usb-stick/backup/grafana/`date +%Y%m%d`; cp
/var/lib/grafana/grafana.db /mnt/usb-stick/backup/grafana/`date +%Y%m%d`
```

Wiederherstellen

```
sudo su
cd /path/to/backup-destination
cp grafana.db /var/lib/grafana/
cp grafana.ini /etc/grafana/
```

ioBroker

Wiederherstellung

Folgende Backup Dateien via Backitup Adapter wieder einsoielen:

- iobroker_<TIMESTAMP>_backupiobroker.tar.gz
- influxDB_<TIMESTAMP>_backupiobroker.tar.gz
- grafana_<TIMESTAMP>_backupiobroker.tar.gz
- javascripts_<TIMESTAMP>_backupiobroker.tar.gz

Installation

```
sudo su
# automatische Installation:
curl -sLf https://iobroker.net/install.sh | bash -
```

Nach der Installation ist die ioBroker Instanz erreichbar unter http://<Raspberry-Pi-IP>:8081.

Steuerung

```
# ioBroker starten:
iobroker start
# ioBroker stoppen:
iobroker stop
# ioBrker Infos anzeigen
iobroker info
```

Backups

Erstellung

Siehe unten → Script oder per 'Backitup' Adapter

Wiederherstellung

- Verzeichniss '/opt/iobroker/backups' anlegen
- Kopieren des Backups dort hinein

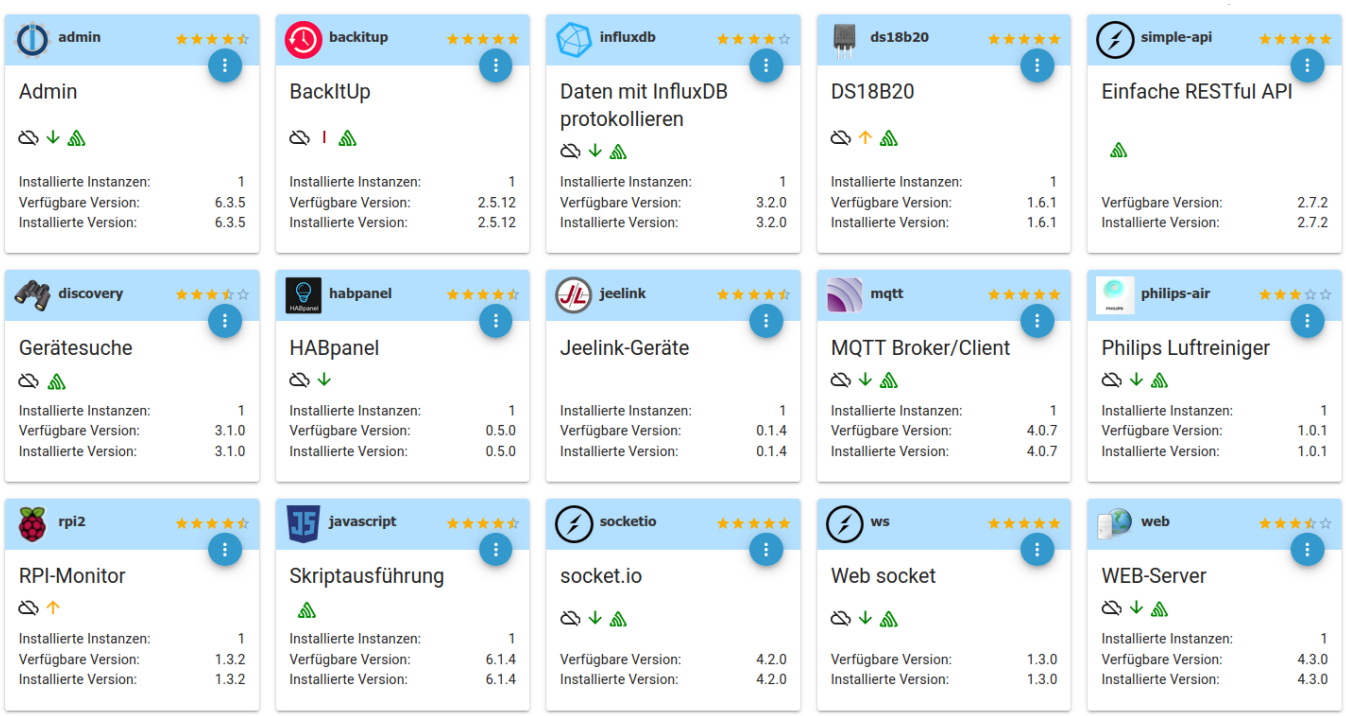
Backups die mit dem Backitup-Adapter erstellt wurden können nachde dem kopieren via Web-Interface wieder eingesielt werden.
Alternativ kann auch die Konsole verwendet werden:

