

COMP3310/6331 – MQTTBox

7 May 2018 (okl)

Introduction

Without *writing any code*, MQTTBox is useful to familiarising the student to the MQTT server (3310exp.hopto.org) hosted at Amazon Web Services (AWS) Elastic Computing Cloud (EC2).

Stage 1

1. Go to http://workswithweb.com/html/mqttbox/installing_apps.html#install_on_linux and download MQTTBox.tar.gz file.

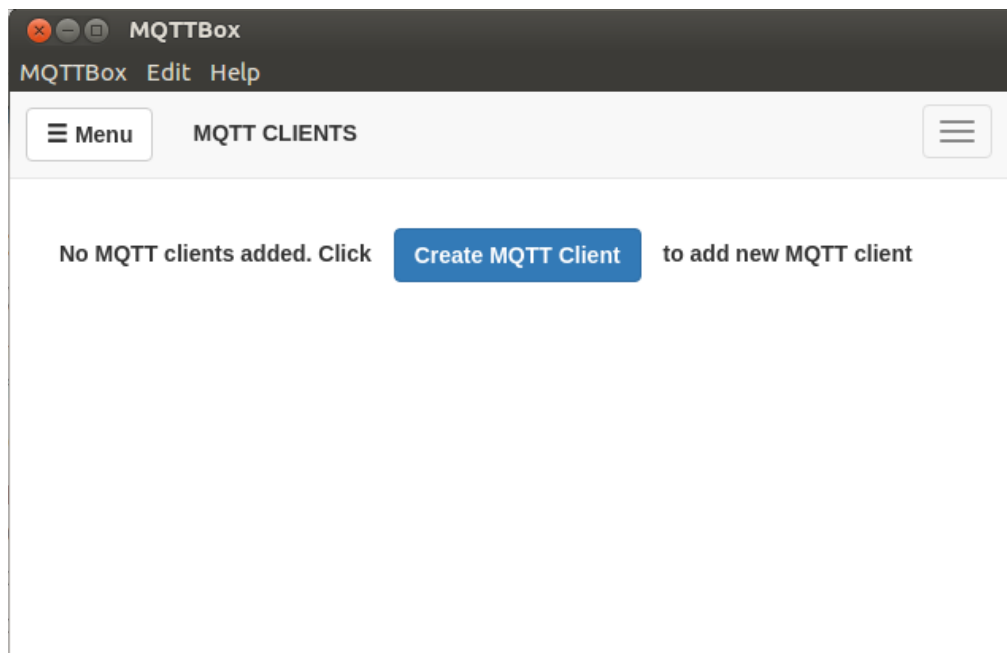
2. Extract the MQTTBox.tar.gz package.

```
$ tar -xvzf MQTTBox.tar.gz
```

