MQTT Message Editing Suite User's Guide

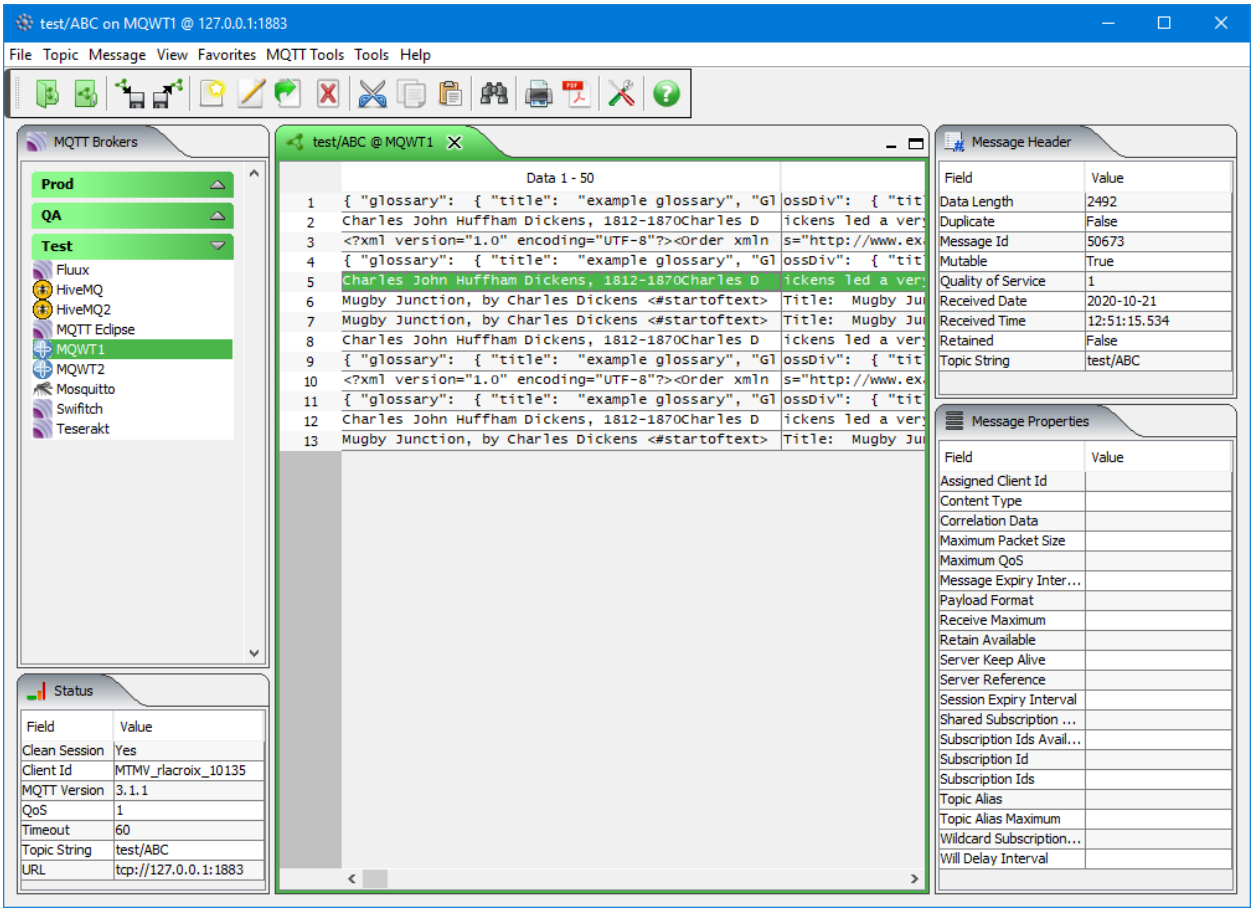

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Table of Contents

1 INTRODUCTION....1

1.1 Overview....1
1.2 Prerequisites....2
1.2.1 Java....2
1.2.2 MQTT....2
1.2.3 Operating System....2

2 INSTALLING MQTT MESSAGE EDITING SUITE....3

2.1 Installation....3
2.1.1 Windows Installation....3
2.1.2 Linux Installation....3
2.1.3 macOS Installation....4
2.1.4 Raspberry Pi Installation....4
2.2 Registration....5
2.3 Connectivity Issues....7
2.3.1 Registering using a Web Browser....7
2.3.2 Registering by Email....9
2.4 A New or Replacement PC or Laptop....11
2.5 Yearly Registration Process....12
2.6 Enterprise License File....14

3 MANAGING GROUPS....15

3.1 Adding a Group....15
3.2 Renaming a Group....15
3.3 Deleting a Group....16

4 CONNECTING TO A MQTT BROKER....17

4.1 Adding a MQTT Broker Profile....17
4.2 Editing a MQTT Broker Profile....20
4.3 Renaming a MQTT Broker Profile....21
4.4 Move a MQTT Broker Profile to Another Group....22
4.5 Deleting a MQTT Broker Profile....23

5 MANAGING A TOPIC....24

5.1 Retrieving a List of 'Discovered' Topics....24
5.2 Discover Topics....26
5.3 Organize Discovered Topics....28
5.4 Opening a Topic....29
5.5 Closing a Topic....31
5.6 Backing up a Topic....32
5.7 Restoring a Topic....34

6 MANIPULATING THE MESSAGES....35

6.1 Cut a Message....35
6.2 Copy a Message....36
6.3 Paste a Message....37
6.4 Edit a Message....38

6.5 Edit a Message in Hex....39
6.6 Edit a Message with XML Editor....40
6.7 Insert a Message....41
6.8 Duplicate a Message....42
6.9 Forward a Message....43
6.10 Delete a Message....44
6.11 Compare a Message to a File....45
6.12 Printing a Message....46
6.13 Generate Report....47
6.14 Importing Files....48
6.15 Exporting Messages....50
6.16 Find....51

7 MESSAGE EDIT....52

7.1 Message Data Dock....52
7.2 XML Viewer Dock....55
7.3 JSON Viewer Dock....56
7.4 Fixed Width Viewer Dock....57
7.5 CSV Viewer Dock....58
7.6 FIX Viewer Dock....60
7.7 Hex Data Dock....62
7.8 Message Header Dock....64

8 USER FORMATS....65

8.1 Fixed Width Format....66
8.1.1 Add a Fixed Width Format....66
8.1.2 Edit a Fixed Width Format....69
8.1.3 Rename a Fixed Width Format....71
8.1.4 Delete a Fixed Width Format....72
8.2 CSV Format....73
8.2.1 Add a CSV Format....73
8.2.2 Edit a CSV Format....76
8.2.3 Rename a CSV Format....78
8.2.4 Delete a CSV Format....79
8.3 FIX Format....80
8.3.1 Add a FIX Format....80
8.3.2 Edit a FIX Format....83
8.3.3 Rename a FIX Format....85
8.3.4 Delete a FIX Format....86

9 FAVORITES....87

9.1 Add Favorite....87
9.2 Open Favorite....88
9.3 Organize Favorite....89

10 STRESS TESTING TOOLS....90

10.1 Subscribe Server....90
10.2 Publish Server....92

11 MONITORING TOOLS....95

11.1 Find Retained Messages....95
11.2 Visualize Message Data....97
11.3 Message Moving Average....99
11.4 Visual Message Count....101
11.5 Ping Broker....103
11.6 Broker Status Monitor....105

12 OTHER TOOLS....107

12.1 Hex Converter....107
12.2 Hex Editor....108
12.3 Tail File....109
12.4 Text Editor....110
12.5 Visual Difference....112
12.6 XML Editor....114

13 MISCELLANEOUS....115

13.1 Preferences....115
13.2 Language....119
13.3 Follow New Messages....120
13.4 Select All Messages....121
13.5 Unselect All Messages....122

14 APPENDIX A – MOUSE AND KEYBOARD ACTIONS....123

14.1 Toolbar....123
14.2 Mousing Around in MQTT Message Editing Suite....124
14.2.1 Left Button....124
14.2.2 Right Button....124
14.3 Keyboard short-cuts in MQTT Message Editing Suite....126

15 APPENDIX B – MQTT MESSAGE EDITING SUITE UPGRADE PROCEDURES....127

15.1 Windows Upgrade....127
15.2 Linux Upgrade....127
15.3 Max OS X Upgrade....127

16 APPENDIX C – FREQUENTLY ASKED QUESTIONS (FAQ)....128

17 APPENDIX D – SUPPORT....129

18 APPENDIX E – SUMMARY OF CHANGES....130

19 APPENDIX F1 - LICENSE AGREEMENT - UNREGISTERED....131

20 APPENDIX F2 – LICENSE AGREEMENT - REGISTERED....132

21 APPENDIX G – NOTICES....134

1 Introduction

1.1 Overview

MQTT Message Editing Suite (MMES) application allows users to subscribe, publish, edit, copy, delete, forward, backup, restore, import and export messages of a topic of an MQTT Broker.

The messages of a topic are presented in a table format similar to a spreadsheet program. MMES is an MQTT (MQ Telemetry Transport) client that connects to an MQTT Broker. MQTT is a machine-to-machine (M2M)/Internet of Things (IoT) connectivity protocol. MMES supports MQTT protocol versions 3.1, 3.1.1 and 5.0.

MMES is an excellent tool for IoT (Internet of Things) application programmers, developers, quality assurance testers, and production support personnel. The tool allows for quick problem solving because the data is presented in a very logical and insightful manner.

MMES can connect to any remote MQTT Broker. The remote MQTT Broker can be on any platform. The following is a sample of the MQTT Brokers that MMES can connect to: 2lemetry, Apache ActiveMQ, Apache Apollo, EMQ, GnatMQ, HBMQTT, HiveMQ, IBM MessageSight, IBM MQ, JoramMQ, Moquette, Mosquitto, MQTT.js, RabbitMQ, RSMB, Software AG Universal Messaging, Solace, ThingMQ and VerneMQ.

An MQTT Broker is responsible for receiving all messages, filtering the messages, deciding which clients are interested in the messages and then sending them to all subscribed clients.

MMES has full language support for the following 55 languages: Amharic, Arabic, Azerbaijani, Bengali, Cebuano, Chinese (Mandarin China), Chinese (Mandarin Taiwan), Czech, Danish, Dutch, English, Finnish, French, German, Greek, Gujarati, Hausa, Hebrew, Hindi, Hungarian, Igbo, Indonesian, Italian, Japanese, Javanese, Kannada, Korean, Malay, Malayalam, Marathi, Norwegian, Panjabi, Pashto, Persian, Polish, Portuguese, Romanian, Russian, Shona, Sindhi, Spanish, Sundanese, Swahili, Swedish, Tamil, Telugu, Thai, Turkish, Ukrainian, Urdu, Uzbek, Vietnamese, Xhosa, Yoruba and Zulu.

MMES supports SSL/TLS.

MMES is designed to run on a desktop platform. This includes: Linux x86 64-bit, macOS (Mac OS X), Windows 7/8/8.1/10 and Raspberry Pi (ARM).

1.2 Prerequisites

This section provides the minimum supported software levels.

1.2.1 Java

MQTT Message Editing Suite requires Java 8 or higher.

1.2.2 MQTT

MQTT Message Editing Suite requires MQTT v3.1 or higher. i.e. v3.1, v3.1.1 or v5.0

1.2.3 Operating System

MQTT Message Editing Suite is capable of running on the following operating system platforms that support Java SE 7 (or higher):

- Windows 7/8/8.1/10
- Linux x86 64-bit (Desktop)
- macOS (Mac OS X) 10.8 or higher
- Raspberry Pi (ARM)

2 Installing MQTT Message Editing Suite

This chapter will describe the installation and registration of MQTT Message Editing Suite.

2.1 Installation

2.1.1 Windows Installation

To install MQTT Message Editing Suite on Windows, do the following instructions:

- Run the install program called: **mmes-setup-withjre.exe**
- The installer follows the standard Windows install procedures and provides default values for the user.
- When the install program has completed execution, there will be a newly created folder under ***Start*** -> ***All Programs*** called ***MQTT Message Editing Suite***.
- To run MQTT Message Editing Suite, select the MQTT Message Editing Suite icon from within the MQTT Message Editing Suite folder.

2.1.2 Linux Installation

To install MQTT Message Editing Suite on Linux x86 64-bit, do the following instructions:

- First, the user needs to set the 'execute' permission for the installer program:

  ```
  chmod +x mmes-setup-linux.bin
  ```

- Next, run the installer with the following command:

  ```
  ./mmes-setup-linux.bin
  ```

- The installer will prompt the user for the installation directory. The default value will be 'Capitalware/MMES/'.

- To run MQTT Message Editing Suite, go to the installation directory and issue the following command:

  ```
  ./mmes
  ```

2.1.3 macOS Installation

To install MQTT Message Editing Suite on macOS, do the following:

- Double click the ***MQTT_Message_Editing_Suite.dmg*** file to open it
- Follow the instructions on the opened DMG window and drag the MQTT Message Editing Suite icon to the Applications folder.
- Close the DMG window and then eject the DMG
- To run MQTT Message Editing Suite, go to the Application folder and double click on ***MQTT Message Editing Suite***

2.1.4 Raspberry Pi Installation

To install MQTT Message Editing Suite on Raspberry Pi, do the following:

1. ftp or copy the selected mmes-RaspberryPi.tar.zip file to the target platform
2. Unzip the mmes-RaspberryPi.tar.zip to an appropriate directory with the following commands:

```
unzip mmes-RaspberryPi.tar.zip
tar -xvf mmes-RaspberryPi.tar
```

3. Change directory to ***Capitalware/MMES/***
4. To run MQTT Message Editing Suite, go to the installation directory and issue the following command:

```
./mmes
```

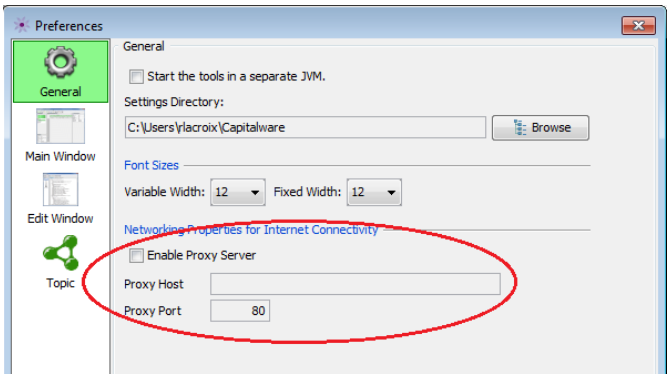
2.2 Registration

This section will describe how to obtain a license and then register your copy of MQTT Message Editing Suite. To purchase a copy of MQTT Message Editing Suite (obtain a license), go to Capitalware's web site (www.capitalware.com) and select MQTT Message Editing Suite, then click the ***Buy Now*** button.

A license is for a single end-user. Once the user has received their license key, they will need to input the license key in the Registration window and then retrieve an Access Code. ***Note: A license key can ONLY be registered once.*** When the user clicks the ***Submit*** button MQTT Message Editing Suite will attempt the register the user's license key by contacting the 'capitalware.com' server.

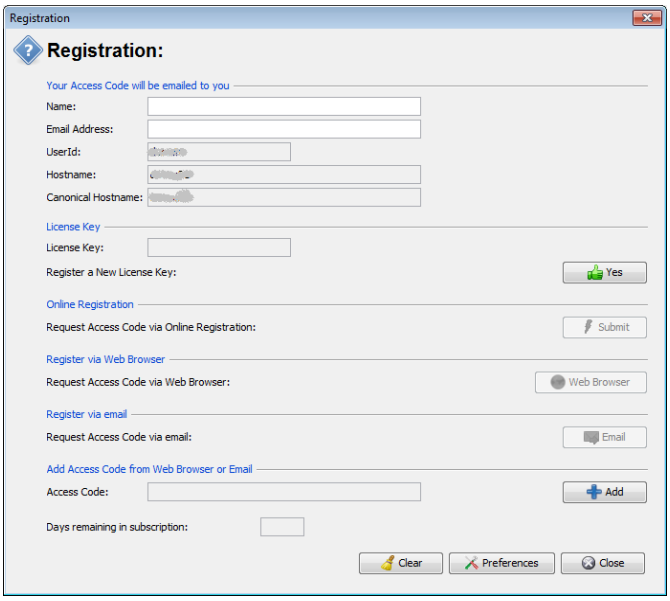
Note: Do not register MQTT Message Editing Suite under Administrator account or any other SysAdmin account. It must be the end-user who completes the registration process under their own account.

If your company uses a Proxy Server then the user will need to input this information, so that MQTT Message Editing Suite can access the internet. Select **File** then **Preferences**:



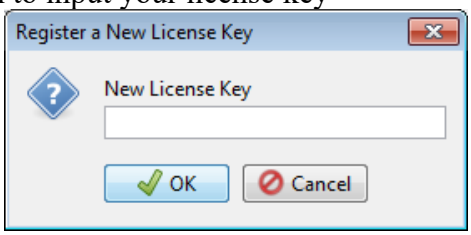
Click **Enable Proxy Server** checkbox then input your company's Proxy Server and Proxy Port and click **OK** to save the information.

To input the license key, from the main menu of MMES, select **File** then **Register**:

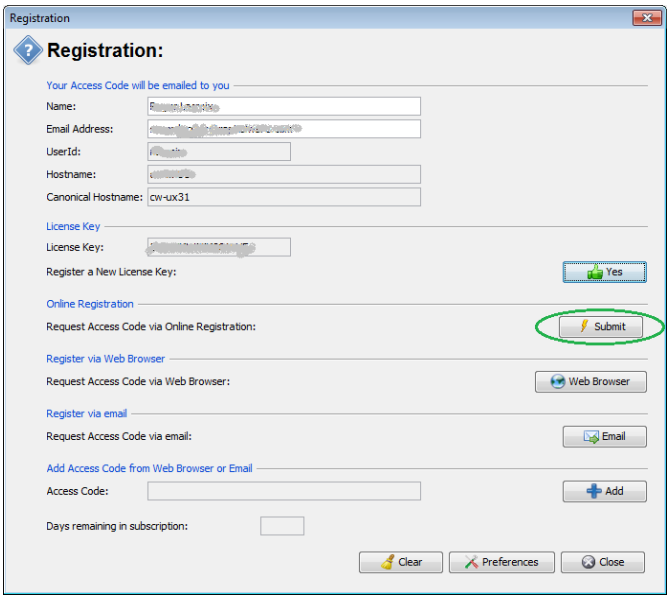


Do the following:

- Input the user's name and email address
- Next, click the **Yes** button to input your license key



- Finally, click the **Submit** button to get your Access Code.



Note: A license key can ONLY be registered once.

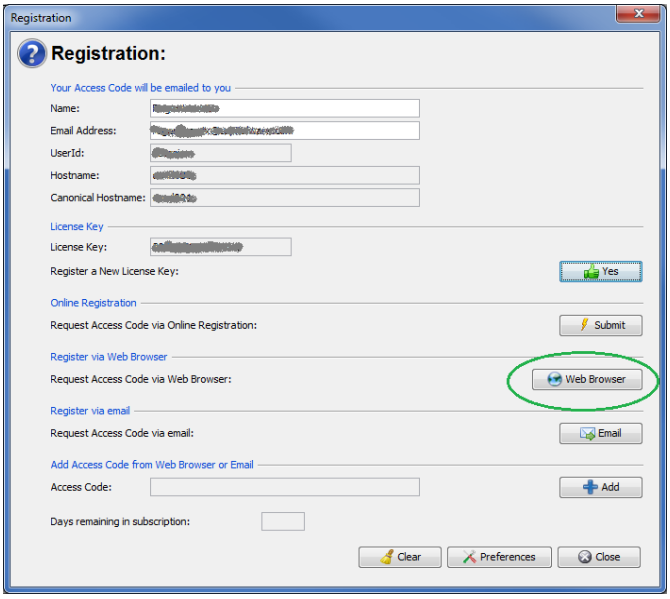
2.3 Connectivity Issues

This section will describe how to handle registering MQTT Message Editing Suite when the user has connectivity issues.

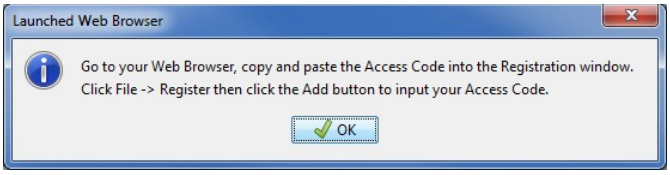
2.3.1 Registering using a Web Browser

Before attempting to register via a web browser, please attempt the instructions in section 2.2 (clicking the ***Submit*** button). If you followed the instructions in section 2.2 including setting the Proxy values and the registration failed then the end-user can attempt to register via a web browser

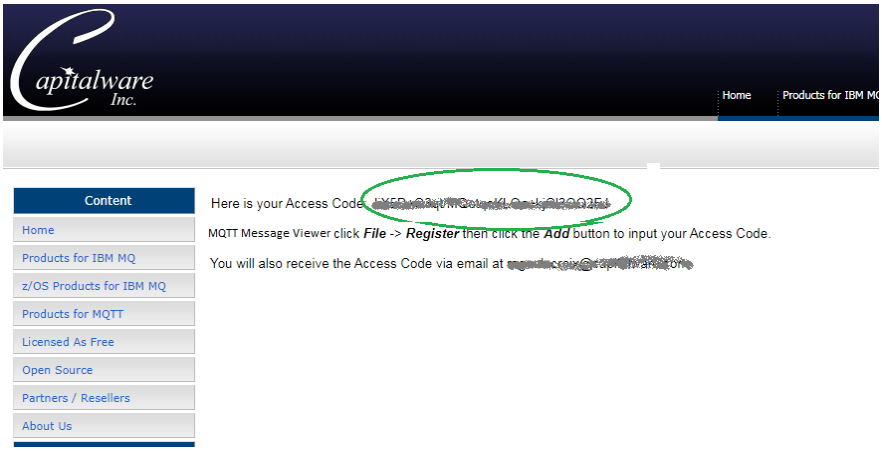
Click the **Web Browser** button to launch the default web browser on your PC/laptop.



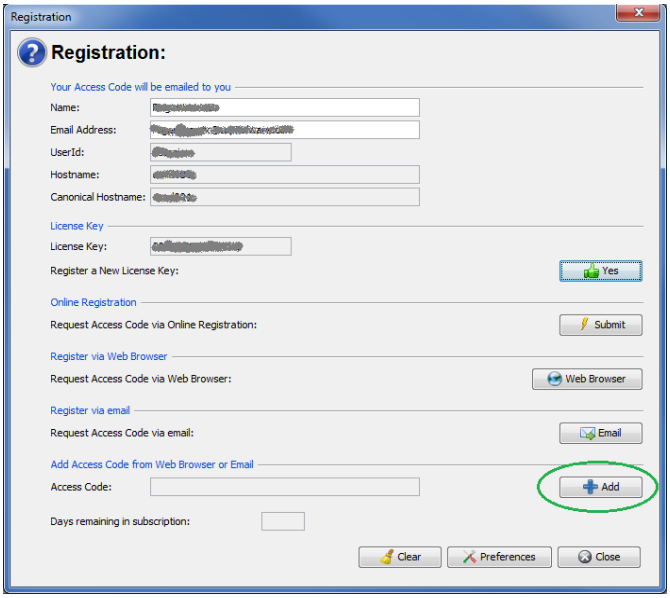
MQTT Message Editing Suite will launch the default web browser on your PC/laptop and then display the following popup.



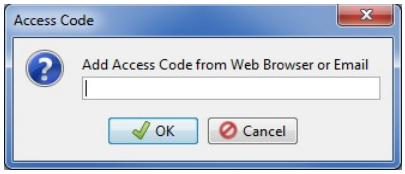
Your web browser will connect to Capitalware's online registration server and submit the end-user's information for registering the product. When the registration process is complete, the web browser will display your Access Code. En email will also be sent to the email address that the end-user provided.



Next, click ***Add*** button



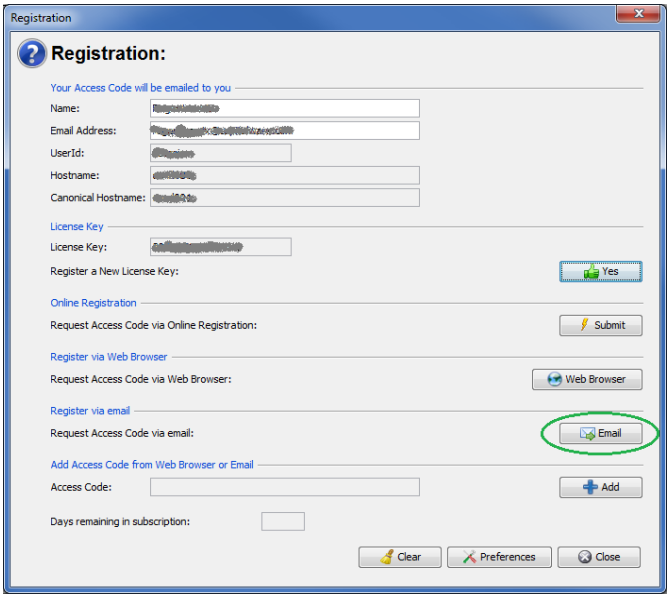
Copy and paste the Access Code from the web browser (or email) and then click ***OK*** button



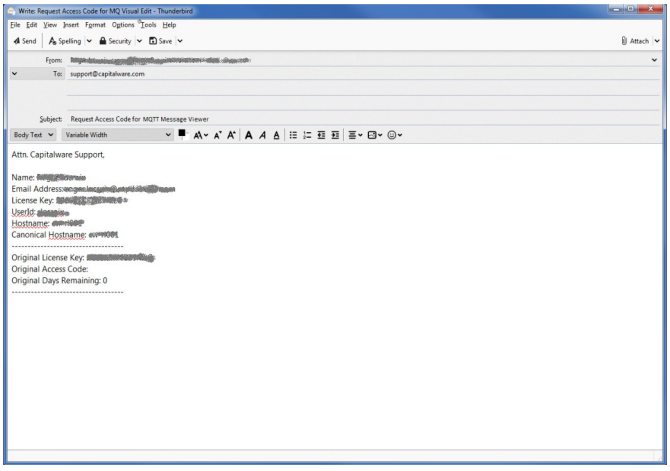
2.3.2 Registering by Email

Before attempting to register via an email, please attempt the instructions in section 2.2 (clicking the ***Submit*** button) and the instructions in section 2.3.1. If you followed the instructions in section 2.2 including setting the Proxy values and the registration failed then the end-user can attempt to register via a web browser

If MQTT Message Editing Suite cannot make a connection to Capitalware's web server (with or without a Proxy Server) or the default web browser cannot make a connection, then the user can email the information to 'support@capitalware.com'. Click the **OK** button to retrieve the information:



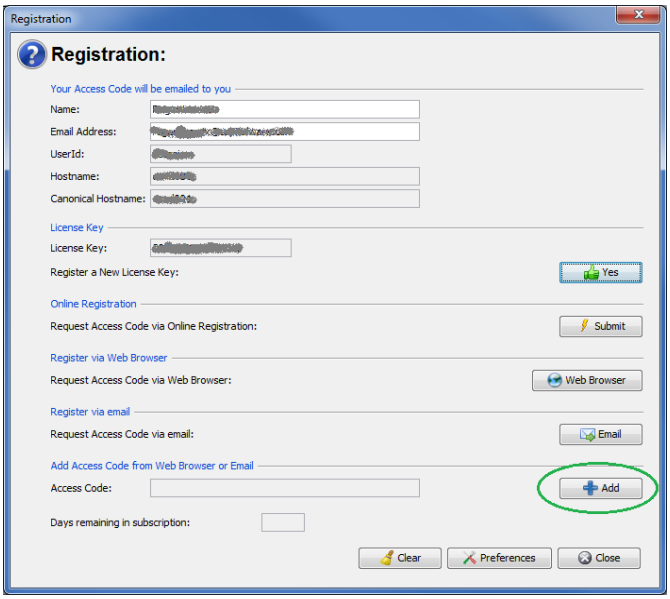
MQTT Message Editing Suite will launch the default email client program on your PC/laptop and create the following email which is to be sent to 'support@capitalware.com'.



You will receive the Access Code via email. Simply click the **Add** button and input the Access Code.

When you receive the reply email from Capitalware Support, do the following:

Click ***Add*** button



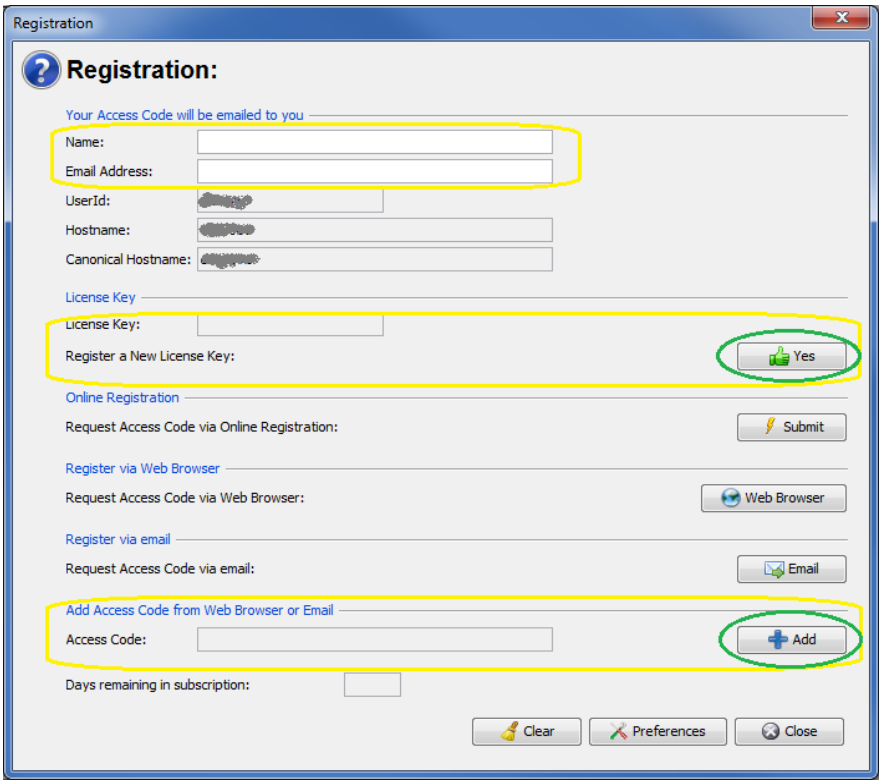
Copy and paste the Access Code from the reply email and then click ***OK*** button.

2.4 A New or Replacement PC or Laptop

This section will describe how to handle inputting your information into MQTT Message Editing Suite for a new/replacement PC/laptop after you have previously registered your MQTT Message Editing Suite license key.

It is very common for users to get a new PC/laptop or have Windows re-installed on their PC/laptop. The first thing the user needs to do is find the email called '***MQTT Message Editing Suite Access Code***' from '***support@capitalware.com***' that they received when they originally registered MQTT Message Editing Suite. It will contain their Access Code.

- First, the user needs install MQTT Message Editing Suite (follow the installation instructions in section 2.1).
- Optional step, the user will want to copy the following 2 files to their new PC/laptop that are located in **C:\Users*{UserId}*\Capitalware** directory:
  - BrokerInfo.db
  - UserFormats.db (if it exists)
- Finally, the user will need to input their information, License Key and Access Code into MQTT Message Editing Suite
  - Click ***File*** -> ***Register*** and input your name and email address
  - Click the ***Yes*** button and input the License key
  - Click ***Add*** button and input your Access Code from the email the user previously received



2.5 Yearly Registration Process

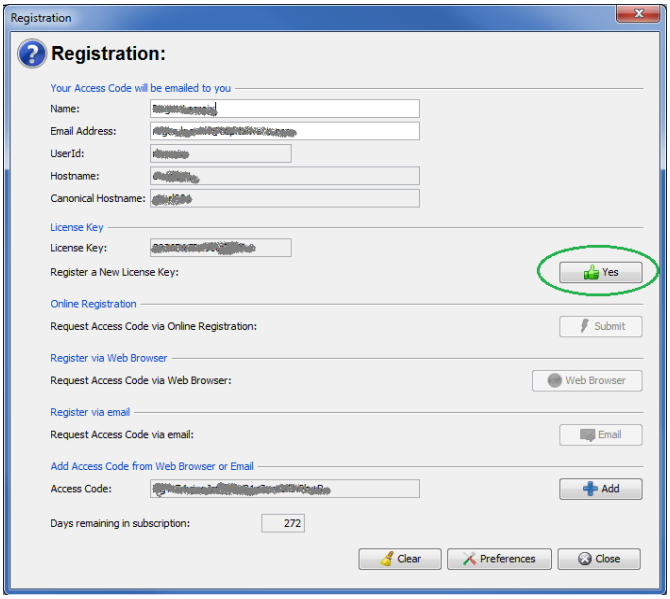
MQTT Message Editing Suite license is for a 1-year subscription. When the 1-year subscription ends, the license key becomes invalid (garbage). Hence, to continue to use MQTT Message Editing Suite, the end-user will need to purchase another license for a 1-year subscription to MQTT Message Editing Suite. This section will describe how to register a ***new license*** key during or after an existing 1-year subscription to MQTT Message Editing Suite.

If the end-user is using a previous release of MQTT Message Editing Suite, Capitalware strongly suggests that the end-user upgrades to the latest release of MQTT Message Editing Suite. The order email includes the download link (with UserId and Password) to the latest commercial release of MQTT Message Editing Suite. Simply follow the upgrade instructions in Appendix B.

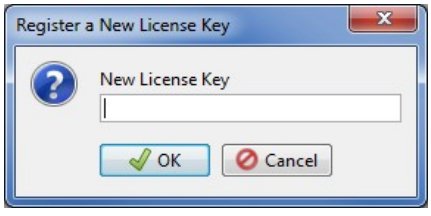
To input the license key, from the main menu of MQTT Message Editing Suite, select **File** then **Register.**

Do the following:

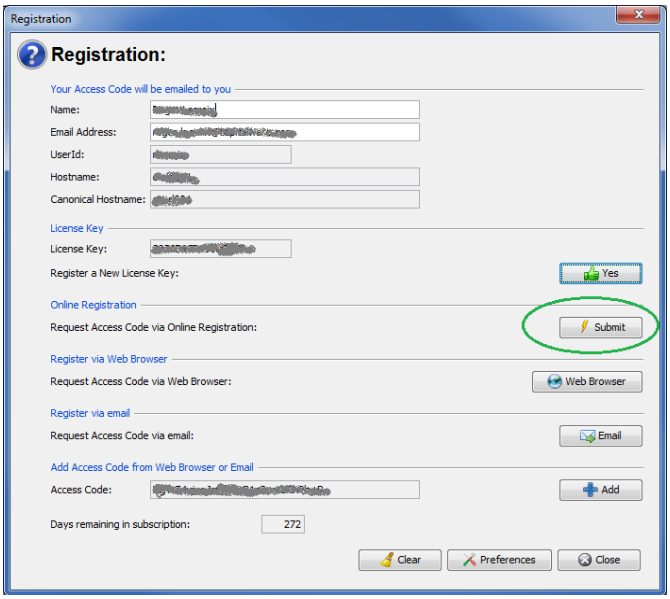
- Click the **Yes** button to input your license key



- Input the new license key and then click the **OK** button



- Next, click the **Submit** button to get your Access Code.



Note: A license key can ONLY be registered once.

2.6 Enterprise License File

This section will describe how to handle the storing of an Enterprise License file.

Note: This section is only applicable to those customers who have purchased an Enterprise License for MQTT Message Editing Suite.

Upon the purchase or renewal of an Enterprise License for MQTT Message Editing Suite, the customer will be emailed both the Enterprise License key and the Enterprise License file. Enterprise License file is called '***mmes.license.properties***'. Do not rename the Enterprise License file or modify its contents.

MQTT Message Editing Suite is supported on Windows, macOS and Linux. The Enterprise License file is designed to be deployed to any and all of those platforms.

MQTT Message Editing Suite will look for the Enterprise License file in 1 of 3 directories:

1. The user's settings directory '{home directory}\Capitalware\' :
   - On Windows: ***C:\Users\{UserId}\Capitalware***
   - On macOS: ***/Users/{UserId}/Capitalware/***
   - On Linux: ***/home/{UserId}/Capitalware/***

2. The user's '{home directory}\' :
   - On Windows: ***C:\Users\{UserId}***
   - On macOS: ***/Users/{UserId}/***
   - On Linux: ***/home/{UserId}/***

3. The MQTT Message Editing Suite install directory:
   - On Windows: ***C:\Users\{UserId}\Capitalware\MMES***
   - On macOS: not applicable
   - On Linux: ***/apps/Capitalware/MMES/***

Capitalware recommends putting the Enterprise License file in the user's settings directory (option #1).

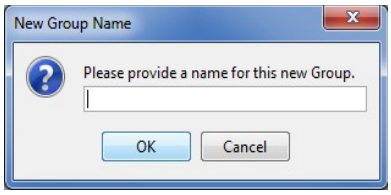
3 Managing Groups

This chapter will describe how to add, rename and delete a Group.

3.1 Adding a Group

This section will describe how to add a Group to MQTT Message Editing Suite. A Group will hold 1 or more MQTT Broker Profiles. The Group name can be any name the user wishes.

From the main menu of MQTT Message Editing Suite, select **File** then **Add Group...**:

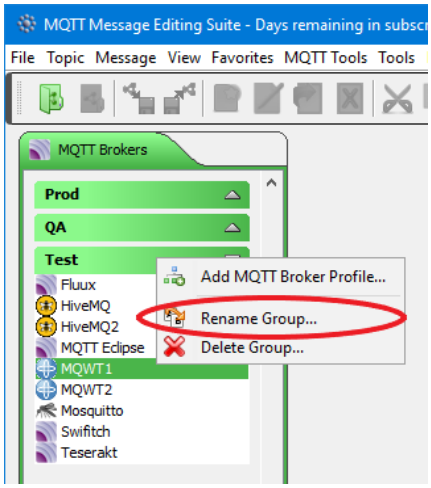


After the user inputs a name, click the **OK** button to create the new group.

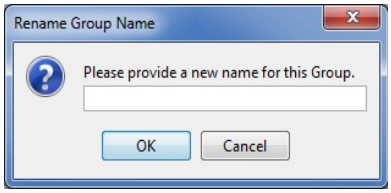
3.2 Renaming a Group

This section will describe how to rename a Group in MQTT Message Editing Suite.

In the MQTT Brokers' dock, right click on the group name to be renamed, then select **Rename Group…**:



Input a new group name then click the **OK** button:

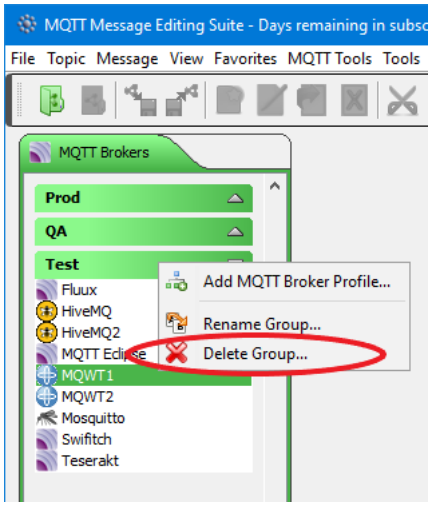


3.3 Deleting a Group

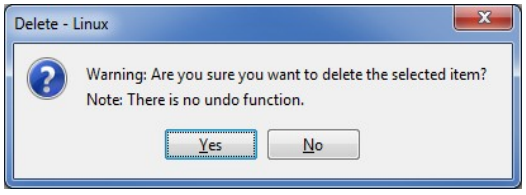
This section will describe how to delete a Group from MQTT Message Editing Suite.

Note: If the user deletes a group containing MQTT Broker Profiles then when the group is deleted, those MQTT Broker Profiles will be moved to the default group called '[default]'. MQTT Message Editing Suite will not delete the MQTT Broker Profiles.

In the MQTT Brokers' dock, right click on the group name to be renamed, then select **Delete Group…**:



Click the **Yes** button to confirm the deletion of the group.



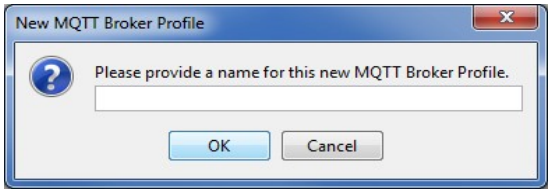
4 Connecting to a MQTT Broker

This chapter will describe how to create, update, test and delete a MQTT Broker Profile.

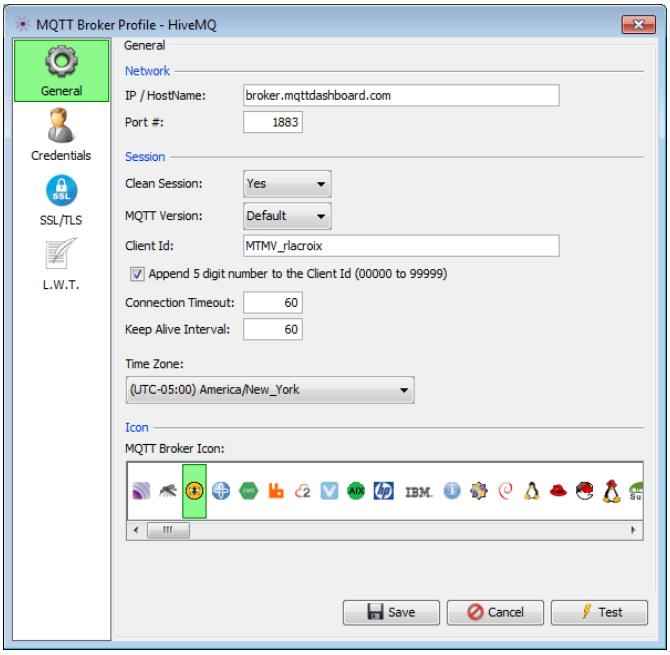
4.1 Adding a MQTT Broker Profile

This section will describe how to add a MQTT Broker Profile so that you can connect to a local or remote MQTT Broker.

