Mosquitto MQTT broker and clients

CONCEPTS

> Clients never talk to each other: publishers and subscribers meet at a topic on the broker.

Publisher mosquitto_pub
↓ topic + payload
Broker mosquitto
↓ matching filters
Subscriber mosquitto_sub

Topic wildcards

Filter	Matches
`+`	exactly one level: a/+/c
`#`	all remaining levels, last only: a/#
`$SYS/#`	broker stats; not matched by a lone #

> Quote '#' and '$SYS' in the shell, or it expands or becomes a comment.

PUBLISH

`mosquitto_pub -t` *`<topic>`* **`-m`** *`<msg>`*
Publish one message

`mosquitto_pub -t` *`<topic>`* **`-f`** *`<file>`*
Send a file as the payload

`mosquitto_pub -t` *`<topic>`* **`-s`** *`< <file>`*
Send all of stdin as one message

`<cmd>` **`| mosquitto_pub -t`** *`<topic>`* **`-l`**
Send each stdin line as a message

`mosquitto_pub -t` *`<topic>`* **`-n`**
Send an empty payload

`mosquitto_pub -r -t` *`<topic>`* **`-m`** *`<msg>`*
Retain message on the broker

`mosquitto_pub -q` *`<0|1|2>`* **`-t`** *`<topic>`* **`-m`** *`<msg>`*
Set delivery guarantee

`mosquitto_pub --repeat` *`<n>`* **`--repeat-delay`** *`<s>`* **`-t`** *`<topic>`* **`-m`** *`<msg>`*
Publish repeatedly

SUBSCRIBE

`mosquitto_sub -t` *`<topic>`*
Print each payload

`mosquitto_sub -v -t` *`<topic>`*
Prefix payloads with the topic

SUBSCRIBE (cont.)

`mosquitto_sub -t` *`<a>`* **`-t`** *`<b>`*
Subscribe to several filters

`mosquitto_sub -q` *`<0|1|2>`* **`-t`** *`<topic>`*
Set subscription QoS

`mosquitto_sub -C` *`<n>`* **`-t`** *`<topic>`*
Exit after n messages

`mosquitto_sub -W` *`<s>`* **`-t`** *`<topic>`*
Exit after s seconds

`mosquitto_sub -R -t` *`<topic>`*
Skip retained messages

`mosquitto_sub --retained-only -t` *`<topic>`*
Only retained messages, then exit

`mosquitto_sub -T` *`<topic>`* **`-t`** *`<filter>`*
Hide matching topics from output

`mosquitto_sub -F "%t %p" -t` *`<topic>`*
Custom output format

`mosquitto_sub -t` *`<topic>`* **`--remove-retained --retained-only`**
Delete retained messages

CONNECTION & AUTH

`-h` *`<host>`* **`-p`** *`<port>`*
Broker address (localhost:1883)

`-u` *`<user>`* **`-P`** *`<password>`*
Username and password

`-i` *`<id>`*
Fixed client ID

`-L mqtt://`*`<url>`*
Everything in one URL

`-V` *`<5|311|31>`*
MQTT protocol version

`-c -i` *`<id>`*
Persistent session

`--ws`
Connect over WebSockets

`-d`
Print protocol debug output

`--will-topic` *`<topic>`* **`--will-payload`** *`<msg>`*
Last will on unexpected disconnect

TLS

`--cafile` *`<ca.pem>`*
Trust this CA certificate

`--cert` *`<cert.pem>`* **`--key`** *`<key.pem>`*
Client certificate login

`--capath` *`<dir>`*
Directory of trusted CAs

`--tls-use-os-certs`
Trust the system CA store

`--insecure`
Skip hostname check, testing only

`--tls-version` *`<tlsv1.2|tlsv1.3>`*
Pin the TLS version

USERS & PASSWORDS

`mosquitto_passwd -c` *`<file>`* *`<user>`*
Create file with a user

`mosquitto_passwd` *`<file>`* *`<user>`*
Add a user or change password

`mosquitto_passwd -b` *`<file>`* *`<user>`* *`<password>`*
Set password non-interactively

`mosquitto_passwd -D` *`<file>`* *`<user>`*
Delete a user

> Point password_file at the file in mosquitto.conf and set allow_anonymous false; the broker needs a reload (SIGHUP) for changes.

RECIPES

Watch broker status

```
mosquitto_sub -v -t '$SYS/broker/#'
```

Authenticated TLS publish

```
mosquitto_pub -h <host> -p 8883 --cafile ca.pem \
  -u <user> -P <pw> -t home/door -m open
```

Capture one reading

```
mosquitto_sub -t sensors/+/temp -C 1 -W 10
```

Retained status with last will

```
mosquitto_pub -r -t dev/<id>/status -m online \
  --will-topic dev/<id>/status --will-payload offline --will-retain
```