3. Run the MQTTbox command.

```
$ cd MQTT
```

```
$ ./MQTT
```



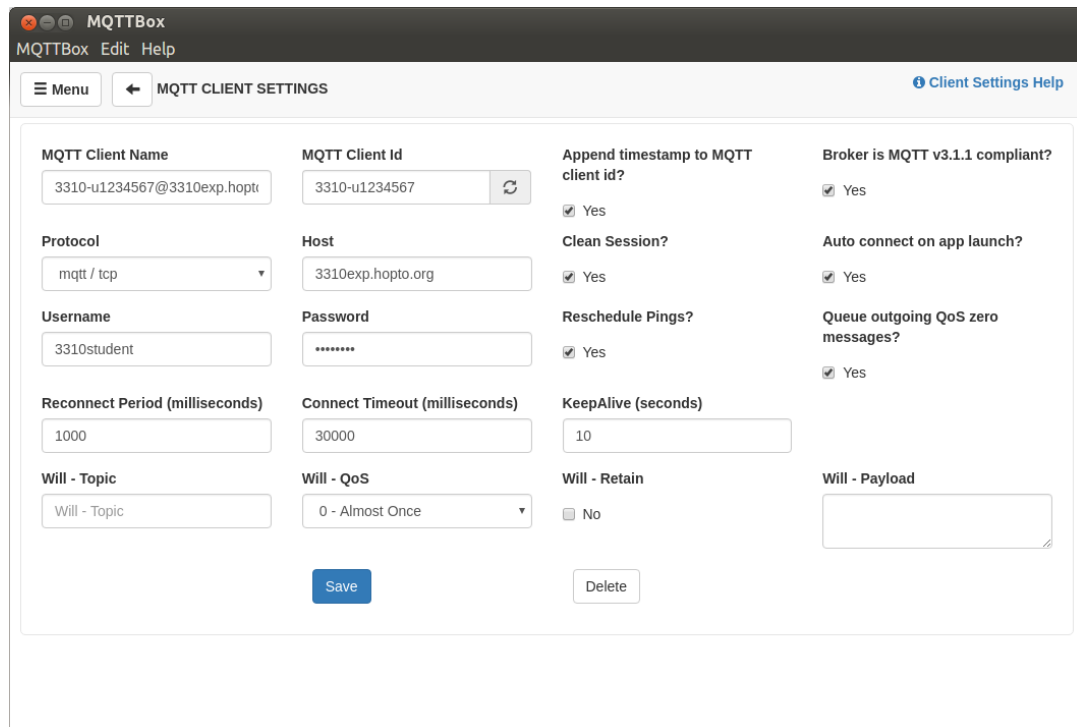
<A user interface of MQTTBox>

Stage 2

Refer to MQTT client settings for detail.

(http://workswithweb.com/html/mqttbox/mqtt_client_settings.html)

Client settings



The MQTTBox Client Settings window is displayed. It features a menu bar with 'MQTTBox', 'Edit', and 'Help'. Below the menu bar is a toolbar with a 'Menu' button and a 'MQTT CLIENT SETTINGS' button. A 'Client Settings Help' link is visible in the top right corner. The settings are organized into a grid of input fields and checkboxes. The 'MQTT Client Name' field contains '3310-u1234567@3310exp.hopto.org'. The 'MQTT Client Id' field contains '3310-u1234567'. The 'Protocol' dropdown is set to 'mqtt / tcp'. The 'Host' field contains '3310exp.hopto.org'. The 'Username' field contains '3310student'. The 'Password' field is masked with '*****'. The 'Reconnect Period (milliseconds)' field contains '1000'. The 'Connect Timeout (milliseconds)' field contains '30000'. The 'KeepAlive (seconds)' field contains '10'. The 'Will - Topic' field contains 'Will - Topic'. The 'Will - QoS' dropdown is set to '0 - Almost Once'. The 'Will - Retain' checkbox is unchecked. The 'Append timestamp to MQTT client id?' checkbox is checked. The 'Clean Session?' checkbox is checked. The 'Reschedule Pings?' checkbox is checked. The 'Broker is MQTT v3.1.1 compliant?' checkbox is checked. The 'Auto connect on app launch?' checkbox is checked. The 'Queue outgoing QoS zero messages?' checkbox is checked. The 'Will - Payload' field is empty. A 'Save' button is located at the bottom center, and a 'Delete' button is located at the bottom right.