From the main menu of MQTT Message Editing Suite, select **File** then **Add MQTT Broker Profile** or the user can right click on a group name in the MQTT Broker dock and select **Add MQTT Broker Profile**:

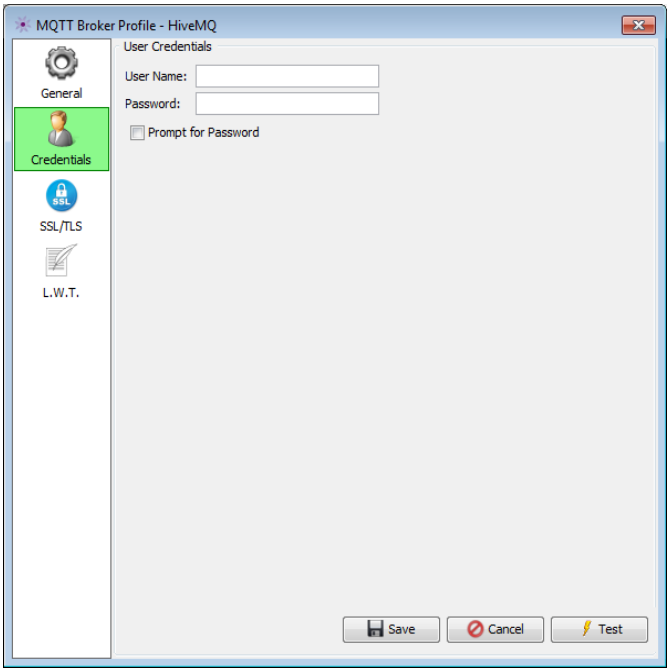


You will be prompted to provide a name for the new MQTT Broker Profile. It is suggested that you provide a meaningful name that describes the MQTT Broker and its location. Note: Do not use semi-colons ";" in the name.



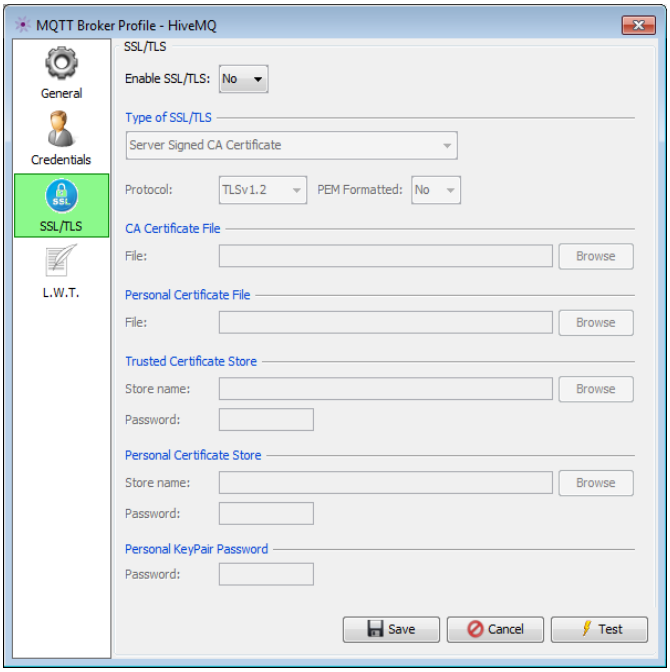
If the MQTT Broker is **local** to where you are running MQTT Message Editing Suite then all you need to specify is the MQTT Broker.

Type in your valid UserId (and Password where authentication is required) for the MQTT Broker that you are connecting to.



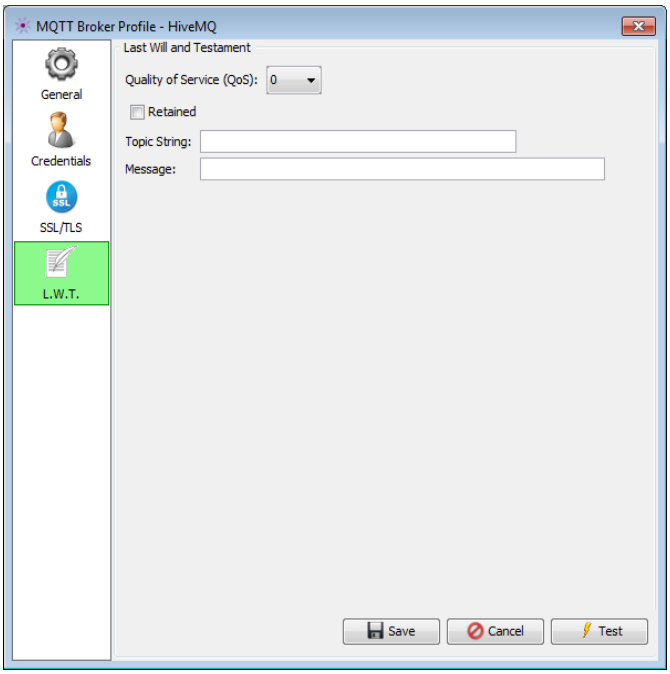
For MQTT Brokers that perform authentication, the user may wish to be prompted for the password rather than have MQTT Message Editing Suite save it. Click the 'Prompt for Password' checkbox to have MQTT Message Editing Suite prompt the user for their password for the remote system.

Optional:
For those companies that use SSL/TLS to allow mq client applications to connect to their MQTT Brokers, the user will need to fill in the SSL/TLS fields.



Optional:

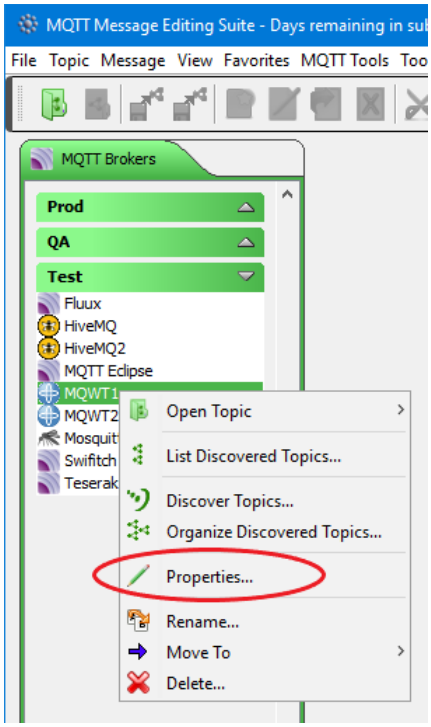
The 'Last Will and Testament' can be set for those connections that require it.



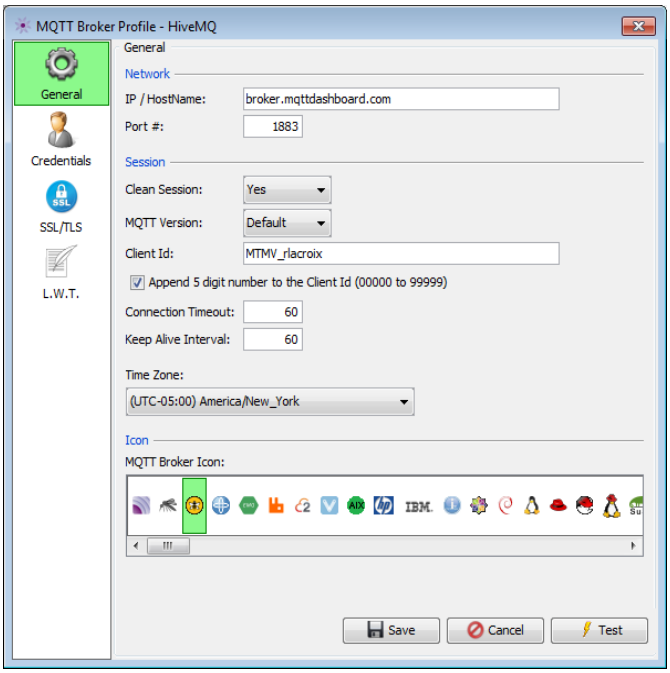
4.2 Editing a MQTT Broker Profile

This section will describe how to edit a MQTT Broker Profile so that you can connect to a local or remote MQTT Broker.

Right click on the MQTT Broker in the 'MQTT Broker' dock and select **Edit**:



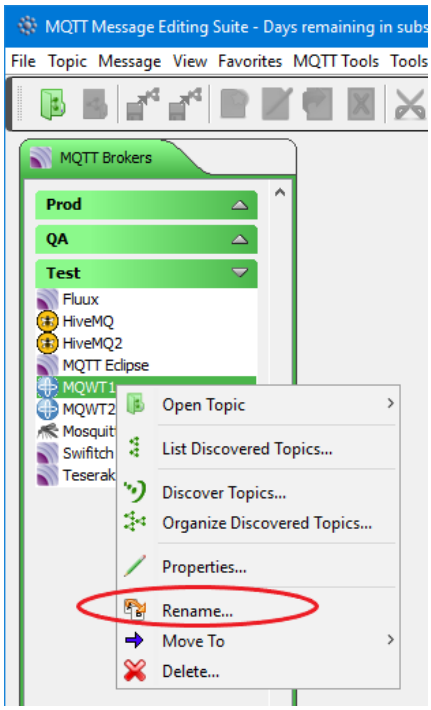
The MQTT Broker Profile will be presented where the user can modify/update the fields and when done click the **OK** button to save the information.



4.3 Renaming a MQTT Broker Profile

This section will describe how to rename a MQTT Broker Profile.

Right click on the MQTT Broker in the 'MQTT Broker' dock and select **Rename**:

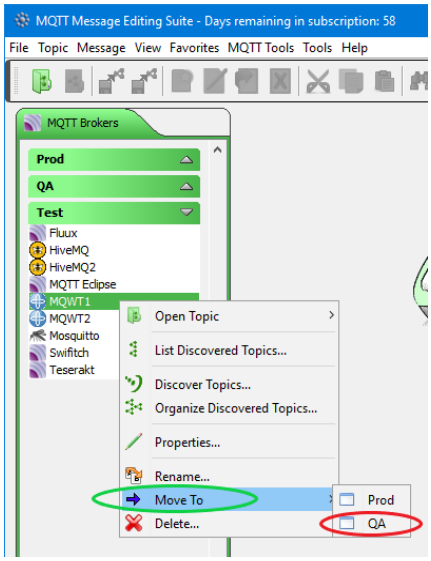


Input a new name for the MQTT Broker Profile then click the **OK** button.

4.4 Move a MQTT Broker Profile to Another Group

This section will describe how to move a MQTT Broker Profile to another group.

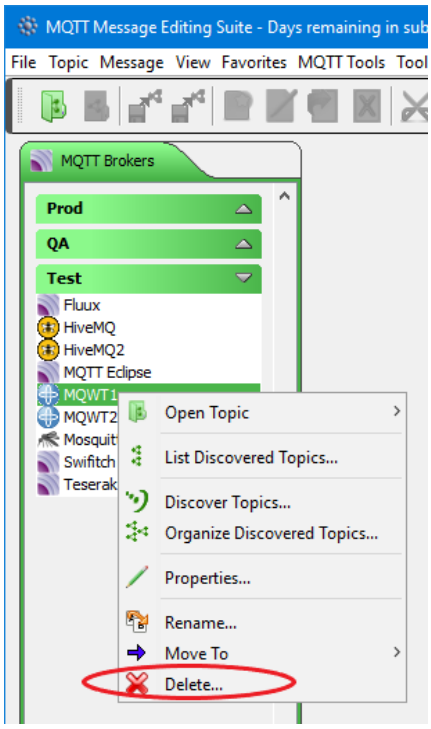
Right click on the MQTT Broker in the 'MQTT Broker' dock and select **Move To**. A list of available groups will be displayed and the user simply selects the appropriate group.



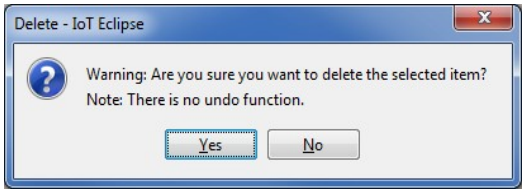
4.5 Deleting a MQTT Broker Profile

This section will describe how to delete a MQTT Broker Profile.

Right click on the MQTT Broker in the 'MQTT Broker' dock and select **Delete**:



Click the **Yes** button to confirm the deletion of the MQTT Broker Profile.



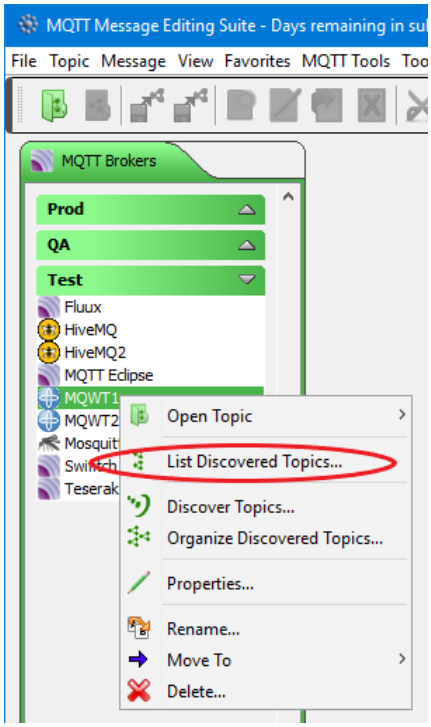
5 Managing a Topic

This chapter will describe the process of selecting, opening and managing a MQTT topic.

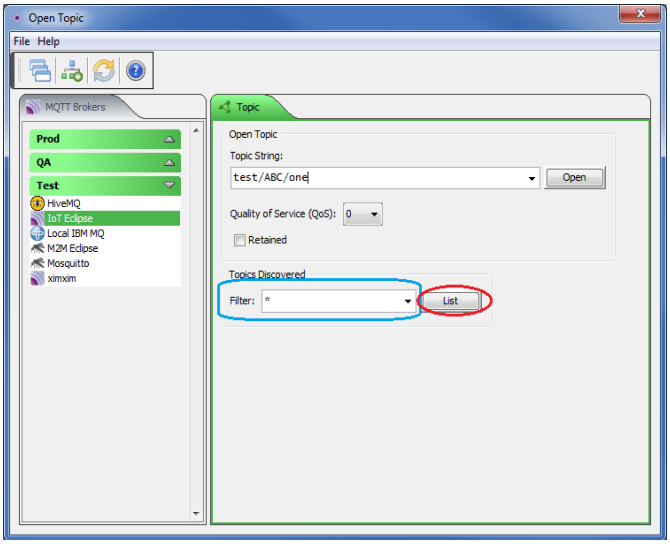
5.1 Retrieving a List of 'Discovered' Topics

This section will describe how to retrieve a list of discovered topics from an MQTT Broker.

Right click on the MQTT Broker in the 'MQTT Broker' dock and select **List Discovered Topics**:



Or the user can do the following, from the main menu of MQTT Message Editing Suite, select **Topic,** select **Open Topic** and then click the **List** button. On the Open Topic panel, select the MQTT Broker Profile that you want to use.



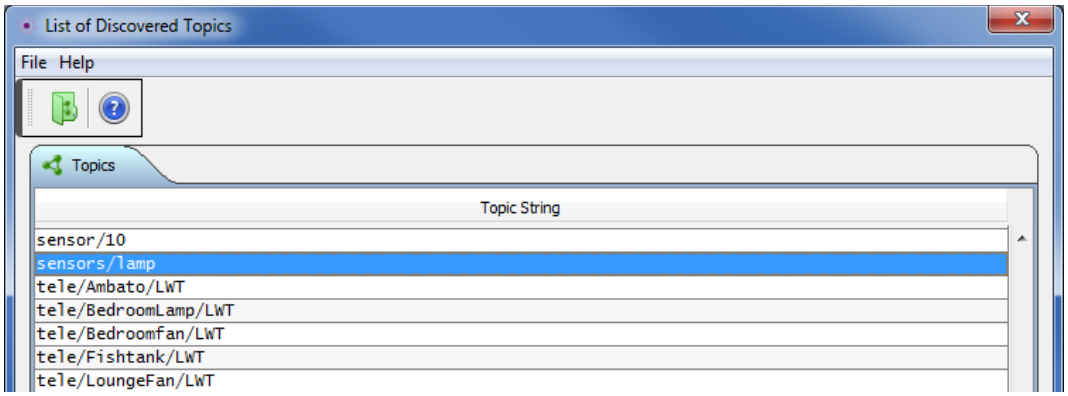
Now select the **List** button to retrieve a list of discovered topics for this particular MQTT Broker.

For MQTT Broker with hundreds or thousands of topics, you can filter the topic list returned to the user by specifying a filter value. xyz* will return only those topic names that begin with "xyz"
i.e.
xyz/payroll/cutoff
xyz/supply/chain

The user can also combine filters together. Use a semi-colon (;) to separate each mask.
i.e.
abc*;xyz*;test*

Hence, only topics that begin with 'abc', 'xyz' and/or 'test' will be shown.

Double-click on an item in the list to select a topic string that you wish to interact with.



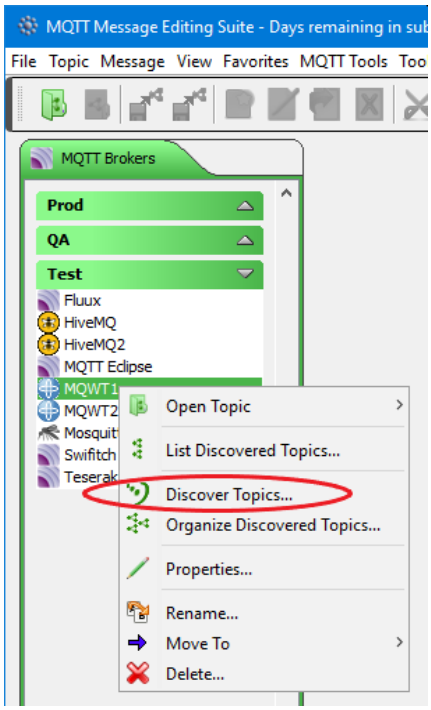
There are 3 options the user can select:

- Double-click to select a topic string and return to the Open Topic window.
- Open - Opens 1 or more topics and leaves the 'List of Discovered Topics' window open.
- Close - Closes the 'List of Discovered Topics' window.

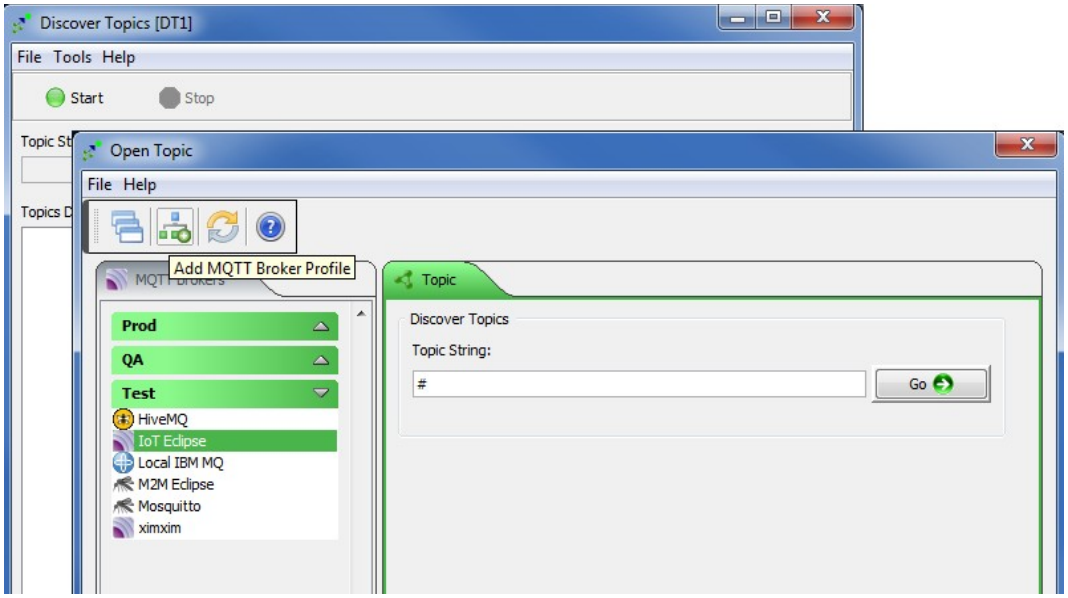
5.2 Discover Topics

This section will describe how to discover topics from an MQTT Broker.

Right click on the MQTT Broker in the 'MQTT Broker' dock and select **Discover Topics**:

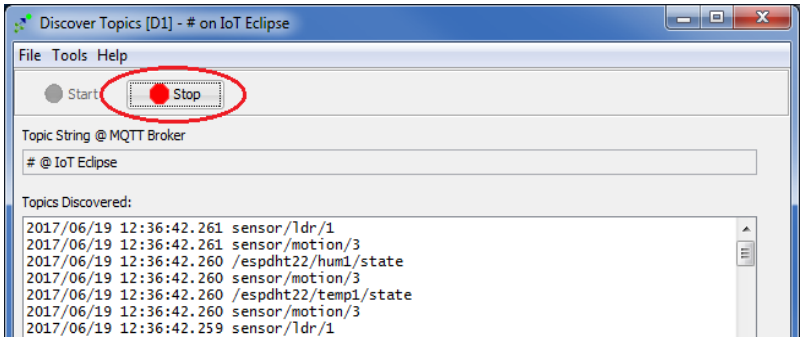


Or the user can do the following, from the main menu of MQTT Message Editing Suite, select **Topic** then select **Discover Topics** to open the Discover Topics window.

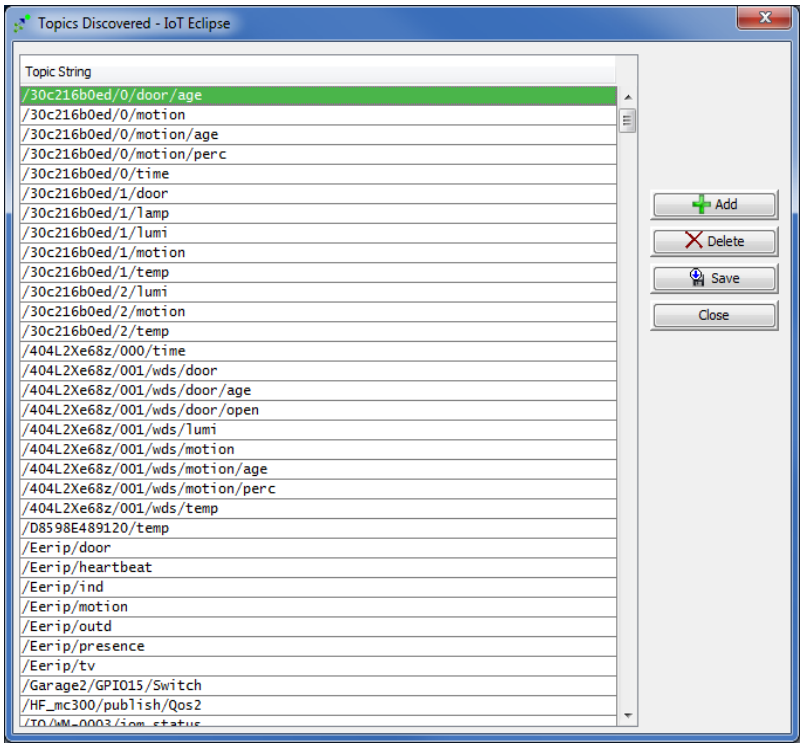


Now click the **Go** button and the Discover Topics will gather any and all topics that messages arrive on.

After a reason period of time has passed, and Discover Topics window has gathered a large selection of topics, click the **Stop** button.



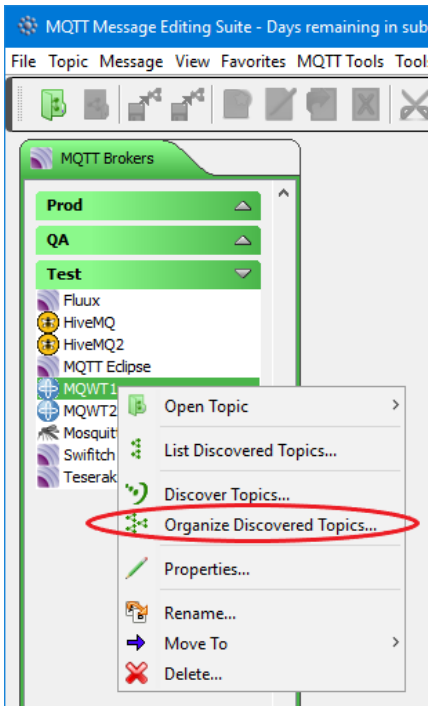
The user will now be presented with the Topics Discovered window that allows the user to add and/or delete topic strings from the list. Once the user is happy with the list, they may save it the database.



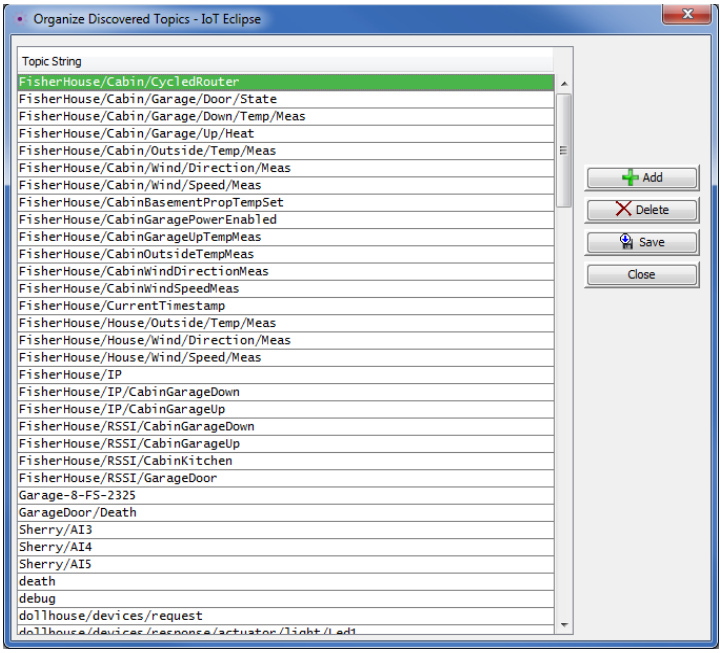
5.3 Organize Discovered Topics

This section will describe how to discover topics from an MQTT Broker.

Right click on the MQTT Broker in the 'MQTT Broker' dock and select **Discover Topics**:



Or the user can do the following, from the main menu of MQTT Message Editing Suite , select **Topic** then select **Organize Discovered Topics** to open the Organize Discovered Topics window.

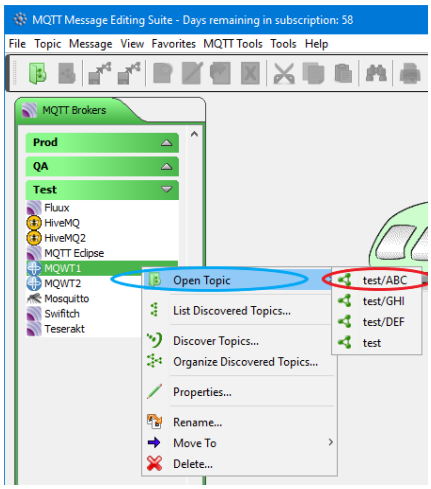


The Organize Topics Discovered window that allows the user to add and/or delete topic strings from the list. Once the user is happy with the list, they may save it the database.

5.4 Opening a Topic

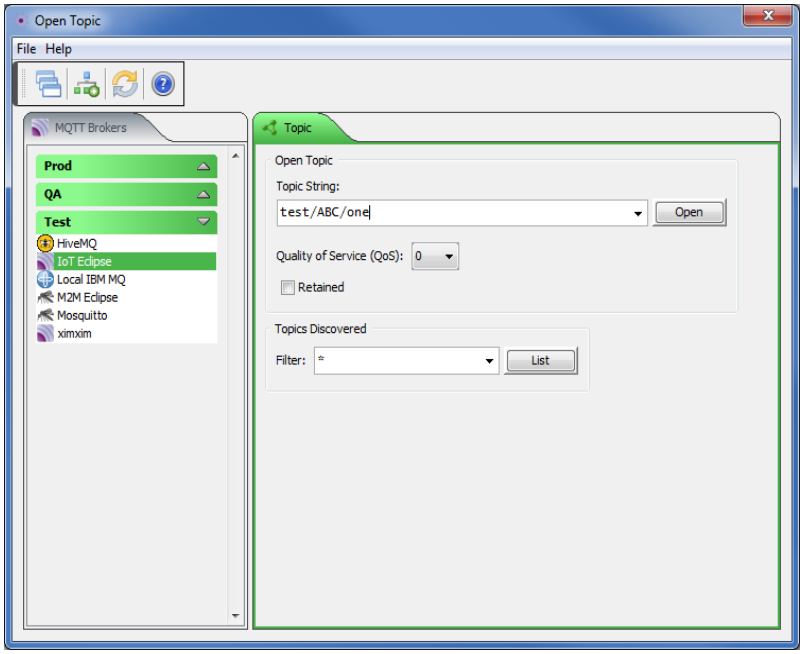
This section will describe how to open topic of a local or remote MQTT Broker.

Right click on the MQTT Broker in the 'MQTT Broker' dock and select **Open Topic** then select the topic name from the list:



or from the main menu of MQTT Message Editing Suite, select **Topic** then **Open Topic**. On the Open Topic panel, select the MQTT Broker Profile that you want to use.

The following is the Open Topic Dialog panel:



There are 2 ways to input a topic name:

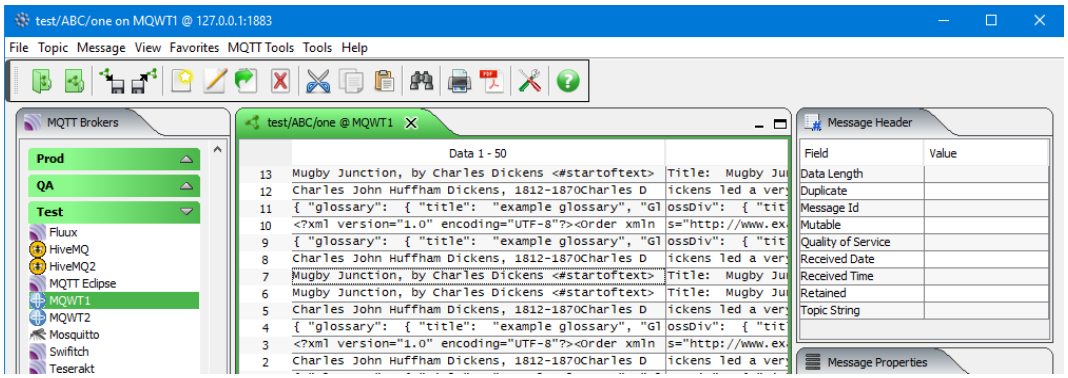
1. Type a topic name into the **Topic String** field (e.g. test/ABC/one) and click the **Open** button.
2. Use the drop-down box to select a previously inputted topic name.

There are 2 types of options that you can selected:

- Quality of Service (QoS) - this option sets the level of agreement between sender and receiver of a message regarding the guarantees of delivering a message. There are 3 QoS levels: 0, 1 and 2.
  - 0 - at most once
  - 1 - at least once
  - 2 - exactly once
- Retained – this options sets the retained flag to true for an MQTT message. The broker will store the last retained message and the corresponding QoS for that topic.

Now that you have selected a MQTT Broker Profile and filled in the Topic Name field, select the Open button to open the topic.

If you typed ***test/ABC/one*** then main panel may look something like:



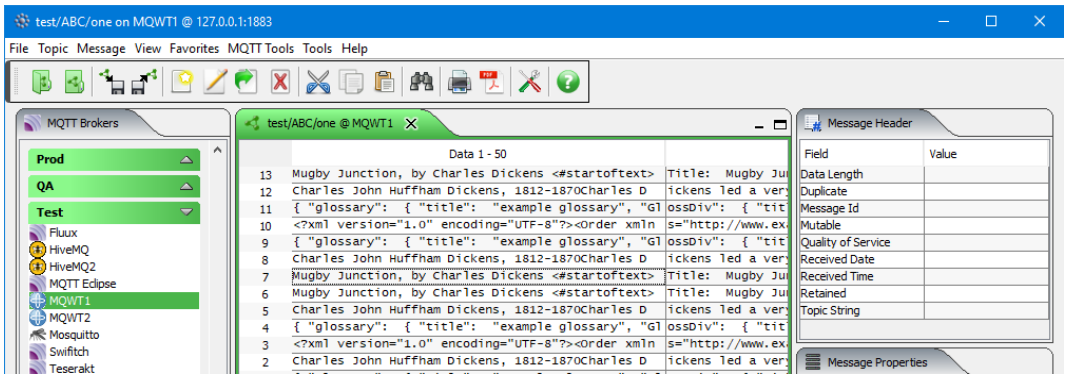
You can open a second, third, etc... by selecting **Topic** then **Open Topic**. On the Open Topic panel, select the MQTT Broker Profile and topic that you would like to open.

Note: The topic displayed will be automatically updated as new topic messages arrive.

5.5 Closing a Topic

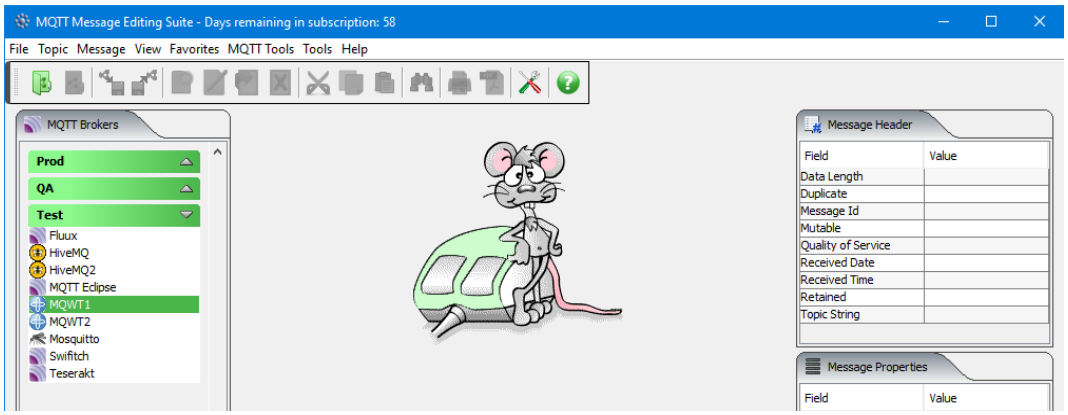
This section will describe how to close an open topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Topic**, then **Close Topic**.

Performing the Close topic option, disconnects from the MQTT Broker and clears the main panel display.

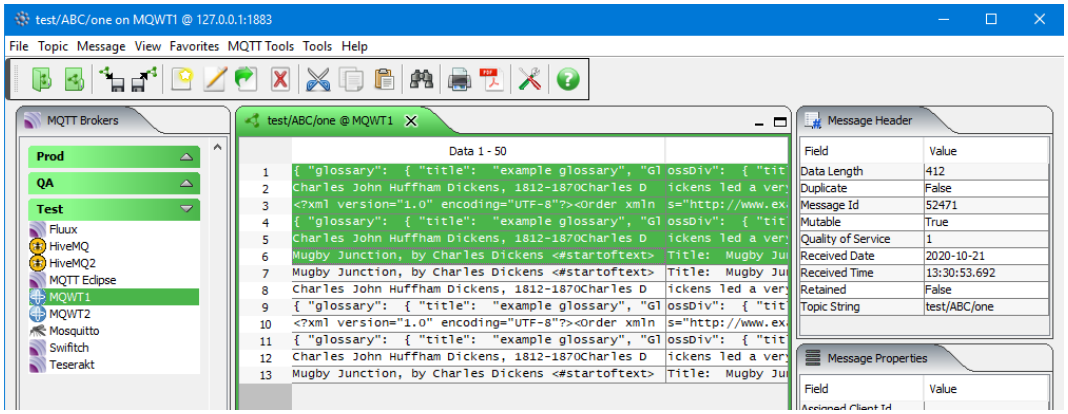


If the user has one or more topics open, then a quick and convenient way to close all of the topics is to select **Topic**, then **Close All Topics**.

5.6 Backing up a Topic

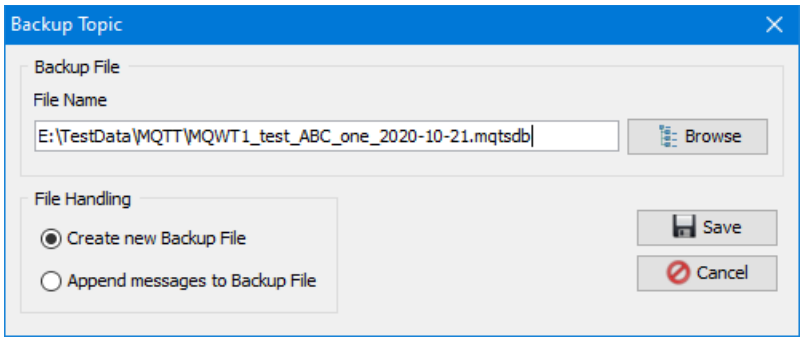
This section will describe how to backup all or selected messages in a topic including the Message Properties and the message data to a Backup file.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

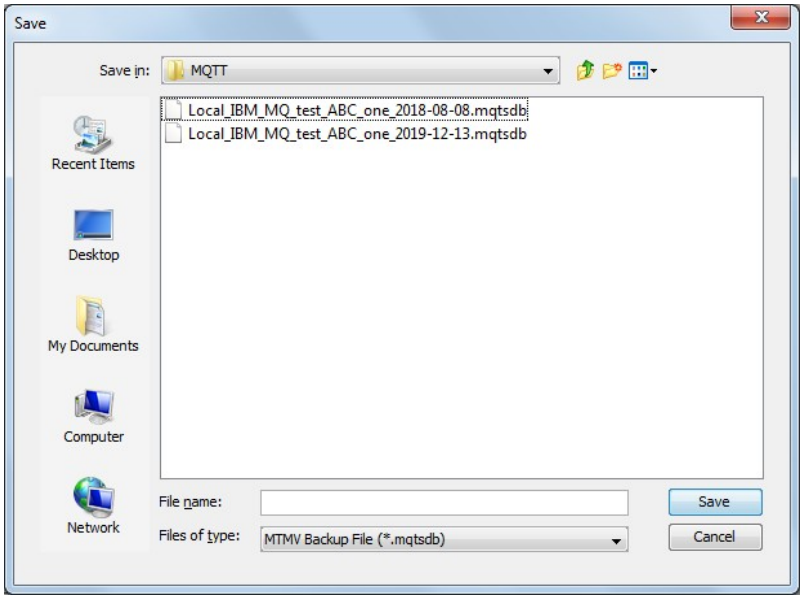


First, select one or more messages in the topic, then from the main panel of MQTT Message Editing Suite, select **Topic**, then **Backup Topic**.

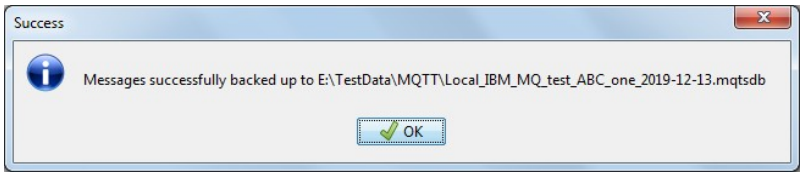
The user can select the type of Backup file, the directory and/or filename and whether the messages should be appended or a new file is to be created.



To change the directory, click the ***Browse*** button and then select a new directory and the name of file then click **Save**.



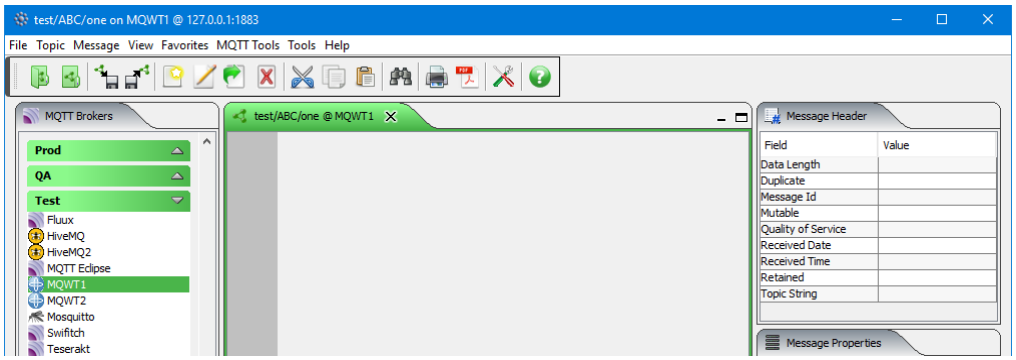
When the selected messages have been successfully backed up, you will be notified.



5.7 Restoring a Topic

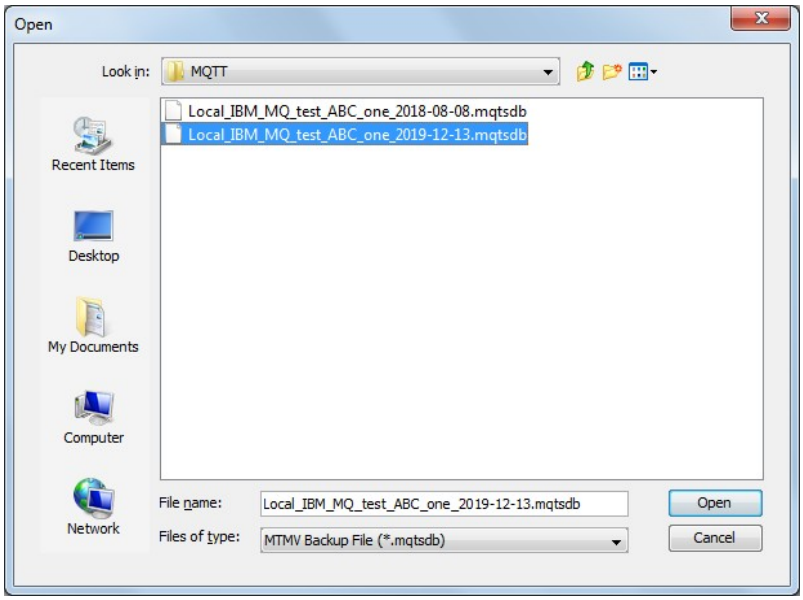
This section will describe how to restore messages to a topic from a Backup file.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

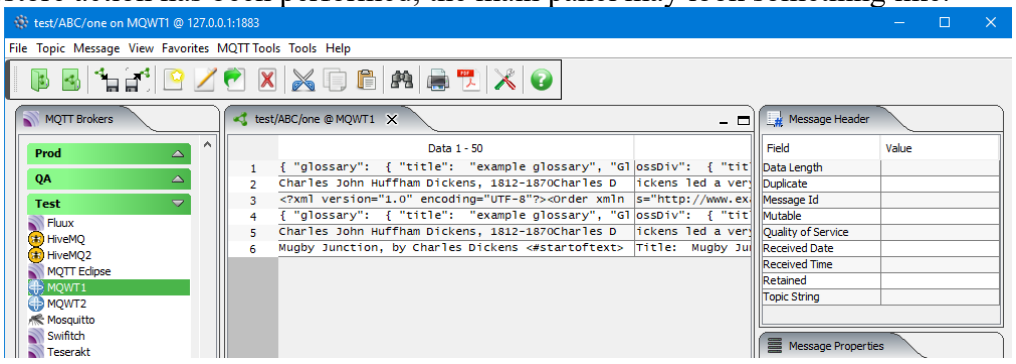


From the main panel of MQTT Message Editing Suite, select **Topic**, then **Restore Topic**.

