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
```