```
sudo su
cd /opt/iobroker
iobroker stop
iobroker restore 0
iobroker stop
```

Adapter installieren

Als `Adapter` werden alle Schnittstellen zu externen aber auch zu internen Datenquellen (z.B. Shelly Sensoren, Temperatur, Luftfeuchte, GPIO, 1-Wire, etc.) und Senken (Shelly Aktoren) bezeichnet.

- influxDB (Datenbank zur Speicherung von Messwerten)
- DS18B20 (Auslesen von 1-Wire Temperatursensoren)
- HABpanel (Steuerung von Aktoren vis Webseite)
- Jeelink-Geräte (Empfangen von 868mHz LaCrosse Temperatur- und Feuchtesensoren (hier z.B. TX29DTH-IT) mit Hilfe eines Jeelink Klones
- MQTT Broker (zur Datenverarbeitung von MQTT-fähigen Sensoren und Aktoren)
- Philips Luftreiniger (für die Anbindung eines Philips Air Purifier 4000i Series (Typ: AC4236/10)
- RPI-Monitor (Nutzung von GPIOs z.B. zum Einlesen eines Reed-Kontaktes für den Gaszähler)
- Skriptausführung (Javascript und Blockly)
- WEB-Server (für HABpanel)
- Shelly

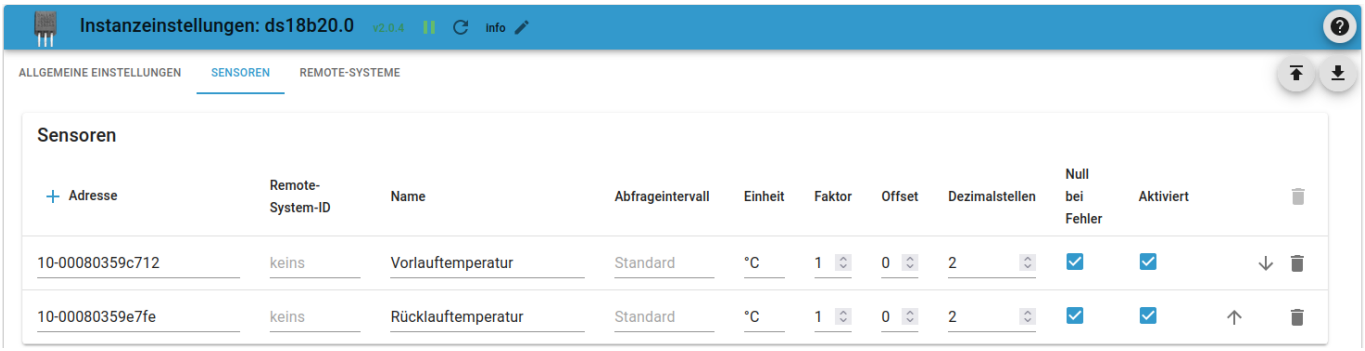


Adapter konfigurieren

Die oben aufgeführten Adapter sind nach der Installation unter `Instanzen` zu finden und müssen dort konfiguriert werden.

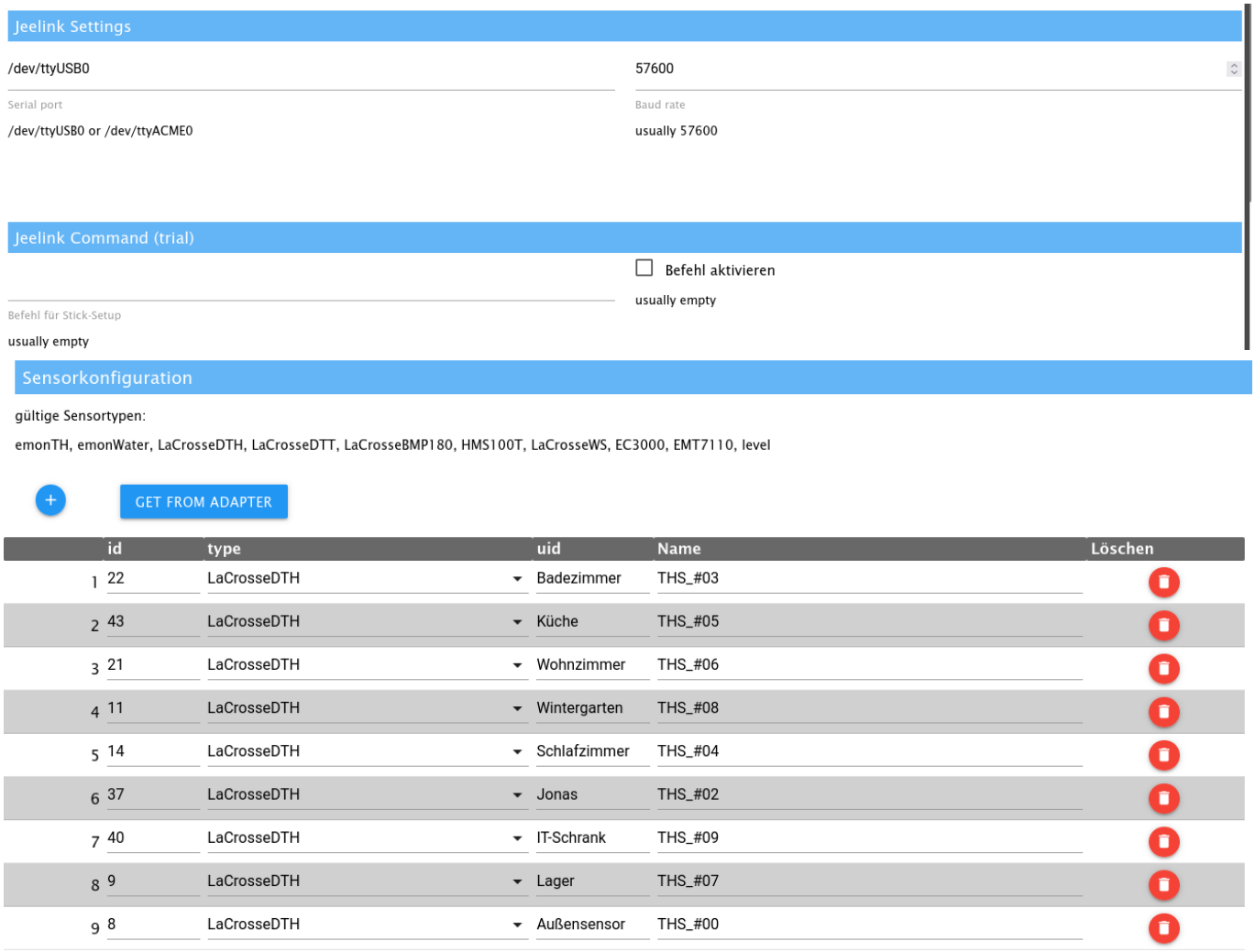
1-Wire

DS18B20



JeeLink

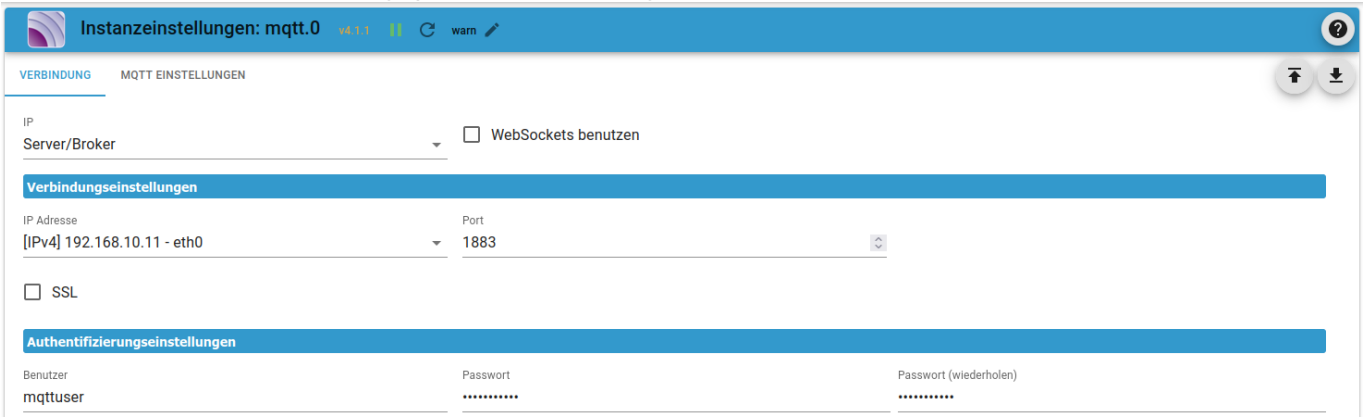
TBC - Empfänger bauen und programmieren → TBC



	id	type	uid	Name	Löschen
1	22	LaCrosseDTH	Badezimmer	THS_#03	
2	43	LaCrosseDTH	Küche	THS_#05	
