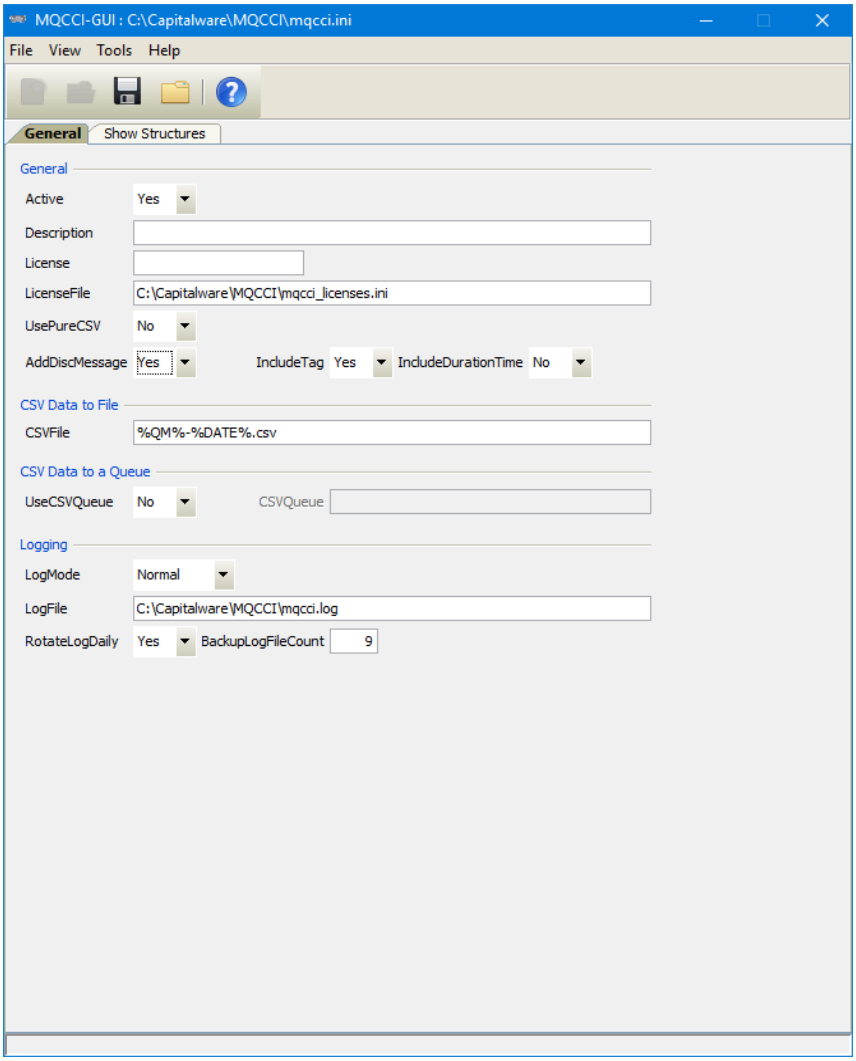
MQCCI-GUI User Guide



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1 Introduction

1.1 Overview

MQCCI-GUI application allows the user to create or update MQCCI IniFiles. MQCCI-GUI can run on any platform that supports Java v1.6 (or higher): Linux, Mac OS X, and Windows Vista/7/8/8.1/10.

MQ Channel Connection Inspector (MQCCI) is a solution that allows a company to track and/or audit what information a client application or remote queue manager is exchanging with the local queue manager when a connection is made.

MQCCI is comprised of an MQ Channel Security Exit. A channel security exit is ONLY invoked/called by the queue manager's MCA (Message Channel Agent) for MQCONN/X and MQDISC API calls (so it is very light-weight).

MQCCI will operate with IBM MQ v7.1, v7.5, v8.0, v9.0, v9.1 and v9.2 in Windows, Unix, IBM i and Linux environments. It works with Server Connection, Receiver, Requester, Sender, Server, Cluster-Sender and Cluster-Receiver channels of IBM MQ queue manager.

MQCCI is designed to provide the MQAdmin with any or all of the fields of the MQCD and MQCXP structures in a "human readable" format. Human readable implies that it will convert binary fields into their MQ defined names (i.e. SSLClientAuth=MQSCA_REQUIRED). The user can control the fields that are outputted for each of the following MQ structures: MQCD and MQCXP.

MQCCI is designed to output 1 line per API call (1 long line). The output information is written to plain text CSV (Comma Separate Value) files. The user can choose to have the output information written to a local or remote queue rather than to a file.

