

MQTT READER

OS- Linux Arm64 debian

Step 1: Installing Docker and Docker compose

- Docker required to be installed (i installed using get.docker.com).
- To install docker compose (sudo apt install docker-compose).

Step 2: Creating a Python Image with mqtt subscribe code.

- I have attached Dockerfile and Python code which is required to create the image locally.
- Dockerfile includes all commands required to run the python script.
- Python code includes connect, subscribe and is storing received data in mqtt.log file which is binded to ~/livello/mqtt.log directory.

Step 3: Running Docker compose file to create mqtt broker and python container (requirements Step 1 and docker-compose.yml file)

- All files required to be in ~/livello/folder
- Run **docker-compose up -d**
- Then you'll see it starts pulling and building and when done the containers are up
- I checked the status of container using **docker logs {containerid}**
- Configuration to mosquitto broker has been done in order accept connections on 1883 port(Mosquittoconf folder contains the configuration file).

How to run.

- Copy all files and folders in **cp -r * ~/livello**
- Run docker compose command **docker-compose up -d** if you want to see the output of python script container then run **docker-compose up**
- To check container's status run **docker logs {input containerid}**
- Now python script has successfully subscribed to /event topic, if you publish on this topic logs will be taken in ~/livello/mqtt.log file.

Runtime screenshots->

```

File Edit Tabs Help
kindest/node          vi.23.5    1cb0c063d721    2 years ago    863MB
pi@kanni5:~/livello $ nano docker-compose.yml
pi@kanni5:~/livello $ docker-compose up
Creating network "livello_default" with the default driver
Pulling mqttt-broker (eclipse-mosquitto:...)...
latest: Pulling from library/eclipse-mosquitto
c6b39de5b339: Pull complete
9b97de0ed816: Pull complete
c5499a64ee08: Pull complete
Digest: sha256:bff5fb92712be8660ef6a204bf7a966c8f81f372db91a91432b9faaebf49c49d3
Status: Downloaded newer image for eclipse-mosquitto:latest
Building python-script
[+] Building 2.5s (9/9) FINISHED                                docker:default
=> [internal] load build definition from Dockerfile              0.0s
=> -- transferring Dockerfile: 53MB                             0.0s
=> [internal] load metadata for docker.io/library/python:3.9-slim 2.3s
=> [internal] load .dockerignore                                 0.0s
=> -- transferring context: 2B                                    0.0s
=> [4/4] FROM docker.io/library/python:3.9-slim@sha256:080d92127202188598 0.0s
=> [internal] load build context                                0.0s
=> -- transferring context: 45B                                   0.0s
=> CACHED [2/4] WORKDIR /app                                    0.0s
=> CACHED [3/4] COPY python-gmqttt-sub-log.py /app              0.0s
=> CACHED [4/4] RUN pip install --no-cache-dir gmqttt          0.0s
=> -- exporting to image                                       0.0s
=> -- exporting layers                                         0.0s
=> -- writing image sha256:f54577f15721c3bc9cd93c71b06d990051cfb0c5f795aa 0.0s
=> -- naming to docker.io/library/livello-python-script        0.0s
WARNING: Image for service python-script was built because it did not already exist. To rebuild this image you must use `docker-compose build` or `docker-compose up --build`.
Creating mqttt-broker ... done
Attaching to mqttt-broker, python-script
mqttt-broker | 1716634252: mosquitto version 2.0.18 starting
mqttt-broker | 1716634252: Config loaded from /mosquitto/config/mosquitto.conf.
mqttt-broker | 1716634252: Opening ipv4 listen socket on port 1883.
mqttt-broker | 1716634252: Opening ipv6 listen socket on port 1883.
mqttt-broker | 1716634252: Opening websockets listen socket on port 9001.
mqttt-broker | 1716634252: mosquitto version 2.0.18 running