3	21	LaCrosseDTH	Wohnzimmer	THS_#06	
4	11	LaCrosseDTH	Wintergarten	THS_#08	
5	14	LaCrosseDTH	Schlafzimmer	THS_#04	
6	37	LaCrosseDTH	Jonas	THS_#02	
7	40	LaCrosseDTH	IT-Schrank	THS_#09	
8	9	LaCrosseDTH	Lager	THS_#07	
9	8	LaCrosseDTH	Außensensor	THS_#00	

MQTT

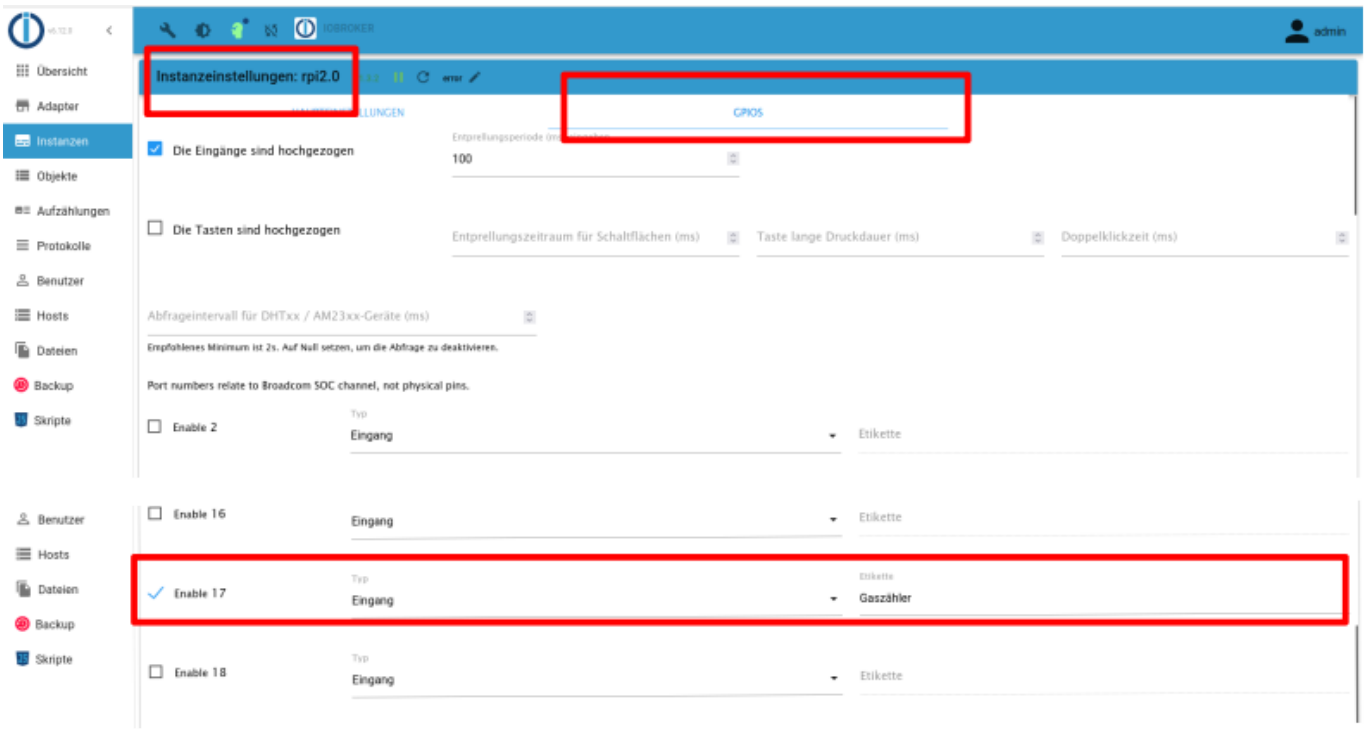
Für IKEA Sensoren –> Die angepasste Firmware gibt es hier.



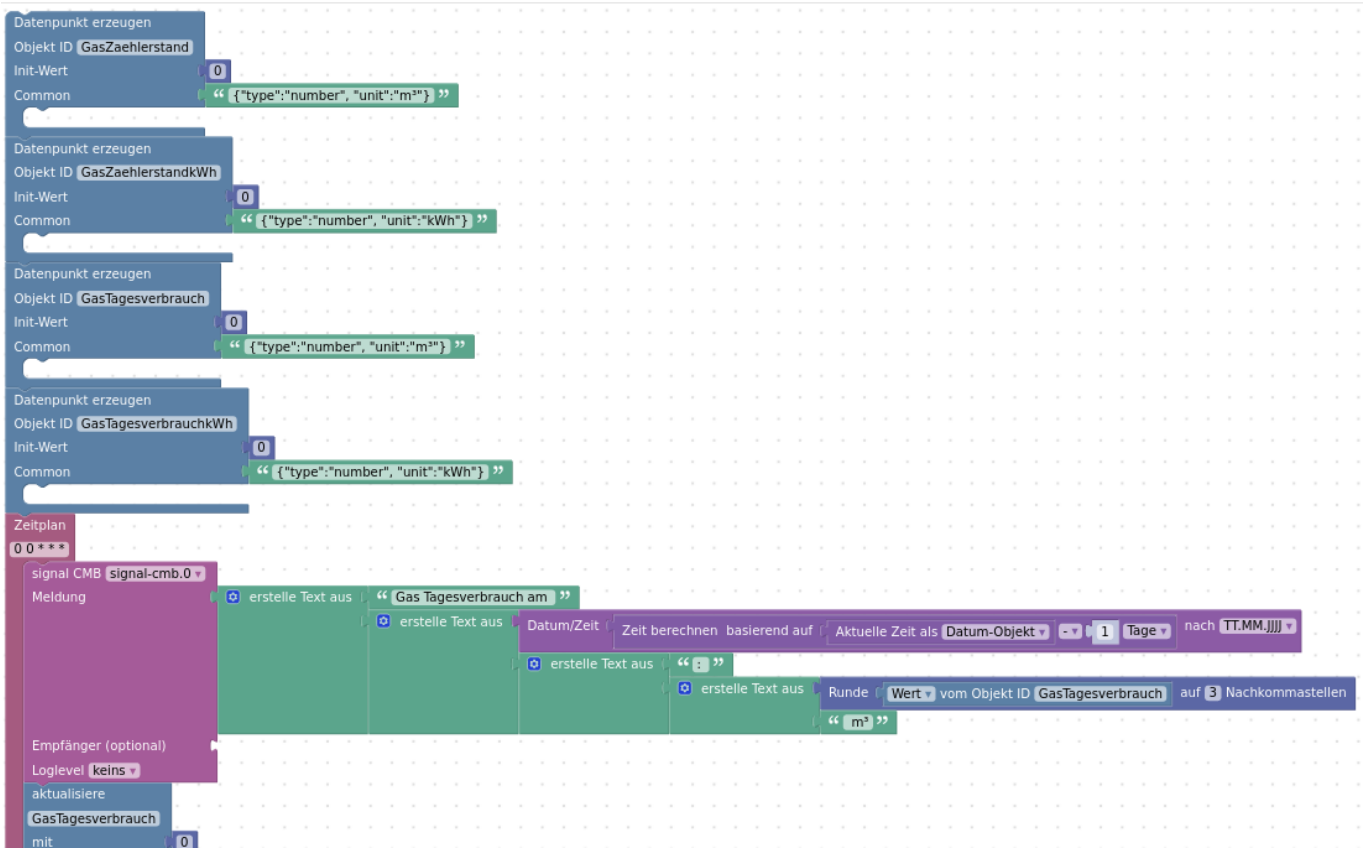
Philips

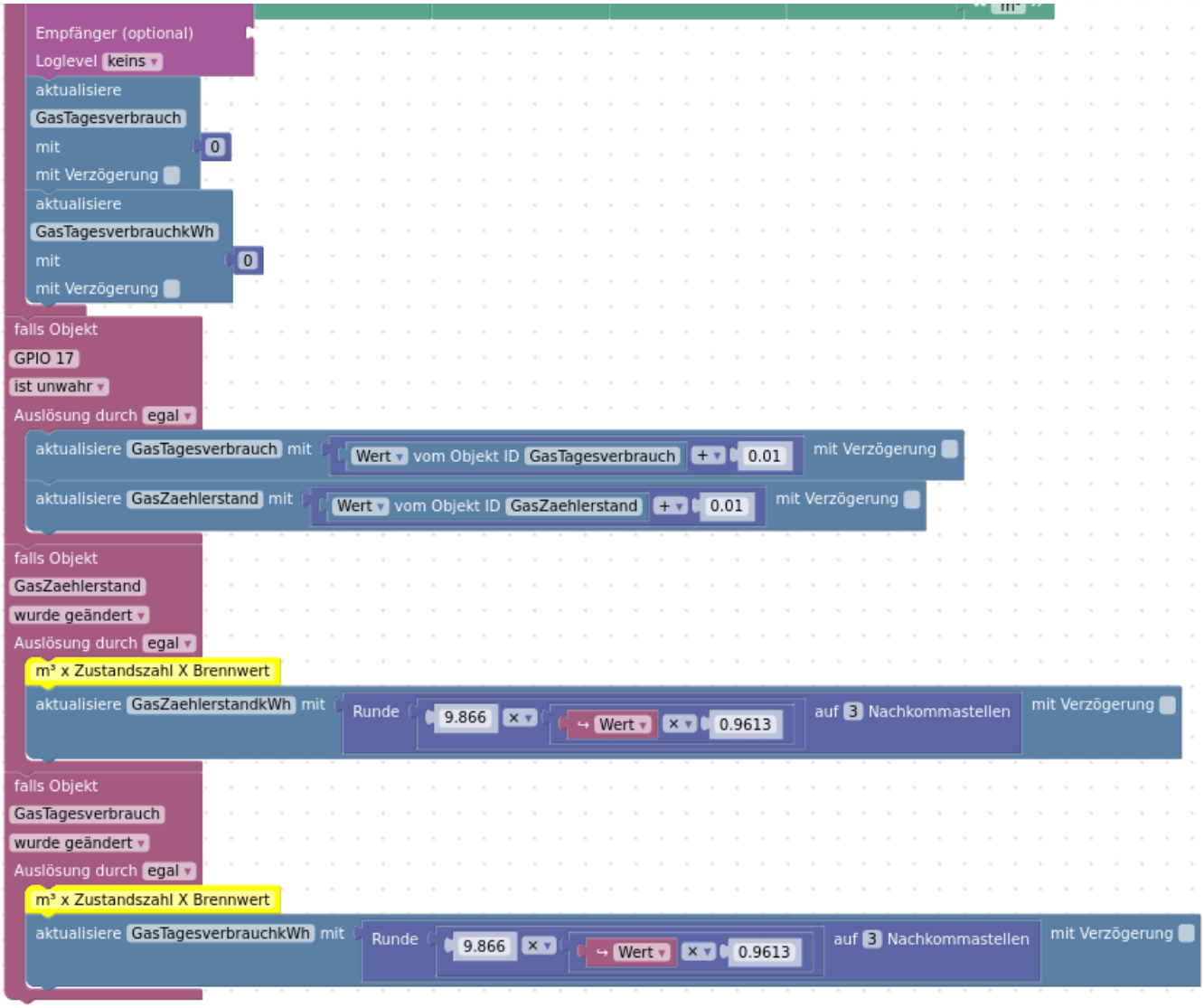
Gaszähler

Reedkontakt am GPIO #17 - Name: `Gaszähler`



Blockly


Datenpunkt erzeugen
Objekt ID GasZaehlerstand
Init-Wert 0
Common {"type":"number", "unit":"m³"}
Datenpunkt erzeugen
Objekt ID GasZaehlerstandkWh
Init-Wert 0
Common {"type":"number", "unit":"kWh"}
Datenpunkt erzeugen
Objekt ID GasTagesverbrauch
Init-Wert 0
Common {"type":"number", "unit":"m³"}
Datenpunkt erzeugen
Objekt ID GasTagesverbrauchkWh
Init-Wert 0
Common {"type":"number", "unit":"kWh"}
Zeitplan
0 0 * * *
signal CMB signal-cmb.0
Meldung
erstelle Text aus
Gas Tagesverbrauch am
erstelle Text aus
Datum/Zeit
Zeit berechnen basierend auf
Aktuelle Zeit als Datum-Objekt
-
1
Tage
nach TT.MM.JJJJ
erstelle Text aus
:
erstelle Text aus
Runde
Wert
vom Objekt ID GasTagesverbrauch
auf 3 Nachkommastellen
m³
Empfänger (optional)
Loglevel keins
aktualisiere
GasTagesverbrauch
mit 0



Und das ganze als XML:

++++ Title |

gaszaehler_blockly.xml