On IBM i, Linux, Unix and Windows, MQCCI can be configured and used with a non-default installation of MQ in a multi-install MQ environment.

2 Installation

This chapter will describe the installation and configuration (optional) of MQCCI-GUI. For Windows users, the installation of MQCCI-GUI is very simple and straightforward. For other Operating Systems, it is necessary to unzip the software package.

2.1 Prerequisites

This section lists the required hardware and software components needed to run the MQCCI-GUI application.

2.2 Software

The following third party software components must be installed in order to properly run MQCCI-GUI:

- Java Runtime Environment (JRE) 1.6 (or higher) or Java 2 SDK, Standard Edition (J2SE) v1.6 (or higher)

2.3 Hardware / OS

MQCCI-GUI is capable of running on the following hardware platforms that support Java v1.6 (or higher):

- Linux
- Mac OS X
- Windows Vista, 7, 8, 8.1 & 10

2.4 Setting Up and Running the Application

The following section provides instructions on installing and running the MQCCI-GUI application.

2.4.1 For Windows Users:

- Run the install program called: **mqccigui-setup-withjre.exe**
- The installer should follow the standard Windows install procedures and provide default values for the users.
- When the install program has installed MQCCI-GUI, there will be a newly created folder under **Start** -> All **Programs** called **MQCCI-GUI**.
- To run **MQCCI-GUI**, select the **MQCCI-GUI** icon from within the **MQCCI-GUI** folder.

2.4.2 For Linux and Max OS X (requires JRE/JDK):

- MQCCI-GUI is provided as a zip file: **mqccigui.zip**
- To unzip the file, open a shell prompt and execute the following commands:

  unzip mqccigui.zip

- When the unzip command has finished, there should be a directory tree as follows:

  Capitalware/MQCCI-GUI

- Change directory by typing the following:

  cd Capitalware/MQCCI-GUI

- Before running MQCCI-GUI for the first time, you need to add the execute attribute to the mqccigui.sh shell scripts. Type the following:

  chmod +x mqccigui.sh

- To run **MQCCI-GUI** from the **Capitalware/MQCCI-GUI** directory, then type the following:

  ./mqccigui.sh

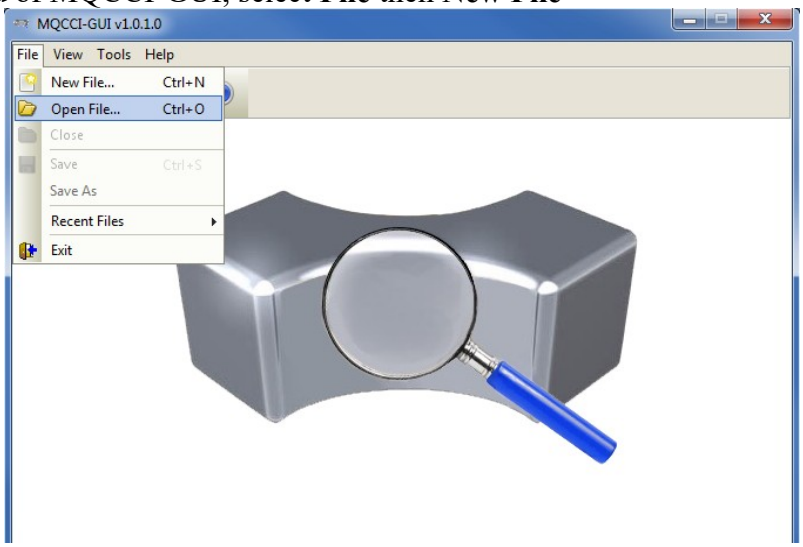
3 Creating or Updating IniFiles

This chapter will describe the how to create or update IniFiles.

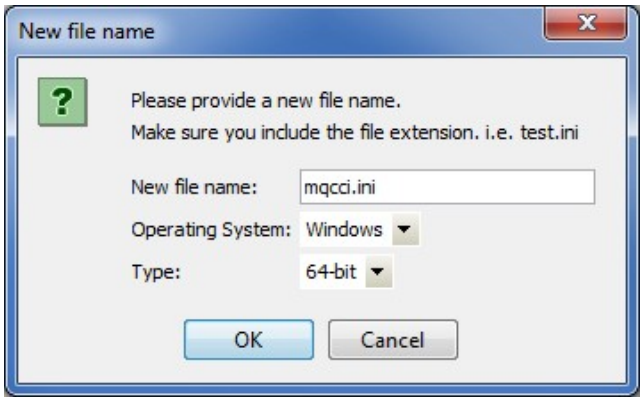
3.1 New IniFile

This section will describe how to create a new MQCCI IniFile. The IniFile can be for a local or remote MQCCI implementation.