```

The screenshot shows a terminal window titled 'Kanni5 (WayVNC) - RealVNC Viewer' with a tab 'pi@kanni5: ~/livello'. The terminal displays the command 'docker ps -a' and its output, which is a table of Docker containers. The output is as follows:

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
5156077dc8d					
pi@kanni5:~/livello					
Creating mqtt-broker ... done					
Creating python-script ... done					
pi@kanni5:~/livello					
pi@kanni5:~/livello \$ docker ps -a					
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
f1fb6b697495	liveio.python-script	"python python-gmqtt..."	16 seconds ago	Up 15 seconds	1883/tcp
9ae44e48d066	eclipse-mosquitto	"/docker-entrypoint..."	17 seconds ago	Up 16 seconds	0.0.0.0:1883->1883/tcp, :::1883->1883/tcp
28fad6820916	grafana/grafana:latest	"/run.sh"	2 months ago	Exited (0) 2 months ago	
c5bfbed29957	prom/prometheus:latest	"/bin/prometheus --w..."	2 months ago	Exited (0) 2 months ago	
7036d009f402	quay.io/prometheus/node-exporter:latest	"/bin/node_exporter ..."	2 months ago	Exited (143) 2 months ago	
71945ae2739	gcr.io/k8s-minikube/kicbase:v0.0.42	"/usr/local/bin/entr..."	2 months ago	Exited (130) 2 months ago	
349a38ccacce	gcr.io/k8s-minikube/kicbase:v0.0.42	"/usr/local/bin/entr..."	2 months ago	Exited (130) 2 months ago	
87229c08b32	gcr.io/k8s-minikube/kicbase:v0.0.42	"/usr/local/bin/entr..."	2 months ago	Exited (255) 2 months ago	127.0.0.1:32787->22/tcp, 127.0.0.1:32786->2376/tcp, 127.0.0.1:32785->9000/tcp, 127.0.0.1:32784->8443/tcp, 127.0.0.1:32783->32443/tcp
236363dcf68	gcr.io/k8s-minikube/kicbase:v0.0.42	"/usr/local/bin/entr..."	2 months ago	Exited (255) 2 months ago	127.0.0.1:32782->22/tcp, 127.0.0.1:32781->2376/tcp, 127.0.0.1:32780->9000/tcp, 127.0.0.1:32779->8443/tcp, 127.0.0.1:32778->32443/tcp
4833dc093ae6	gcr.io/k8s-minikube/kicbase:v0.0.42	"/usr/local/bin/entr..."	2 months ago	Exited (255) 2 months ago	127.0.0.1:32777->22/tcp, 127.0.0.1:32776->2376/tcp, 127.0.0.1:32775->9000/tcp, 127.0.0.1:32774->8443/tcp, 127.0.0.1:32773->32443/tcp
7fe9492e76c6	gcr.io/k8s-minikube/kicbase:v0.0.42	"/usr/local/bin/entr..."	2 months ago	Exited (255) 2 months ago	127.0.0.1:32772->22/tcp, 127.0.0.1:32771->2376/tcp, 127.0.0.1:32770->9000/tcp, 127.0.0.1:32769->8443/tcp, 127.0.0.1:32768->32443/tcp
df7e77f05871	gcr.io/k8s-minikube/kicbase:v0.0.42	"/usr/local/bin/entr..."	2 months ago	Exited (130) 2 months ago	
e9ed90aef8f	ubuntu:focal	"/bin/bash"	2 months ago	Exited (0) 2 months ago	
e8968cd23cea	filebrowser/filebrowser:latest	"/filebrowser --port..."	2 months ago	Exited (1) 2 months ago	
173a2bb43838	portainer/portainer-ce:latest	"/portainer"	2 months ago	Up 51 minutes	8080/tcp, 9443/tcp, 0.0.0.0:9080->9080/tcp
pi@kanni5:~/livello					
2024-05-25 10:52:58 [CONNECTION MADE]					

