DigitalSTROM MQTTG Gateway in a Docker container

this is WIP this is how i set up Chriss Gross' MQTT bridge to run inside a node docker container. i have also slightly modified his script to use authentication and to allow setting the qos in the config file as well. in addition to that i have written a wrapper script in bash that will constantly (as in every second) check when the last contact was established to the dss server. if that's too long ago, it will restart the bridge. this was necessary because otherwise the bridge script would not recognize when it had lost the connection to the dss server (i.e. because of a network outage or because the dss has been restarted or whatever other reason there might be) and it would need a manual intervention. this script fixed this issue for me pretty reliably.

on a personal note i want to add: kudos to node.js for still being able to run a script that hasn't been touched for 9 years without modifying a single line of code! this actually makes the need to dockerize this quite guestionable. however, i still perfer it this way in my current setup:)

so here is how i set it up:

docker-compose.yml

```
mkdir ./app
chown 1000.1000 app
mkdir ./build
```

build/startup.sh

```
#!/bin/bash
USERNAME="myuser"
PASSWORD="mysecret"
MQTT_SERVER="mqtt.psuter.ch"

if [ -z "$(ls -A /app)" ]; then
    echo "installing dss mqtt bridge (see
https://github.com/cgHome/mqtt-dss-bridge)"
    cd /app
```

```
npm install --save mqtt-dss-bridge
    echo "IMPORTANT: configure the bridge by editing
/app/node modules/mqtt-dss-bridge/config.js"
    echo "installation completed"
echo "Starting DSS to MQTT bridge"
# start the bridge in the background
cd /app
node /app/node modules/mqtt-dss-bridge/index.js 2>&1 &
PID=$!
echo "DSS Bridge started with PID $PID"
# start a loop to monitor the status every second
errcntr=0
lastUpdate=999
while true; do
    lastUpdate=$(( \
            $(date +%s)\
            - \
            $(date -d "$(\
                mosquitto_sub -h $MQTT_SERVER -u $USERNAME -P $PASSWORD
-t dss/state/lastDiscovered -C 1 | \
                sed -E -e 's/"([0-9]{4}-[0-9]{2}-
[0-9]{2})T([0-9]{2}:[0-9]{2}:[0-9]{2}).*$/\1 \2Z/'\
            )" +%s)\
    if [ 10 -lt $lastUpdate ]; then
            if [ $errcntr -lt 10 ]; then
                let errcntr++
                echo "DSS Bridge state is too old (last updated
$lastUpdate seconds ago, max 10 allowed). This was failure $errcntr out
of 10 accepted failures"
            else
                echo "DSS bridge state is still too old ($lastUpdate
seconds) after 10 retries. killing mqtt-dss-bridge (pid $PID) and exit
with error status 1"
                kill $PID
                exit 1
            fi
    fi
    sleep 1
done
```

obviously you need to adjust the three variables at the top of the script to match your setup

```
chmod 755 build/startup.sh
```

build/Dockerfile

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```
FROM node:22-bookworm

ARG DEBIAN_FRONTEND=noninteractive

ENV TZ=Europe/Zurich

# mqtt client

RUN apt-get update && apt-get install -y mosquitto-clients

#RUN npm install --save mqtt-dss-bridge

COPY startup.sh /startup.sh

CMD /startup.sh
```

```
docker compose build
docker compose up
```

press ctrl+C to stop the app again, then edit the config file

```
nano ./app/node_modules/mqtt-dss-bridge/config.js
```

now your setup might be different, but i wanted to be able to use a password authentication for mqtt and i wanted to set qos to 2, by default this is hardcoded to 1.

so in the settings in the var config= section i edited the client attribute to look like this:

```
// MQTT-Client
client: {
    url: 'mqtt://mqtt.psuter.ch:1883',
    baseTopic: dssTopic,
    qos: 2,
    username: 'myuser',
    password: 'mysecret'
},
```

again of course with the correct username and password.

next i had to slightly modify the script in app/node_modules/mqtt-dss-bridge/lib/dss.js starting from line 23 i have added the qos setting as well as the username and password settings, so this section now looks like this:

```
var clientSettings = {
    keepalive: 10,
    clientId: config.name,
    will: {
        topic: config.client.baseTopic + '/state/online',
        payload: new Buffer('{"$value": "false"}'),
        qos: config.client.qos,
        retain: true
    },
    username: config.client.username,
    password: config.client.password
};
```

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with all this done, we can now start the container and hope for it to run;)

docker compose up -d

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