```
<xml xmlns="https://developers.google.com/blockly/xml">
  <block type="create" id="0B{}LlRd,d!Br67@Vlbv" x="113" y="-112">
    <field name="NAME">GasZaehlerstand</field>
    <value name="VALUE">
      <block type="math_number" id="zCMHZ;$=evsZ~g#$%B,d">
        <field name="NUM">0</field>
      </block>
    </value>
    <value name="COMMON">
      <block type="text" id="+waJXiBe~1dn@SNBXD]b">
        <field name="TEXT">{"type":"number", "unit":"m³"}</field>
      </block>
    </value>
    <next>
      <block type="create" id="2[=]D*fweUy]z]fKRb*N">
        <field name="NAME">GasZaehlerstandkWh</field>
```

```
        <value name="VALUE">
          <block type="math_number" id="6#vjQv4JhiY|mZ`tva4+">
            <field name="NUM">0</field>
          </block>
        </value>
        <value name="COMMON">
          <block type="text" id="lD}p7.V%=!S:e/(Pj1[e">
            <field name="TEXT">{"type":"number", "unit":"kWh"}</field>
          </block>
        </value>
        <next>
          <block type="create" id="Jt^U$w~,3R~)UPJJP+$c">
            <field name="NAME">GasTagesverbrauch</field>
            <value name="VALUE">
              <block type="math_number" id="ob;_09!^uke_;c@UqtCZ">
                <field name="NUM">0</field>
              </block>
            </value>
            <value name="COMMON">
              <block type="text" id="Br7y=,dGAF9I]mb?z-,:">
                <field name="TEXT">{"type":"number",
"unit":"m³"}</field>
              </block>
            </value>
            <next>
              <block type="create" id="0S(2ltH~c|{]uV)aZEoI">
                <field name="NAME">GasTagesverbrauchkWh</field>
                <value name="VALUE">
                  <block type="math_number" id="uL]uOd@Q!FgAK,u/~1i0">
                    <field name="NUM">0</field>
                  </block>
                </value>
                <value name="COMMON">
                  <block type="text" id="?PxPe$PT.{E1el.m,Fl{">
                    <field name="TEXT">{"type":"number",
"unit":"kWh"}</field>
                  </block>
                </value>
                <next>
                  <block type="schedule" id="#TX=ZX{-w2cu=Uj!nuO*">
                    <field name="SCHEDULE">0 0 * * *</field>
                    <statement name="STATEMENT">
                      <block type="signal-cmb" id="n4NEdLb^*N-
$c[YJUMw_">
                        <field name="INSTANCE">.0</field>
                        <field name="LOG"></field>
                        <value name="MESSAGE">
                          <shadow type="text"
id="F/ePx6FSOr+[BT|hOL68">
                            <field name="TEXT">text</field>
```

```
                          </shadow>
                          <block type="text_join"
id="+A!rZ(7aVj!~E{6~WV0m">
                            <mutation items="2"></mutation>
                            <value name="ADD0">
                              <block type="text"
id="8EJ*o[R;:^=5;).KbZeh">
                                <field name="TEXT">Gas Tagesverbrauch
am </field>
                              </block>
                            </value>
                            <value name="ADD1">
                              <block type="text_join"
id="HeWwloE2zR[^)91A5vLf">
                                <mutation items="2"></mutation>
                                <value name="ADD0">
                                  <block type="convert_from_date"
id="s;*kY*B;HuSZ^~w0=Q1B">
                                    <mutation
xmlns="http://www.w3.org/1999/xhtml" format="false"
language="false"></mutation>
                                    <field
name="OPTION">DD.MM.YYYY</field>
                                    <value name="VALUE">
                                      <block type="time_calculation"
id="YM!lstPQJsLk~Nr|/C9S">
                                        <field name="OPERATION">-
</field>
                                        <field name="UNIT">day</field>
                                        <value name="DATE_TIME">
                                          <shadow type="time_get"
id="*vxqb!BXG7I/C$mm0(,6">
                                            <mutation
xmlns="http://www.w3.org/1999/xhtml" format="false"
language="false"></mutation>
                                            <field
name="OPTION">object</field>
                                          </shadow>
                                          <block type="time_get"
id="c7c*a4_Wl/:1^bYj[5Gv">
                                            <mutation
xmlns="http://www.w3.org/1999/xhtml" format="false"
language="false"></mutation>
                                            <field
name="OPTION">object</field>
                                          </block>
                                        </value>
                                        <value name="VALUE">
                                          <shadow type="math_number"
id="|4-%[@-^:5+J56T:106m">
                                            <field name="NUM">1</field>
```

```
                                        </shadow>
                                      </value>
                                    </block>
                                  </value>
                                </block>
                              </value>
                              <value name="ADD1">
                                <block type="text_join"
id="=%;,#+%QHjmLt3hl!=~r">
                                  <mutation items="2"></mutation>
                                  <value name="ADD0">
                                    <block type="text"
id="3:2kP58oTBRcZi2),~ld">
                                      <field name="TEXT">: </field>
                                    </block>
                                  </value>
                                  <value name="ADD1">
                                    <block type="text_join"
id="tmVWY7$h@F7sTbDx8RxC">
                                      <mutation items="2"></mutation>
                                      <value name="ADD0">
                                        <block type="math_rndfixed"
id="r$r$dA.ncKJ|_gq606gB">
                                          <field name="n">3</field>
                                          <value name="x">
                                            <shadow
type="math_number" id="AThWyAlfX]`^N:24Bj)1">
                                              <field
name="NUM">3.1234</field>
                                            </shadow>
                                            <block type="get_value"
id="#R/Z*/!V{2!I`w97g5#$">
                                              <field
name="ATTR">val</field>
                                              <field
name="OID">javascript.0.GasTagesverbrauch</field>
                                            </block>
                                          </value>
                                        </block>
                                      </value>
                                      <value name="ADD1">
                                        <block type="text"
id="wPYk)Zw6;xd5M2HRI[=?">
                                          <field name="TEXT">
m³</field>
                                        </block>
                                      </value>
                                    </block>
                                  </value>
                                </block>
```