From the main menu of MQCCI-GUI, select **File** then **New File**



The following is the New IniFile panel:



Fill in the following information:

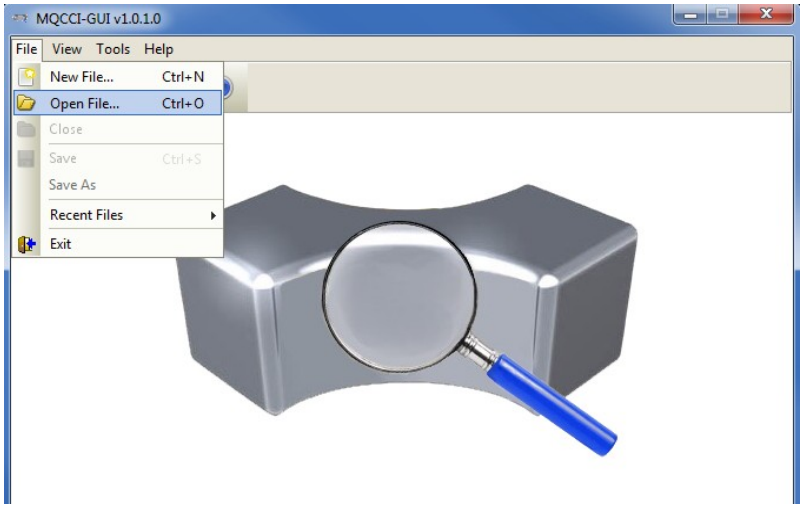
- Input a file name including the file extension of '.ini'
- Select the Operating System
- Choose between a 32-bit or 64-bit environment

Finally, click the **Ok** button to create and open the new MQCCI IniFile.

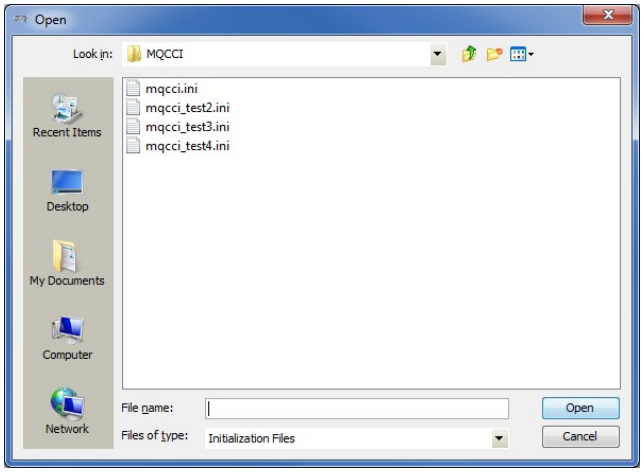
3.2 Open an IniFile

This section will describe how to open a MQCCI IniFile to be viewed or edited. The IniFile can be for a local or remote MQCCI implementation.

From the main menu of MQCCI-GUI, select **File** then **Open File**



The following is the **Open** dialog box:

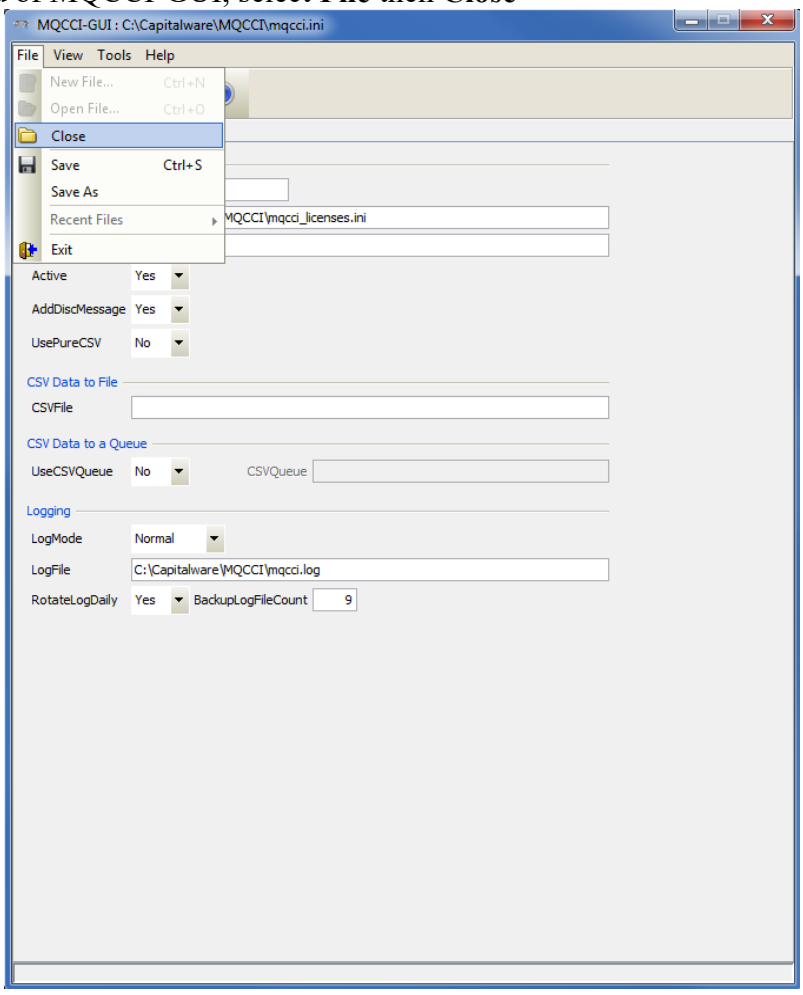


Select the IniFile that you wish to view or edit and then click the **Open** button.

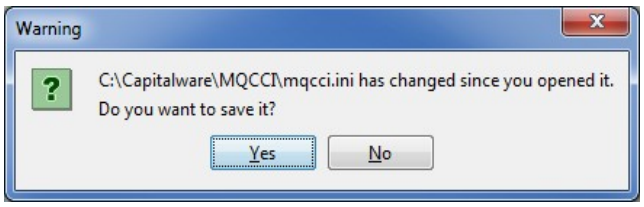
3.3 Close an IniFile

This section will describe how to close a MQCCI IniFile.

From the main menu of MQCCI-GUI, select **File** then **Close**



If the user has altered the IniFile then the user will be presented with the following dialog box:



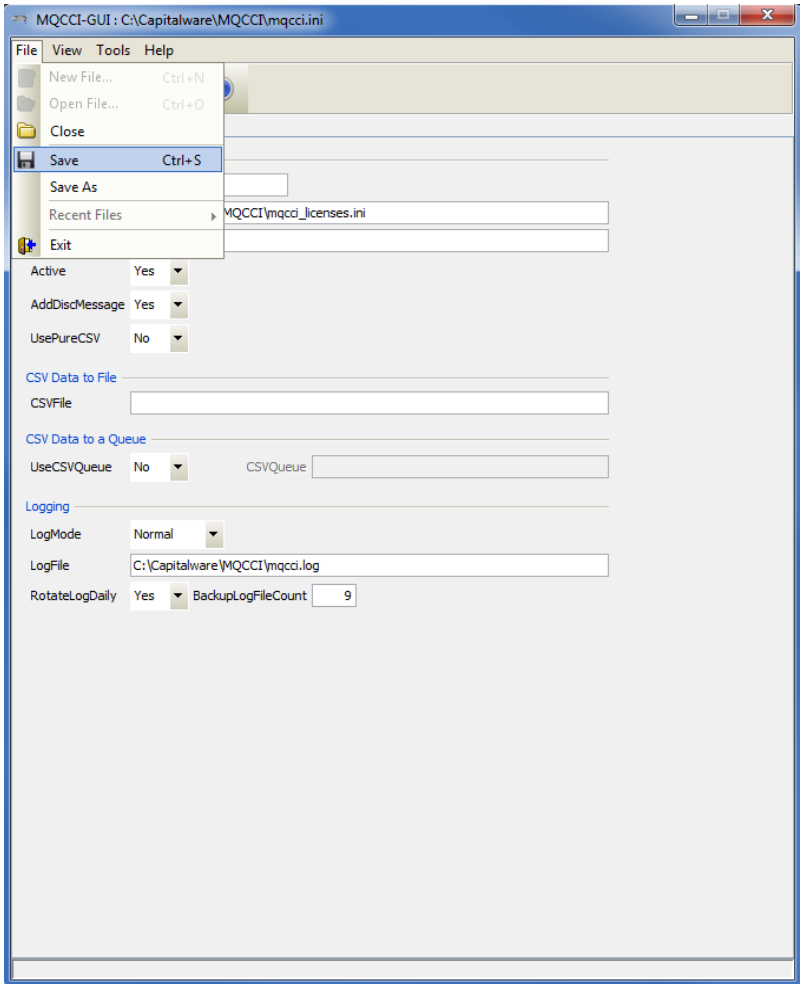
Select **Yes** to save the changes; otherwise select **No**.