Select the directory and a MQT Backup File then click **Open**.



After the Restore action has been performed, the main panel may look something like:



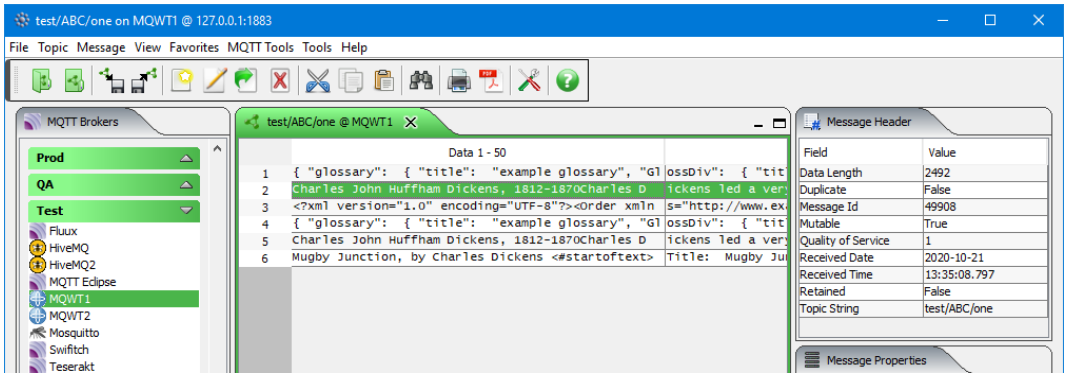
6 Manipulating the Messages

This chapter will describe the process of selecting, opening and managing a IBM MQ topic.

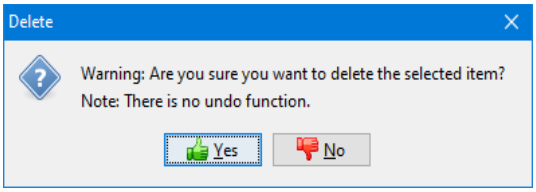
6.1 Cut a Message

This section will describe how to cut a message from the topic and store it in the system clipboard.

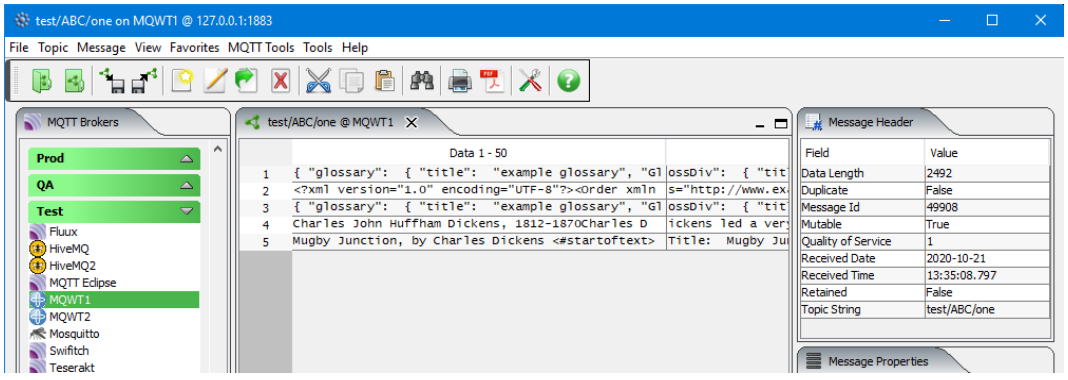
If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Cut Message**.



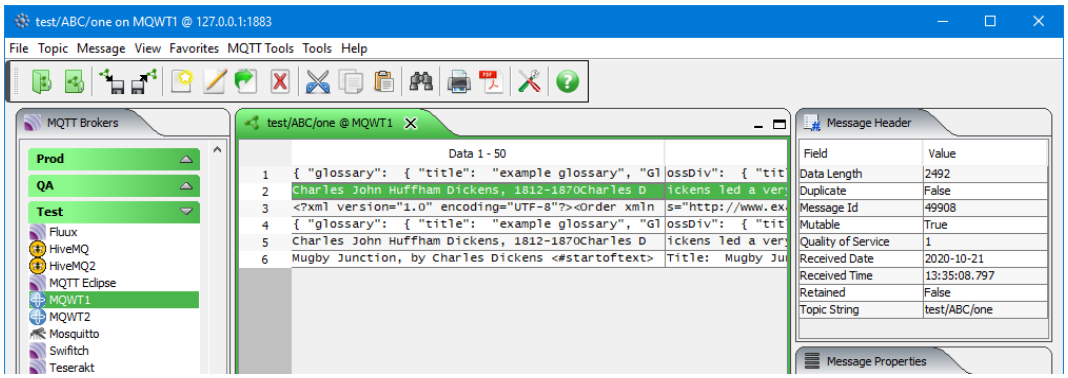
Click **Yes** if you are sure that you want the message to be removed from the table.
Note: There is no undo function for the remove message option.



6.2 Copy a Message

This section will describe how to copy a message from the topic and store it in the system clipboard.

If you have previously opened ***test/ABC/one***, the main panel may look something like:



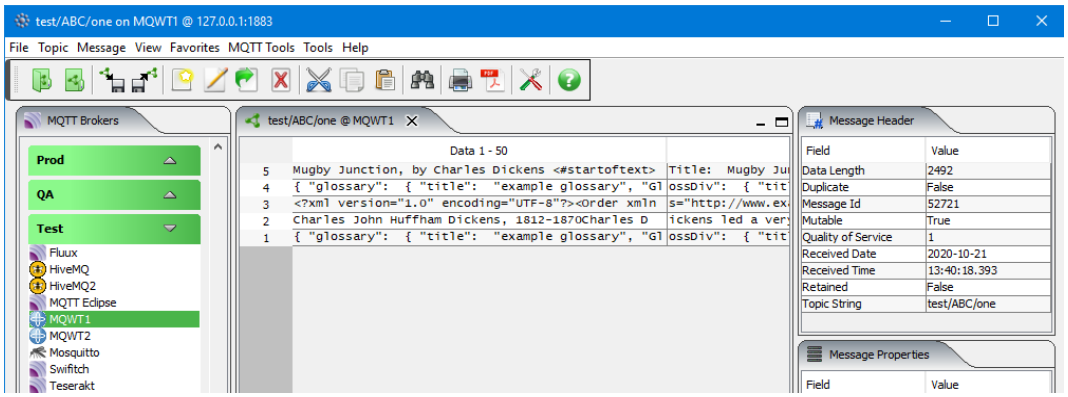
From the main panel of MQTT Message Editing Suite, select **Message**, then **Copy Message**.

There will be no change to the main panel. The copy action copies the message contents to the system clipboard.

6.3 Paste a Message

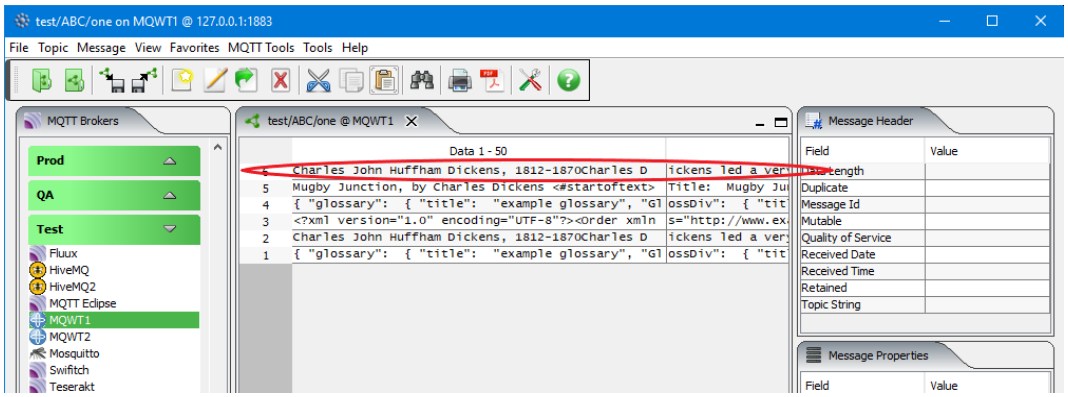
This section will describe how to paste a message from the system clipboard to the opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Paste Message**.

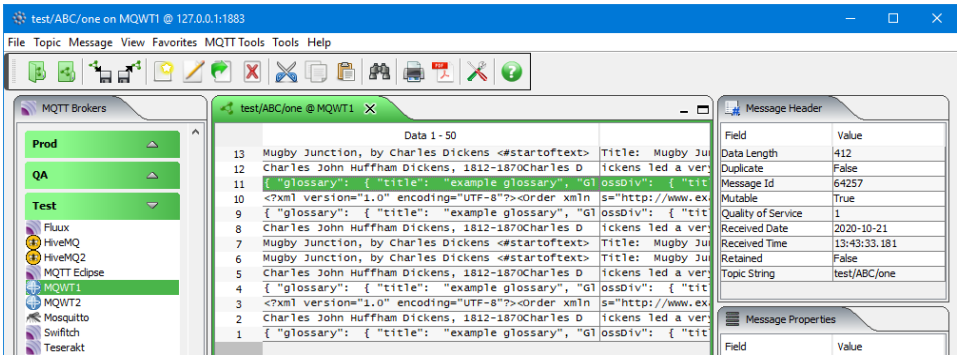
The main panel is updated with the message pasted from the system clipboard.



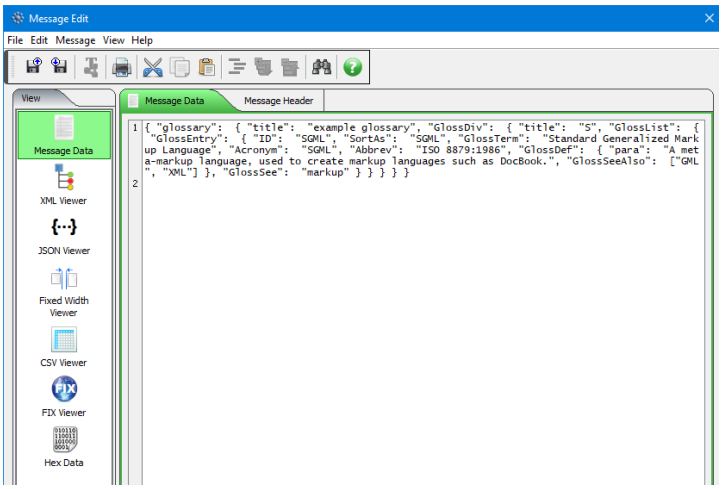
6.4 Edit a Message

This section will describe how to edit a message in the opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

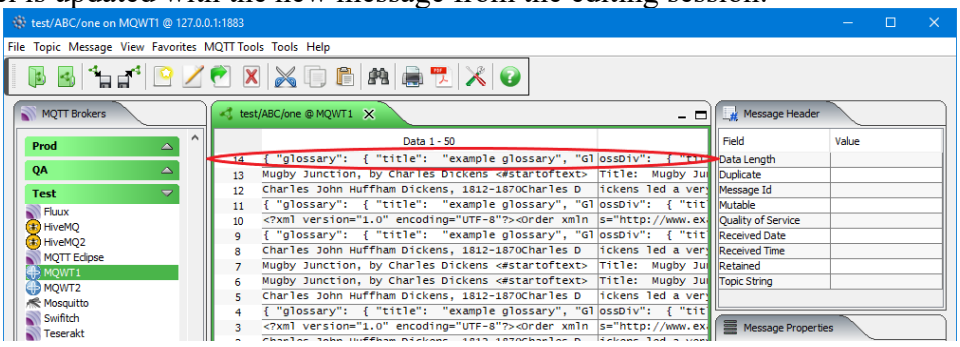


From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message**.



You can now edit, updated or delete sections of the message text. Clicking the **Save** button will put the new updated message to the topic. From the Message Edit panel, the user can select to save the contents to a file or load data from a file. Click the **Load** button to load data from a file or click the **Save** button to save the message data to a file. For more information about the features / functions for the Message Edit window, go to the Message Edit section in Chapter 7.

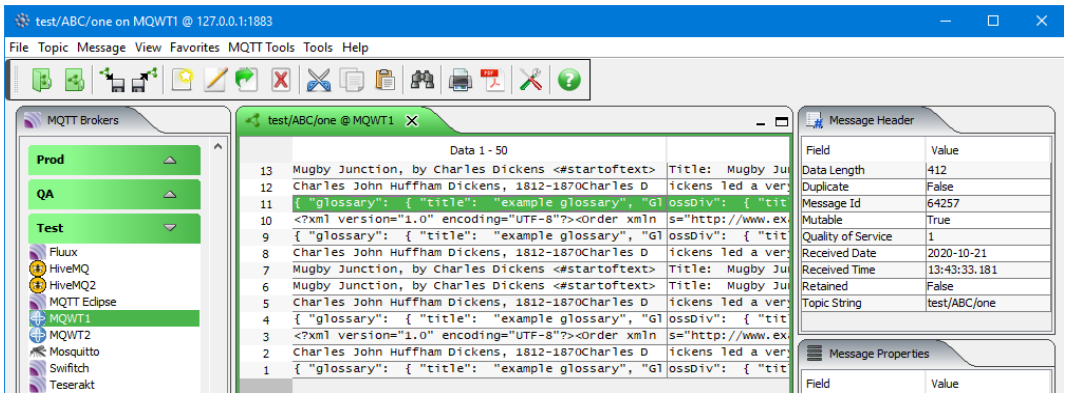
The main panel is updated with the new message from the editing session:



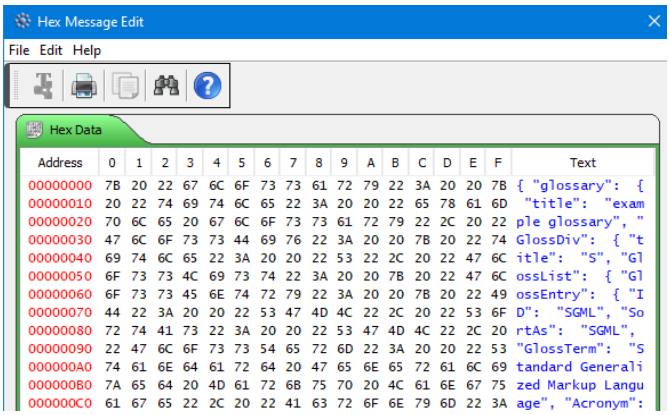
6.5 Edit a Message in Hex

This section will describe how to edit a message in Hex from the opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

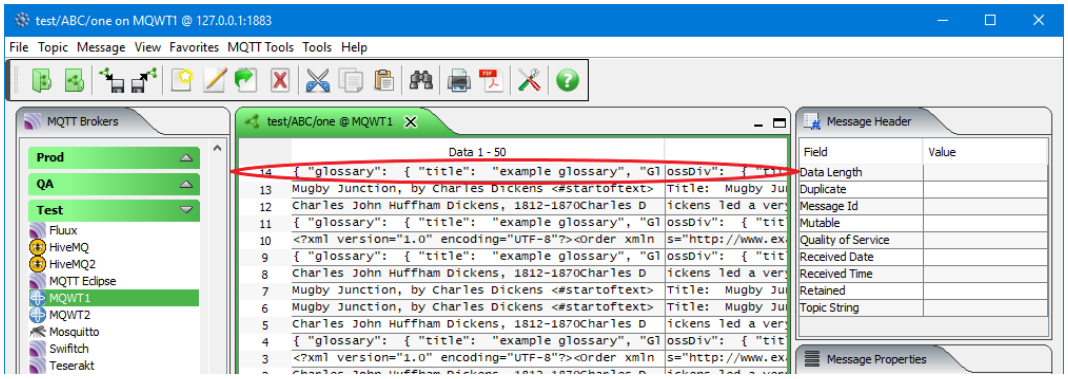


From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message in Hex**.



You can now edit in hex sections of the message text. Clicking the Save button will put the new updated message to the topic.

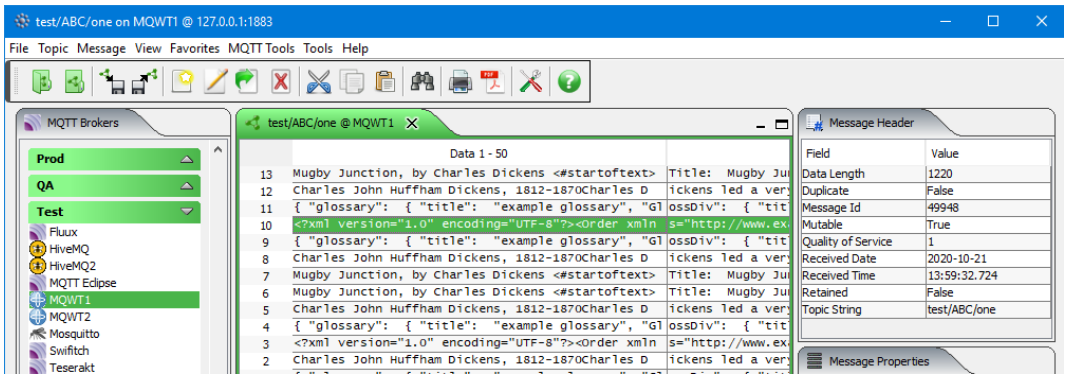
The main panel is updated with the new message from the editing session.



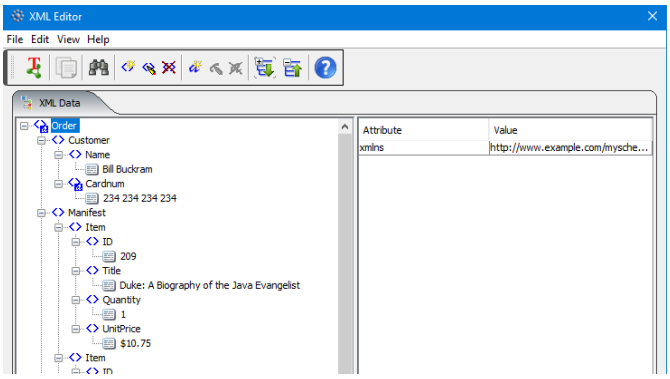
6.6 Edit a Message with XML Editor

This section will describe how to edit a message with the XML Editor from the opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

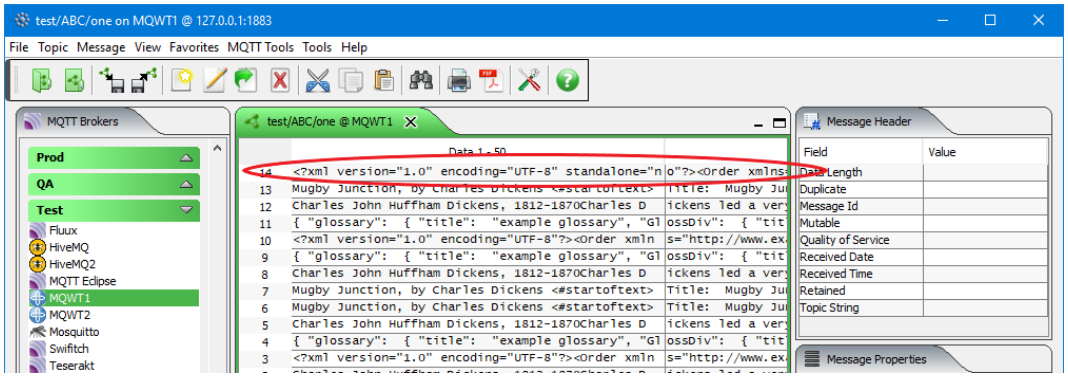


From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message with XML Editor**.



You can now edit the message using the XML Editor. Clicking File then Save to Topic button will put the new updated message into the topic.

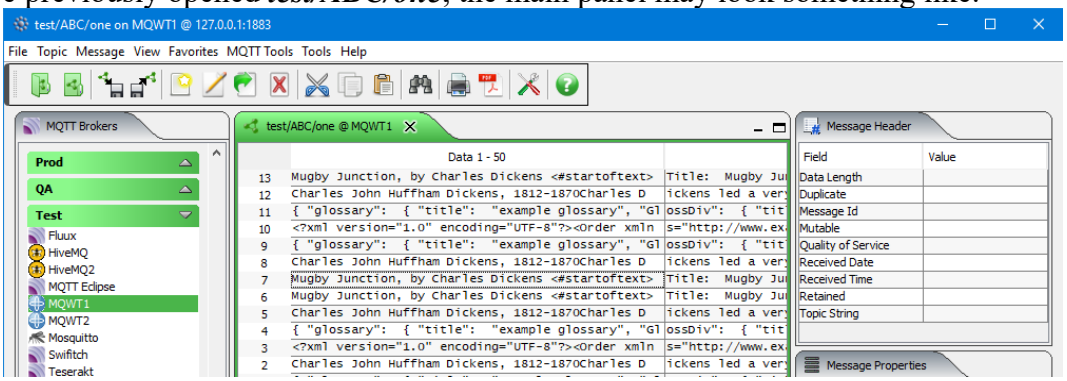
The main panel is updated with the new message from the editing session.



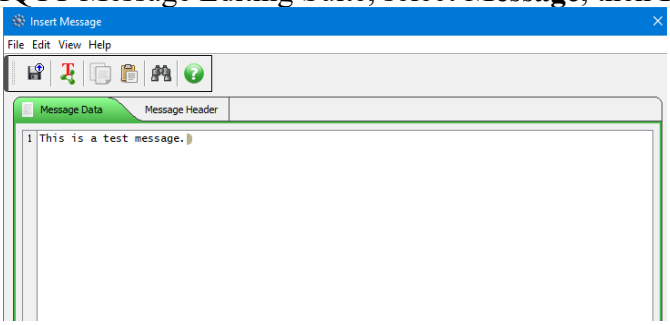
6.7 Insert a Message

This section will describe how to insert a message into an opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

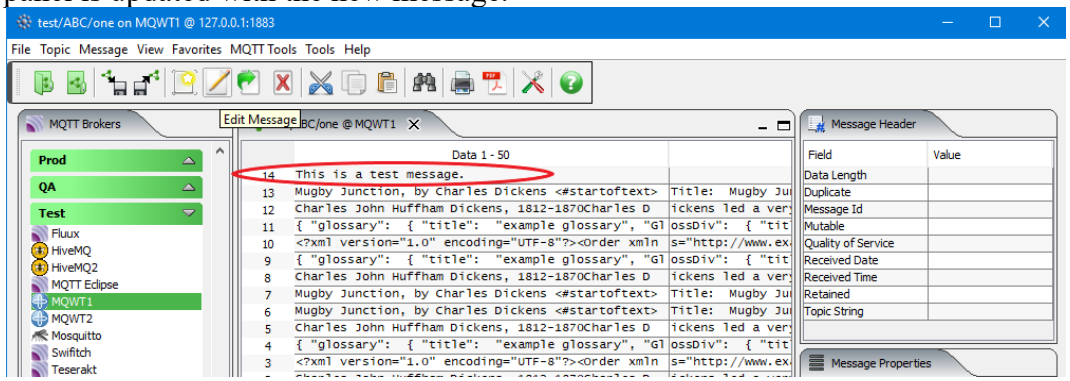


From the main panel of MQTT Message Editing Suite, select **Message**, then **Insert Message**.



The Insert Message Wizard is designed to help the user quickly create an MQTT message formats. The user can alter the contains of the Message Properties. Click **File** -> **Save to Topic** to save the message to the topic.

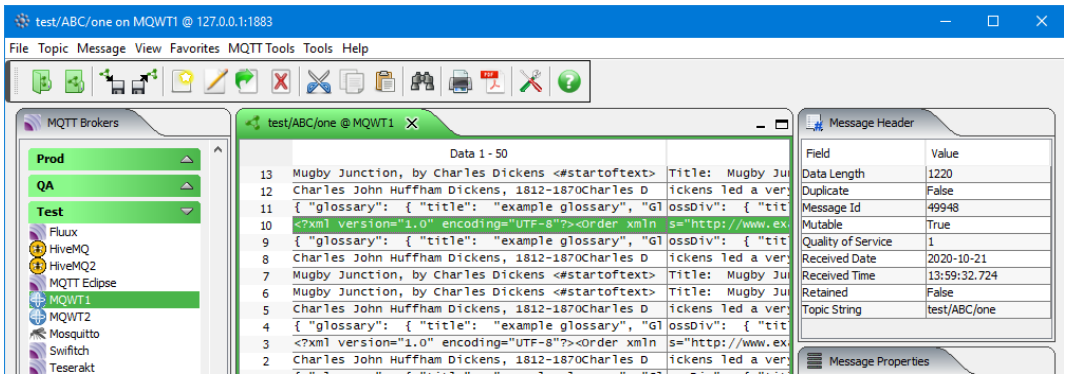
The main panel is updated with the new message.



6.8 Duplicate a Message

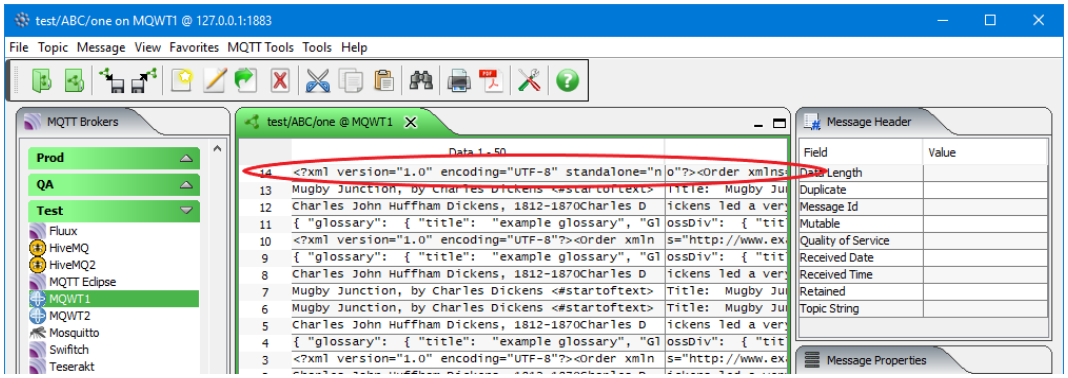
This section will describe how to duplicate a message in the opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Duplicate Message**.

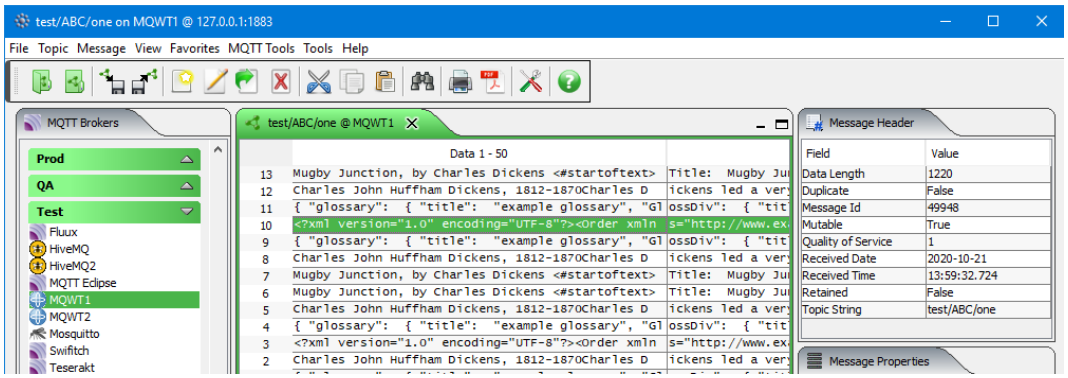
The main panel will be updated with the newly inserted message.



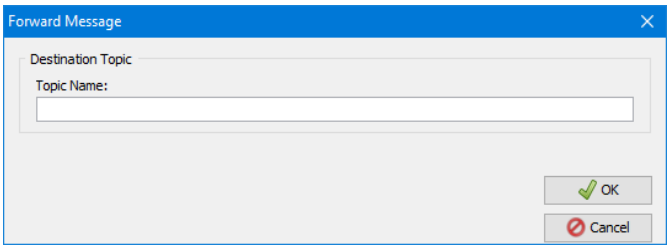
6.9 Forward a Message

This section will describe how to forward a message from an opened topic.

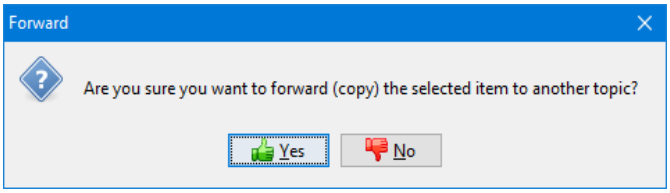
If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Forward Message**.



Now specify a destination topic name and then click the **Ok** button

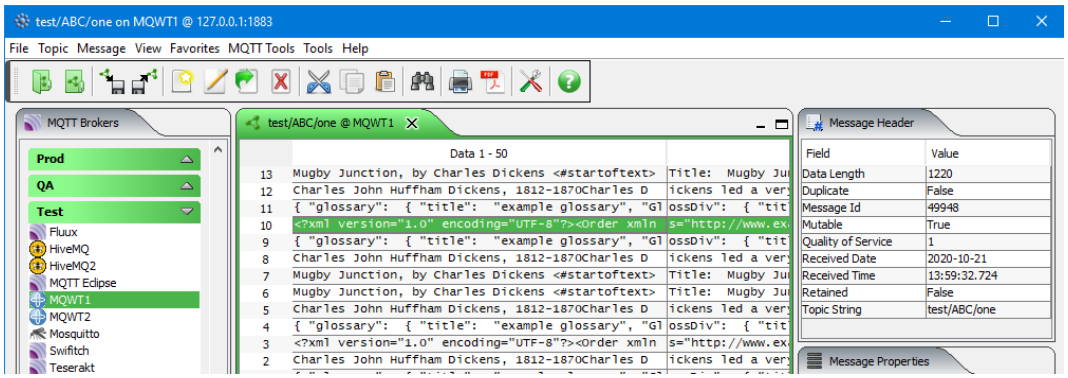


Click **Yes** if you are sure that you want the message to be forwarded.
Note: There is no undo function for the forward message option.

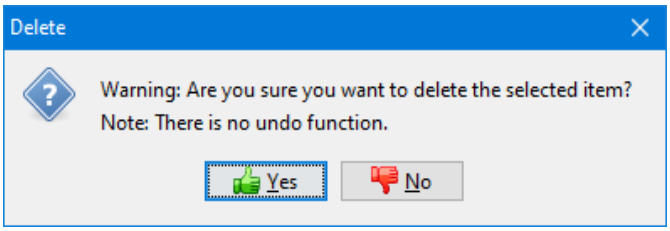
6.10 Delete a Message

This section will describe how to remove a message from the displayed table of an opened topic.

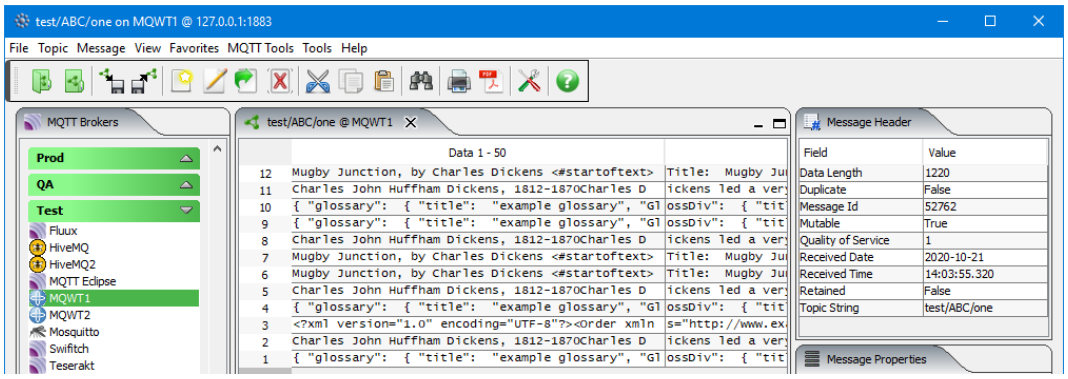
If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Delete Message**.



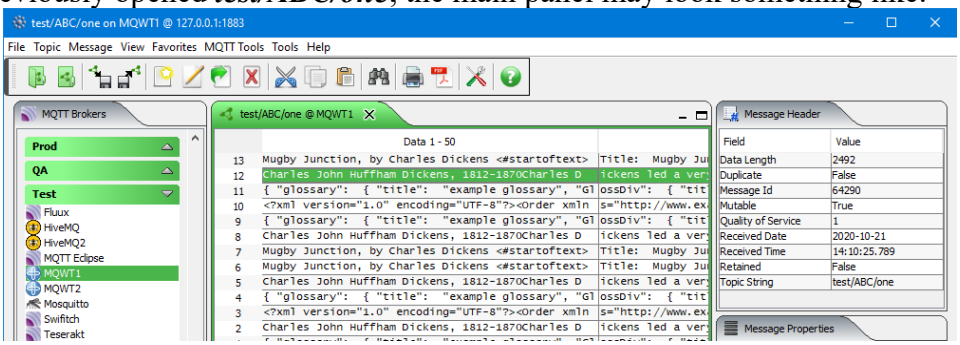
Click **Yes** if you are sure that you want the message to be removed from the table.
Note: There is no undo function for the remove message option.



6.11 Compare a Message to a File

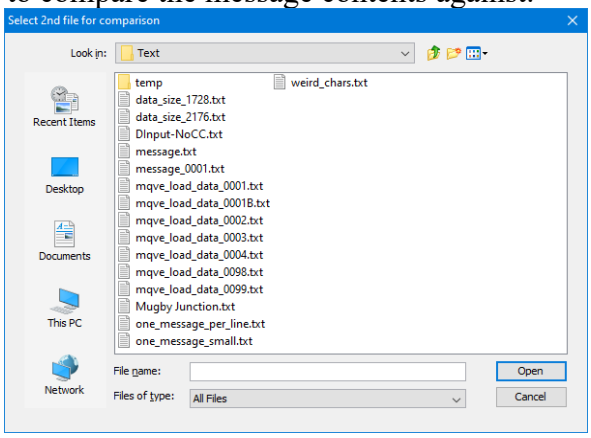
This section will describe how to compare the contents of a message to file.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

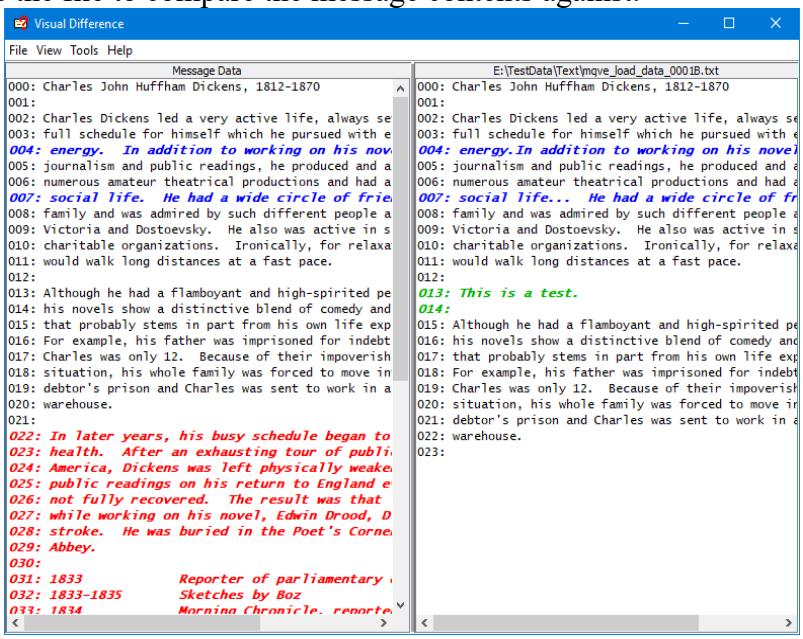


From the main panel of MMES, select **Message**, then **Compare a Message to a File**.

The user now selects the file to compare the message contents against.



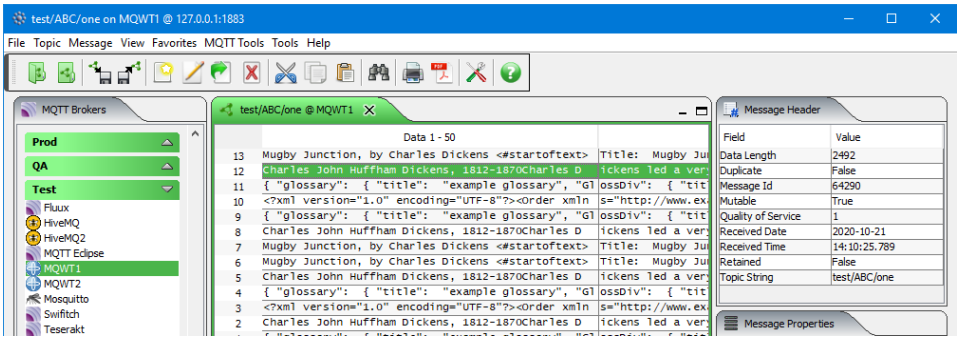
The user now selects the file to compare the message contents against.



6.12 Printing a Message

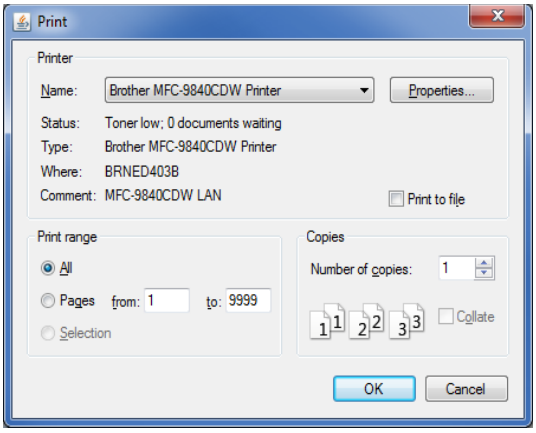
This section will describe how to print a message to a printer from an opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Print Message**.

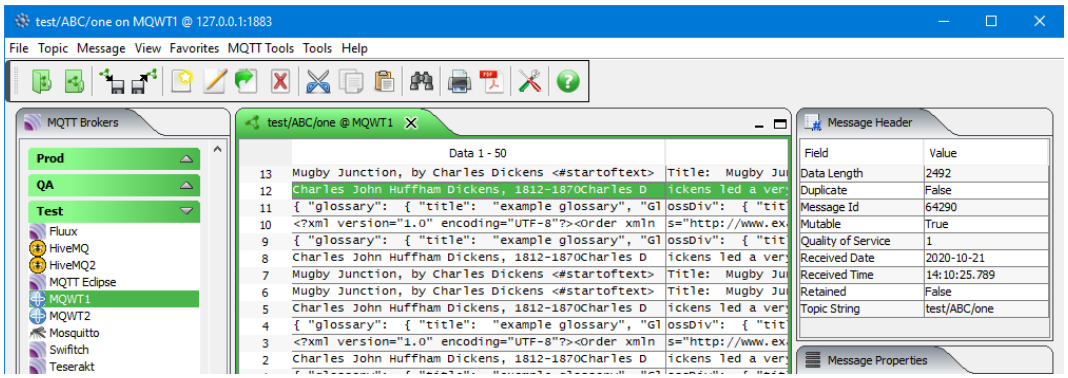
The user now selects the printer to print the message on.



6.13 Generate Report

This section will describe how to generate a report (PDF, RTF or HTML) from the selected messages.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

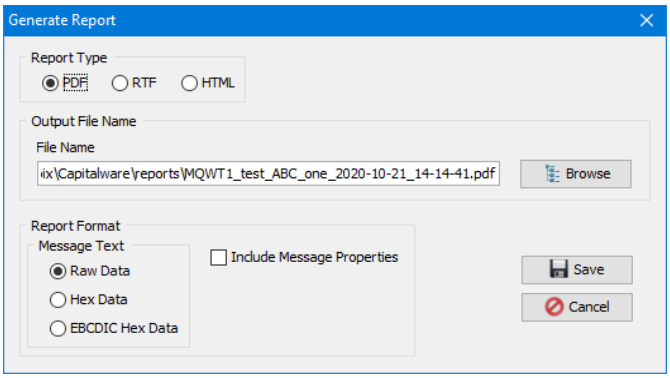


From the main panel of MQTT Message Editing Suite, select **Message**, then **Generate Report**.

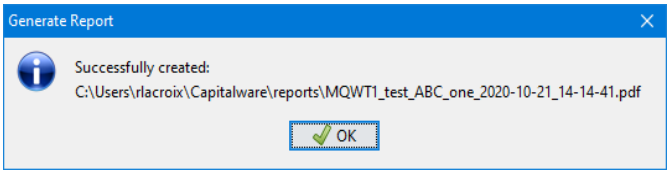
The user now selects how the messages are to be generated into the report:

- The user may use the **Browse** button to select the directory and file name to be used for the report file.
- The user can select **PDF** or **RTF** or **HTML** for the report type.
- The user can select **Raw Data** or **Hex Data** or **EBCDIC Hex** for how the message data will be formatted in the report.

The user can select to include the message's Message Properties in the report. Click **Save** to generate the report.