```
                                </value>
                              </block>
                            </value>
                          </block>
                        </value>
                        <next>
                          <block type="update"
id="@0uFnK3p@d(aFNzT|/lb" inline="false">
                            <mutation
xmlns="http://www.w3.org/1999/xhtml" delay_input="false"></mutation>
                            <field
name="OID">javascript.0.GasTagesverbrauch</field>
                            <field name="WITH_DELAY">FALSE</field>
                            <value name="VALUE">
                              <block type="math_number"
id="4)r,X`Fg.[q=u_H*lfRk">
                                <field name="NUM">0</field>
                              </block>
                            </value>
                            <next>
                              <block type="update"
id="TI_1t%q+ZcJ4QYR55c_V" inline="false">
                                <mutation
xmlns="http://www.w3.org/1999/xhtml" delay_input="false"></mutation>
                                <field
name="OID">javascript.0.GasTagesverbrauchkWh</field>
                                <field name="WITH_DELAY">FALSE</field>
                                <value name="VALUE">
                                  <block type="math_number"
id="r%v}PcT3aL`Ou#bfv}2v">
                                    <field name="NUM">0</field>
                                  </block>
                                </value>
                              </block>
                            </next>
                          </block>
                        </next>
                      </block>
                    </statement>
                    <next>
                      <block type="on" id="4Y-zykZ$Wh;oiRmsNJ5@">
                        <field name="OID">rpi2.0.gpio.17.state</field>
                        <field name="CONDITION">false</field>
                        <field name="ACK_CONDITION"></field>
                        <statement name="STATEMENT">
                          <block type="update"
id="9]|sNN!RG]pSo)u[+a:l">
                            <mutation
xmlns="http://www.w3.org/1999/xhtml" delay_input="false"></mutation>
                            <field
name="OID">javascript.0.GasTagesverbrauch</field>
```

```
                              <field name="WITH_DELAY">FALSE</field>
                              <value name="VALUE">
                                <block type="math_arithmetic"
id="6}2q8C;`zJ=g7E_fxS}|">
                                  <field name="OP">ADD</field>
                                  <value name="A">
                                    <shadow type="math_number"
id="bh@Wx=0!@N|v#@:zwozA">
                                      <field name="NUM">1</field>
                                    </shadow>
                                    <block type="get_value"
id="kR$.7#of[Q%v[4%`)`qw">
                                      <field name="ATTR">val</field>
                                      <field
name="OID">javascript.0.GasTagesverbrauch</field>
                                    </block>
                                  </value>
                                  <value name="B">
                                    <shadow type="math_number"
id="U_G`SdC1Ek1LOeD^e0GZ">
                                      <field name="NUM">0.01</field>
                                    </shadow>
                                  </value>
                                </block>
                              </value>
                              <next>
                                <block type="update"
id="KH(0kBhtIn0cIneAPNH$">
                                  <mutation
xmlns="http://www.w3.org/1999/xhtml" delay_input="false"></mutation>
                                  <field
name="OID">javascript.0.GasZaehlerstand</field>
                                  <field name="WITH_DELAY">FALSE</field>
                                  <value name="VALUE">
                                    <block type="math_arithmetic"
id="JllB@rBhaoQ78i!%QiN@">
                                      <field name="OP">ADD</field>
                                      <value name="A">
                                        <shadow type="math_number"
id="bh@Wx=0!@N|v#@:zwozA">
                                          <field name="NUM">1</field>
                                        </shadow>
                                        <block type="get_value"
id=";Rlcv?|LRTX~#Ib;c81n">
                                          <field name="ATTR">val</field>
                                          <field
name="OID">javascript.0.GasZaehlerstand</field>
                                        </block>
                                      </value>
                                      <value name="B">
```

```
                                        <shadow type="math_number"
id="vl8GbhNo/:J]~V5.2V5z">
                                          <field name="NUM">0.01</field>
                                        </shadow>
                                      </value>
                                    </block>
                                  </value>
                                </block>
                              </next>
                            </block>
                          </statement>
                          <next>
                            <block type="on" id="X7m/%;,l,u[1#P61eH}b">
                              <field
name="OID">javascript.0.GasZaehlerstand</field>
                              <field name="CONDITION">ne</field>
                              <field name="ACK_CONDITION"></field>
                              <statement name="STATEMENT">
                                <block type="comment"
id="[Q_/w^nv`)y#;e4ru1nD">
                                  <field name="COMMENT">m³ x Zustandszahl
X Brennwert</field>
                                  <next>
                                    <block type="update"
id="8.z/}1(PYiq*8X7[Q9Ae">
                                      <mutation
xmlns="http://www.w3.org/1999/xhtml" delay_input="false"></mutation>
                                      <field
name="OID">javascript.0.GasZaehlerstandkWh</field>
                                      <field
name="WITH_DELAY">FALSE</field>
                                      <value name="VALUE">
                                        <block type="math_rndfixed"
id="+O$=HuhMm)nj7_OOc56=">
                                          <field name="n">3</field>
                                          <value name="x">
                                            <shadow type="math_number"
id="aeqHXH7yQcf5k2Qn,tC/">
                                              <field
name="NUM">3.1234</field>
                                            </shadow>
                                            <block type="math_arithmetic"
id="(N6Ay,~*P)f+G|I0~!p2">
                                              <field
name="OP">MULTIPLY</field>
                                              <value name="A">
                                                <shadow
type="math_number" id="XwM0.cfS~dYqK@(o/Pc)">
                                                  <field
name="NUM">9.866</field>
                                                </shadow>
```

```
                                                </value>
                                                <value name="B">
                                                  <shadow
type="math_number" id="}/IuLzLcCeHe!b~b/VO~">
                                                    <field
name="NUM">1</field>
                                                  </shadow>
                                                  <block
type="math_arithmetic" id="7w-+v.aROeGiRwfMHXNM">
                                                    <field
name="OP">MULTIPLY</field>
                                                    <value name="A">
                                                      <shadow
type="math_number" id="%qWr/Hv}vgETQg]nGDE9">
                                                        <field
name="NUM">1</field>
                                                      </shadow>
                                                      <block
type="on_source" id="KxNJKuqKY/]s[I!V$Mol">
                                                        <field
name="ATTR">state.val</field>
                                                      </block>
                                                    </value>
                                                    <value name="B">
                                                      <shadow
type="math_number" id="M}_|BoUHL8urPnuw;e9=">
                                                        <field
name="NUM">0.9613</field>
                                                      </shadow>
                                                    </value>
                                                  </block>
                                                </value>
                                              </block>
                                            </value>
                                          </block>
                                        </value>
                                      </block>
                                    </next>
                                  </block>
                                </statement>
                                <next>
                                  <block type="on"
id="1,.5mB=(/f/jzm?Qa)50">
                                    <field
name="OID">javascript.0.GasTagesverbrauch</field>
                                    <field name="CONDITION">ne</field>
                                    <field name="ACK_CONDITION"></field>
                                    <statement name="STATEMENT">
                                      <block type="comment" id="-
m![Gh^zQ_@npOAF3~!!">
```