MQTT Client Name: 3310-u1234567@3310exp.hopto.org

MQTT Client Id: 3310-u1234567

Protocol: mqtt / tcp

Host: 3310exp.hopto.org

Username: 3310student

Password: *****

Reconnect Period (milliseconds): 1000

Connect Timeout (milliseconds): 30000

KeepAlive (seconds): 10

Will - Topic: Will - Topic

Will - QoS: 0 - Almost Once

Will - Retain: ☐ No

Append timestamp to MQTT client id? ☒ Yes

Clean Session? ☒ Yes

Reschedule Pings? ☒ Yes

Broker is MQTT v3.1.1 compliant? ☒ Yes

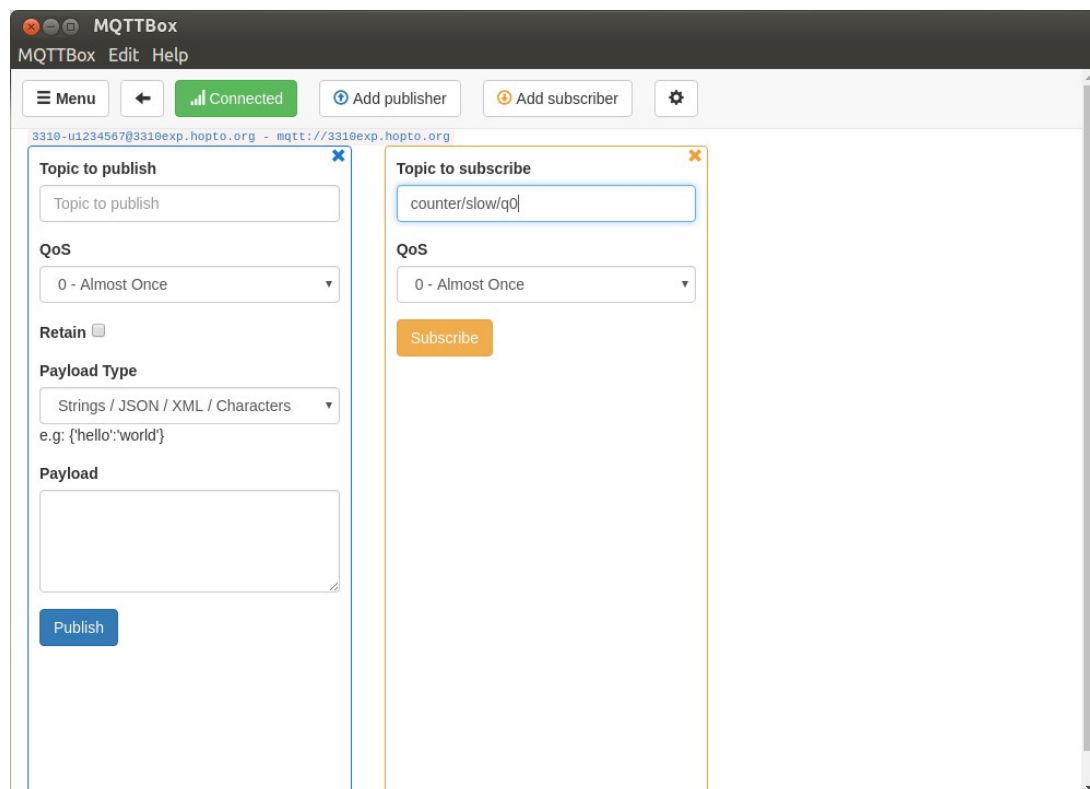
Auto connect on app launch? ☒ Yes

Queue outgoing QoS zero messages? ☒ Yes

Will - Payload:

Save Delete

Subscribe to a topic



The MQTTBox Topic to subscribe dialog is displayed. It features a menu bar with 'MQTTBox', 'Edit', and 'Help'. Below the menu bar is a toolbar with a 'Menu' button, a 'Connected' status indicator, and buttons for 'Add publisher', 'Add subscriber', and a settings gear. The dialog is titled 'Topic to subscribe' and contains a text field with 'counter/slow/q0'. The 'QoS' dropdown is set to '0 - Almost Once'. A 'Subscribe' button is located at the bottom. The background shows the MQTTBox main window with the 'Topic to publish' dialog open, displaying a 'Topic to publish' field, 'QoS' dropdown, 'Retain' checkbox, 'Payload Type' dropdown, and 'Payload' text area.

Topic to subscribe: counter/slow/q0

QoS: 0 - Almost Once

Subscribe

Stage 3

Run wireshark and observer the traffic.

```
$ gksudo wireshark
```