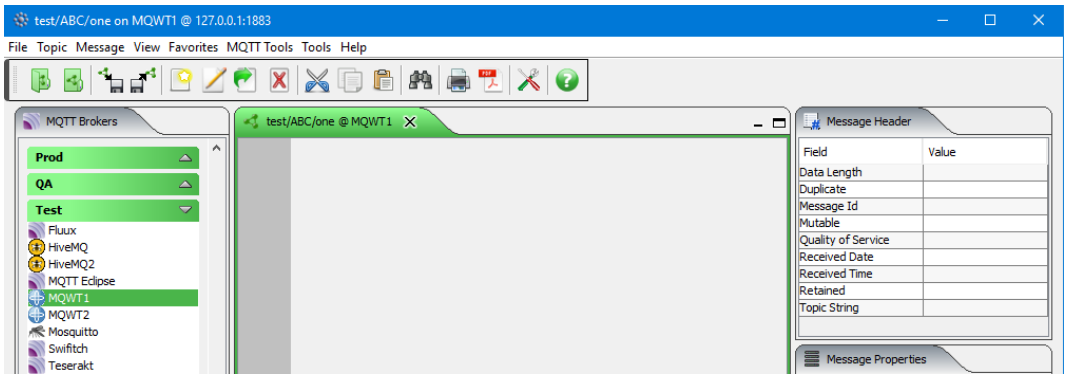
Click **Ok**



6.14 Importing Files

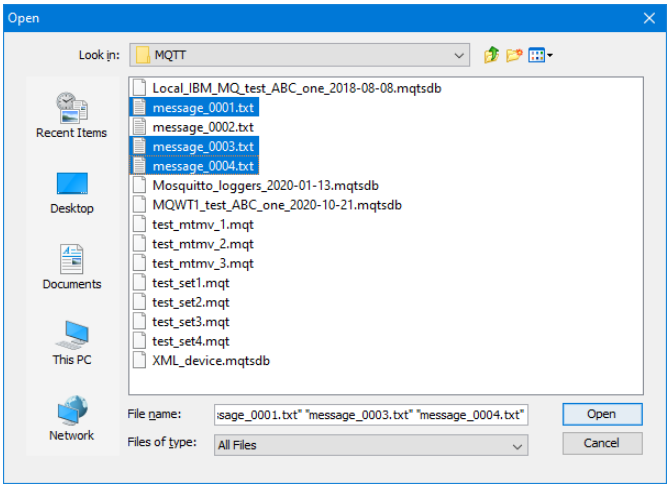
This section will describe how to import one or more files as message into an opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Insert File**.

Now select one or more files or change directories to locate the files and then click **Open**
Note: You can select more than one file in this dialog box. Use either the **Shift** or **Ctl** keys when selecting the files.

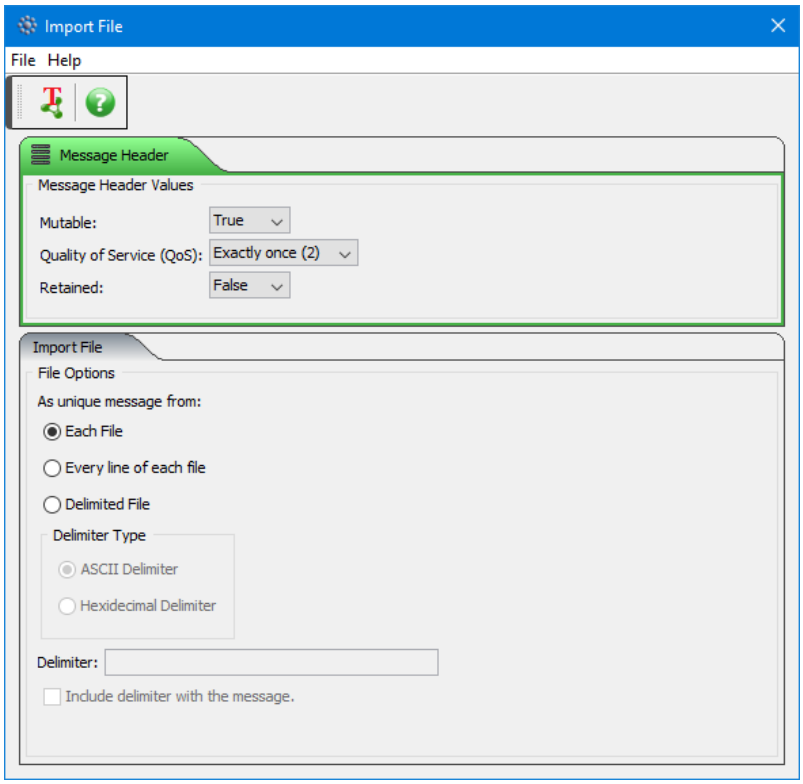


The Import File Wizard is designed to help the user quickly create an MQTT message. The user can also alter the contains of the Message Properties.

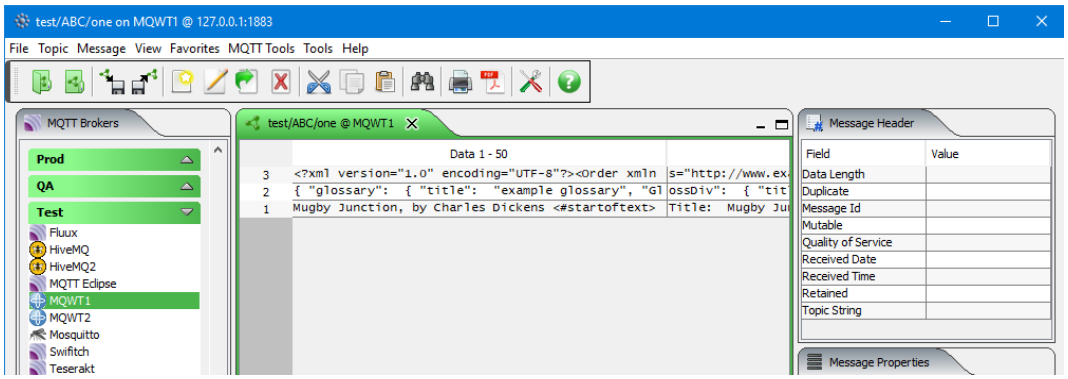
There are 3 file options when importing files:

- Each file as a message
- Every line of each file - a message will be created for each line (record) in every individual file
- Delimited File – the file will be parsed, based on the delimiter, into sections and each parsed section will be a message.

Note: The Import File Wizard will put all messages to the topic using the MQTT message format that the user creates in this step.



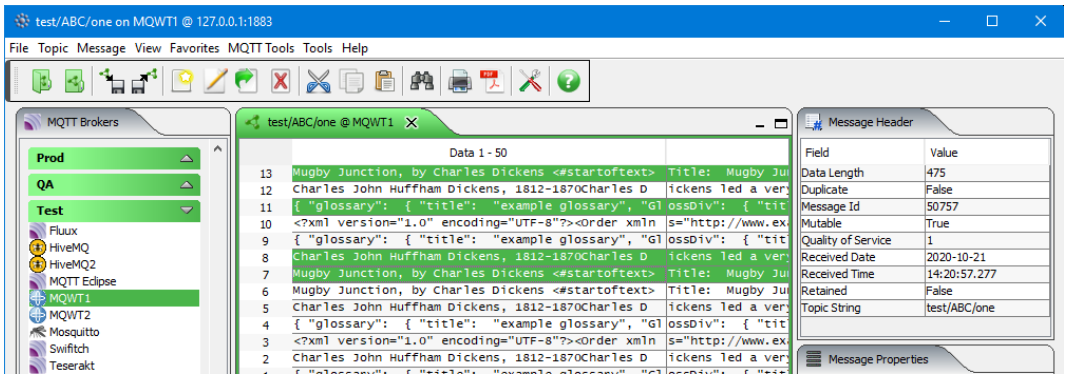
The main panel is updated with the 3 new messages.



6.15 Exporting Messages

This section will describe how to export a message to a file from an opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Export Message**.

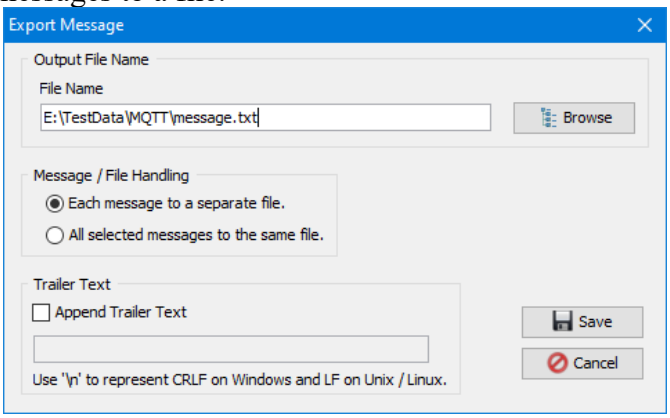
The user now selects how the messages are to be outputted to a file:

- Select **Each message to a separate file** for separate files for each message in the topic.
- Select **All selected messages to the same file** for 1 (one) output file. The single file will contain all selected messages that will be exported.

Trailor Text

- Select **Append Trailer Text** to add user defined text to the end of each message as it is saved to the file. Use "\n" to represent CRLF on Windows and LF on Unix/Linux.

The user may use the **Browse** button to select the directory and file name to be used for the exporting. Click **Save** to export the messages to a file.

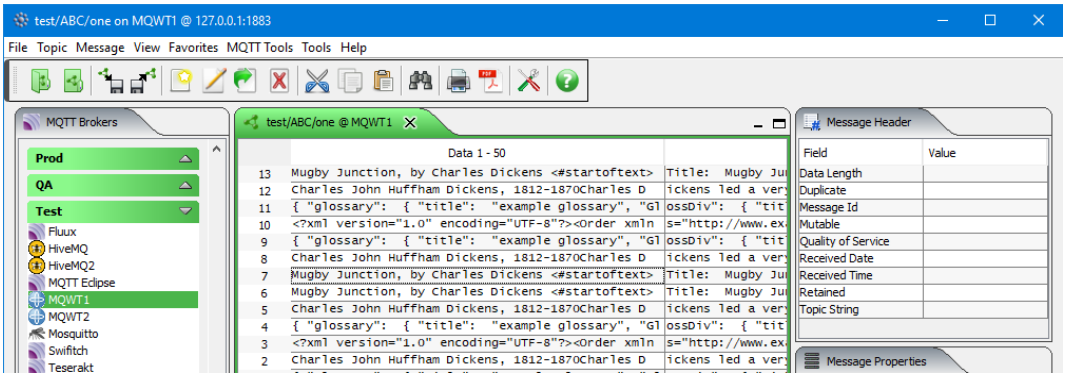


Click **Ok**.

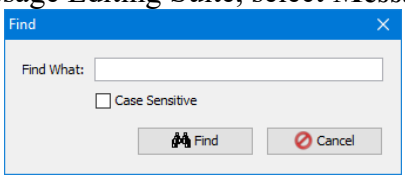
6.16 Find

This section will describe how to use the Find feature. The Find function allows the user to search the messages of the topic for a particular text string.

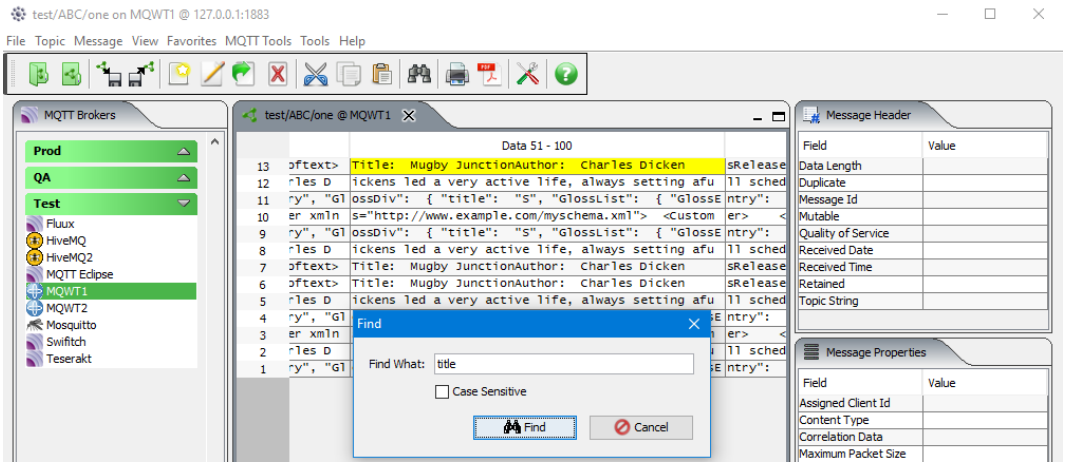
If you have previously opened ***test/ABC/one***, the main panel may look something like:



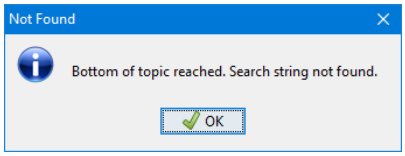
From the main panel of MQTT Message Editing Suite, select **Message**, then **Find**.



After clicking **Find**, if a match is found, the table cell containing the matching string will be highlighted in yellow.



When you are done searching, click the **Cancel** button. The row containing the last matching search string will be highlighted.



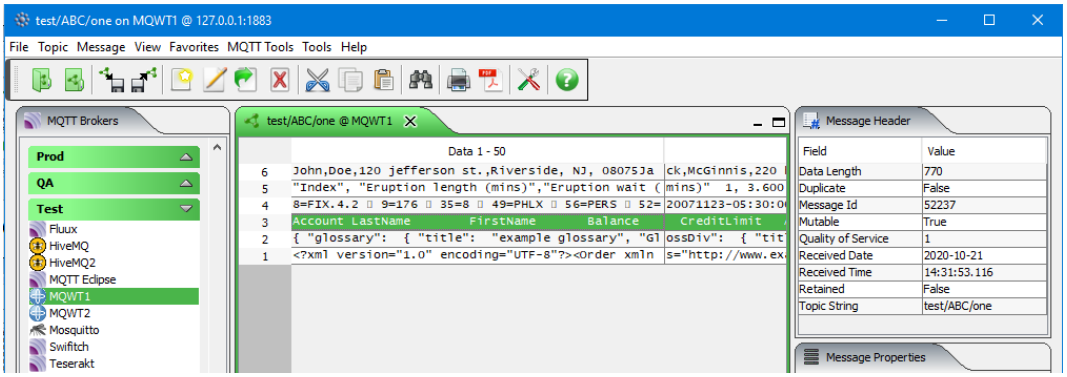
7 Message Edit

This chapter will describe the various docks of the Message Edit window.

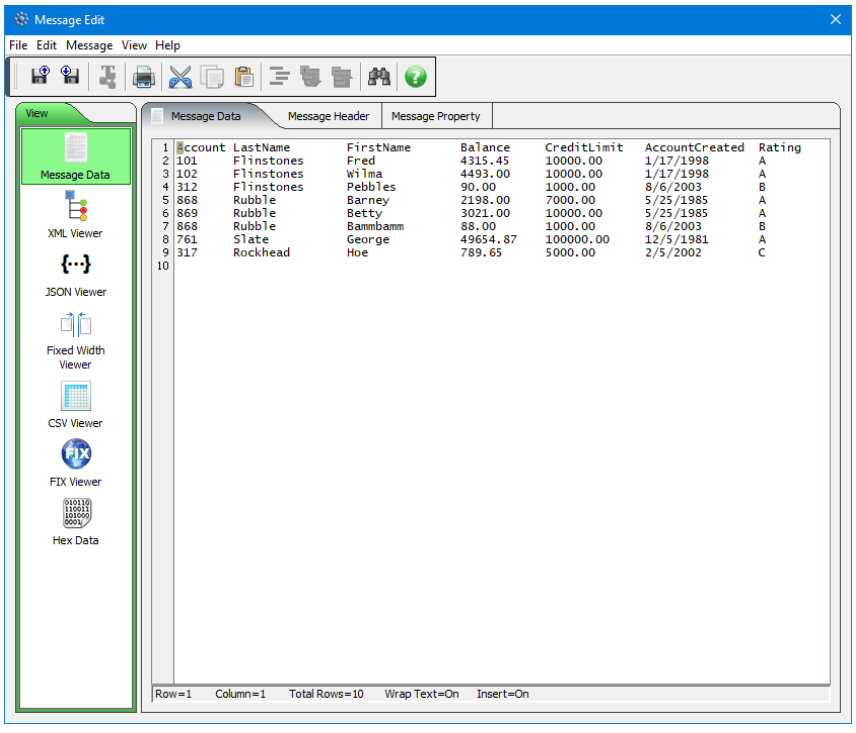
7.1 Message Data Dock

This section will describe how to edit a message in the opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message**.



You can now edit, updated or delete sections of the message text. Clicking the **File -> Save to Topic** will put the new updated message to the topic.

The following are the dropdown menus that currently exist for the Message Edit Window.

Under **File**:

- **Load from File** - Allows the user to load (import) the contains of a text file into the current message text.
- **Save to File** - Allows the user to save the message content to a plain text file.
- **Publish to Topic** - Allows the user to save the message to the topic (use this function after a change or update to the message content and/or the Message Properties.)
- **Print Message** - Allows the user to print the message
- **Close** - Allows the user to discard the Message Edit window and return to the main window.

Under **Edit**:

- **Cut** - Allows user to cut part or all of the message content to the system's clipboard.
- **Copy** - Allows user to copy part or all of the message content to the system's clipboard.
- **Paste** - Allows user to paste from the system's clipboard into the message content.
- **Find** - Provides the user with the ability to search the message content for a specific string.
- **Replace** - Provides the user with the ability to search the message content for a specific string and replace the string with another string.

Under **Message:**

- **User Formats** - Allows user to define a message format for the data.
- **Apply Format** - Allows user to apply a specific message format to the data.

Under **View**:

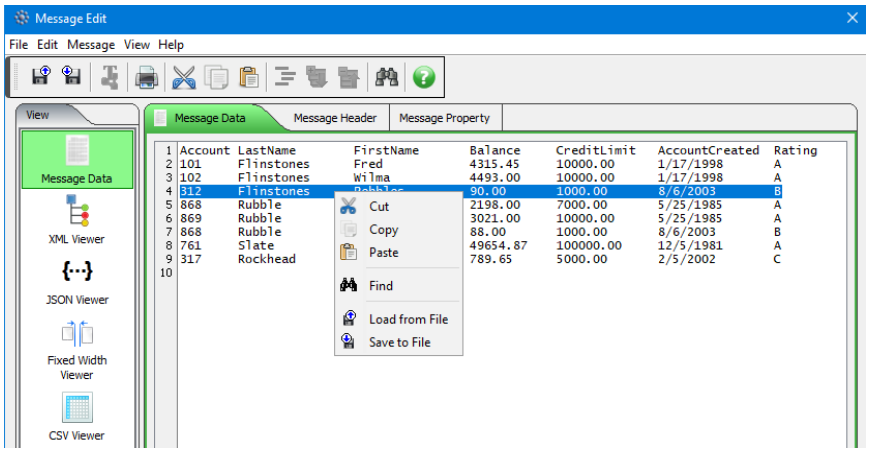
- **Wrap Text** - Allows the user to toggle the message content's display between wrapped and unwrapped text.
- **Select All** - Allows the user to quickly select all of the message's content.
- **Unselect All** - Turns the selection off (if on) and sets the cursor to column 1 of row 1.

Under **Help**:

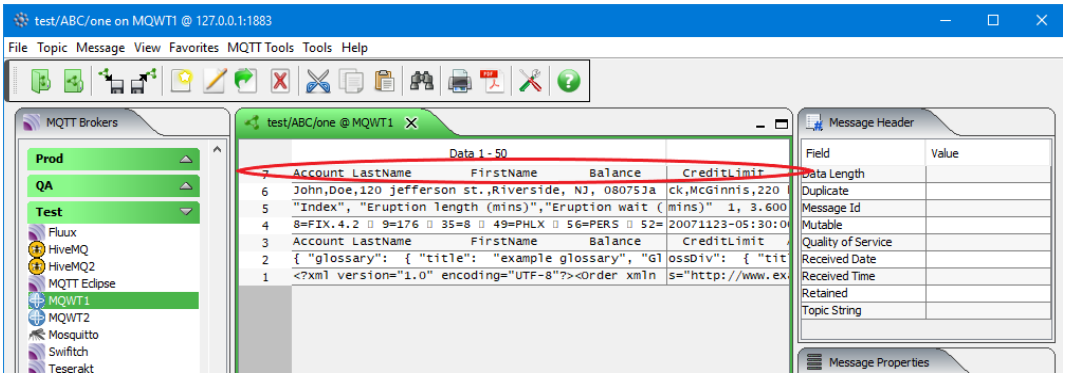
- **Help** - Allows the user to display the MQTT Message Editing Suite User Guide.

In the message content window of the Message Data dock, if the user performs a right-mouse click then a popup window will be displayed. The user will be able to do the following:

- **Cut** - Allows user to cut part or all of the message content to the system's clipboard.
- **Copy** - Allows user to copy part or all of the message content to the system's clipboard.
- **Paste** - Allows user to paste from the system's clipboard into the message content.
- **Find** - Provides the user with the ability to search the message content for a specific string.
- **Load from File** - Allows the user to load (import) the contains of a text file into the current message text.
- **Save to File** - Allows the user to save the message content to a plain text file.



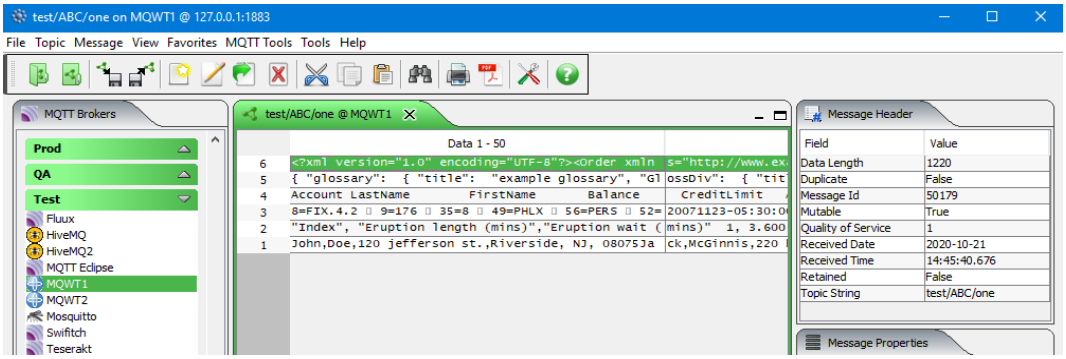
The main panel is updated with the new message from the editing session:



7.2 XML Viewer Dock

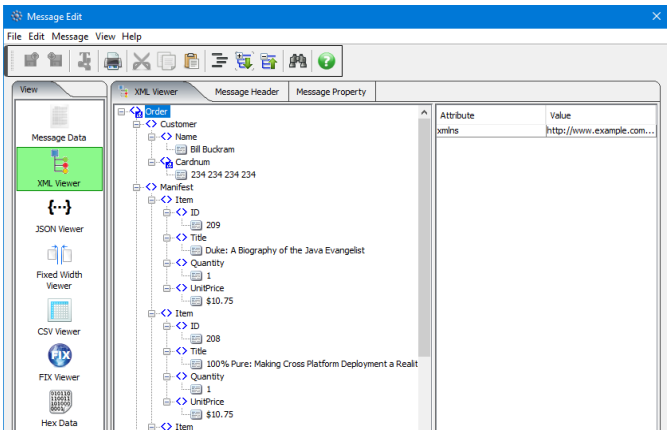
This section will describe how to edit a message in the opened topic. If the data is well formed XML then the XML Viewer will be able to display it.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

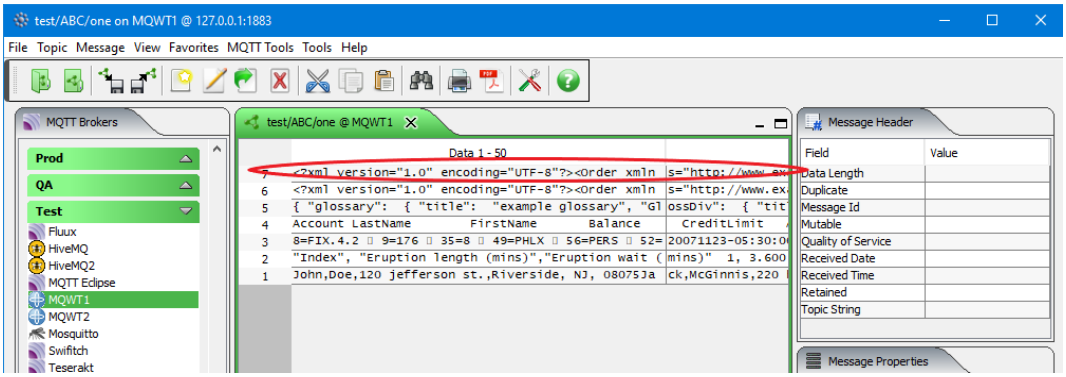


From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message**.

The XML data is shown in a tree view. The user can expand any entry they wish to. This will allow them to view attributes, nodes and data with the XML data. Clicking the **Save** button will put the new updated message into the topic.



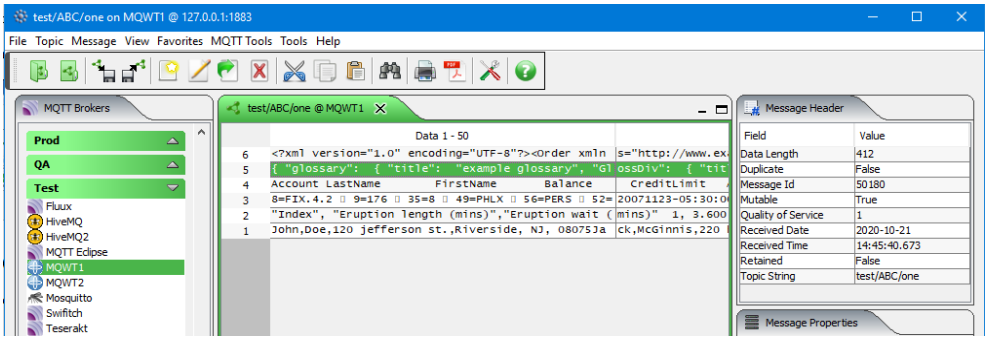
The main panel is updated with the new message from the editing session:



7.3 JSON Viewer Dock

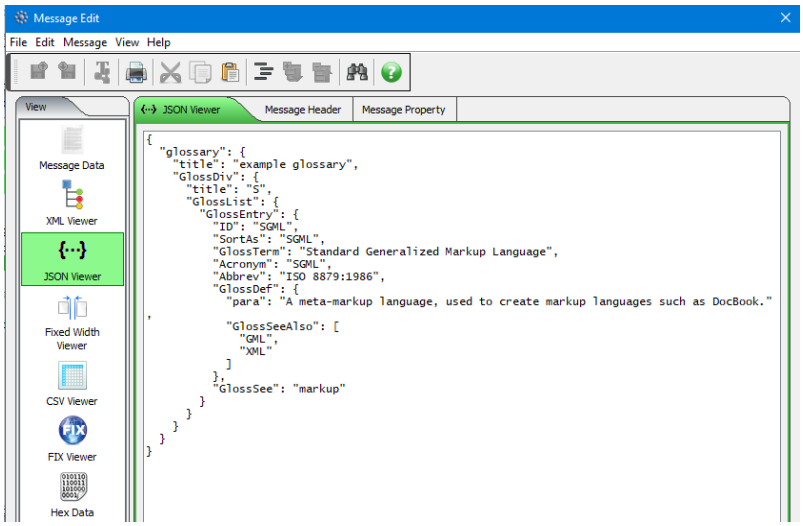
This section will describe how to edit a message in the opened topic. If the data is well formed JSON (***J***ava***S***cript ***O***bject ***N***otation) data then the JSON Viewer will be able to display it.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

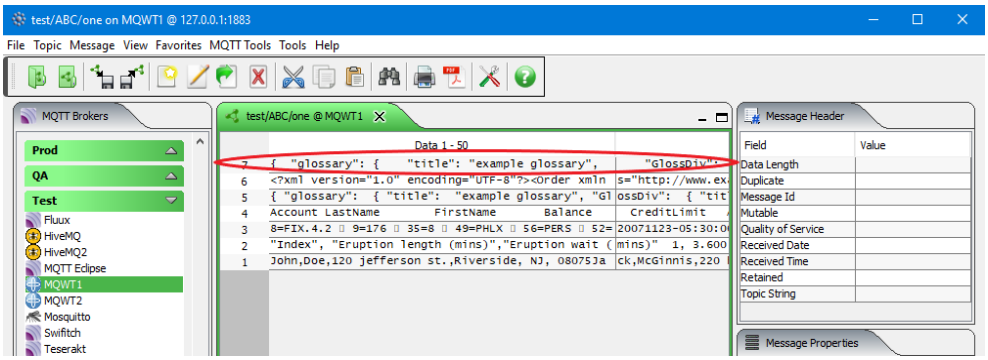


From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message**.

The JSON data is shown in a tree view. Clicking the **Save** button will put the new updated message into the topic.



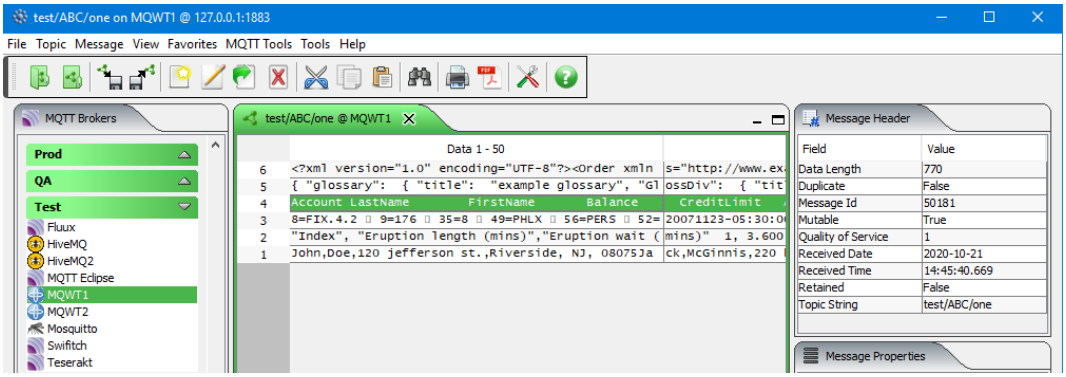
The main panel is updated with the new message from the editing session:



7.4 Fixed Width Viewer Dock

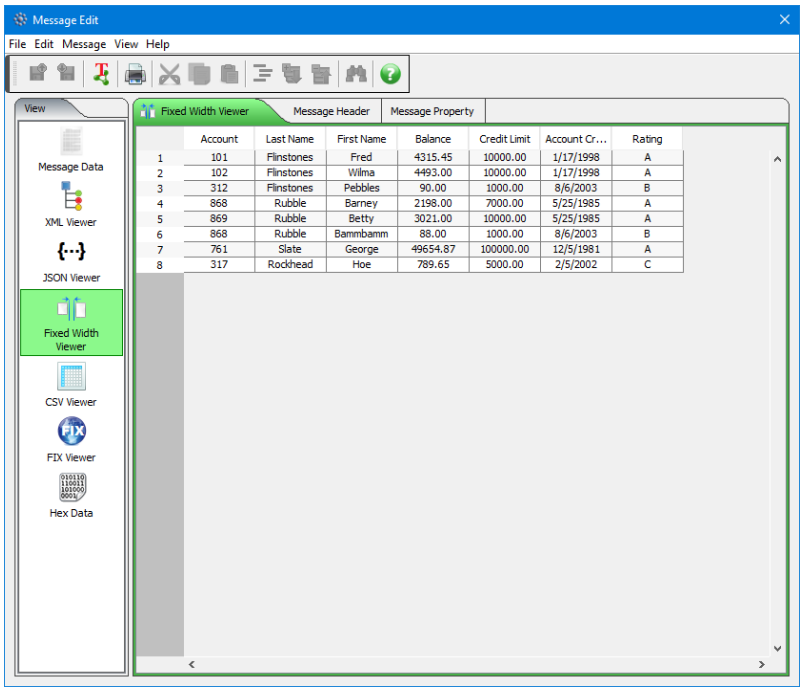
This section will describe how to view a message in the opened topic. If a Fixed Width format has been created then data can be formatted using it.

If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message** then click the ***Fixed Width Viewer*** button.

If there is a Fixed Width user format defined for the opened queue then MQTT Message Editing Suite will automatically use it when the ***Fixed Width Viewer*** dock button is clicked.

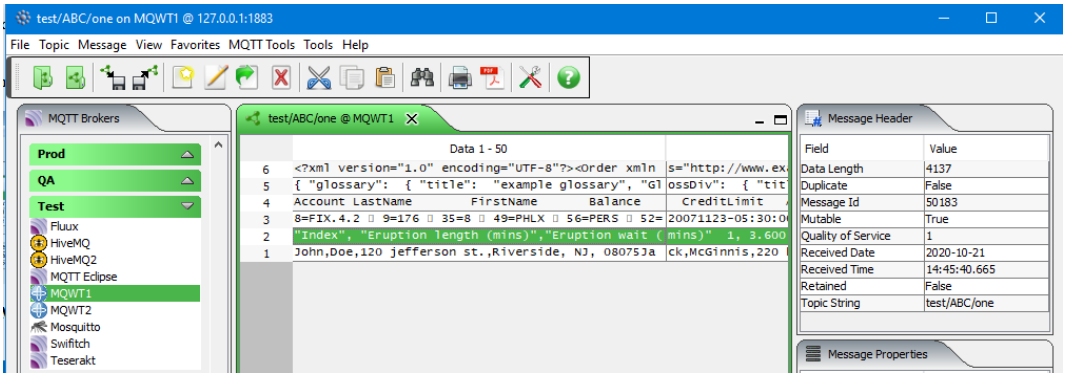


If there is no Fixed Width user format defined for the opened queue then the user can manually select one of the Fixed Width user formats by clicking ***Message*** - > ***Apply Format*** - > ***XXXX*** where XXXX is one of the Fixed Width user formats.

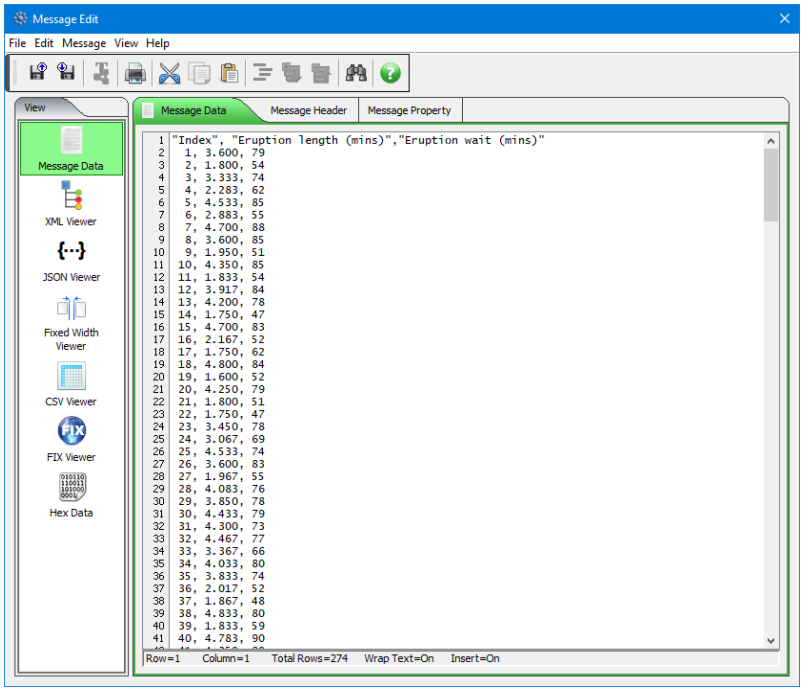
7.5 CSV Viewer Dock

This section will describe how to view a message in the opened topic. The data can be viewed with or without a CSV format.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

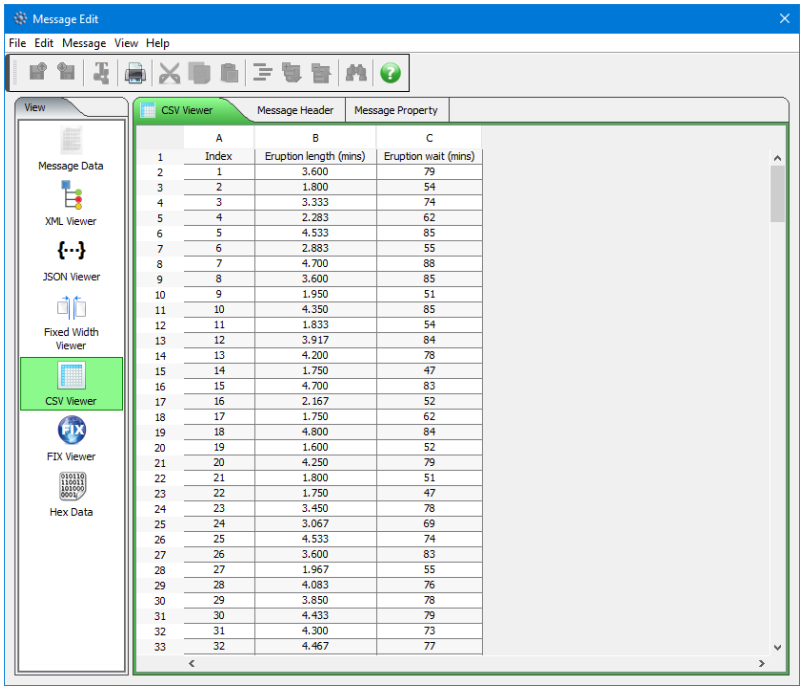


From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message** to open the message in the Message Edit window.



Click the ***CSV Viewer*** button to view the message in the CSV Viewer.

If there is a CSV user format defined for the opened queue then MQTT Message Editing Suite will automatically use it when the ***CSV Viewer*** dock button is clicked.



	A	B	C
1	Index	Eruption length (mins)	Eruption wait (mins)
2	1	3.600	79
3	2	1.800	54
4	3	3.333	74
5	4	2.283	62
6	5	4.533	85
7	6	2.883	55
8	7	4.700	88
9	8	3.600	85
10	9	1.950	51
11	10	4.350	85
12	11	1.833	54
13	12	3.917	84
14	13	4.200	78
15	14	1.750	47
16	15	4.700	83
17	16	2.167	52
18	17	1.750	62
19	18	4.800	84
20	19	1.600	52
21	20	4.250	79
22	21	1.800	51
23	22	1.750	47
24	23	3.450	78
25	24	3.067	69
26	25	4.533	74
27	26	3.600	83
28	27	1.967	55
29	28	4.083	76
30	29	3.850	78
31	30	4.433	79
32	31	4.300	73
33	32	4.467	77

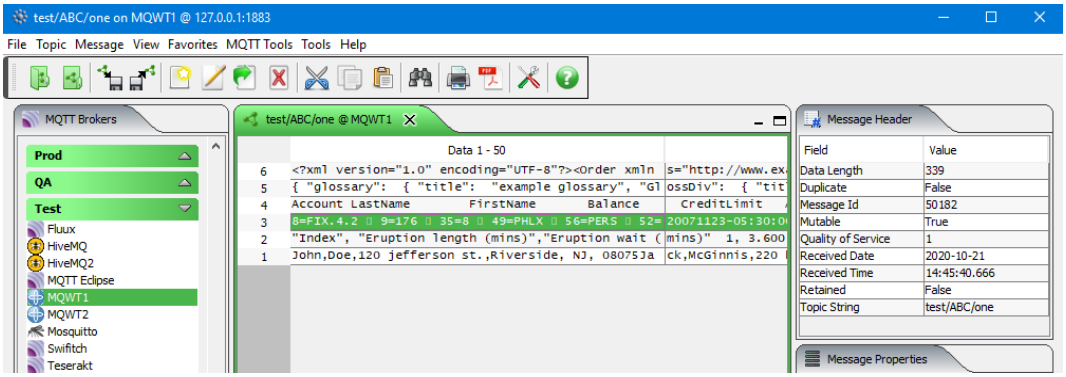
Note: If a CSV format is not being used and the first row of data contains the header row, then click ***View*** - > ***Use first row for column names*** menu item to display it.

If there is no CSV user format defined for the opened queue then the user can manually select one of the CSV user formats by clicking ***Message*** - > ***Apply Format*** - > ***XXXX*** where XXXX is one of the CSV user formats.

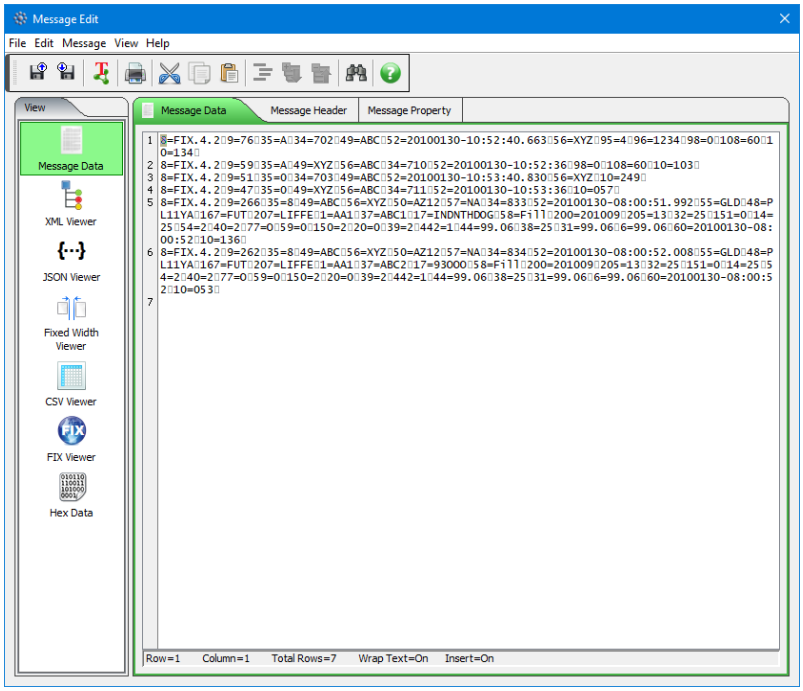
7.6 FIX Viewer Dock

This section will describe how to view a message in the opened topic. The data can be viewed with or without a FIX format.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

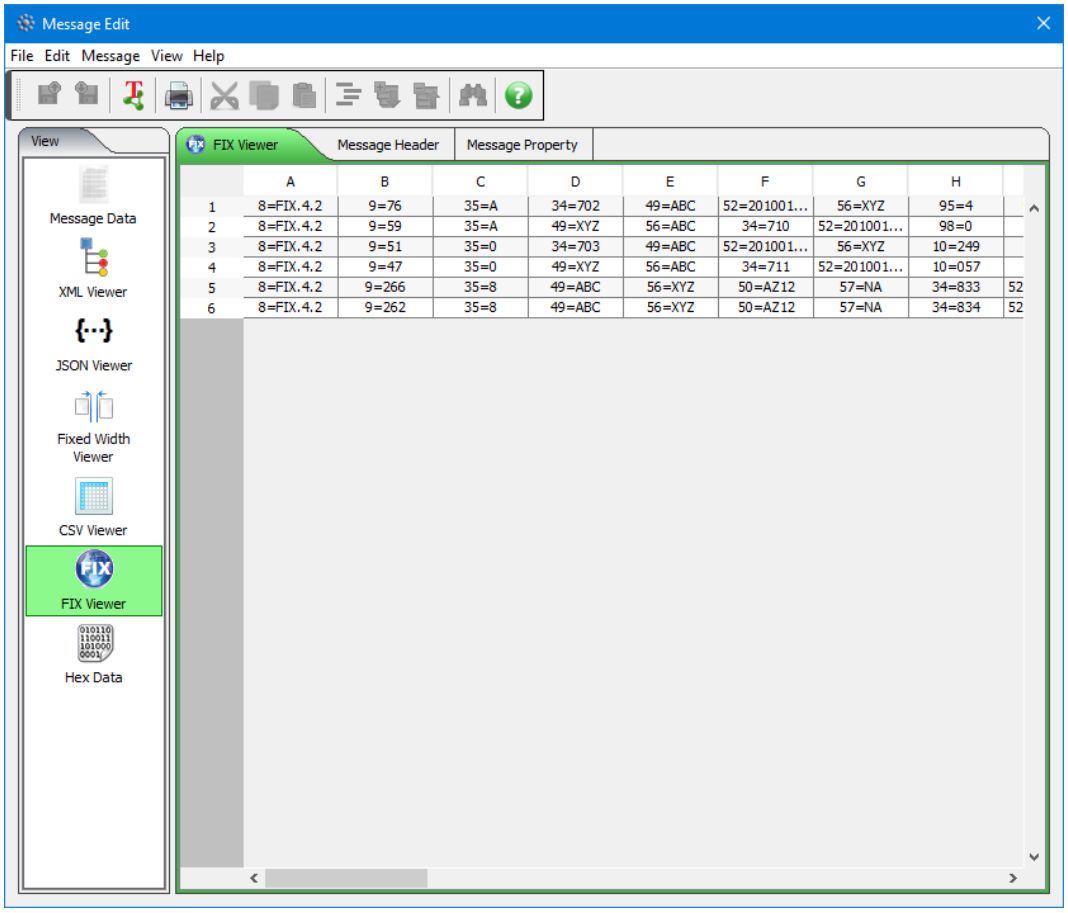


From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message** to open the message in the Message Edit window.