```
                                    <field name="COMMENT">m³ x
Zustandszahl X Brennwert</field>
                                    <next>
                                      <block type="update"
id="8:U}a~4U+pX]:KTxvyW}">
                                        <mutation
xmlns="http://www.w3.org/1999/xhtml" delay_input="false"></mutation>
                                        <field
name="OID">javascript.0.GasTagesverbrauchkWh</field>
                                        <field
name="WITH_DELAY">FALSE</field>
                                        <value name="VALUE">
                                          <block type="math_rndfixed"
id="YcCf+;GbSY/PZ.e(zMeH">
                                            <field name="n">3</field>
                                            <value name="x">
                                              <shadow
type="math_number" id="aeqHXH7yQcf5k2Qn,tC/">
                                                <field
name="NUM">3.1234</field>
                                              </shadow>
                                              <block
type="math_arithmetic" id="%.k-kW,6s)i$)dOkK2[Y">
                                                <field
name="OP">MULTIPLY</field>
                                                <value name="A">
                                                  <shadow
type="math_number" id="R^,D.8GKv}Jv!N-k5,?w">
                                                    <field
name="NUM">9.866</field>
                                                  </shadow>
                                                </value>
                                                <value name="B">
                                                  <shadow
type="math_number" id="}/IuLzLcCeHe!b~b/VO~">
                                                    <field
name="NUM">1</field>
                                                  </shadow>
                                                  <block
type="math_arithmetic" id="GZh_TDV2T-Wfkl$v.6%B">
                                                    <field
name="OP">MULTIPLY</field>
                                                    <value name="A">
                                                      <shadow
type="math_number" id="%qWr/Hv}vgETQg]nGDE9">
                                                        <field
name="NUM">1</field>
                                                      </shadow>
                                                      <block
type="on_source" id="j6OtdQ-opx@n@HuS.5;[">
                                                        <field
```

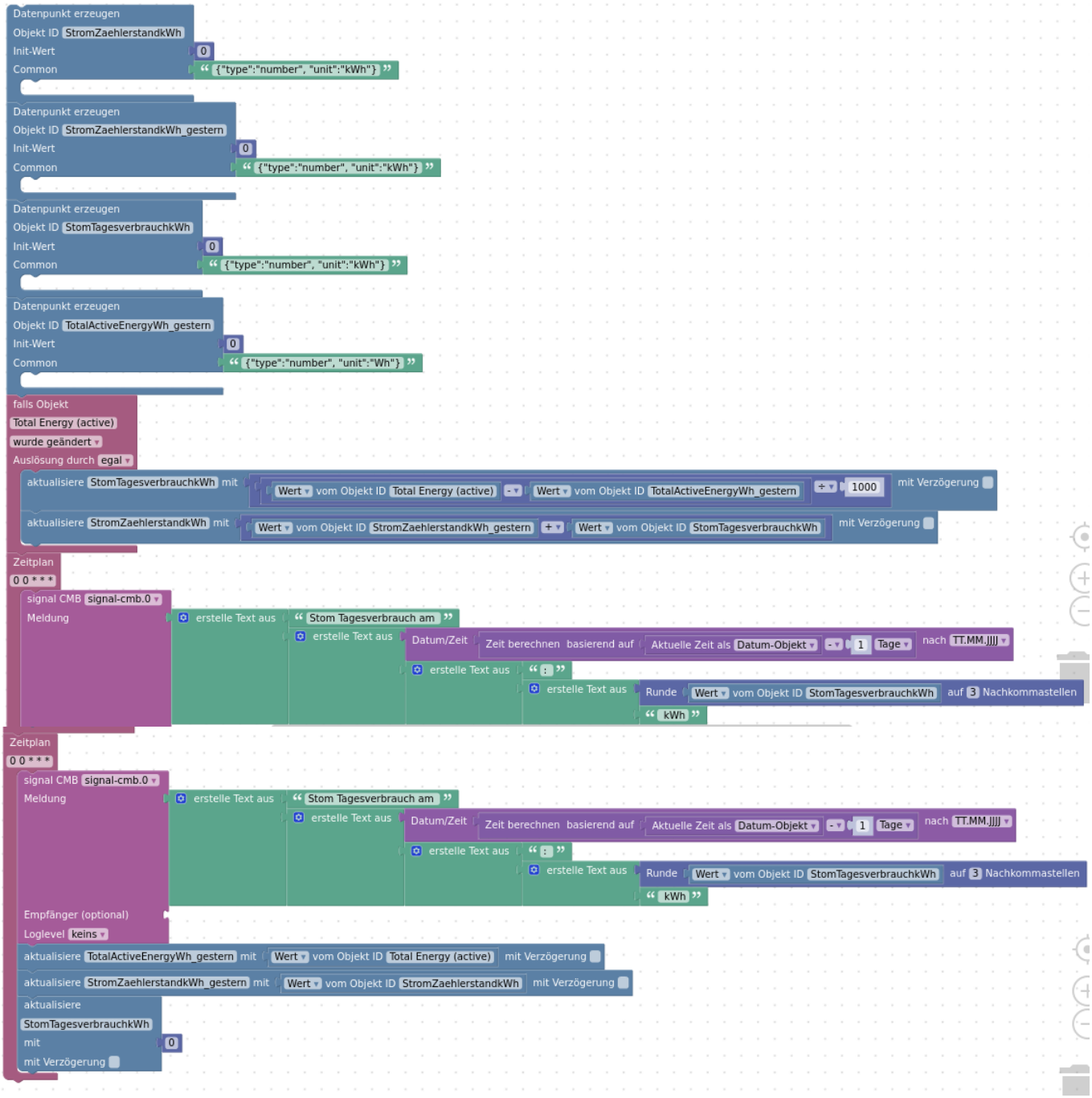
```
name="ATTR">state.val</field>
                                                    </block>
                                                  </value>
                                                  <value name="B">
                                                    <shadow
type="math_number" id="w[4vjUZR~ib${TrBsYgL">
                                                      <field
name="NUM">0.9613</field>
                                                    </shadow>
                                                  </value>
                                                </block>
                                              </value>
                                            </block>
                                          </value>
                                        </block>
                                      </value>
                                    </block>
                                  </next>
                                </block>
                              </statement>
                            </block>
                          </next>
                        </block>
                      </next>
                    </block>
                  </next>
                </block>
              </next>
            </block>
          </next>
        </block>
      </next>
    </block>
  </block>
</xml>
```

++++

Stromzähler

Zur Erfassung des Stromverbrauches meiner Wohnung verwende ich einen Shelly 3EM Pro den ich via Shelly Adapter eingebunden habe.

Blockly



Und das ganze als XML:

++++ Title |

strozaehler_blockly.xml

```
<xml xmlns="https://developers.google.com/blockly/xml">
  <block type="create" id="WNiKV(pYZ3,|L9mDGTHD" x="138" y="-62">
    <field name="NAME">StromZaehlerstandkWh</field>
    <value name="VALUE">
      <block type="math_number" id="0F`c7%Isi~b|@epORR*S">
        <field name="NUM">0</field>
      </block>
    </value>
    <value name="COMMON">
```

```
      <block type="text" id="/1(k)OA[2kB~j;PxbH_4">
        <field name="TEXT">{"type":"number", "unit":"kWh"}</field>
      </block>
    </value>
    <next>
      <block type="create" id="2[=]D*fweUy]z]fKRb*N">
        <field name="NAME">StromZaehlerstandkWh_gestern</field>
        <value name="VALUE">
          <block type="math_number" id="6#vjQv4JhiY|mZ`tva4+">
            <field name="NUM">0</field>
          </block>
        </value>
        <value name="COMMON">
          <block type="text" id="lD}p7.V%=!S:e/(Pj1[e">
            <field name="TEXT">{"type":"number", "unit":"kWh"}</field>
          </block>
        </value>
        <next>
          <block type="create" id="0S(2ltH~c|{]uV)aZEoI">
            <field name="NAME">StomTagesverbrauchkWh</field>
            <value name="VALUE">
              <block type="math_number" id="uL]uOd@Q!FgAK,u/~1i0">
                <field name="NUM">0</field>
              </block>
            </value>
            <value name="COMMON">
              <block type="text" id="?PxPe$PT.{E1el.m,Fl{">
                <field name="TEXT">{"type":"number",
"unit":"kWh"}</field>
              </block>
            </value>
            <next>
              <block type="create" id="rss(Q.udF1BQD5Bz@T7~">
                <field name="NAME">TotalActiveEnergyWh_gestern</field>
                <value name="VALUE">
                  <block type="math_number" id="tx?^zyUsJqm}GHq-b.f3">
                    <field name="NUM">0</field>
                  </block>
                </value>
                <value name="COMMON">
                  <block type="text" id="xDII{fs[B3khS-DSylb8">
                    <field name="TEXT">{"type":"number",
"unit":"Wh"}</field>
                  </block>
                </value>
                <next>
                  <block type="on" id="?c^{.iN$6fj256L#A8Ql">
                    <field
name="OID">shelly.0.shellypro3em#c8f09e8314fc#1.EMData0.TotalActiveEner
gy</field>
```