Click the ***FIX Viewer*** button to view the message in the FIX Viewer.

If there is a FIX user format defined for the opened queue then MQTT Message Editing Suite will automatically use it when the ***FIX Viewer*** dock button is clicked.



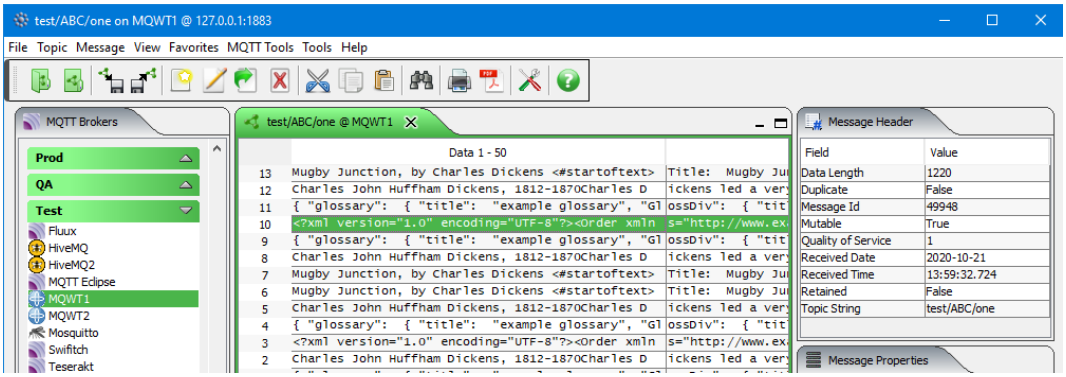
Note: If a FIX format is not being used and the first row of data contains the header row, then click ***View*** - > ***Use first row for column names*** menu item to display it.

If there is no FIX user format defined for the opened queue then the user can manually select one of the FIX user formats by clicking ***Message*** - > ***Apply Format*** - > ***XXXX*** where XXXX is one of the FIX user formats.

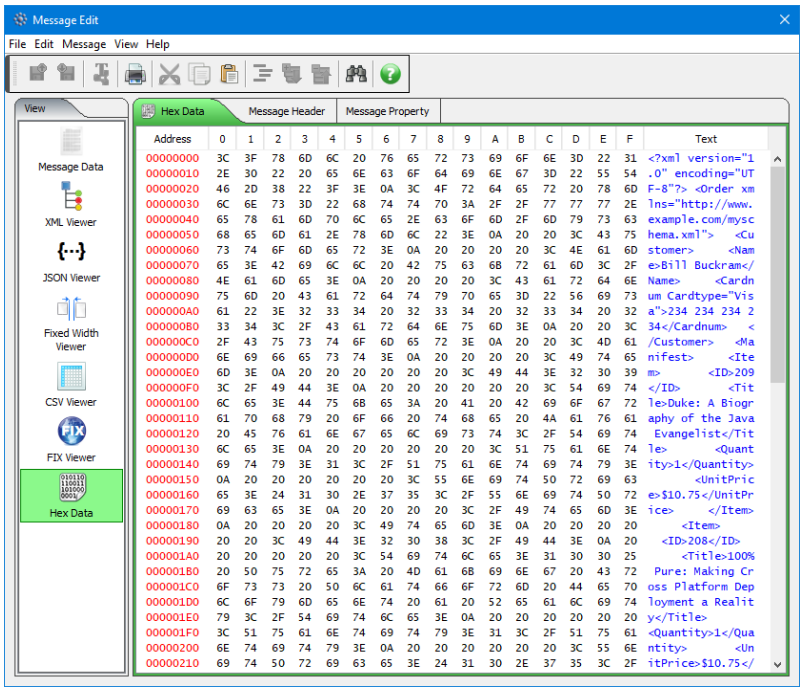
7.7 Hex Data Dock

This section will describe how to edit a message in the opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message**.



In the columns of 0,1,2,3,4,5,6,7,8,9,0,A,B,C,D,E,F, you can alter the message content by using hexadecimal values. Clicking the **Save** button will put the new updated message into the topic.

Under **File**:

- **Save to Topic** - Allows the user to save the message back to the topic (use this function after a change or update to the message content and/or the Message Properties.)
- **Print Message** - Allows the user to print the message.

Under **Edit**:

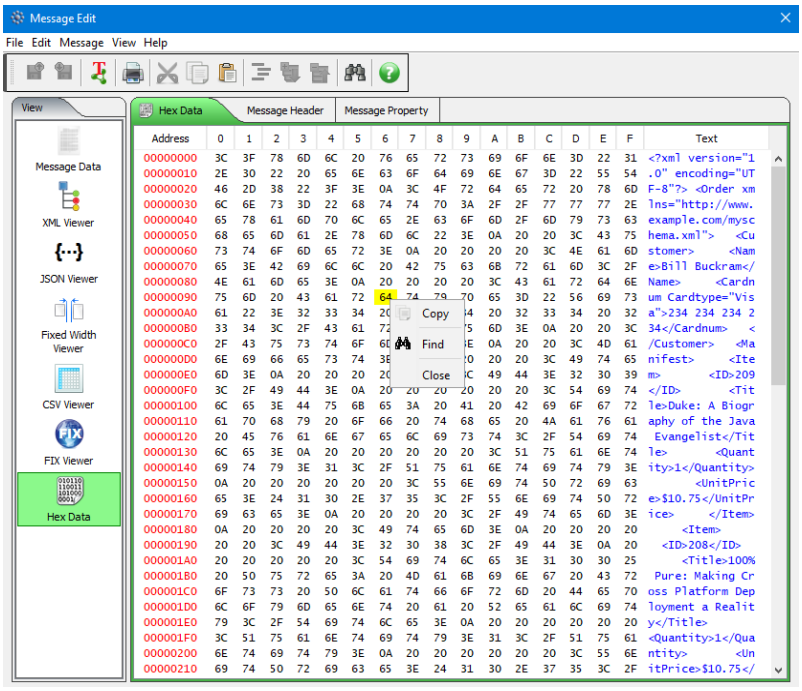
- **Copy** - Allows user to copy part or all of the message content to the system's clipboard.
- **Find** - Provides the user with the ability to search the message content for a specific string.

Under **Help**:

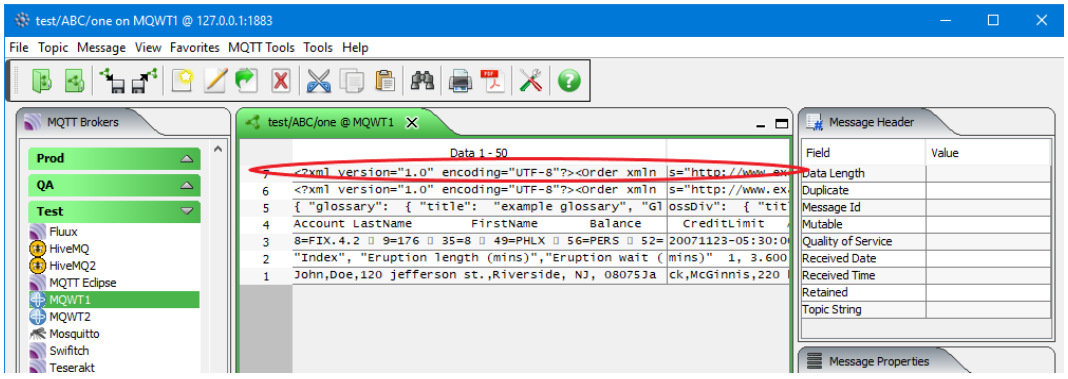
- **Help** - Allows the user to display the help files.

In the Hex Data tab, if the user performs a right-mouse click then a popup window will be displayed. The user will be able to do the following:

- **Copy** - Allows user to copy part or all of the message content to the system's clipboard.
- **Find** - Provides the user with the ability to search the message content for a specific string.
- **Close** - Close the Message Edit window.



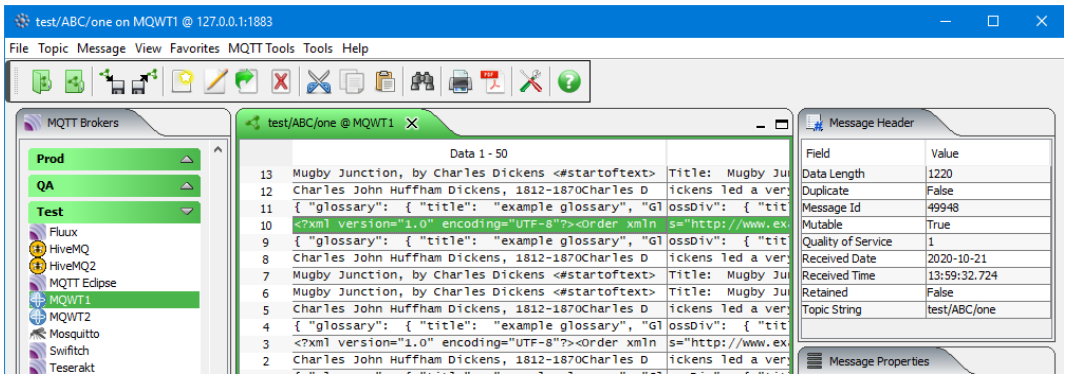
The main panel is updated with the new message from the editing session:



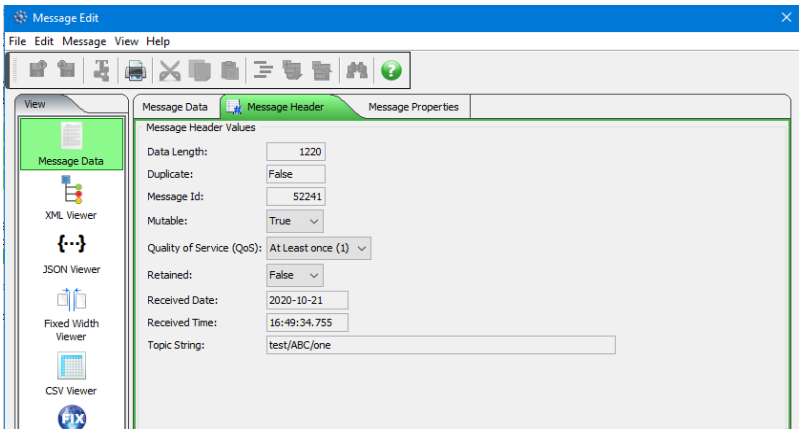
7.8 Message Header Dock

This section will describe how to edit a message in the opened topic.

If you have previously opened ***test/ABC/one***, the main panel may look something like:

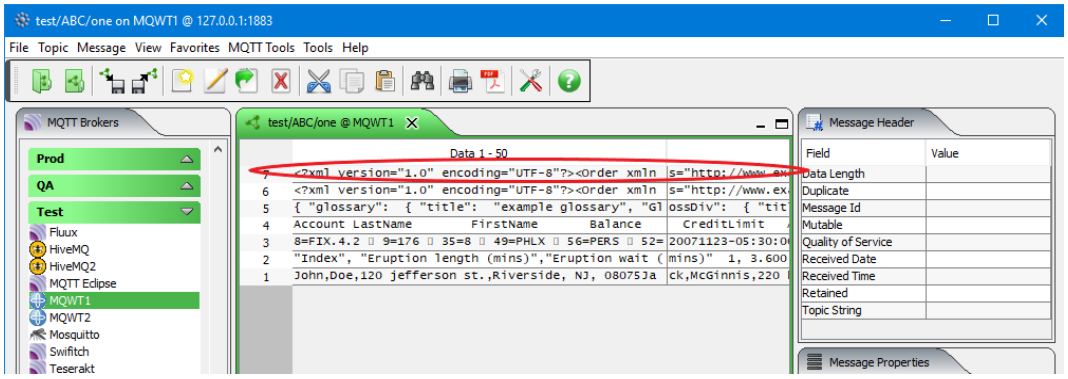


From the main panel of MQTT Message Editing Suite, select **Message**, then **Edit Message**.



The user may alter any value on any of the Message Properties dock. For more information about editing the Message Header, go to chapter 8. Clicking the **Save** button will put the new updated message into the topic.

The main panel is updated with the new message from the editing session:



8 User Formats

This chapter will describe how to create, update and delete user defined formats. User formats allows the end-user to define formats for user specific data. Currently, MQTT Message Editing Suite supports 3 different types of user formats:

- Fixed Width format
- CSV (Comma Separated Value) format
- FIX (Financial Information eXchange) format

There are 2 ways to access the user formats in MQTT Message Editing Suite:

- On the main window, click ***Message*** - > ***User Formats***
- On the edit window, click ***Message*** - > ***User Formats***

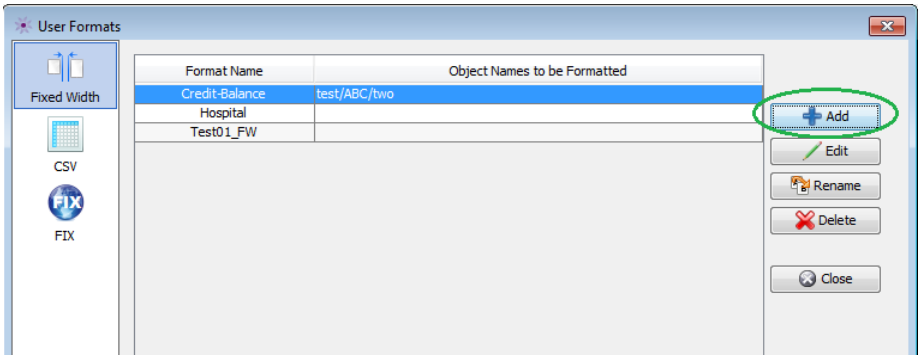
8.1 Fixed Width Format

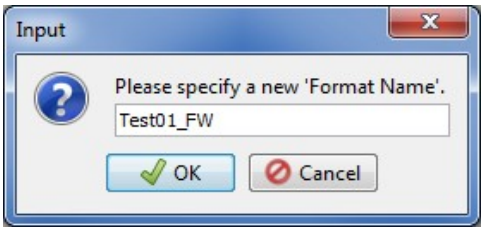
This section will describe how to add, edit and delete Fixed Width formats.

8.1.1 Add a Fixed Width Format

This section will describe how to add a Fixed Width format.

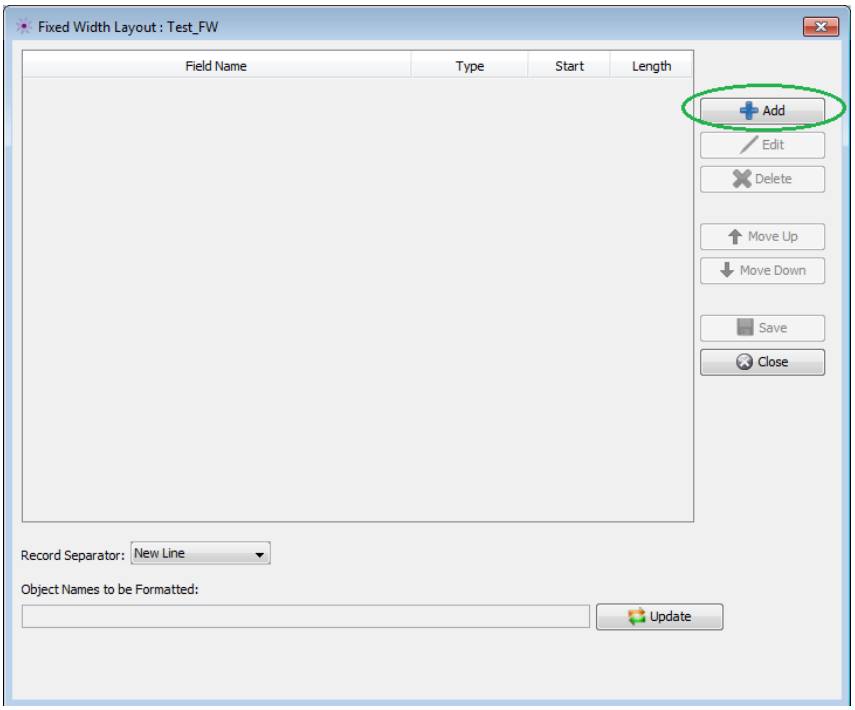
First, click the ***Add*** button, input a unique name for this new Fixed Width Format and click the ***OK*** button.



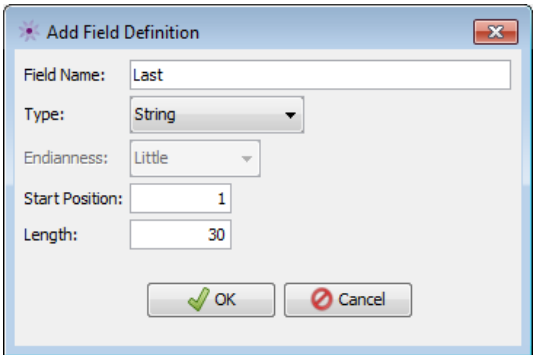


8.1.1.1 Field Definition

Next, on the Fixed Width Layout window, the user can add fields to the layout format by clicking the ***Add*** button.



Input a name for the field, select the type of data that is represented by this field, the start position and the length of the field then click the ***OK*** button.



Note: For type do not select Integer, Long or Short if the data is NOT in binary format representation of the field. Also, the Endianess applies to Integer, Long and Short binary fields on how the binary data is laid out.

8.1.1.2 Record Separator

The ***Record Separator*** states how each row is laid out in the message data. The default is "New Line". The user can change it to one of the other values in the dropdown.

8.1.1.3 Object Names to be formatted

The ***Object Names to be formatted*** is a list of queues and topics that the format will be automatically applied to when the user clicks the Fixed Width Viewer in the Edit Message Window. This parameter is optional.

The ***Object Names to be formatted*** can be the fully qualified queue or topic name or it can be a regular expression pattern.

In the regular expression pattern:

- '*' matches any sequence of characters (zero or more)
- '?' matches any single character
- '#' matches any single numeric digit (0-9)
- '@' matches any single alphabetic character (A-Z, a-z)
- [SET] matches any of the characters in the specified set
- [!SET] or [^SET] matches any character except those specified in the set (negation).

A SET can be composed of characters or ranges. A range is in the form: 'character – character' (i.e. 0-9 or A-Z). Although this is the simplest range allowed in the [ ] pattern, more complex inclusive ranges such as [0-9a-zA-Z] are allowed. [0-9a-zA-Z] specifies that the character can be 0 through 9 **or** a through z **or** A through Z. Other characters are allowed (ie. 8 bit characters) if your system supports them.

In order to suppress the special syntactic significance of any of these characters '[] * ? # @ ! ^ - \', a backslash ('\') must precede the special character.

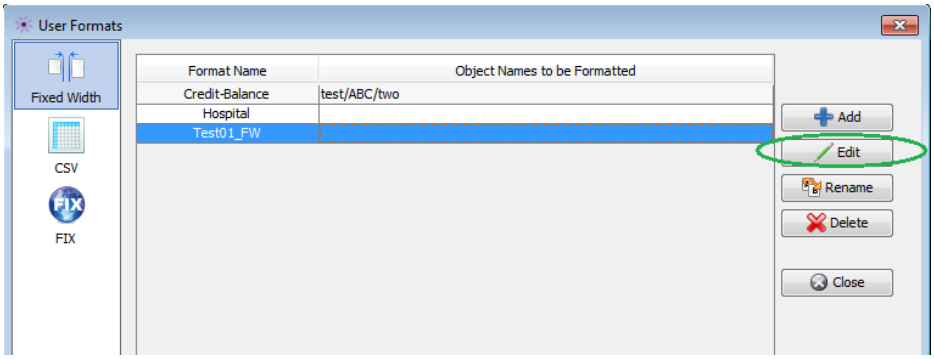
8.1.1.4 Saving Format

When you are done inputting fields, click the ***Save*** button to the new layout to the database.

8.1.2 Edit a Fixed Width Format

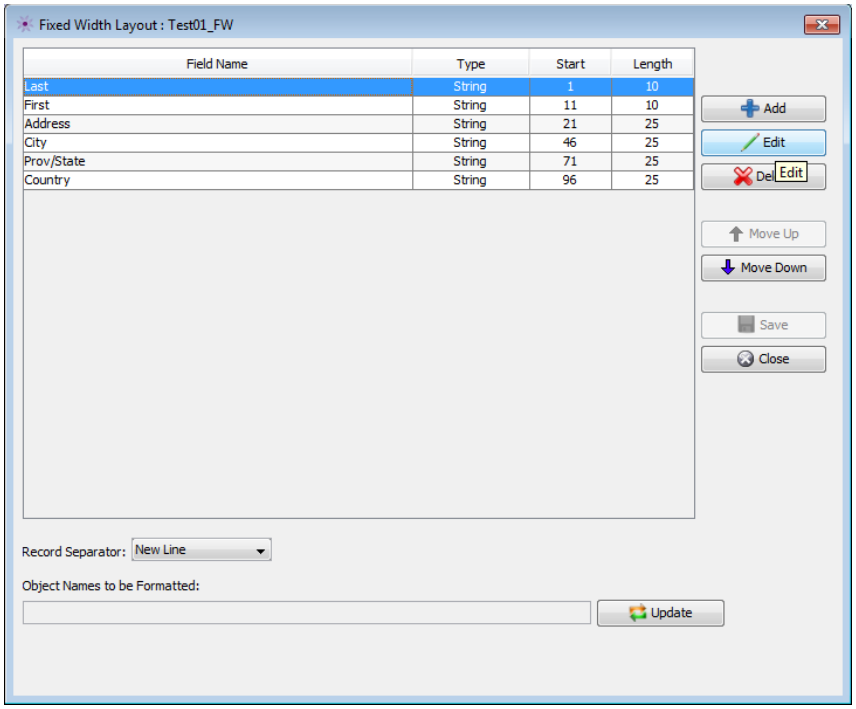
This section will describe how to edit a Fixed Width format.

Click the ***Edit*** button (or double left click on the format name) to open the Fixed Width Layout window.



8.1.2.1 Field Definition

On the Fixed Width Layout window, the user can add, edit or delete fields of the layout format.



8.1.2.2 Record Separator

The ***Record Separator*** states how each row is laid out in the message data. The default is "New Line". The user can change it to one of the other values in the dropdown.

8.1.2.3 Object Names to be formatted

The ***Object Names to be formatted*** is a list of queues and topics that the format will be automatically applied to when the user clicks the Fixed Width Viewer in the Edit Message Window. This parameter is optional.

The ***Object Names to be formatted*** can be the fully qualified queue or topic name or it can be a regular expression pattern.

In the regular expression pattern:

- '*' matches any sequence of characters (zero or more)
- '?' matches any single character
- '#' matches any single numeric digit (0-9)
- '@' matches any single alphabetic character (A-Z, a-z)
- [SET] matches any of the characters in the specified set
- [!SET] or [^SET] matches any character except those specified in the set (negation).

A SET can be composed of characters or ranges. A range is in the form: 'character – character' (i.e. 0-9 or A-Z). Although this is the simplest range allowed in the [ ] pattern, more complex inclusive ranges such as [0-9a-zA-Z] are allowed. [0-9a-zA-Z] specifies that the character can be 0 through 9 **or** a through z **or** A through Z. Other characters are allowed (ie. 8 bit characters) if your system supports them.

In order to suppress the special syntactic significance of any of these characters '[] * ? # @ ! ^ - \', a backslash ('\') must precede the special character.

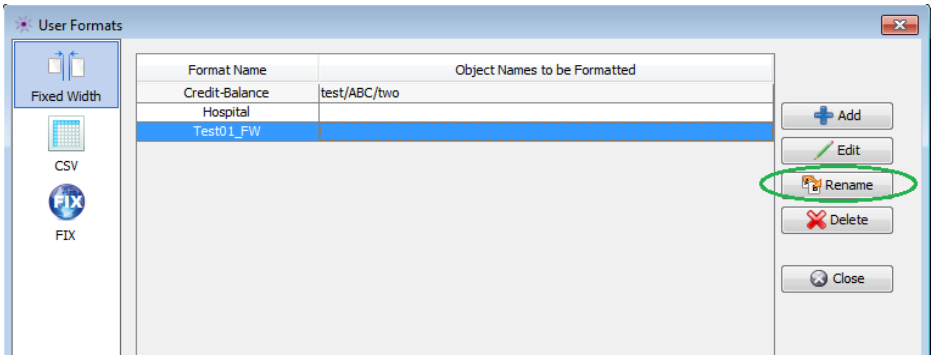
8.1.2.4 Saving Format

When you are done inputting fields, click the ***Save*** button to the new layout to the database.

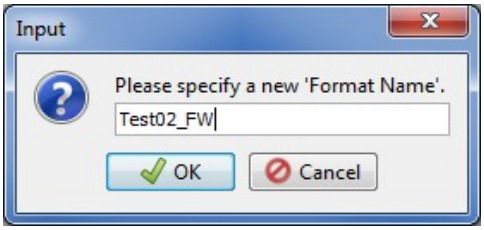
8.1.3 Rename a Fixed Width Format

This section will describe how to rename a Fixed Width format.

First, click the ***Rename*** button.



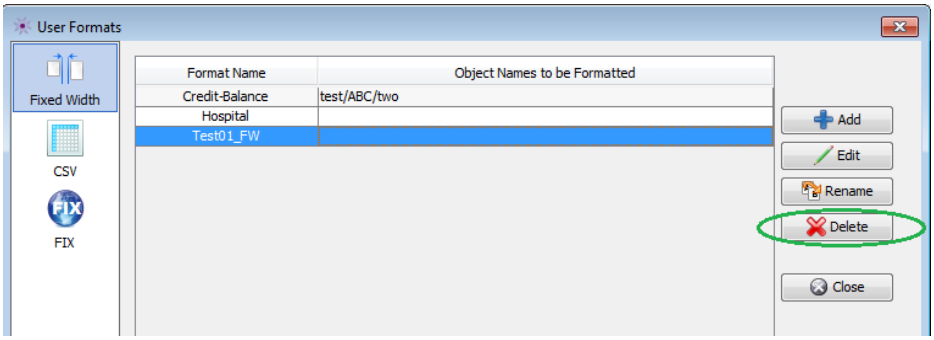
Now specify a new format name then click the ***OK*** button.



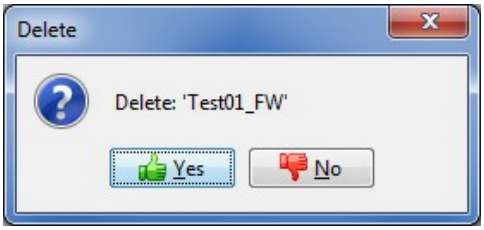
8.1.4 Delete a Fixed Width Format

This section will describe how to delete a Fixed Width format.

First, click the ***Delete*** button.



Click the ***Yes*** button to confirm the deletion of the particular Fixed Width format.



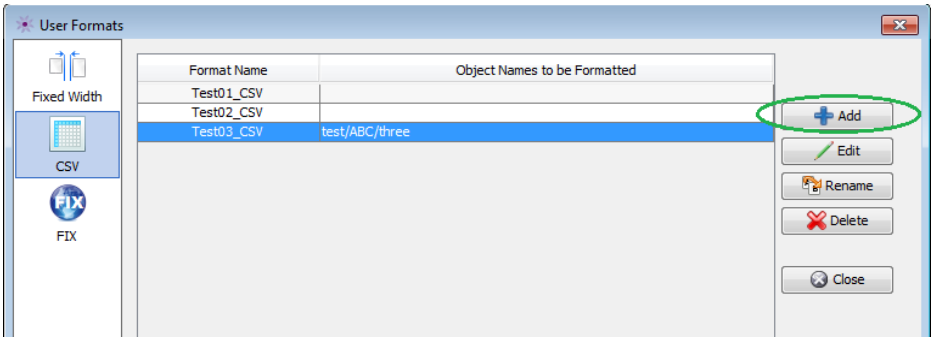
8.2 CSV Format

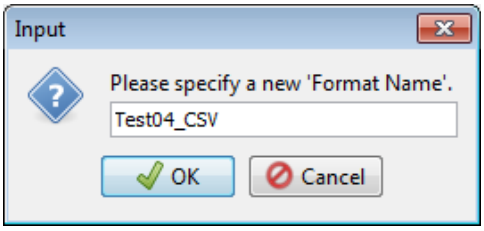
This section will describe how to add, edit and delete CSV (Comma Separated Value) formats.

8.2.1 Add a CSV Format

This section will describe how to add a CSV format.

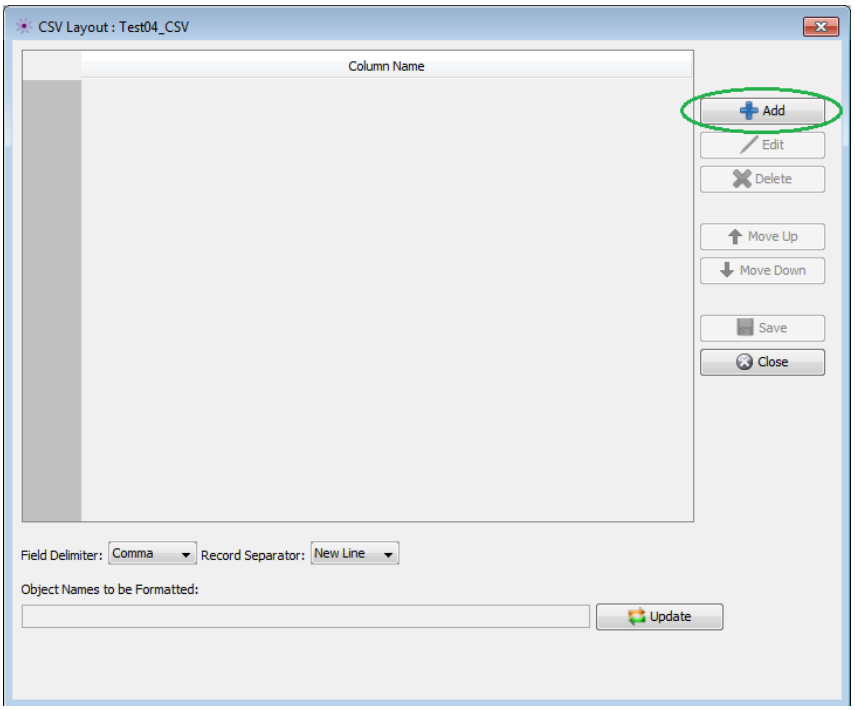
First, click the ***Add*** button, input a unique name for this new CSV Format and click the ***OK*** button.





8.2.1.1 Field Definition

Next, on the CSV Layout window, the user can add fields to the layout format by clicking the ***Add*** button.



Input a name for the CSV column then click the ***OK*** button.

8.2.1.2 Field Delimiter

The ***Field Delimiter*** states how each column is separated from the next column. The default is "Comma". The user can change it to one of the other values in the dropdown.

8.2.1.3 Record Separator

The ***Record Separator*** states how each row is laid out in the message data. The default is "New Line". The user can change it to one of the other values in the dropdown.

8.2.1.4 Object Names to be formatted

The ***Object Names to be formatted*** is a list of queues and topics that the format will be automatically applied to when the user clicks the Fixed Width Viewer in the Edit Message Window. This parameter is optional.

The ***Object Names to be formatted*** can be the fully qualified queue or topic name or it can be a regular expression pattern.

In the regular expression pattern:

- '*' matches any sequence of characters (zero or more)
- '?' matches any single character
- '#' matches any single numeric digit (0-9)
- '@' matches any single alphabetic character (A-Z, a-z)
- [SET] matches any of the characters in the specified set
- [!SET] or [^SET] matches any character except those specified in the set (negation).

A SET can be composed of characters or ranges. A range is in the form: 'character – character' (i.e. 0-9 or A-Z). Although this is the simplest range allowed in the [ ] pattern, more complex inclusive ranges such as [0-9a-zA-Z] are allowed. [0-9a-zA-Z] specifies that the character can be 0 through 9 **or** a through z **or** A through Z. Other characters are allowed (ie. 8 bit characters) if your system supports them.

In order to suppress the special syntactic significance of any of these characters '[] * ? # @ ! ^ - \', a backslash ('\') must precede the special character.

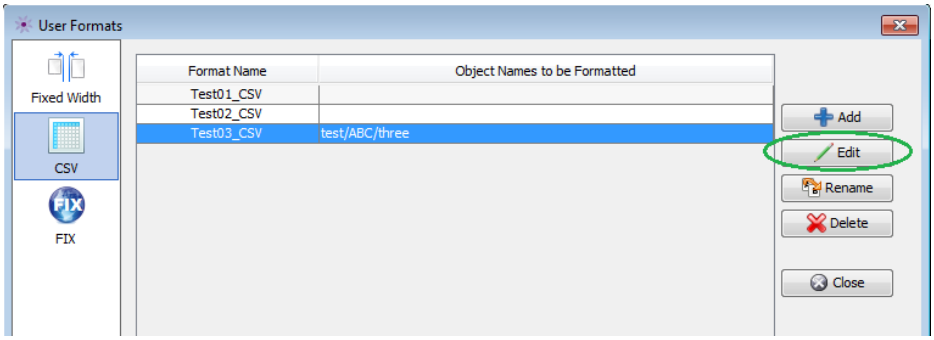
8.2.1.5 Saving Format

When you are done inputting fields, click the ***Save*** button to the new layout to the database.

8.2.2 Edit a CSV Format

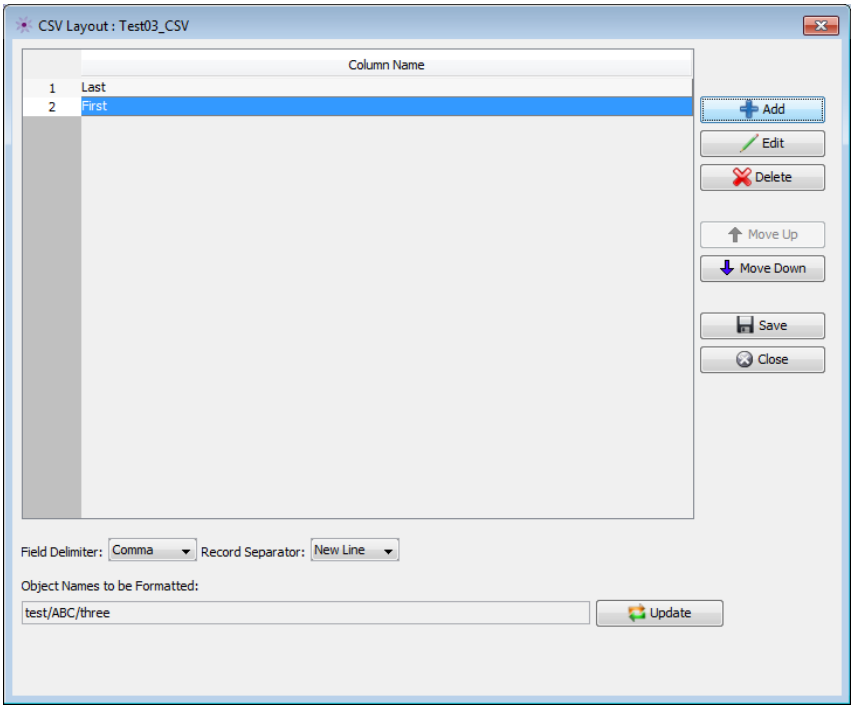
This section will describe how to edit a CSV format.

Click the ***Edit*** button (or double left click on the format name) to open the CSV Layout window.



8.2.2.1 Field Definition

On the CSV Layout window, the user can add, edit or delete fields of the layout format.



8.2.2.2 Field Delimiter

The ***Field Delimiter*** states how each column is separated from the next column. The default is "Comma". The user can change it to one of the other values in the dropdown.

8.2.2.3 Record Separator

The ***Record Separator*** states how each row is laid out in the message data. The default is "New Line". The user can change it to one of the other values in the dropdown.

8.2.2.4 Object Names to be formatted

The ***Object Names to be formatted*** is a list of queues and topics that the format will be automatically applied to when the user clicks the Fixed Width Viewer in the Edit Message Window. This parameter is optional.

The ***Object Names to be formatted*** can be the fully qualified queue or topic name or it can be a regular expression pattern.

In the regular expression pattern:

- '*' matches any sequence of characters (zero or more)
- '?' matches any single character
- '#' matches any single numeric digit (0-9)
- '@' matches any single alphabetic character (A-Z, a-z)
- [SET] matches any of the characters in the specified set
- [!SET] or [^SET] matches any character except those specified in the set (negation).

A SET can be composed of characters or ranges. A range is in the form: 'character – character' (i.e. 0-9 or A-Z). Although this is the simplest range allowed in the [ ] pattern, more complex inclusive ranges such as [0-9a-zA-Z] are allowed. [0-9a-zA-Z] specifies that the character can be 0 through 9 **or** a through z **or** A through Z. Other characters are allowed (ie. 8 bit characters) if your system supports them.

In order to suppress the special syntactic significance of any of these characters '[] * ? # @ ! ^ - \', a backslash ('\') must precede the special character.

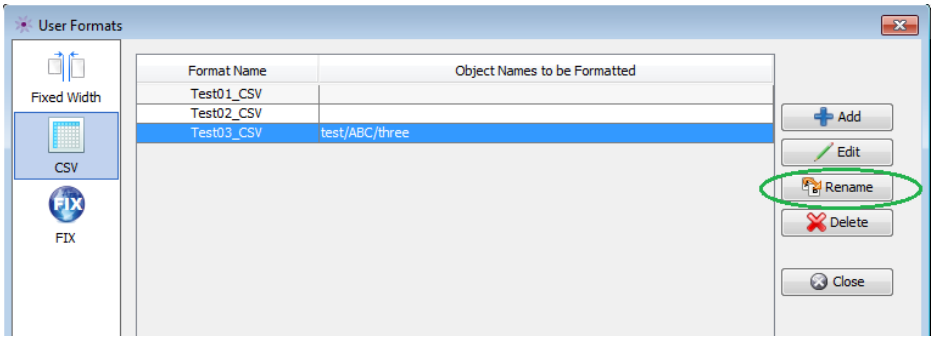
8.2.2.5 Saving Format

When you are done inputting fields, click the ***Save*** button to the new layout to the database.

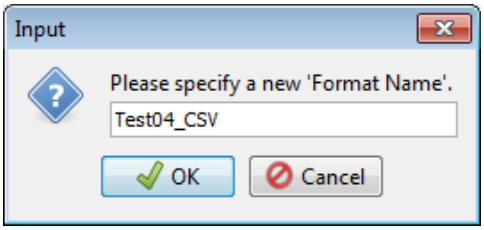
8.2.3 Rename a CSV Format

This section will describe how to rename a CSV format.

First, click the ***Rename*** button.



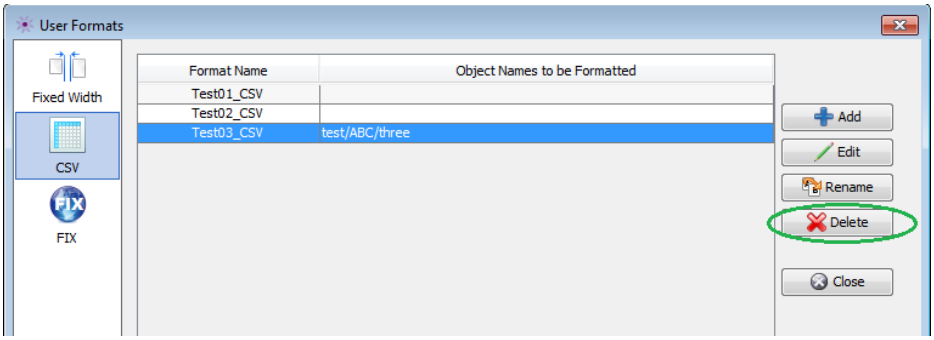
Now specify a new format name then click the ***OK*** button.



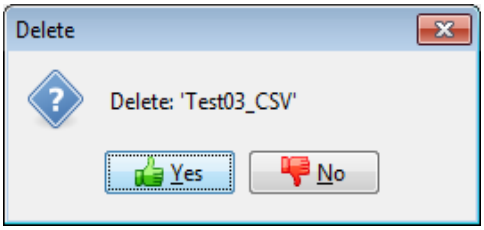
8.2.4 Delete a CSV Format

This section will describe how to delete a CSV format.

First, click the ***Delete*** button.



Click the ***Yes*** button to confirm the deletion of the particular CSV format.



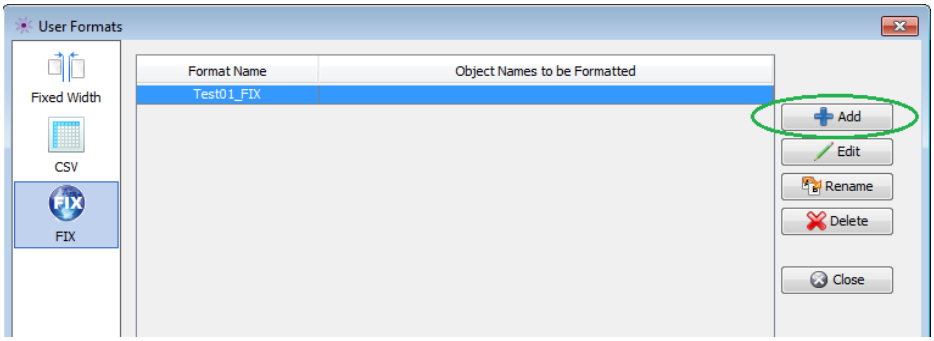
8.3 FIX Format

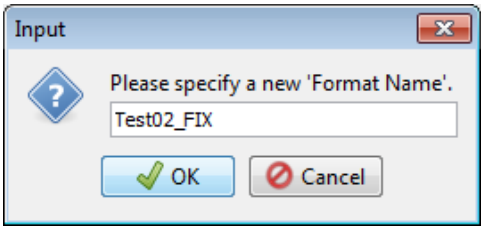
This section will describe how to add, edit and delete FIX (Financial Information eXchange) formats.

8.3.1 Add a FIX Format

This section will describe how to add a FIX format.

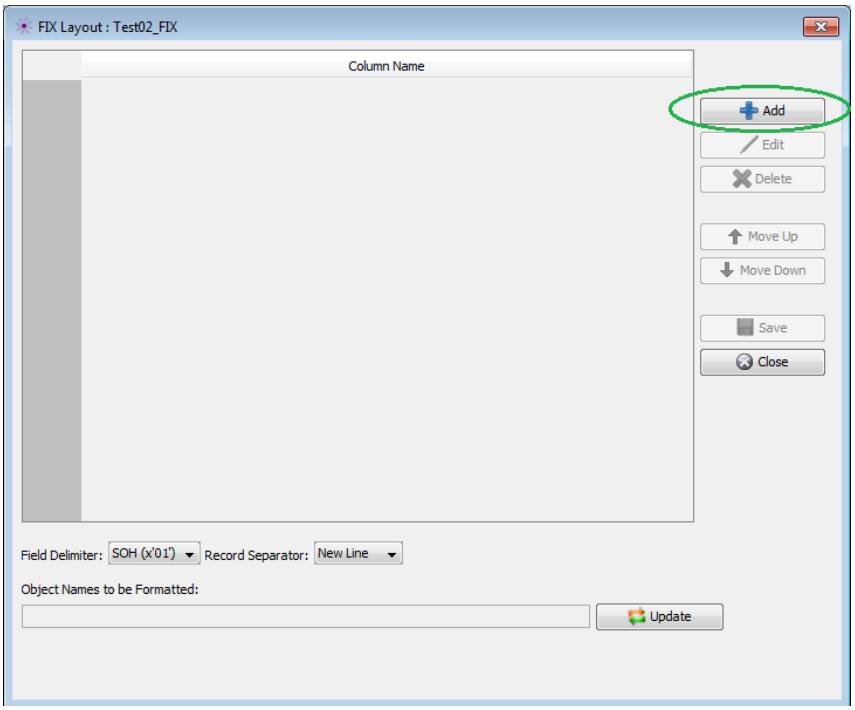
First, click the ***Add*** button, input a unique name for this new FIX Format and click the ***OK*** button.



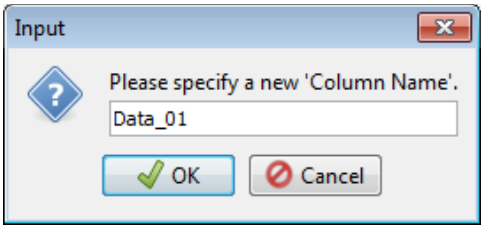


8.3.1.1 Field Definition

Next, on the FIX Layout window, the user can add fields to the layout format by clicking the ***Add*** button.



Input a name for the FIX column then click the ***OK*** button.



8.3.1.2 Field Delimiter

The ***Field Delimiter*** states how each column is separated from the next column. The default is "SOH (x'01')". The user can change it to one of the other values in the dropdown.

8.3.1.3 Record Separator

The ***Record Separator*** states how each row is laid out in the message data. The default is "New Line". The user can change it to one of the other values in the dropdown.

8.3.1.4 Object Names to be formatted

The ***Object Names to be formatted*** is a list of queues and topics that the format will be automatically applied to when the user clicks the Fixed Width Viewer in the Edit Message Window. This parameter is optional.

The ***Object Names to be formatted*** can be the fully qualified queue or topic name or it can be a regular expression pattern.

In the regular expression pattern:

- '*' matches any sequence of characters (zero or more)
- '?' matches any single character
- '#' matches any single numeric digit (0-9)
- '@' matches any single alphabetic character (A-Z, a-z)
- [SET] matches any of the characters in the specified set
- [!SET] or [^SET] matches any character except those specified in the set (negation).

A SET can be composed of characters or ranges. A range is in the form: 'character – character' (i.e. 0-9 or A-Z). Although this is the simplest range allowed in the [ ] pattern, more complex inclusive ranges such as [0-9a-zA-Z] are allowed. [0-9a-zA-Z] specifies that the character can be 0 through 9 **or** a through z **or** A through Z. Other characters are allowed (ie. 8 bit characters) if your system supports them.

In order to suppress the special syntactic significance of any of these characters '[] * ? # @ ! ^ - \', a backslash ('\') must precede the special character.

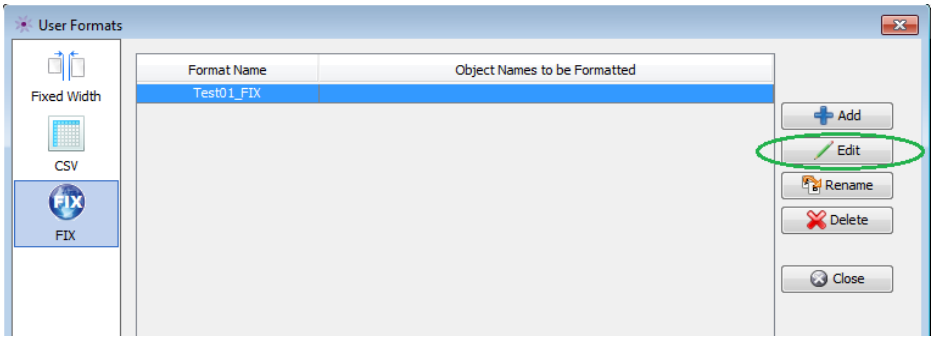
8.3.1.5 Saving Format

When you are done inputting fields, click the ***Save*** button to the new layout to the database.

8.3.2 Edit a FIX Format

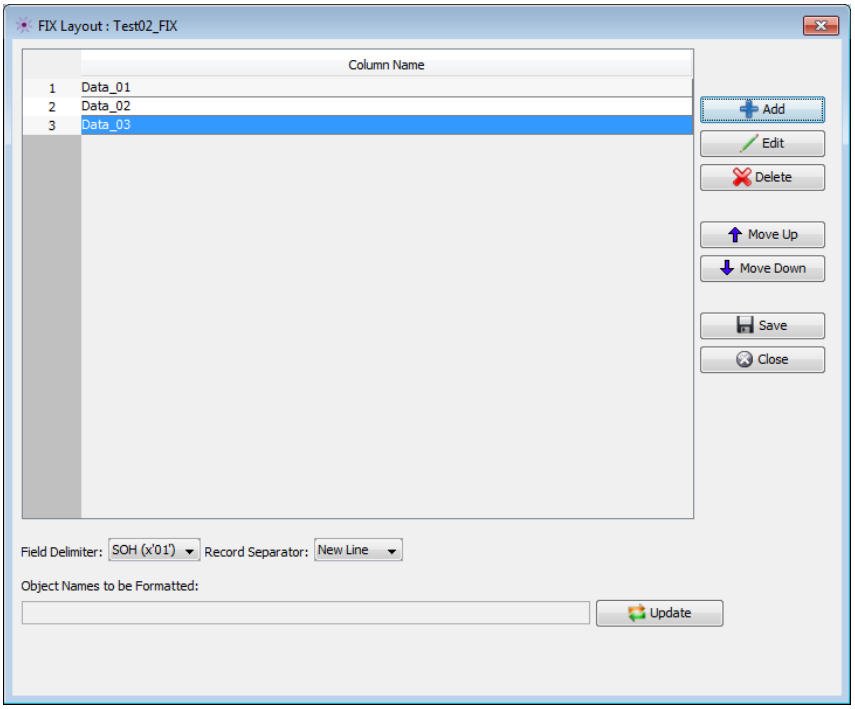
This section will describe how to edit a FIX format.

Click the ***Edit*** button (or double left click on the format name) to open the FIX Layout window.



8.3.2.1 Field Delimiter

On the FIX Layout window, the user can add, edit or delete fields of the layout format.



8.3.2.2 Field Delimiter

The ***Field Delimiter*** states how each column is separated from the next column. The default is "SOH (x'01')". The user can change it to one of the other values in the dropdown.

8.3.2.3 Record Separator

The ***Record Separator*** states how each row is laid out in the message data. The default is "New Line". The user can change it to one of the other values in the dropdown.

8.3.2.4 Object Names to be formatted

The ***Object Names to be formatted*** is a list of queues and topics that the format will be automatically applied to when the user clicks the Fixed Width Viewer in the Edit Message Window. This parameter is optional.

The ***Object Names to be formatted*** can be the fully qualified queue or topic name or it can be a regular expression pattern.

In the regular expression pattern:

- '*' matches any sequence of characters (zero or more)
- '?' matches any single character
- '#' matches any single numeric digit (0-9)
- '@' matches any single alphabetic character (A-Z, a-z)
- [SET] matches any of the characters in the specified set
- [!SET] or [^SET] matches any character except those specified in the set (negation).

A SET can be composed of characters or ranges. A range is in the form: 'character – character' (i.e. 0-9 or A-Z). Although this is the simplest range allowed in the [ ] pattern, more complex inclusive ranges such as [0-9a-zA-Z] are allowed. [0-9a-zA-Z] specifies that the character can be 0 through 9 **or** a through z **or** A through Z. Other characters are allowed (ie. 8 bit characters) if your system supports them.

In order to suppress the special syntactic significance of any of these characters '[] * ? # @ ! ^ - \', a backslash ('\') must precede the special character.

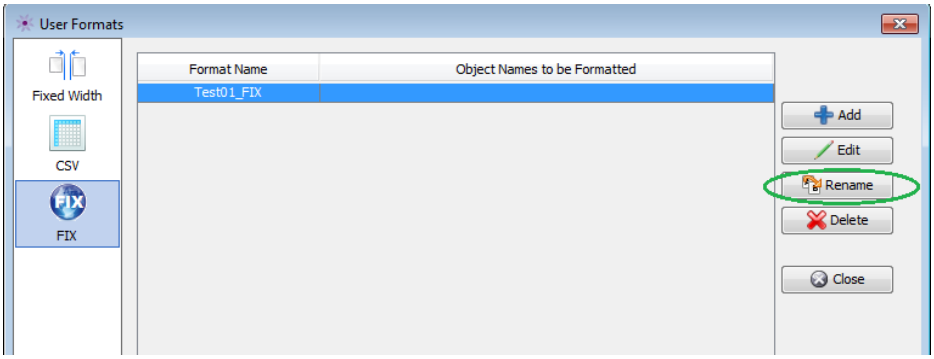
8.3.2.5 Saving Format

When you are done inputting fields, click the ***Save*** button to the new layout to the database.

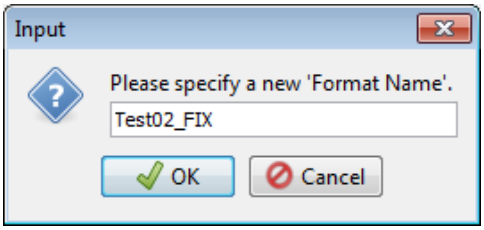
8.3.3 Rename a FIX Format

This section will describe how to rename a FIX format.

First, click the ***Rename*** button.



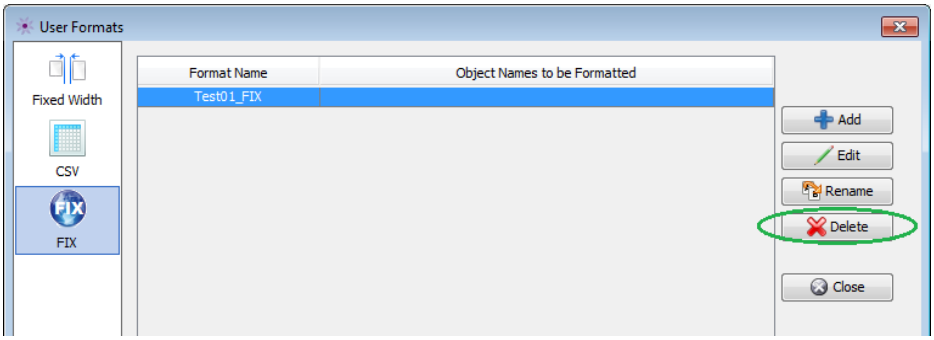
Now specify a new format name then click the ***OK*** button.



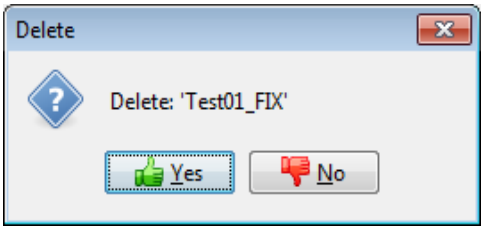
8.3.4 Delete a FIX Format

This section will describe how to delete a FIX format.

First, click the ***Delete*** button.



Click the ***Yes*** button to confirm the deletion of the particular FIX format.



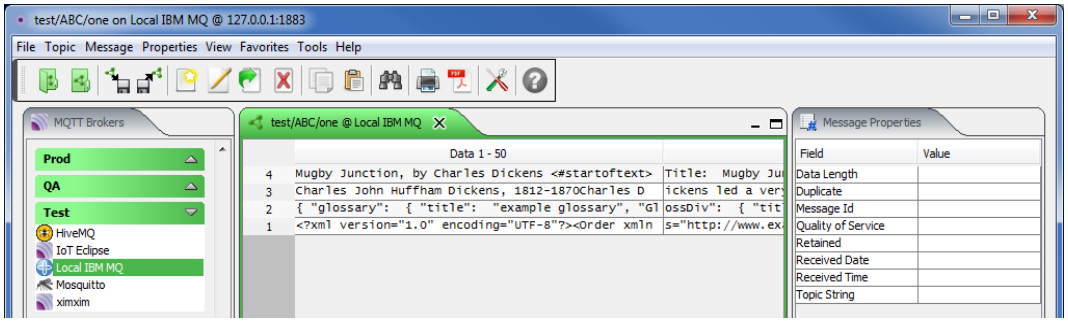
9 Favorites

This chapter will describe how to add a favorite or organize the user's list of favorites. Favorites is similar to Internet Explorer's favorites but rather than adding a favorite web site, the user adds a favorite topic and MQTT Broker combination.

9.1 Add Favorite

This section will describe how to add a favorite topic & MQTT Broker combination to the user's favorite list.

If you have previously opened topic ***test/ABC/one***, the main panel may look something like:



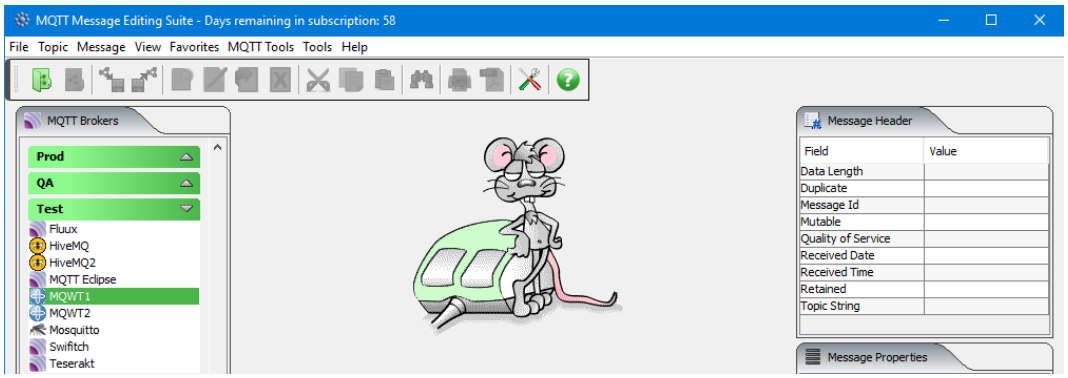
From the main panel of MQTT Message Editing Suite, select **Favorite**, then **Add** to Favorites.

There will be no change to the main panel. The action sets the topic and MQTT Broker combination as a favorite to the user's favorite list.

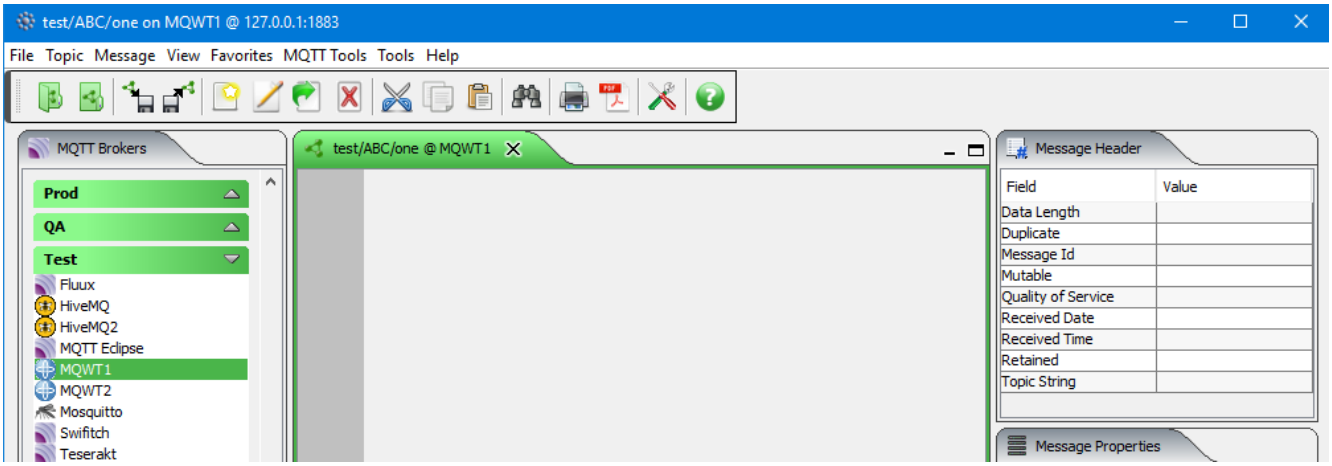
9.2 Open Favorite

This section will describe how to open a favorite topic and MQTT Broker combination.

From the main window when no topics are open, MQTT Message Editing Suite will look like:



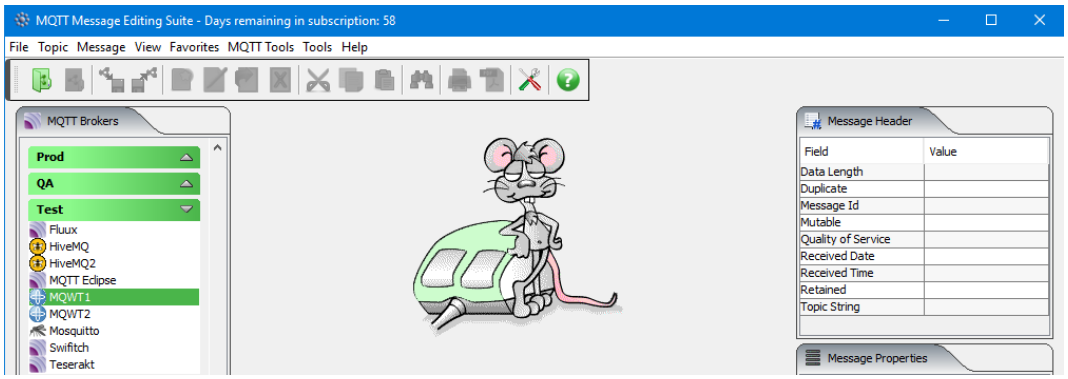
From the main panel of MQTT Message Editing Suite, select **Favorite**, then click the favorite to be opened (i.e. 'test/ABC/one') and the topic will be opened.



9.3 Organize Favorite

This section will describe how to organize the user's list of favorites. MQTT Message Editing Suite's favorites are very similar to Internet Explorer's favorites. Basically, it gives the user a very quick way to return to a previously opened topic and MQTT Broker combination.

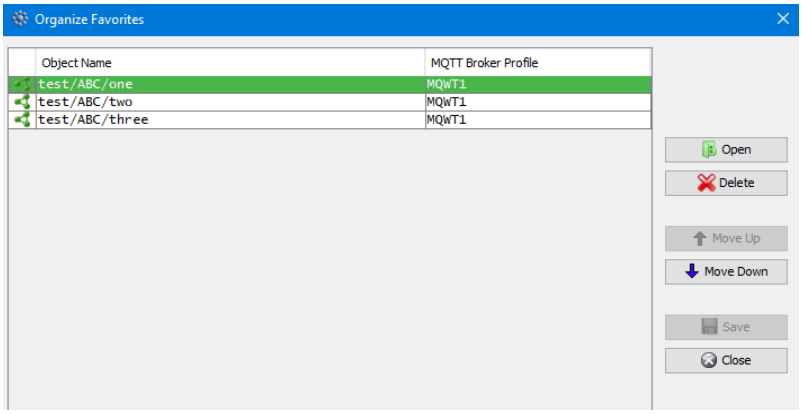
From the main window when no topics are open, MQTT Message Editing Suite will look like:



From the main panel of MQTT Message Editing Suite, select **Favorite**, then **Organize Favorites**.

The user can do the following actions:

- Move favorites up or down
- Delete a favorite
- Directly Open a favorite
- Save the updated favorite list when they are done.



10 Stress Testing Tools

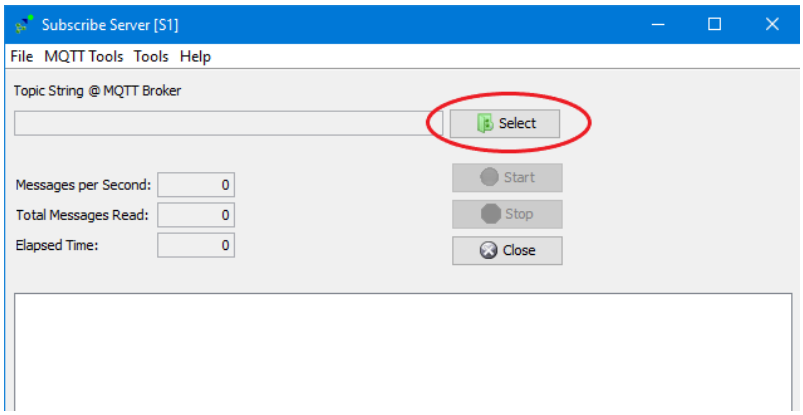
This chapter will describes how to invoke and use the Stress Testing Tools included with MQTT Message Editing Suite.

10.1 Subscribe Server

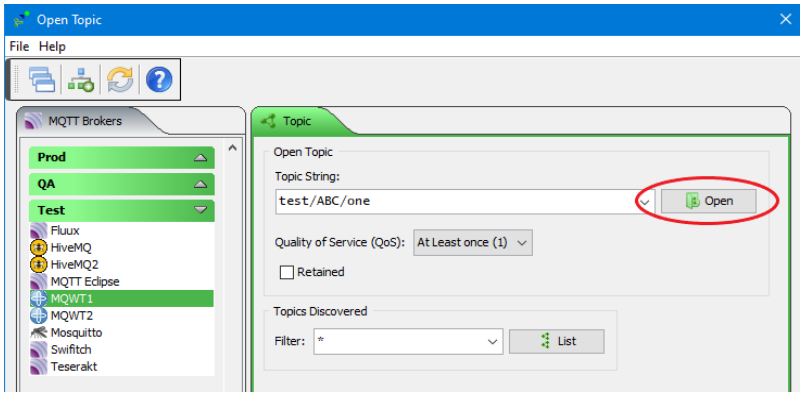
This section will describe how to invoke and use the Subscribe Server Stress Testing tool. The Subscribe Server will continuously consume messages of a topic and show statistics of its current state. For the Stress Testing Servers (Subscribe & Publish Servers), you can have unlimited number of them running (up to what your box can support). Also, while any of the Servers are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **MQTT Tools**, then **Subscribe Server**.

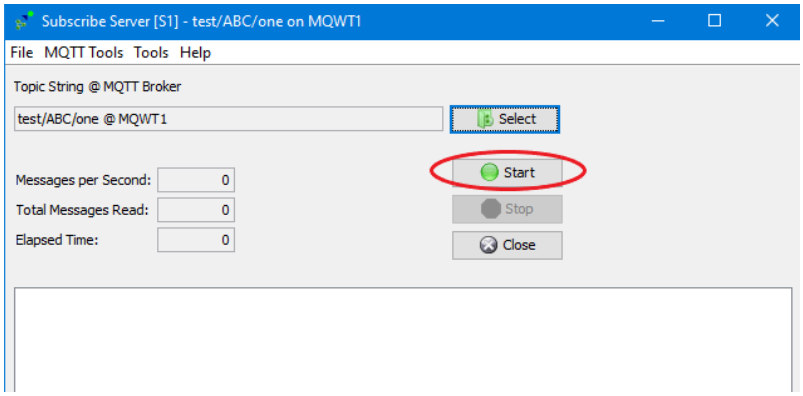
This is the main panel of the Subscribe Server. The user will need to select the topic and MQTT Broker before starting the Subscribe Server. Click the **Select** button to choose the topic and MQTT Broker.



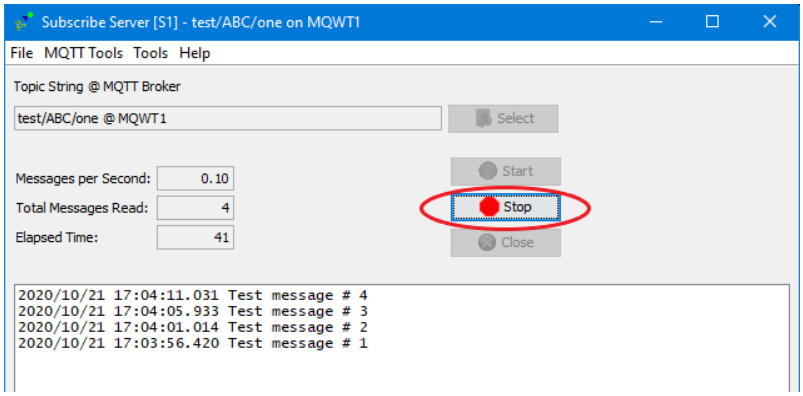
This is the standard 'Open Topic' dialog. Select the topic and MQTT Broker then click the Open button.



Once the topic and MQTT Broker have been selected, the user can now start the Subscribe Server by clicking the **Start** button.



While the Subscribe Server is running, the current statistics are displayed and updated. To stop the execution of the Subscribe Server click the **Stop** button.



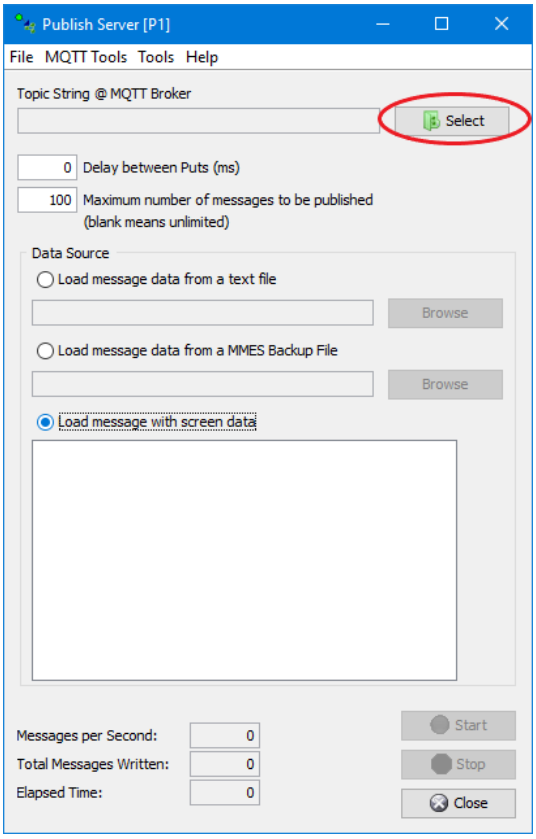
10.2 Publish Server

This section will describe how to invoke and use the Publish Server Stress Testing tool. The Publish Server will publish (put) messages to a topic. It can be used to stress test a 'Server Component'. The user can control the feed by putting a delay between the putting messages to a topic. The messages data can be from a simple input text or from a plain text file or from a Backup file.

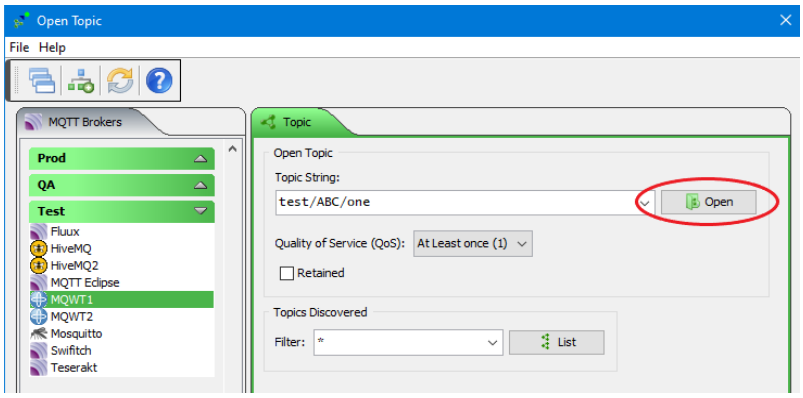
For the Stress Testing Servers (Subscribe & Publish Servers), you can have unlimited number of them running (up to what your box can support). Also, while any of the Servers are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **MQTT Tools**, then **Publish Server**.

This is the main panel of the Publish Server. The user will need to select the topic and MQTT Broker before starting the Publish Server. Click the Select button to choose the topic and MQTT Broker.



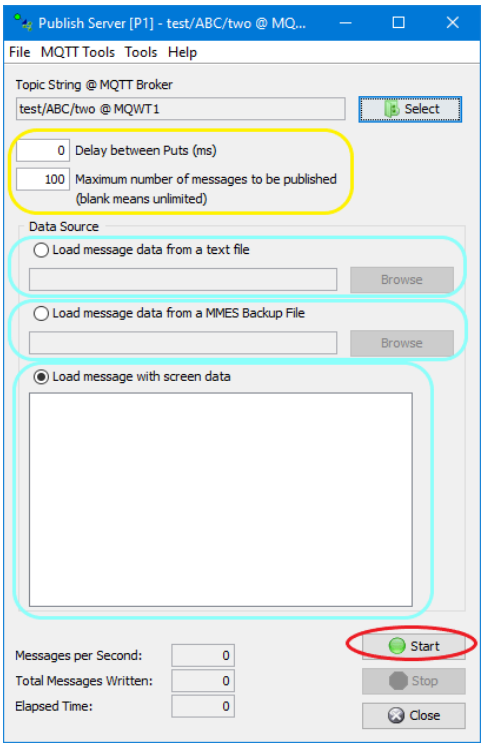
This is the standard 'Open Topic' dialog. Select the topic and MQTT Broker then click the Open button.



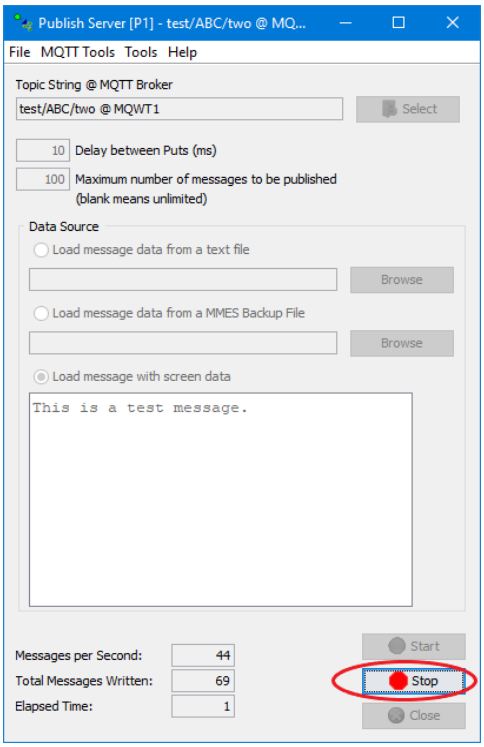
Once the topic and MQTT Broker have been selected, the user can provide more information:

- The user can select a delay between puts.
- The user can select the number of messages to be written. Note: A blank in this field means an UNLIMITED number of puts will be done (it will run forever).
- The user is required to select a Data Source. The message text can come from 1 of 3 sources:
  1. The user can input simple text in the text box on the Publish Server panel. The Message Properties will default to whatever the topic defaults attributes are.
  2. The user can select a text file to be used as the message text. The Message Properties header will default to whatever the topic defaults attributes are.
  3. The user can select a Backup File. A Backup file can have multiple messages in it. Therefore, each message in the Backup file will be written as separate messages to the topic. Note: If max messages is set to 100 and there are 8 messages in the Backup file then a total of 800 messages will be written to the topic.

After filling in the required information, the user can start the Publish Server by clicking the Start button.



While the Publish Server is running, the current statistics are displayed and updated. To stop the execution of the Publish Server click the **Stop** button.



11 Monitoring Tools

This chapter will describes how to invoke and use the Monitoring Tools included with MQTT Message Editing Suite.

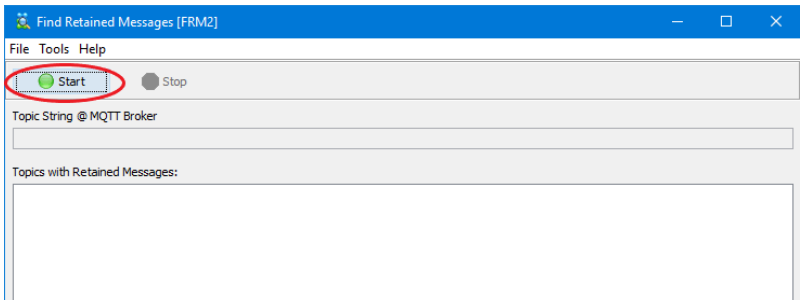
11.1 Find Retained Messages

This section will describe how to invoke and use the Find Retained Messages tool. The Find Retained Messages will collect and display topics that have a message with the retained flag set to true.

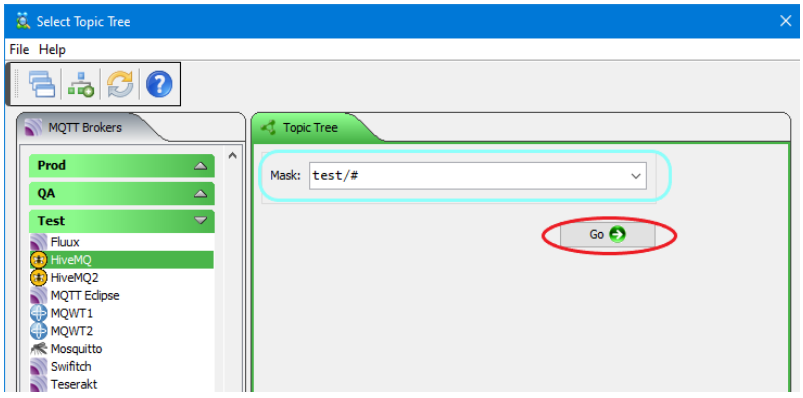
For the MQ Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the MQ Tools are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **MQTT Tools**, then **Find Retained Messages**.

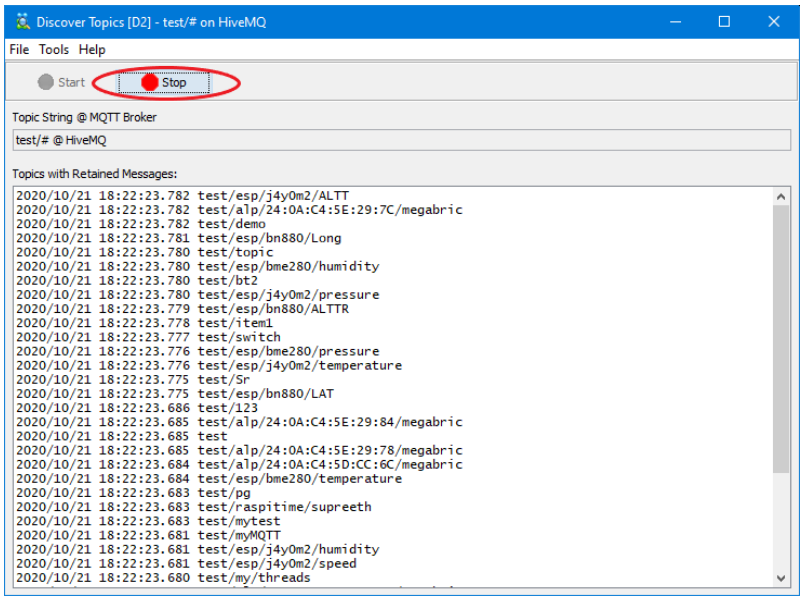
This is the main panel of the Find Retained Messages. Click the **Start** button to choose the broker and options.



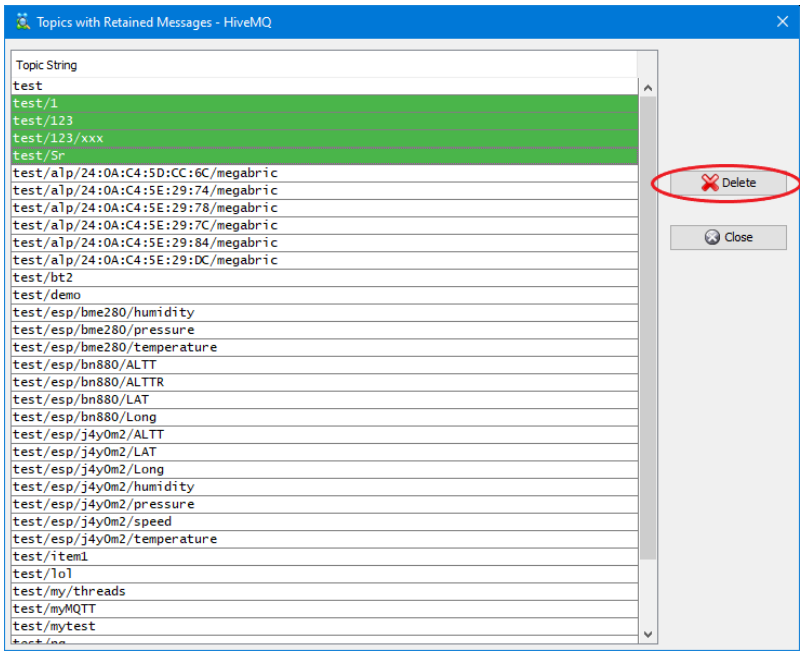
This is the 'Find Retained Messages' selection window, where the user selects the MQTT Broker and clicks the **Go** button.



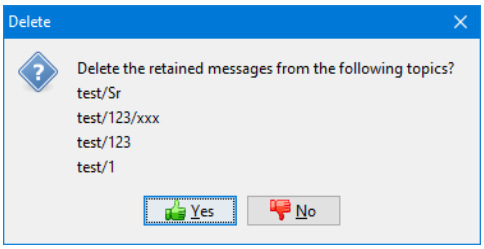
When the user is done collecting topics with retained messages, click the ***Stop*** button.



Next, a window will be displayed to the user and the user has the option of selecting 1 or more topics to have the retained messages deleted.



The user will be prompted to verify that the selected topics are to have the retained messages deleted.



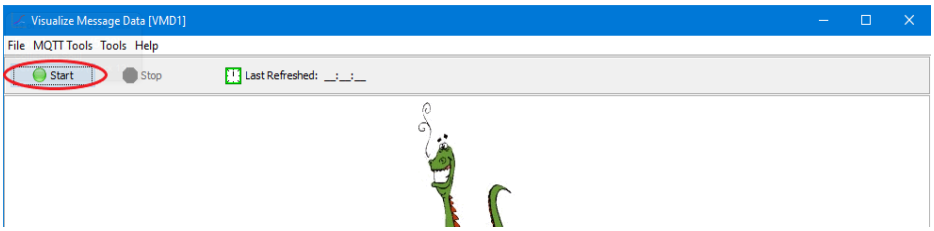
11.2 Visualize Message Data

This section will describe how to invoke and use the Visualize Message Data monitoring tool. The Visualize Message Data monitoring tool will continuously collect the data of incoming messages of a topic and display the message data values in a chart.

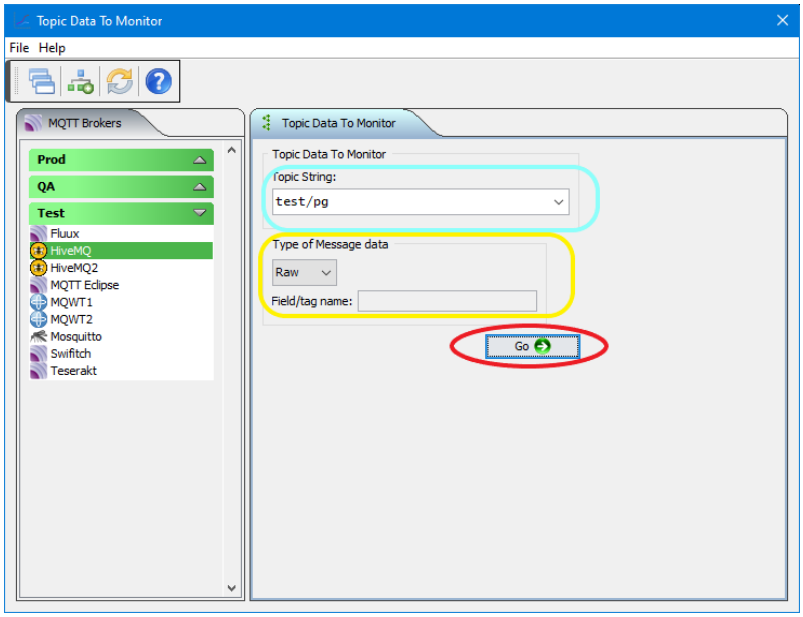
For the MQ Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the MQ Tools are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **MQTT Tools**, then **Visualize Message Data**.