```
                    <field name="CONDITION">ne</field>
                    <field name="ACK_CONDITION"></field>
                    <statement name="STATEMENT">
                      <block type="update" id="g+V`|DyKF[}Pmy=+sl;O">
                        <mutation xmlns="http://www.w3.org/1999/xhtml"
delay_input="false"></mutation>
                        <field
name="OID">javascript.0.StomTagesverbrauchkWh</field>
                        <field name="WITH_DELAY">FALSE</field>
                        <value name="VALUE">
                          <block type="math_arithmetic"
id="11dXVHhW_NGn{g;5pw_+">
                            <field name="OP">DIVIDE</field>
                            <value name="A">
                              <shadow type="math_number" id="v-
*1r6*(O74YeD/hDb~_">
                                <field name="NUM">1</field>
                              </shadow>
                              <block type="math_arithmetic"
id=";nKGmG#8.~l5jQA,gp[o">
                                <field name="OP">MINUS</field>
                                <value name="A">
                                  <shadow type="math_number"
id="@8B(O2U-tIrBZ2qRS*QM">
                                    <field name="NUM">1</field>
                                  </shadow>
                                  <block type="get_value"
id="]jZ_e/iQou/O4%E2EUcM">
                                    <field name="ATTR">val</field>
                                    <field
name="OID">shelly.0.shellypro3em#c8f09e8314fc#1.EMData0.TotalActiveEner
gy</field>
                                  </block>
                                </value>
                                <value name="B">
                                  <shadow type="math_number"
id="b6Bt(ksp=pv)Rge1D{;r">
                                    <field name="NUM">1</field>
                                  </shadow>
                                  <block type="get_value"
id="l+nL:/(/S=]UY|M2-#7M">
                                    <field name="ATTR">val</field>
                                    <field
name="OID">javascript.0.TotalActiveEnergyWh_gestern</field>
                                  </block>
                                </value>
                              </block>
                            </value>
                            <value name="B">
                              <shadow type="math_number"
id="nkI`PVg;I,we%ojJ,TA*">
```

```
                                    <field name="NUM">1000</field>
                                  </shadow>
                                </value>
                              </block>
                            </value>
                            <next>
                              <block type="update"
id="SJs~Ys@X?5pv50XP=wqj">
                                <mutation
xmlns="http://www.w3.org/1999/xhtml" delay_input="false"></mutation>
                                <field
name="OID">javascript.0.StromZaehlerstandkWh</field>
                                <field name="WITH_DELAY">FALSE</field>
                                <value name="VALUE">
                                  <block type="math_arithmetic"
id="},ExWVJxj)o(5=vmy1.e">
                                    <field name="OP">ADD</field>
                                    <value name="A">
                                      <shadow type="math_number"
id="@8B(O2U-tIrBZ2qRS*QM">
                                        <field name="NUM">1</field>
                                      </shadow>
                                      <block type="get_value"
id="_#ZSu=g6=)eF7:(ey4Bh">
                                        <field name="ATTR">val</field>
                                        <field
name="OID">javascript.0.StromZaehlerstandkWh_gestern</field>
                                      </block>
                                    </value>
                                    <value name="B">
                                      <shadow type="math_number" id="H-
iY+5=={P}IKvpkKUi;">
                                        <field name="NUM">1</field>
                                      </shadow>
                                      <block type="get_value"
id="?DIb~Cgt]yKCn?Eau4?j">
                                        <field name="ATTR">val</field>
                                        <field
name="OID">javascript.0.StomTagesverbrauchkWh</field>
                                      </block>
                                    </value>
                                  </block>
                                </value>
                              </block>
                            </next>
                          </block>
                        </statement>
                        <next>
                          <block type="schedule" id="#TX=ZX{-w2cu=Uj!nuO*">
                            <field name="SCHEDULE">0 0 * * *</field>
```

```
                        <statement name="STATEMENT">
                          <block type="signal-cmb" id="n4NEdLb^*N-
$c[YJUMw_">
                            <field name="INSTANCE">.0</field>
                            <field name="LOG"></field>
                            <value name="MESSAGE">
                              <shadow type="text"
id="F/ePx6FSOr+[BT|hOL68">
                                <field name="TEXT">text</field>
                              </shadow>
                              <block type="text_join"
id="+A!rZ(7aVj!~E{6~WV0m">
                                <mutation items="2"></mutation>
                                <value name="ADD0">
                                  <block type="text"
id="8EJ*o[R;:^=5;).KbZeh">
                                    <field name="TEXT">Stom
Tagesverbrauch am </field>
                                  </block>
                                </value>
                                <value name="ADD1">
                                  <block type="text_join"
id="HeWwloE2zR[^)91A5vLf">
                                    <mutation items="2"></mutation>
                                    <value name="ADD0">
                                      <block type="convert_from_date"
id="s;*kY*B;HuSZ^~w0=Q1B">
                                        <mutation
xmlns="http://www.w3.org/1999/xhtml" format="false"
language="false"></mutation>
                                        <field
name="OPTION">DD.MM.YYYY</field>
                                        <value name="VALUE">
                                          <block
type="time_calculation" id="YM!lstPQJsLk~Nr|/C9S">
                                            <field name="OPERATION">-
</field>
                                            <field
name="UNIT">day</field>
                                            <value name="DATE_TIME">
                                              <shadow type="time_get"
id="*vxqb!BXG7I/C$mm0(,6">
                                                <mutation
xmlns="http://www.w3.org/1999/xhtml" format="false"
language="false"></mutation>
                                                <field
name="OPTION">object</field>
                                              </shadow>
                                              <block type="time_get"
id="c7c*a4_Wl/:1^bYj[5Gv">
                                                <mutation
```

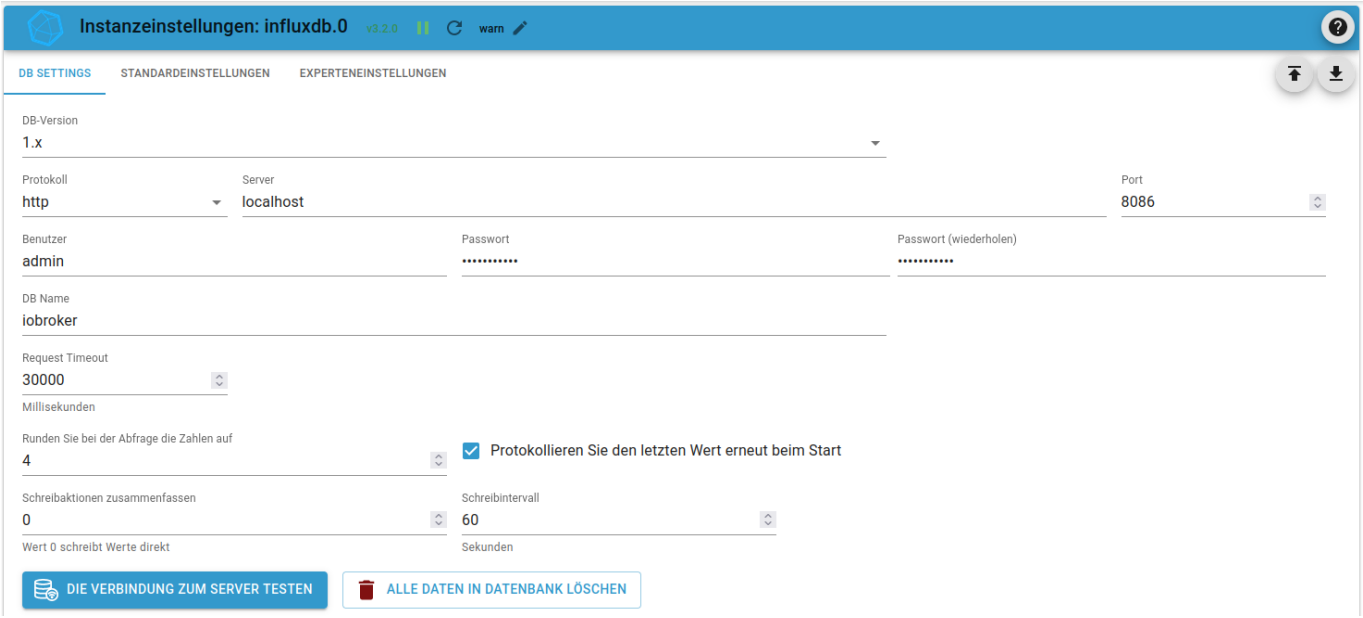
```
xmlns="http://www.w3.org/1999/xhtml" format="false"
language="false"></mutation>
                                                  <field
name="OPTION">object</field>
                                                </block>
                                              </value>
                                              <value name="VALUE">
                                                <shadow
type="math_number" id="|4-%[@-^:5+J56T:106m">
                                                  <field
name="NUM">1</field>
                                                </shadow>
                                              </value>
                                            </block>
                                          </value>
                                        </block>
                                      </value>
                                      <value name="ADD1">
                                        <block type="text_join"
id="=%;,#+%QHjmLt3hl!=~r">
                                          <mutation items="2"></mutation>
                                          <value name="ADD0">
                                            <block type="text"
id="3:2kP58oTBRcZi2),~ld">
                                              <field name="TEXT">:
</field>
                                            </block>
                                          </value>
                                          <value name="ADD1">
                                            <block type="text_join"
id="tmVWY7$h@F7sTbDx8RxC">
                                              <mutation
items="2"></mutation>
                                              <value name="ADD0">
                                                <block
type="math_rndfixed" id="r$r$dA.ncKJ|_gq606gB">
                                                  <field
name="n">3</field>
                                                  <value name="x">
                                                    <shadow
type="math_number" id="AThWyAlfX]`^N:24Bj)1">
                                                      <field
name="NUM">3.1234</field>
                                                    </shadow>
                                                    <block
type="get_value" id="#R/Z*/!V{2!I`w97g5#$">
                                                      <field
name="ATTR">val</field>
                                                      <field
name="OID">javascript.0.StomTagesverbrauchkWh</field>
```