This is the main panel of the Visualize Message Data. Click the **Start** button to choose the broker and options.



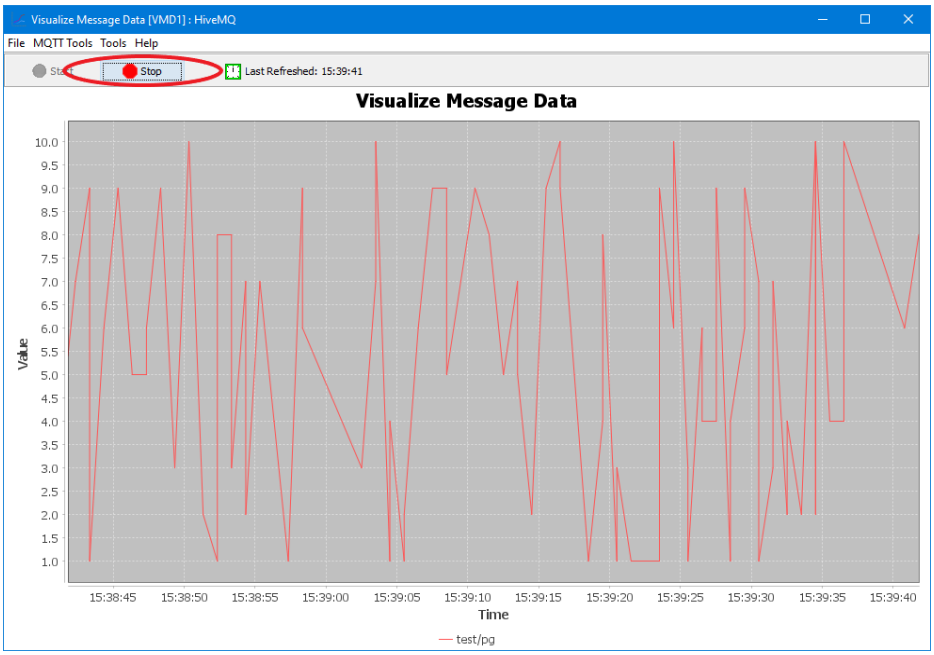
This is the 'Visualize Message Data' selection window, where the user selects the MQTT Broker. The topic, options and how the 'Visualize Message Data' monitoring tool is to interrupt/find the value in the message data and finally click the **Go** button.



Visualize Message Data monitoring tool supports extracting 3 types of message data:

- Raw – raw means that only a single decimal number is the message data
- XML – For XML, the user specifies the Tag name that holds the decimal number
- JSON – For JSON, the user specifies the Field name that holds the decimal number

As the Visualize Message Data monitoring tool is running, each time it receive a message, the message data will be parsed and chart will be updated. The "Last Refreshed" field in the toolbar will also be updated.



To stop the Visualize Message Data, simply click the **Stop** button.

11.3 Message Moving Average

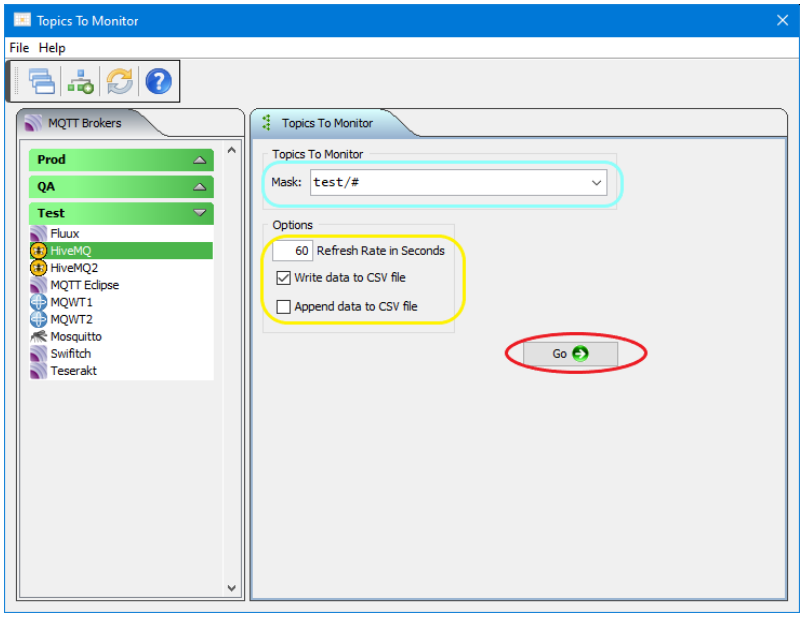
This section will describe how to invoke and use the Message Moving Average monitoring tool. The Message Moving Average monitoring tool will continuously collect messages from the user specified topics and update the various time periods. There are 7 time periods: 1, 5, 10, 15, 30, 45 and 60 minutes.

For the MQ Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the MQ Tools are running, the user can still use MQTT Message Editing Suite.

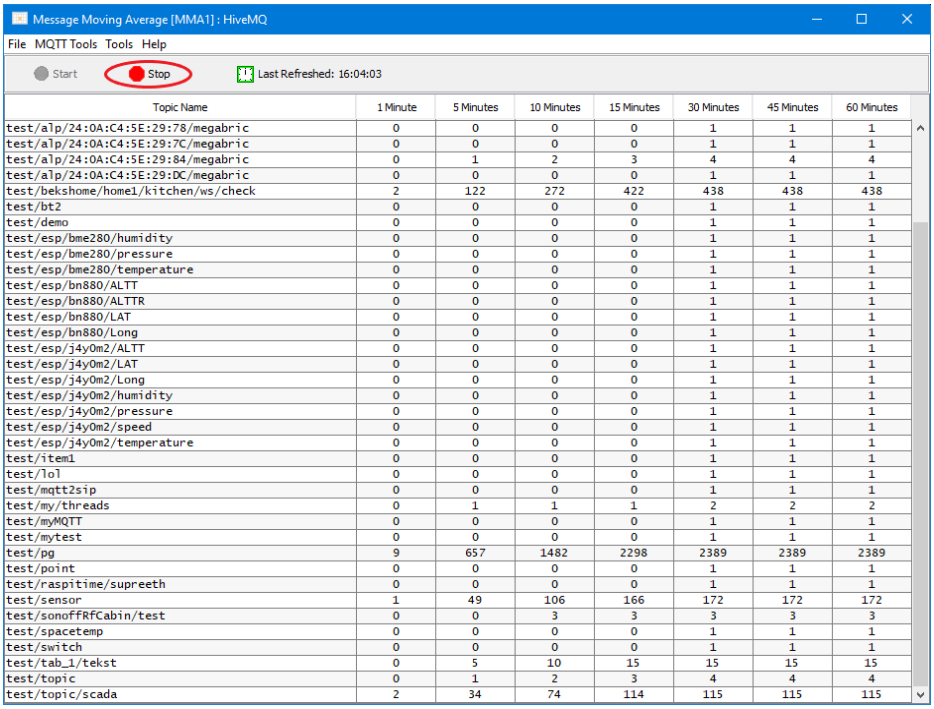
From the main panel of MQTT Message Editing Suite, select **MQTT Tools**, then **Message Moving Average**.

This is the main panel of the Message Moving Average. Click the **Start** button to choose the broker and options.

This is the 'Message Moving Average' selection window, where the user selects the MQTT Broker and clicks the **Go** button.



As the Message Moving Average monitoring tool is running, it will update the message counts for each topic in each time period.



Topic Name	1 Minute	5 Minutes	10 Minutes	15 Minutes	30 Minutes	45 Minutes	60 Minutes
test/alp/24:0A:C4:5E:29:78/megabric	0	0	0	0	1	1	1
test/alp/24:0A:C4:5E:29:7C/megabric	0	0	0	0	1	1	1
test/alp/24:0A:C4:5E:29:84/megabric	0	1	2	3	4	4	4
test/alp/24:0A:C4:5E:29:DC/megabric	0	0	0	0	1	1	1
test/bekshome/home1/kitchen/ws/check	2	122	272	422	438	438	438
test/bt2	0	0	0	0	1	1	1
test/demo	0	0	0	0	1	1	1
test/esp/bme280/humidity	0	0	0	0	1	1	1
test/esp/bme280/pressure	0	0	0	0	1	1	1
test/esp/bme280/temperature	0	0	0	0	1	1	1
test/esp/bn880/ALTT	0	0	0	0	1	1	1
test/esp/bn880/ALTTR	0	0	0	0	1	1	1
test/esp/bn880/LAT	0	0	0	0	1	1	1
test/esp/bn880/Long	0	0	0	0	1	1	1
test/esp/j4y0m2/ALTT	0	0	0	0	1	1	1
test/esp/j4y0m2/LAT	0	0	0	0	1	1	1
test/esp/j4y0m2/Long	0	0	0	0	1	1	1
test/esp/j4y0m2/humidity	0	0	0	0	1	1	1
test/esp/j4y0m2/pressure	0	0	0	0	1	1	1
test/esp/j4y0m2/speed	0	0	0	0	1	1	1
test/esp/j4y0m2/temperature	0	0	0	0	1	1	1
test/item1	0	0	0	0	1	1	1
test/lol	0	0	0	0	1	1	1
test/mqtt2sip	0	0	0	0	1	1	1
test/my/threads	0	1	1	1	2	2	2
test/myMQTT	0	0	0	0	1	1	1
test/mytest	0	0	0	0	1	1	1
test/pg	9	657	1482	2298	2389	2389	2389
test/point	0	0	0	0	1	1	1
test/raspitime/supreeth	0	0	0	0	1	1	1
test/sensor	1	49	106	166	172	172	172
test/sonoffRfCabin/test	0	0	3	3	3	3	3
test/spacetemp	0	0	0	0	1	1	1
test/switch	0	0	0	0	1	1	1
test/tab_1/tekst	0	5	10	15	15	15	15
test/topic	0	1	2	3	4	4	4
test/topic/scada	2	34	74	114	115	115	115

To stop the Message Moving Average, simply click the **Stop** button.

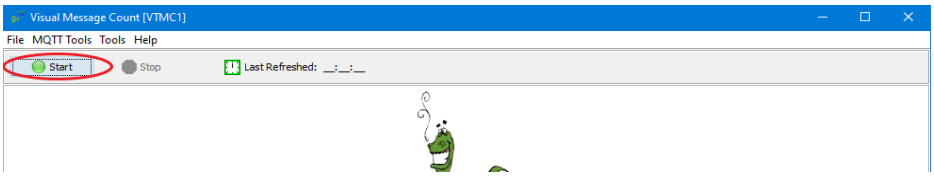
11.4 Visual Message Count

This section will describe how to invoke and use the Visual Message Count monitoring tool. The Visual Message Count monitoring tool will continuously monitor the user specified topics of a broker visually displaying the message count over the last 60 seconds.

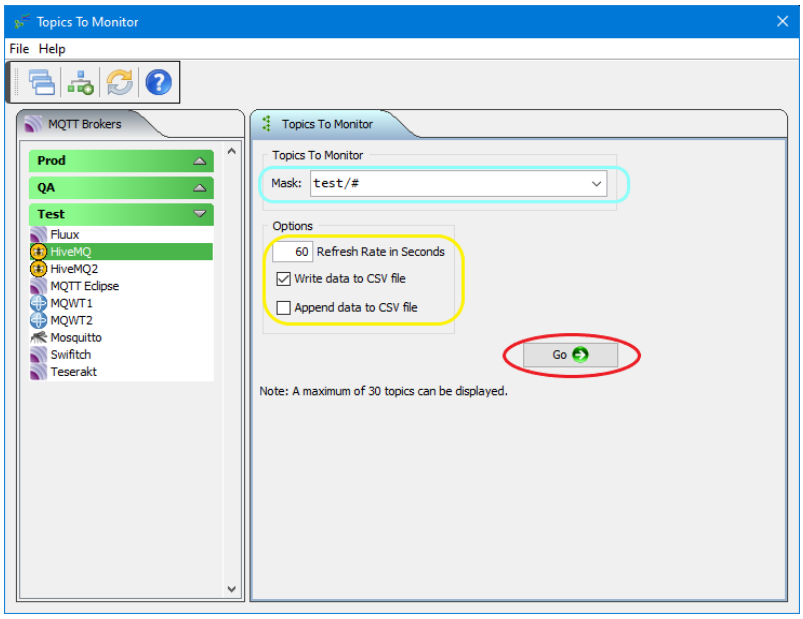
For the MQ Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the MQ Tools are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **MQTT Tools**, then **Visual Message Count**.

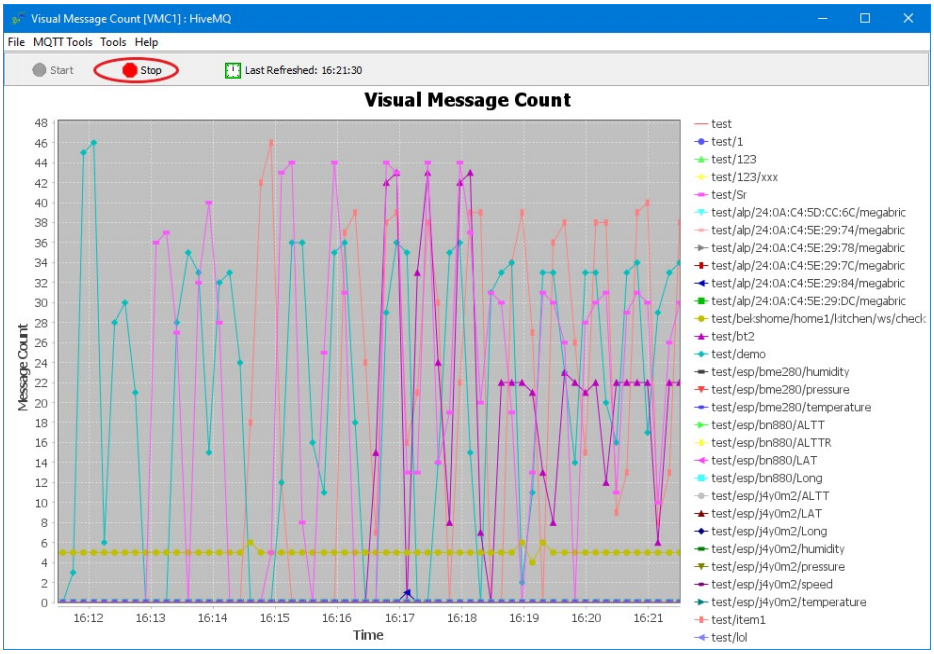
This is the main panel of the Visual Message Count. Click the **Start** button to choose the broker and options.



This is the 'Visual Message Count' selection window, where the user selects the MQTT Broker and clicks the **Go** button.



As the Visual Message Count monitoring tool is running, it will display the message count per topic over a 60 second period.



To stop the Visual Message Count, simply click the **Stop** button.

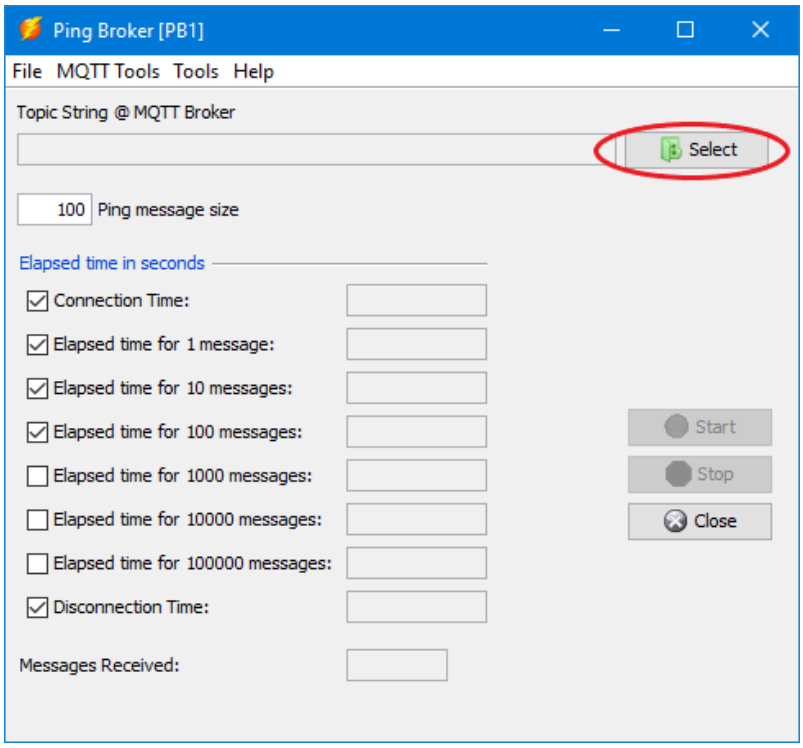
11.5 Ping Broker

This section will describe how to invoke and use the Ping Broker monitoring tool. The Ping Broker monitoring tool will test if a broker is up and running and how long it takes to publish and receives messages to and from the broker.

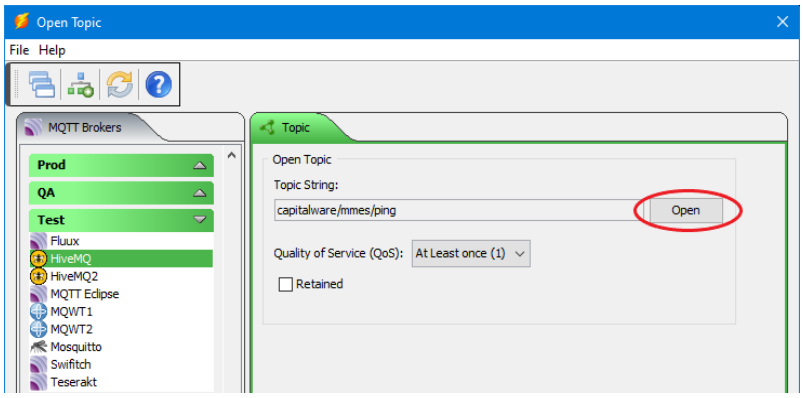
For the MQ Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the MQ Tools are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **MQTT Tools**, then **Ping Broker**.

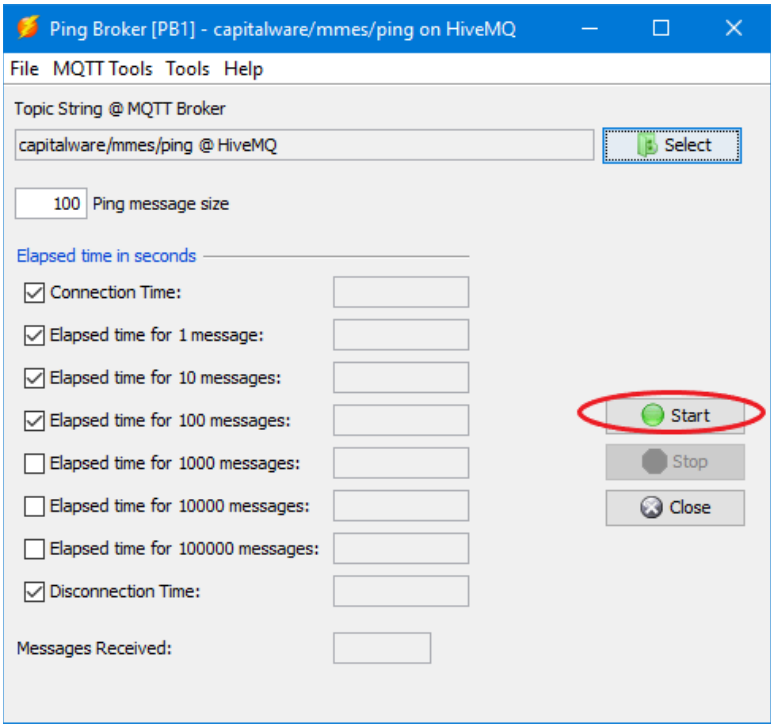
This is the main panel of the Ping Broker. Click the **Start** button to choose the broker and options.



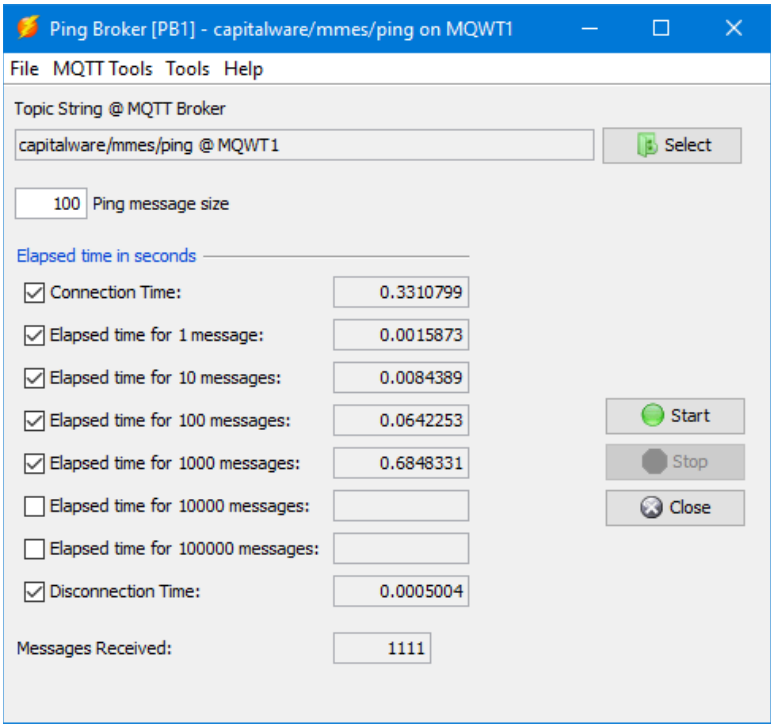
First the user needs to select the broker to be pinged. This is the 'Ping Broker' selection window, where the user selects the MQTT Broker and clicks the **Open** button.



Click the **Start** button to begin the ping test of the broker. Note: The user can select more or fewer ping tests to be done.



As the Ping Broker monitoring tool is running, the window will be updated with the current values from each ping test.



To stop the Ping Broker monitoring tool, simply click the **Stop** button. Note: The Ping Broker monitoring tool will automatically stop when all of the selected tests are completed.

11.6 Broker Status Monitor

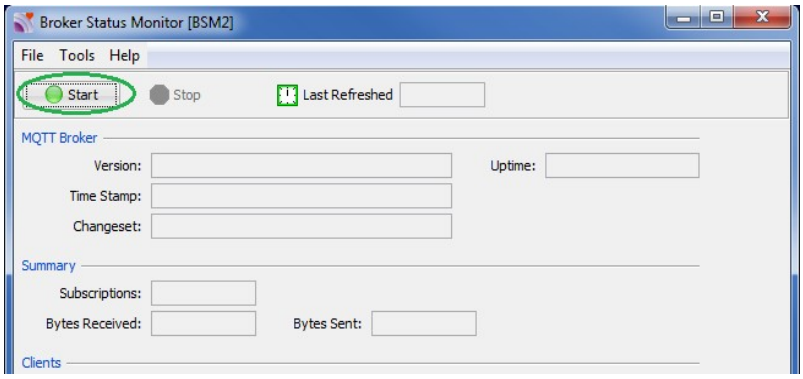
This section will describe how to invoke and use the Broker Status Monitor tool. The Broker Status Monitor will continuously monitor the status of the broker.

For the MQ Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the MQ Tools are running, the user can still use MQTT Message Editing Suite.

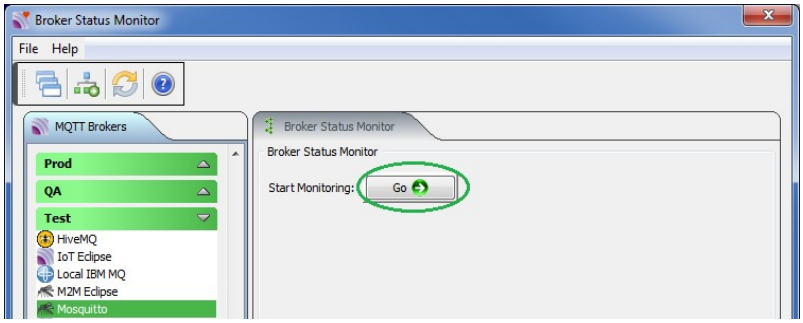
Note: Currently, IBM MQ does **not** support "$SYS Topic" messages as defined on the following web page: https://github.com/mqtt/mqtt.github.io/wiki/SYS-Topics

From the main panel of MQTT Message Editing Suite, select **MQTT Tools**, then **Broker Status Monitor**.

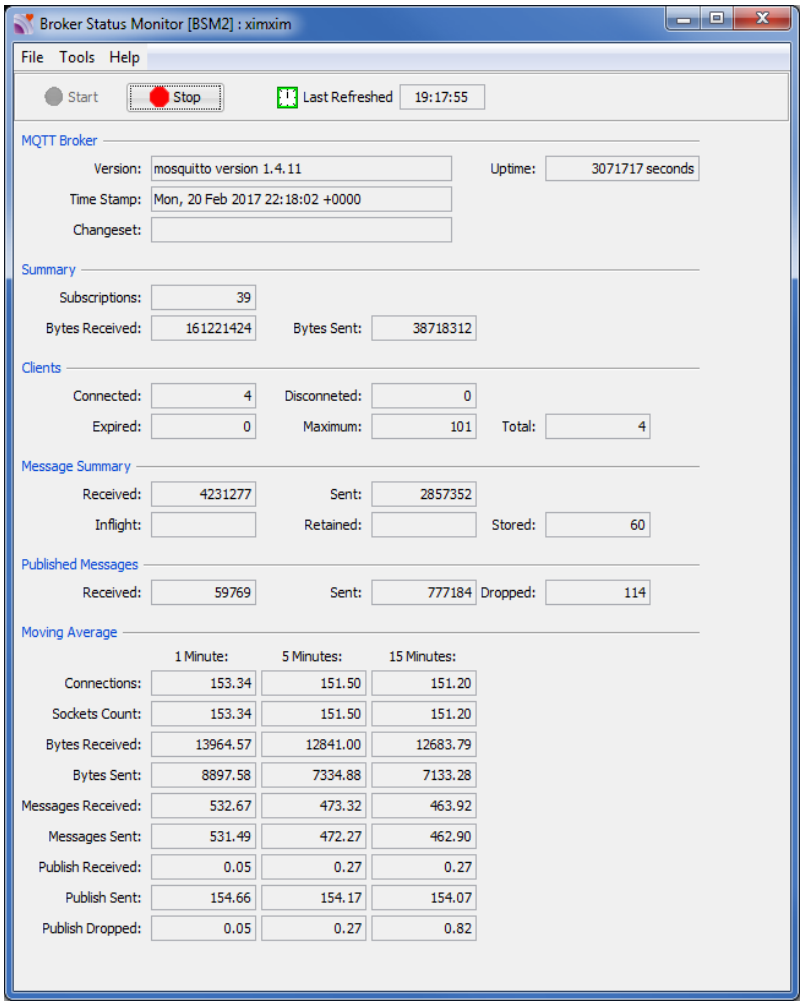
This is the main panel of the Broker Status Monitor. Click the **Start** button to choose the broker and options.



This is the 'Broker Status Monitor' selection window, where the user selects the MQTT Broker and clicks the **Go** button.



As the Broker Status Monitor monitoring tool is running, it will receive "$SYS Topic" messages and popular the screen. Each time a field is updated, the "Last Refreshed" field in the toolbar will also be updated.



The "$SYS Topics" that Broker Status Monitor subscribes to are the common topics as defined on the following web page: https://github.com/mqtt/mqtt.github.io/wiki/SYS-Topics

To stop the Broker Status Monitor, simply click the **Stop** button.

12 Other Tools

This chapter will describes how the other tools included with MQTT Message Editing Suite.

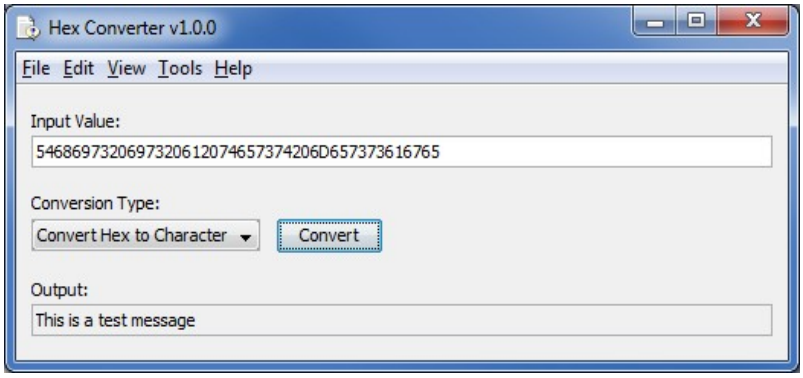
12.1 Hex Converter

This section will describe how to invoke and use the Hex Converter tool. Hex Converter tool can convert a hexadecimal number to its corresponding string representation and vice versa. i.e. 0x'3132333041424344' to '1230ABCD'.

For the Other Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the Other Tools are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **Tools**, then **Hex Converter**.

This is the main panel of the Hex Converter.



- The user first selects the Conversion type: "Hex to Character" or "Character to Hex"
- Input the value hex or character value into the "Input Value" field
- Click the Convert button to convert the data

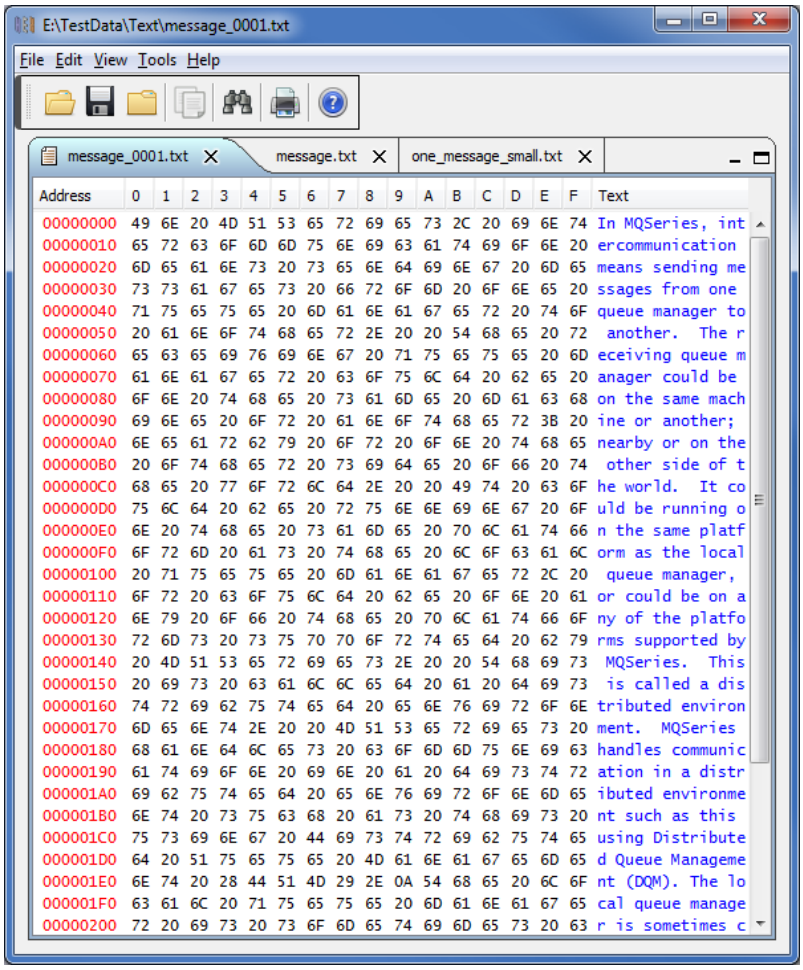
12.2 Hex Editor

This section will describe how to invoke and use the Hex Editor tool. The Hex Editor is a simple multipurpose hex editor. The Hex Editor supports multi-file editing.

For the Other Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the Other Tools are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **Tools**, then **Hex Editor**.

This is the main panel of the Hex Editor and it has 3 open files.



Supported features:

- Open / editing of multiple files
- Recent File List
- Copy, Find and Find Next
- Save, Save As and Print

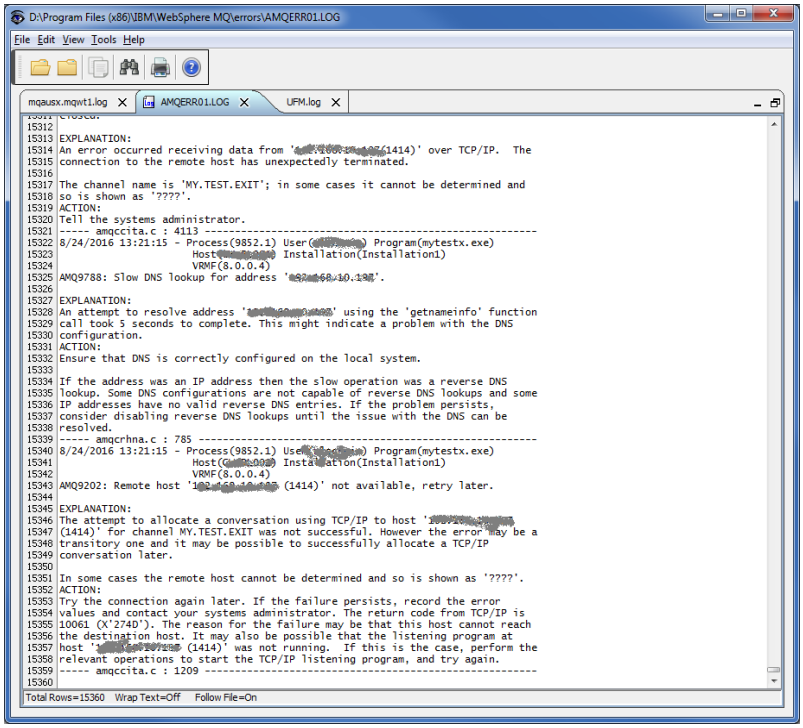
12.3 Tail File

This section will describe how to invoke and use the Tail File tool. The Tail File is a simple multipurpose file monitoring viewer. The Tail File supports monitoring of multiple files at the same time.

For the Other Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the Other Tools are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **Tools**, then **Tail File**.

This is the main panel of the Tail File and it has 3 open files.



Supported features:

- Opening of multiple files
- Wrap Text and Recent File List
- Copy, Find, Find Next and Print

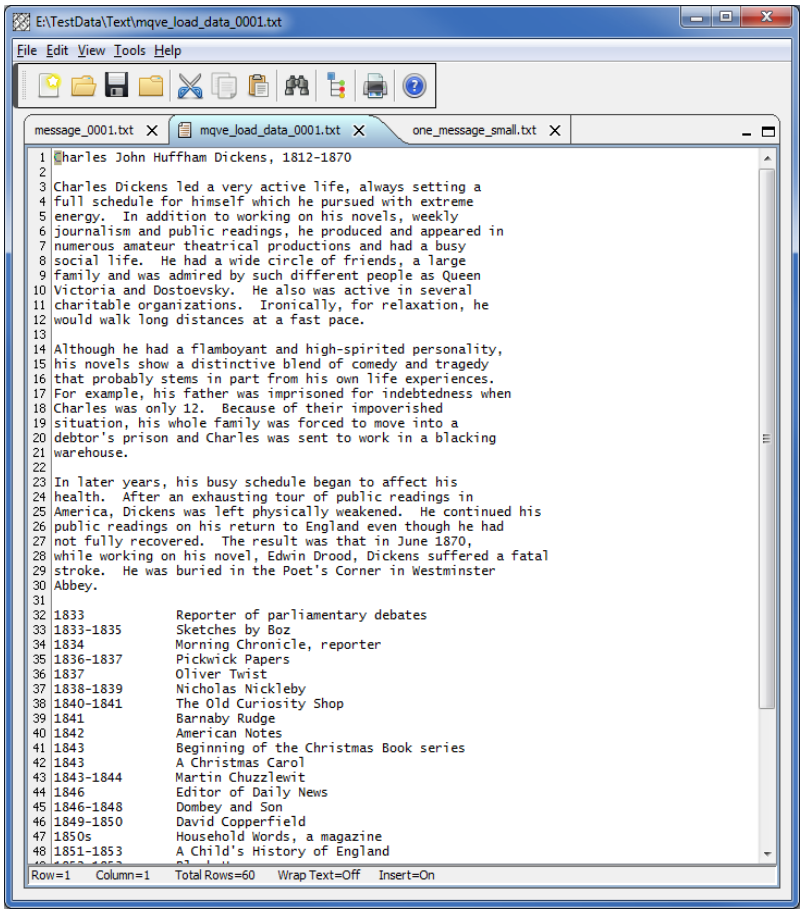
12.4 Text Editor

This section will describe how to invoke and use the Text Editor tool. The Text Editor is a simple multipurpose plain-text editor. The Text Editor supports multi-file editing.

For the Other Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the Other Tools are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **Tools**, then **Text Editor**.

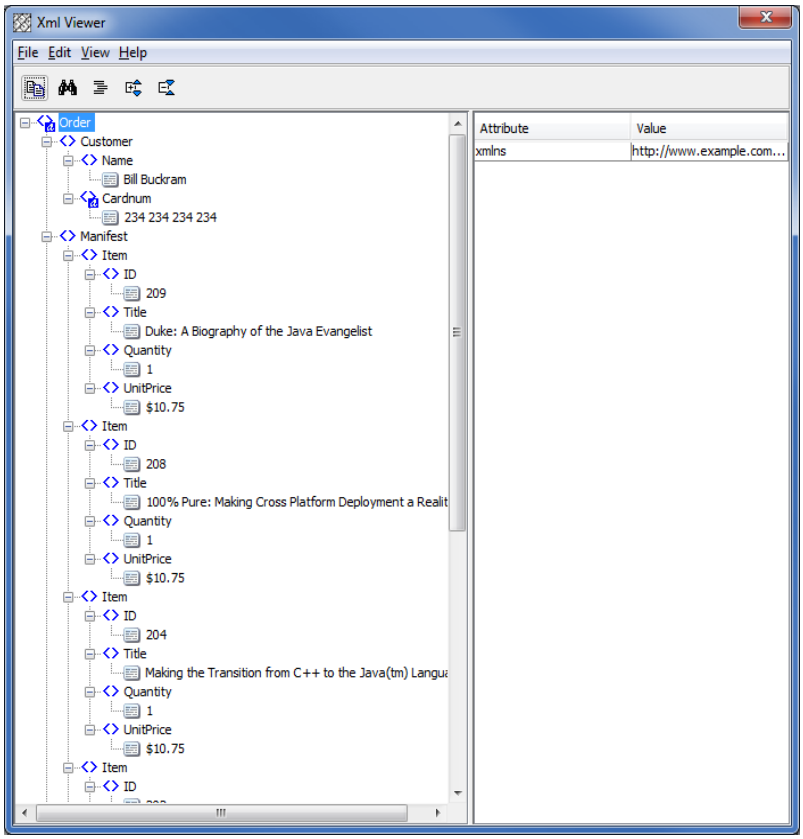
This is the main panel of the Text Editor and it has 3 open files.



Supported features:

- Open / editing of multiple files
- Builtin XML Viewer, Wrap Text
- Recent File List
- Cut, Copy, Paste, Find and Find Next
- Save, Save As and Print

The following shows the Text Editor's builtin XML Viewer.



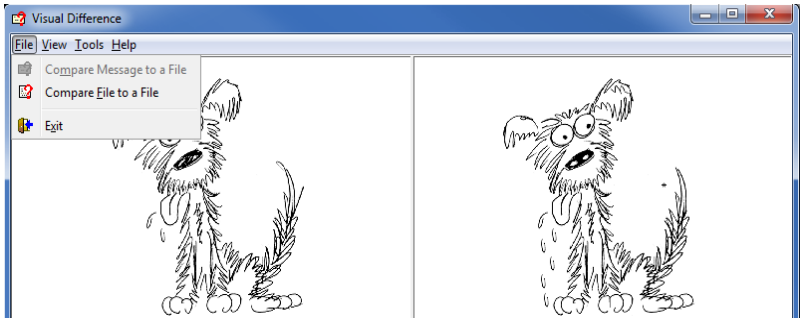
12.5 Visual Difference

This section will describe how to invoke and use the Visual Difference tool. The Visual Difference is a simple file to file comparison tool.

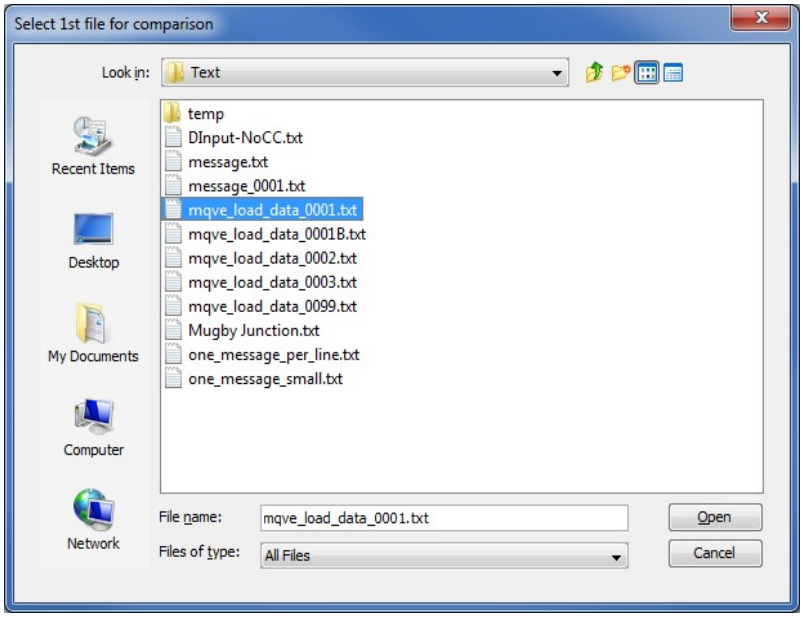
For the Other Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the Other Tools are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **Tools**, then **Visual Difference**.