```
                                                  </block>
                                                </value>
                                              </block>
                                            </value>
                                            <value name="ADD1">
                                              <block type="text"
id="wPYk)Zw6;xd5M2HRI[=?">
                                                <field name="TEXT">
kWh</field>
                                              </block>
                                            </value>
                                          </block>
                                        </value>
                                      </block>
                                    </value>
                                  </block>
                                </value>
                              </block>
                            </value>
                            <next>
                              <block type="update"
id="Ndg}sO%K1?awGPp}[),)">
                                <mutation
xmlns="http://www.w3.org/1999/xhtml" delay_input="false"></mutation>
                                <field
name="OID">javascript.0.TotalActiveEnergyWh_gestern</field>
                                <field name="WITH_DELAY">FALSE</field>
                                <value name="VALUE">
                                  <block type="get_value"
id="8|m`jKyWKA/LP=!E(Xkw">
                                    <field name="ATTR">val</field>
                                    <field
name="OID">shelly.0.shellypro3em#c8f09e8314fc#1.EMData0.TotalActiveEner
gy</field>
                                  </block>
                                </value>
                                <next>
                                  <block type="update"
id="05;QEhX_vzA~$gGS^OQ-">
                                    <mutation
xmlns="http://www.w3.org/1999/xhtml" delay_input="false"></mutation>
                                    <field
name="OID">javascript.0.StromZaehlerstandkWh_gestern</field>
                                    <field
name="WITH_DELAY">FALSE</field>
                                    <value name="VALUE">
                                      <block type="get_value"
id="Zb6figE|CI],mV=zy!AK">
                                        <field name="ATTR">val</field>
                                        <field
name="OID">javascript.0.StromZaehlerstandkWh</field>
```

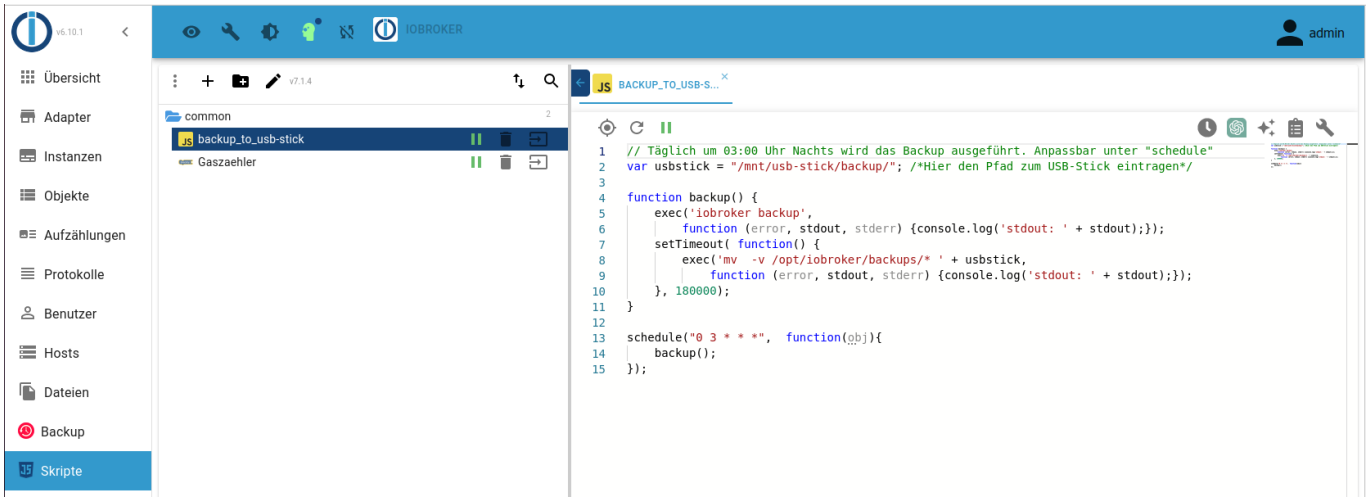
```
                                        </block>
                                      </value>
                                      <next>
                                        <block type="update"
id="@0uFnK3p@d(aFNzT|/lb" inline="false">
                                          <mutation
xmlns="http://www.w3.org/1999/xhtml" delay_input="false"></mutation>
                                          <field
name="OID">javascript.0.StomTagesverbrauchkWh</field>
                                          <field
name="WITH_DELAY">FALSE</field>
                                          <value name="VALUE">
                                            <block type="math_number"
id="4)r,X`Fg.[q=u_H*lfRk">
                                              <field name="NUM">0</field>
                                            </block>
                                          </value>
                                        </block>
                                      </next>
                                    </block>
                                  </next>
                                </block>
                              </next>
                            </block>
                          </statement>
                        </block>
                      </next>
                    </block>
                  </next>
                </block>
              </next>
            </block>
          </next>
        </block>
      </next>
    </block>
</xml>
```

++++

InfluxDB



Backup durch Script




```
// Täglich um 03:00 Uhr Nachts wird das Backup ausgeführt. Anpassbar unter
"schedule"
var usbstick = "/mnt/usb-stick/backup/"; /*Hier den Pfad zum USB-Stick
eintragen*/

function backup() {
    exec('iobroker backup',
        function (error, stdout, stderr) {console.log('stdout: ' +
stdout);});
    setTimeout( function() {
        exec('mv  -v /opt/iobroker/backups/* ' + usbstick,
            function (error, stdout, stderr) {console.log('stdout: ' +
stdout);});
    }, 180000);
}

schedule("0 3 * * *",  function(obj){
```

```
    backup();
});
```

Update und Bugfixing

```
iobroker stop
iobroker update
iobroker fix
# oder curl -sL https://iobroker.net/fix.sh | bash -
iobroker upgrade self
iobroker start
```