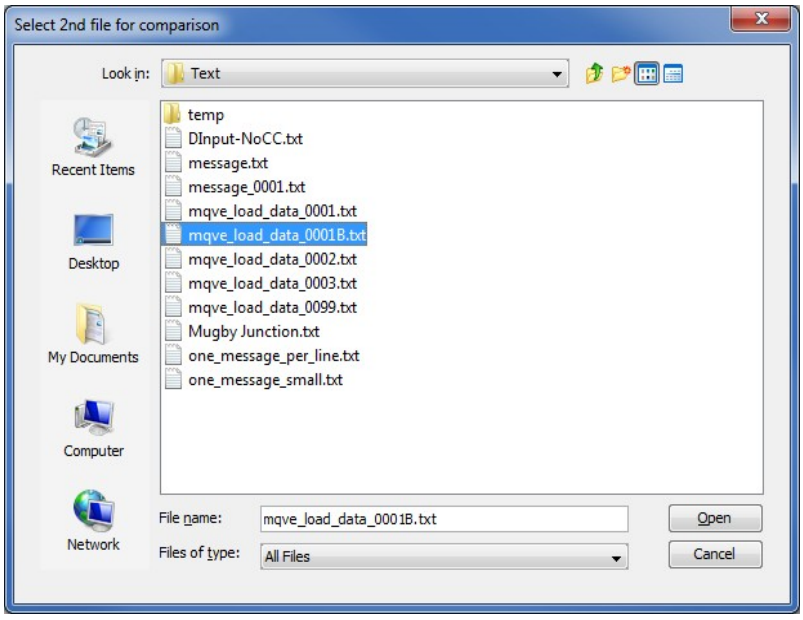
This is the main panel of the Visual Difference. To initiate the file comparison process, click File and then click Compare File to File



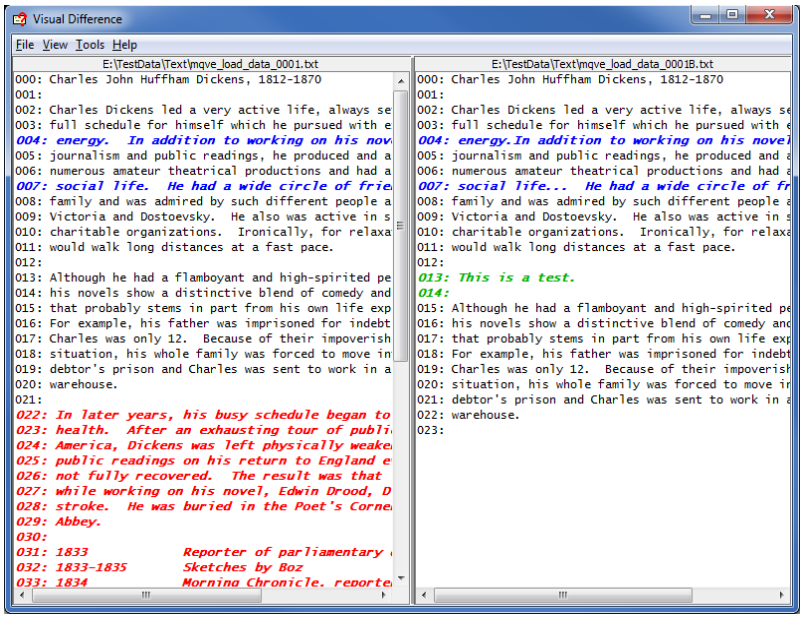
First the user needs to select the first file for the comparison.



Next, the user needs to select the second file for the comparison.



The following shows the difference between 2 files. Differences are highlighted: Green for inserts, Red for deletions and Blue for changes.



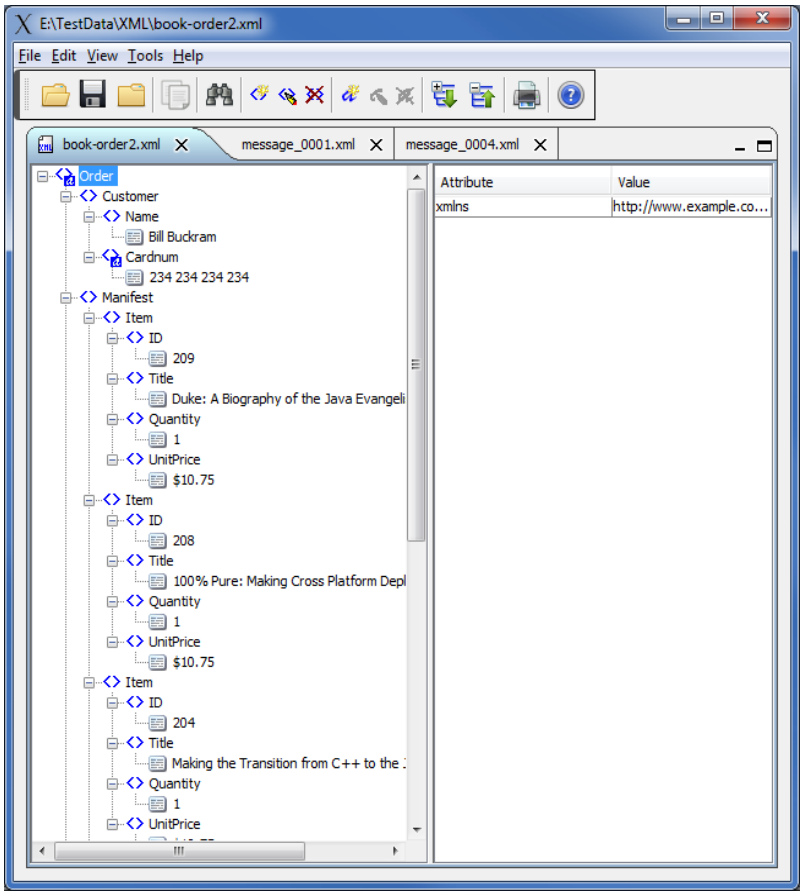
12.6 XML Editor

This section will describe how to invoke and use the XML Editor tool. The XML Editor is a simple multipurpose plain-text editor. The XML Editor supports multi-file editing.

For the Other Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the Other Tools are running, the user can still use MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **Tools**, then **XML Editor**.

This is the main panel of the XML Editor and it has 3 open files.



Supported features:

- Open / editing of multiple files
- Recent File List
- Copy, Find and Find Next
- Save, Save As and Print

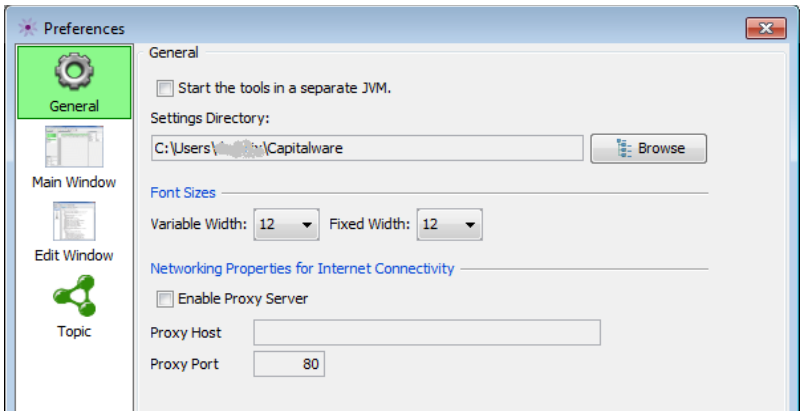
13 Miscellaneous

This chapter will describes how the miscellaneous features of MQTT Message Editing Suite.

13.1 Preferences

This section will describe how to change / update your preferences for MQTT Message Editing Suite.

From the main panel of MQTT Message Editing Suite, select **File** then **Preferences**. The user will be presented with a popup window that has 4 panels.



General Preferences:

- **Start the tools in a separate JVM** - If the user wants the tools to be launched in a separate JVM then select this checkbox.
- **User Directory** - You can specify where MQTT Message Editing Suite will store the BrokerInfo.db and UserFormats.db. The BrokerInfo.db contains all of the information necessary to connect to an MQTT Broker.

Font Sizes:

- **Variable Width** – The font size to be used for all variable width fonts in MQTT Message Editing Suite.
- **Fixed Width** – The font size to be used for all fixed width fonts in MQTT Message Editing Suite.

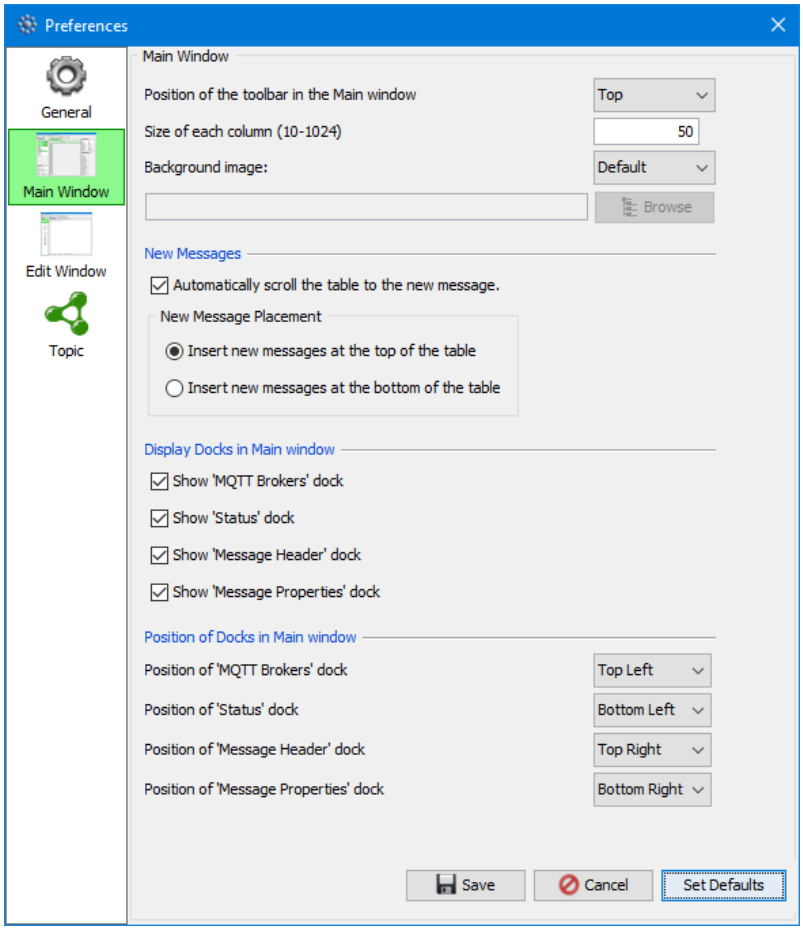
Networking Properties:

- **Enable Proxy Server** - MQTT Message Editing Suite needs to access the internet to register the product and for continued use. Enable this item if your company uses a Proxy Server.
- **Proxy Host -** The Proxy Server address that your company uses.
- **Proxy Port -** The Proxy Port number that your company uses.

Main Window Preferences:

- **Position of toolbar in the Main window** - The user can select Top, Bottom, Left or Right.
- **Size of each column (10-1024)** - The user can set the size of the columns in the Main window. The user can have a column of data as small as 10 characters or as large as 1024 characters.

New Messages:



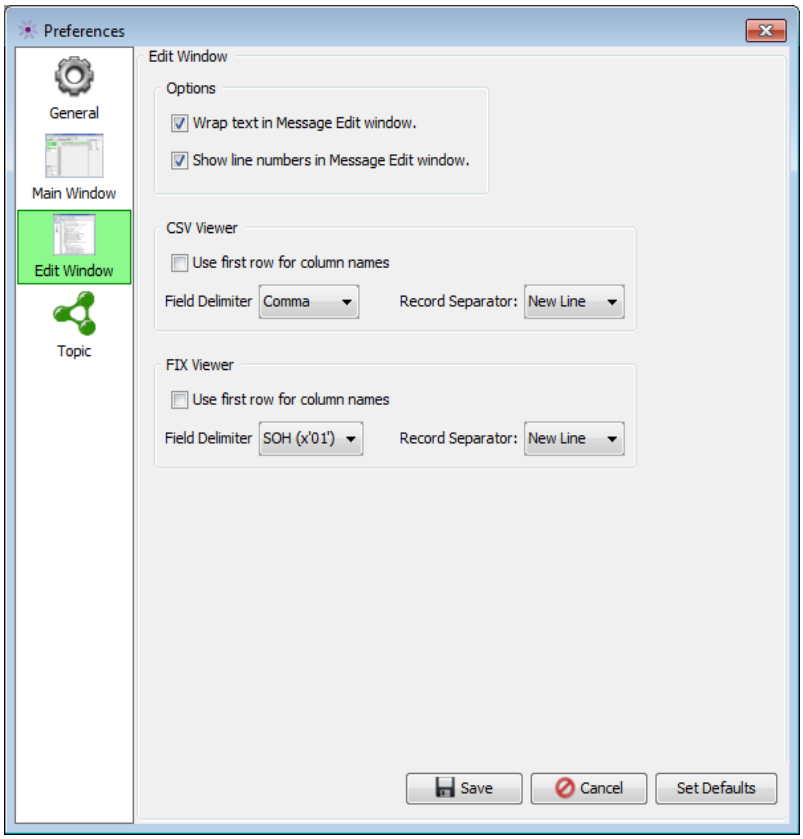
- **Automatically scroll the table to the new message** – Set the default behavior when a new topic is opened whether or not the view should be automatically scrolled to the newest message.
- **Insert new messages at the top of the table -** New messages will be put into the table at top.
- **Insert new messages at the top of the table -** New messages will be put into the table at top.
- **Background Image – Choices** are: Default, User or None. If the 'User' is chosen then the user can select an image from their local computer to use.

Display Docks in Main window:

- **Show 'MQTT Brokers' dock** - The user show or not the 'MQTT Brokers' dock in the Main window.
- **Show 'Status' dock** - The user show or not the 'Topic Status' dock in the Main window.
- **Show 'Message Header' dock** - The user show or not the 'Message Header' dock in the Main window.
- **Show 'Message Properties' dock** - The user show or not the 'Message Properties' dock in the Main window.

Position of Docks in Main window:

- **Position of 'MQTT Brokers' dock** - The user can the location of the 'MQTT Brokers' dock in the Main window.
- **Position of 'Status' dock** - The user can the location of the 'Topic Status' dock in the Main window.
- **Position of 'Message Header' dock** - The user can the location of the 'Message Header' dock in the Main window.
- **Position of 'Message Properties' dock** - The user can the location of the 'Message Properties' dock in the Main window.



Edit Window Preferences:

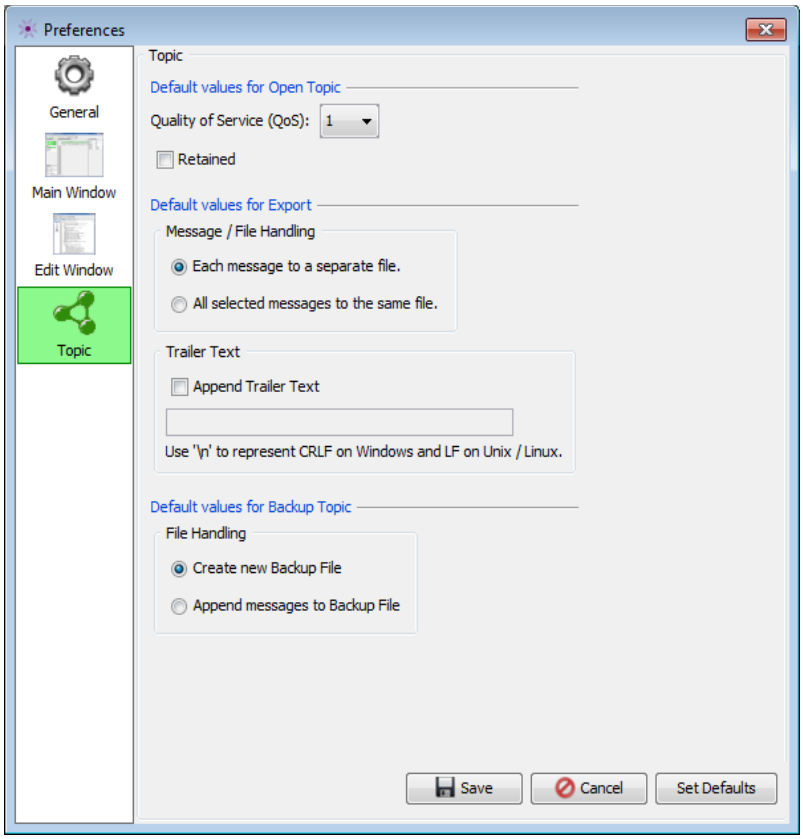
- **Wrap text in Message Edit Window** - Set the default action for 'Wrap Text' in the Message Edit window.
- **Show line numbers in Message Edit Window** - Set the default action for 'line numbers' in the Message Edit window.

The following are default values for the CSV Viewer when no user format is being used:

- **Use first row for column names** – The first row of the data will be used as the column header row.
- **Field Delimiter** – Specifies the default field delimiter to be used for CSV data.
- **Record Separator** – Specifies the default record separator to be used for CSV data.

The following are default values for the FIX Viewer when no user format is being used:

- **Use first row for column names** – The first row of the data will be used as the column header row.
- **Field Delimiter** – Specifies the default field delimiter to be used for FIX data.
- **Record Separator** – Specifies the default record separator to be used for FIX data.



Topic Preferences:

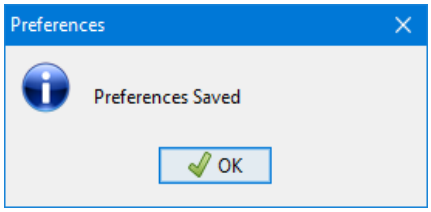
Default values for Open Topic:

- **Quality of Service (QoS)** - The user can set the default value for 'Quality of Service'.
- **Retained** - The user can set the default value for 'Retained'.

Default values for Export:

- **Message / File Handling** - Either create a file for each message or write all message to the same file.
- **Append Trailer Text** – Enable to add trailer text to each message.
- **Trailer Text** – Field for adding trailer text.

To save your preferences, click the **Ok** button. To quit or cancel from the Preferences popup menu, click the Cancel button. If you clicked the **Ok** button, then you should receive the "Preferences Saved" popup menu. Note: The main display will be reset when the preferences are saved.



13.2 Language

This section will describe how to switch MQTT Message Editing Suite's Language Text to another Language Text. MQTT Message Editing Suite has been designed to support Java's multi-language environment. Currently, MQTT Message Editing Suite has full language support for the following 55 languages:

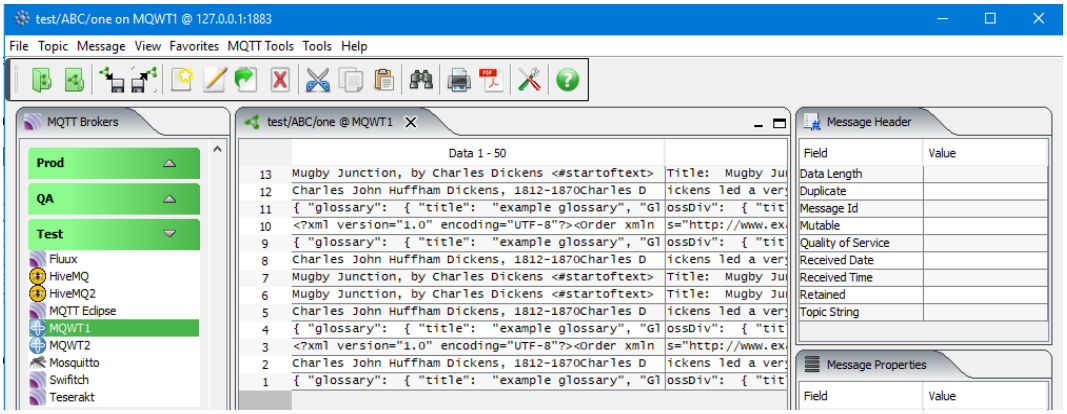
➢ Amharic (am)	➢ Hungarian (hu)	➢ Shona (sn)
➢ Arabic (ar)	➢ Igbo (ig)	➢ Sindhi (sd)
➢ Azerbaijani (az)	➢ Indonesian (in)	➢ Spanish (es)
➢ Bengali (bn)	➢ Italian (it)	➢ Sundanese (su)
➢ Cebuano (ceb)	➢ Japanese (ja)	➢ Swahili (sw)
➢ Chinese (China) (zh)	➢ Javanese jv)	➢ Swedish (sv)
➢ Chinese (Taiwan) (zh)	➢ Kannada (kn)	➢ Tamil (ta)
➢ Czech (cs)	➢ Korean (ko)	➢ Telugu (te)
➢ Danish (da)	➢ Malay (ms)	➢ Thai (th)
➢ Dutch (nl)	➢ Malayalam (ml)	➢ Turkish (tr)
➢ English (en)	➢ Marathi (mr)	➢ Ukrainian (uk)
➢ Finnish (fi)	➢ Norwegian (no)	➢ Urdu (ur)
➢ French (fr)	➢ Panjabi (pa)	➢ Uzbek (uz)
➢ German (de)	➢ Pashto (ps)	➢ Vietnamese (vi)
➢ Greek (el)	➢ Persian (fa)	➢ Xhosa (xh)
➢ Gujarati (gu)	➢ Polish (pl)	➢ Yoruba (yo)
➢ Hausa (ha)	➢ Portuguese (pt)	➢ Zulu (zu)
➢ Hebrew (iw)	➢ Romanian (ro)	
➢ Hindi (hi)	➢ Russian (ru)	

From the main panel of MQTT Message Editing Suite, select **View**, then **Language**. Then select the language the user wishes to view MQTT Message Editing Suite in.

13.3 Follow New Messages

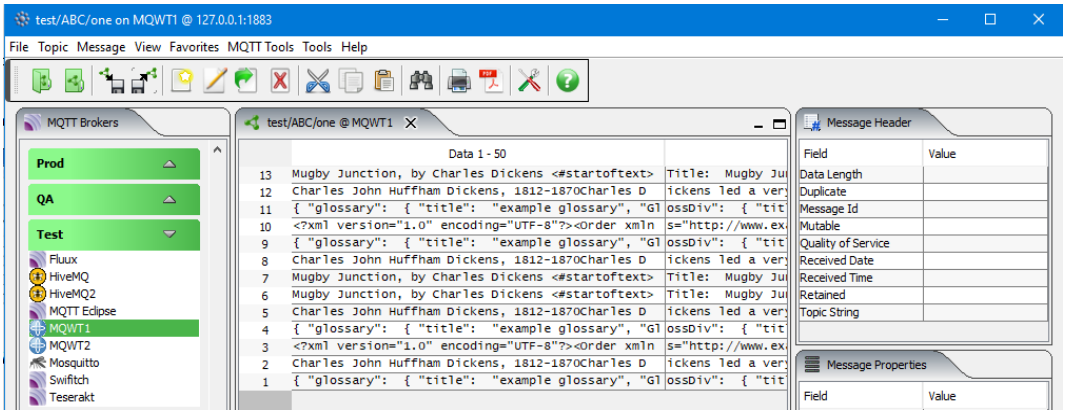
This section will describe how to enable or disable the option of having the view move to the newest message inserted into the table in the main panel.

If you have previously opened test/ABC/one, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **View**, then **Follow New Messages** (unselect the option).

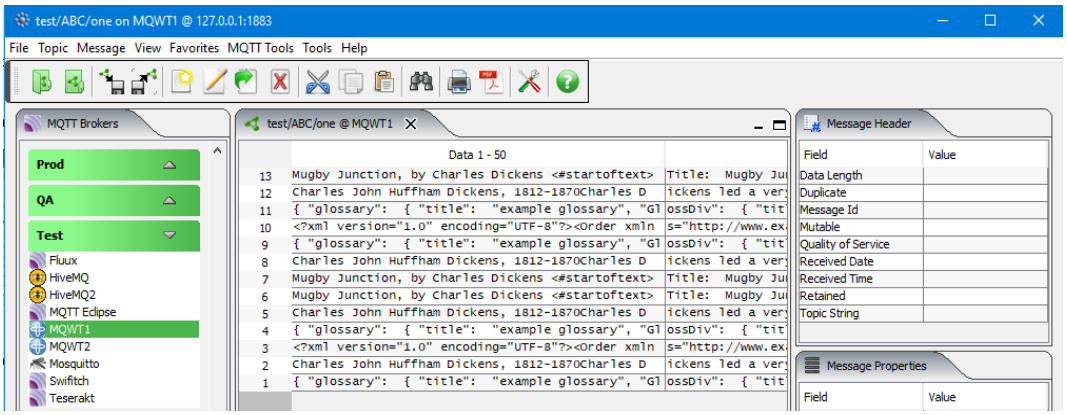
The main panel will not scroll when new messages are inserted, as per below:



13.4 Select All Messages

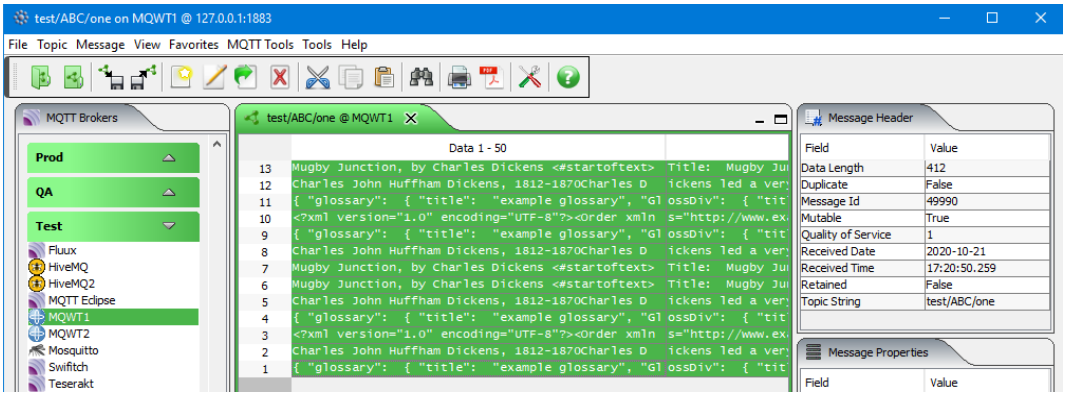
This section will describe how to select all of the messages displayed in the main panel.

If you have previously opened test/ABC/one, the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **View**, then **Select All**.

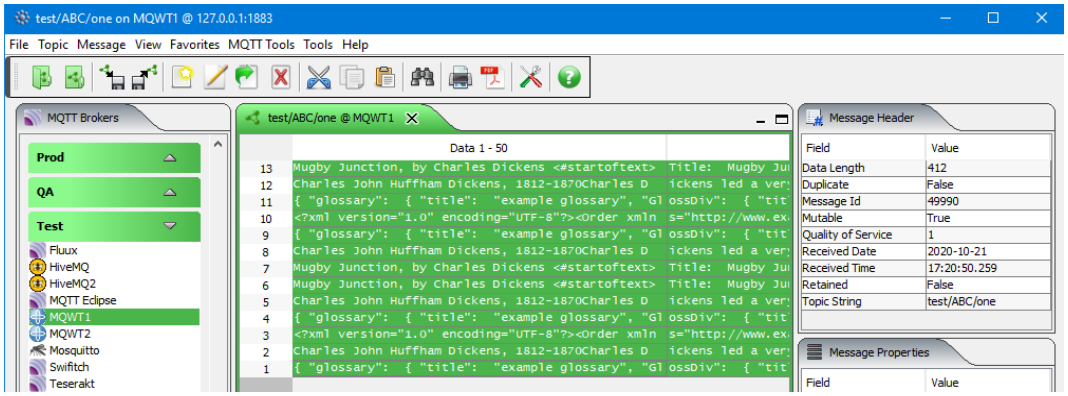
The main panel should have all of the messages selected, as per below:



13.5 Unselect All Messages

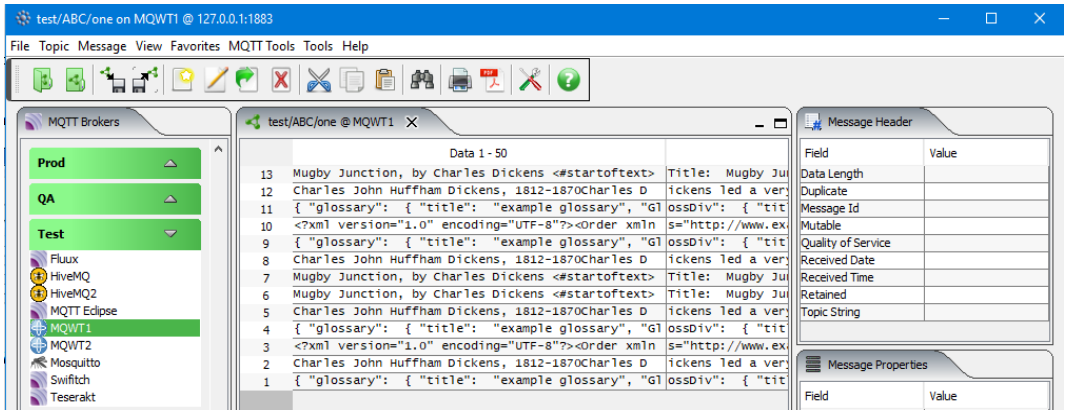
This section will describe how to unselect all of the messages displayed in the main panel.

If you have previously opened the topic test/ABC/one with all messages selected, then the main panel may look something like:



From the main panel of MQTT Message Editing Suite, select **View**, then **Unselect All**.

The main panel should have all of the messages selected, as per below:



14 Appendix A – Mouse and Keyboard Actions

This section describes the buttons on MQTT Message Editing Suite's toolbar.

14.1 Toolbar

- **Open Topic** - Clicking the Open Topic button will display the Open Topic window.
- **Close Topic** - Clicking the Close Topic button will remove the currently displayed dock.
- **Backup Topic** - Clicking the Backup Topic button will all messages or selected messages to a file.
- **Restore Topic** - Clicking the Restore Topix button will load (restore) messages from a backed up file.
- **Insert Message** - Clicking the Insert Message button will display the Message Edit window. Contents of the Message Edit window will be empty.
- **Edit Message** - Clicking the Edit Message button will display the selected message in the Message Edit window.
- **Forward Message** - Clicking the Forward Message button will display the Forward Message window, so that the selected message can be forwarded (copy the message from current topic and put it to another topic). One or more messages can be forwarded.
- **Delete Message** - Clicking the Delete Message button will remove the selected messages from the table being displayed.
- **Cut Message** - Clicking the Cut Message button will "cut" the messages from the topic and into the computer's clipboard. Note: If you "cut" more than one message, all of the messages will be combined and placed in the clipboard as one message.
- **Copy Message** - Clicking the Copy Message button will "copy" the messages from the topic and into the computer's clipboard. Note: If you "copy" more than one message, all of the messages will be combined and placed in the clipboard as one message.
- **Paste Message** - Clicking the Paste Message button will copy the contains of the clipboard (whatever that may be) to a new message and put in the topic.
- **Find** - Clicking the Find button will display the Find window. The Find window allows the user to search for a text string that may be contained within one of the messages in the topic.
- **Print Message** - Clicking the Print Message button will prompt the user to confirm that you wish to print the selected message.
- **Generate Report** - Clicking the Generate Repor button will prompt the user to select the values (report type, report format, etc.) for the report generation.
- **Preferences** - Clicking the Preferences button will display the preferences popup dialog box.
- **Help** - Clicking the Help button will display MQTT Message Editing Suite's Help system. The Help system provides various information about how and what features and functions are available in MQTT Message Editing Suite.

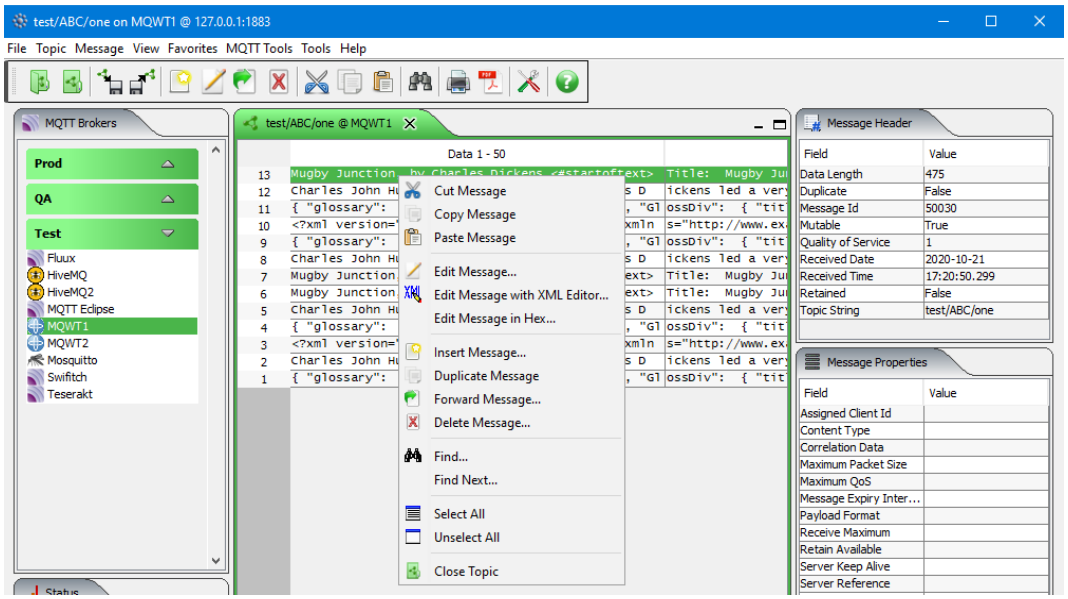
14.2 Mousing Around in MQTT Message Editing Suite

14.2.1 Left Button

- In the main window of MQTT Message Editing Suite, while displaying messages of an opened topic, if the user double clicks the left mouse button, then the selected message will be display in the Message Edit window.

14.2.2 Right Button

In the main window of MQTT Message Editing Suite, while displaying messages of an opened topic, if the user clicks the right mouse button, then the following popup menu will be displayed.



- **Copy Message** - Selecting the Cut Message menu item will "cut" the messages from the topic and into the computer's clipboard. Note: If you "cut" more than one message, all of the messages will be combined and placed in the clipboard as one message.
- **Copy Message** - Selecting the Copy Message menu item will "copy" the messages from the topic and into the computer's clipboard. Note: If you "copy" more than one message, all of the messages will be combined and placed in the clipboard as one message.
- **Paste Message** - Selecting the Paste Message menu item will paste the contains of the clipboard (whatever that may be) to a new message and put to the topic.
- **Edit Message** - Selecting the Edit Message menu item will display the selected message in the Message Edit window.
- **Edit Message in Hex** - Selecting the Edit Message in Hex menu item will display the selected message in the Hex Message Edit window.
- **Edit Message with XML Editor** - Selecting the Edit Message with XML Editor menu item will display the selected message in the XML Editor window.
- **Insert Message** - Selecting the Insert Message menu item will display the Message Edit window. Contents of the Message Edit window will be empty.
- **Duplicate Message** - Selecting the Duplicate Message menu item will replicate all the selected message(s) to the current topic. One or more messages can be duplicated.

- **Forward Message** - Selecting the Forward Message menu item will display the Forward Message window, so that the selected message can be forwarded (copy the message from current topic and put to another topic). One or more messages can be forwarded.
- **Delete Message** - Clicking the Delete Message button will remove the selected messages from the table being displayed.
- **Find** - Selecting the Find menu item will display the Find window. The Find window allows the user to search for a text string that may be contained within one of the messages in the topic.
- **Find Next** - Selecting the Find Next menu item will display the Find window but the search will continue from the previous search position.
- **Select All** - Selecting the Select All menu item will select (highlight) all messages in the topic.
- **Unselect All** - Selecting the Unselect All menu item will de-select (un-highlight) all messages in the topic.
- **Close Topic** - Clicking the Close Topic button will remove the currently displayed tab.

14.3 Keyboard short-cuts in MQTT Message Editing Suite

There are many short-cut (accelerator) key combinations in MQTT Message Editing Suite.

Note: Ctrl means press and hold the Control key and then press the key after the "-" (minus sign).

Ctrl-O	Will display the Open Topic window.
Ctrl-X	Will "cut" the messages from the topic and into the computer's clipboard (messages remain in the topic). Note: If you "cut" more than one message, all of the messages will be combined and placed in the clipboard as one message.
Ctrl-C	Will "copy" the messages from the topic and into the computer's clipboard (messages remain in the topic). Note: If you "copy" more than one message, all of the messages will be combined and placed in the clipboard as one message.
Ctrl-V	Will paste the contains of the clipboard (whatever that may be) to a new message and place it in the topic.
Ctrl-E	Will display the selected message in the Message Edit window.
Ctrl-I	Will display the Message Edit window to allow the user to insert a new message. Contents of the Message Edit window will be empty.
Ctrl-W	Will display the Forward Message window, so that the selected message can be forwarded (copy the message from current topic and put to another topic). One or more messages can be forwarded.
Ctrl-D	Will prompt the user to confirm that you wish to delete the selected message(s). One or more messages can be deleted.
Ctrl-F	Will display the Find window. The Find window allows the user to search for a text string that may be contained within one of the messages in the topic.
Ctrl-P	Will display the printer selection dialog so that the selected message can be printed.
Ctrl-G	Will display the Find window but the search will continue from the previous search position.
Ctrl-A	Will select (highlight) all messages in the topic.
Ctrl-U	Will de-select (un-highlight) all messages in the topic.
F1	Will display MQTT Message Editing Suite's Help system. The Help system provides various information about how and what features and functions are available in MQTT Message Editing Suite.

15 Appendix B – MQTT Message Editing Suite Upgrade Procedures

To upgrade an existing installation of MQTT Message Editing Suite, please do the following in the appropriate section below.

15.1 Windows Upgrade

- Stop all instances of MQTT Message Editing Suite
- Backup any MQTT Message Editing Suite data files in the MQTT Message Editing Suite install directory
- Go to the Windows **Control Panel** and select **Program and Features**
- Select MQTT Message Editing Suite and then click the **Uninstall** button
- Run the install program called: **mmes-setup-withjre.exe**
- The installer follows the standard Windows install procedures and provides default values for the user.
- When the install program has completed execution, there will be a newly created folder under **Start** -> **All Programs** called **MQTT Message Editing Suite**.
- Restore the MQTT Message Editing Suite data files if necessary
- To run MQTT Message Editing Suite, select the MQTT Message Editing Suite icon from within the MQTT Message Editing Suite folder.

15.2 Linux Upgrade

- Stop all instances of MQTT Message Editing Suite
- Backup any MQTT Message Editing Suite data files in the MQTT Message Editing Suite install directory
- Next, run the installer with the following command: **./mmes-setup-trial-linux.bin**
- The installer will prompt the user for the installation directory. The default value will be 'Capitalware/MMES/'.
- Restore the MQTT Message Editing Suite data files if necessary
- To run MQTT Message Editing Suite, go to the installation directory and issue the following command: **./mmes**

15.3 Max OS X Upgrade

- Stop all instances of MQTT Message Editing Suite
- Go to the Applications folder and drag the MQTT Message Editing Suite application to the Trash
- Double click the ***MQTT_Message_Editing_Suite.dmg*** file to open it
- Follow the instructions on the opened DMG window and drag the MQTT Message Editing Suite icon to the Applications folder.
- Close the DMG window and then eject the DMG
- To run MQTT Message Editing Suite, go to the Application folder and double click on ***MQTT Message Editing Suite***

16 Appendix C – Frequently Asked Questions (FAQ)

Q. When I click the Test button in the MQTT Broker Profile window, nothing happens. No response from MQTT Message Editing Suite at all.
A. This generally means that the MQTT Message Editing Suite is timing out on a TCP/IP error. The TCP/IP time-out value appears to be at least 1 minute (maybe even longer). Solutions: • Assuming the network is stable and working, make sure that the MQTT Broker is running on the server that you are attempting to connect to. • The time-out could be from an incorrect value for either the hostname or Port #. ◦ From a Command Prompt or Unix shell, ping the hostname - e.g. ping remotehostname or ping xx.xx.xx.xx Also, verify that you have inputted the same port number that the MQTT Boker is using on the remote server.
Q. Can I install MQTT Message Editing Suite on a network drive (LAN) and run it from that location?

A. Yes. MQTT Message Editing Suite will happily run from a network drive. Each user's preferences will be stored in their own "Settings Directory".
 	
On Windows, the home directory is the **%USERPROFILE%** folder:
i.e.
`C:\Users\UserID\Capitalware\`
 	
On Unix and Linux, the home directory is the user's standard logon directory
i.e.
`/export/home/UserID/Capitalware/`
 	
Note: If you going to run MQTT Message Editing Suite from a network drive and share it with other members of your team, please make sure you have purchased sufficient licenses of MQTT Message Editing Suite.

Q. **Q**. Can I share my MQTT Broker connection information for MQTT Message Editing Suite with another user or put it on a network drive (LAN)?
A. Yes. MQTT Message Editing Suite stores the MQTT Broker connection information in a file called: ***BrokerInfo.db***. By default, this file is stored in the user's "Settings Directory". You can move the BrokerInfo.db to any directory or network drive that you wish.
Q.
A.

17 Appendix D – Support

The support for MQTT Message Editing Suite can be found at the following location:

Online Help Desk Ticketing System at
www.capitalware.com/phpst/

By email at:
support@capitalware.com

By regular mail at:

Capitalware Inc.
Attn: MQTT Message Editing Suite Support
Unit 11, 1673 Richmond Street, PMB524
London, Ontario Canada
N6G 2N3

18 Appendix E – Summary of Changes

- MQTT Message Editing Suite v1.1.0
  - Added the product version number to the Registration window.
  - Added 'Number of threads' for the following MQTT Tool: Publish Server.
  - Added 10 replaceable tokens for the following MQTT Tool: Publish Server.
  - Added right-click menu for selecting the replaceable tokens on the text box for: Publish Server.
  - Added support for importing COBOL Copybook into the 'Fixed Width' configuration window for User Format.
  - For CSV, FIX and Fixed Width Viewers, added the ability to click on the column header to sort the data by that column.
  - For CSV, FIX and Fixed Width layout manager, added 'Type for Table Sorting' column. It tells MMES how to sort the data in a particular column (i.e. String, Integer, Double, etc.).
  - Improved the handling of right-click popup menu on the main window
  - Fixed issue with preferences being removed when the language is changed.
  - Fixed issue with user selected language not being saved as a Preference.
  - Fixed an issue with the dock width setting not being removed when the Reset View was selected (under the View menu item).

- MQTT Message Editing Suite v1.0.0
  - Initial release.

19 Appendix F1 - License Agreement - Unregistered

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