The MQCCI-GUI program will make a backup of the original file in the same directory and call it: ***{inifilename}.backup***

3.4 Save IniFile

This section will describe how to save an open MQCCI IniFile.

From the main menu of MQCCI-GUI, select **File** then **Save**

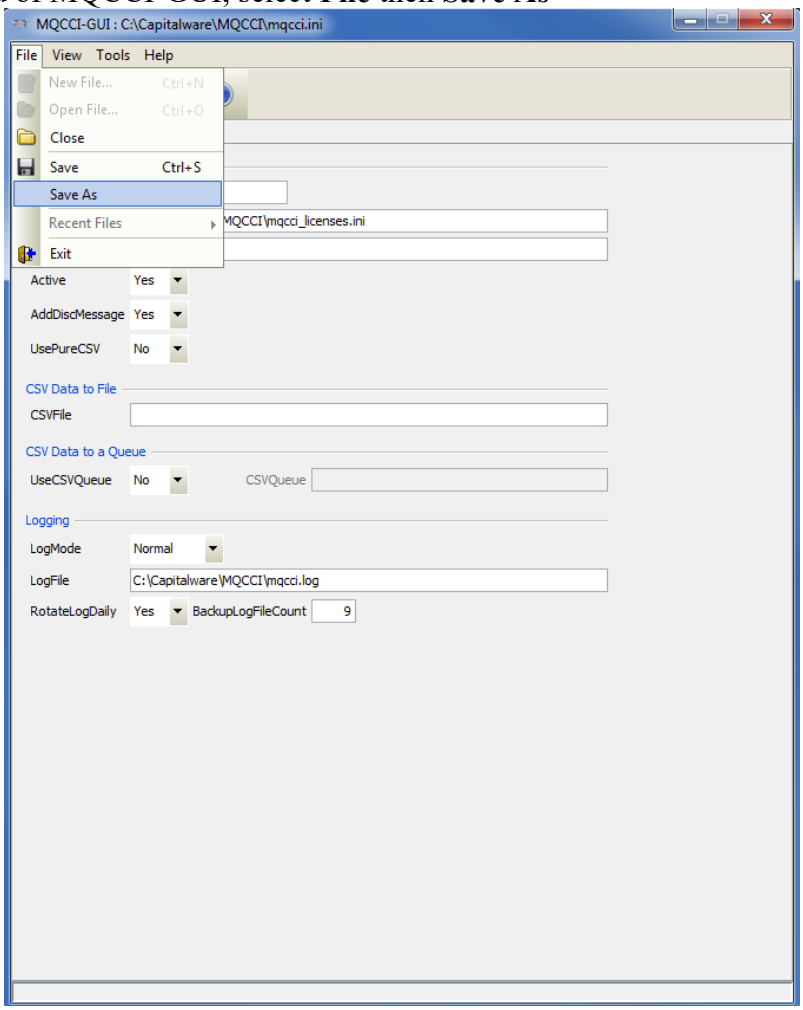


The parameter information will be saved to the IniFile.

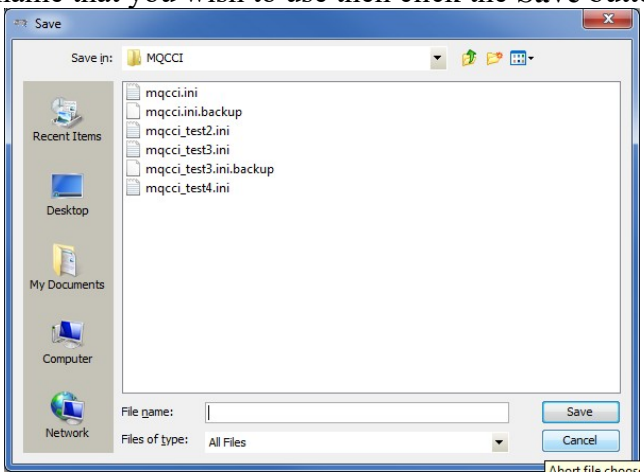
The MQCCI-GUI program will make a backup of the original file in the same directory and call it: ***{inifilename}.backup***

3.5 Save As IniFile

This section will describe how to save an open MQCCI IniFile with a new file name.
From the main menu of MQCCI-GUI, select **File** then **Save As**



Select or input the IniFile name that you wish to use then click the **Save** button.

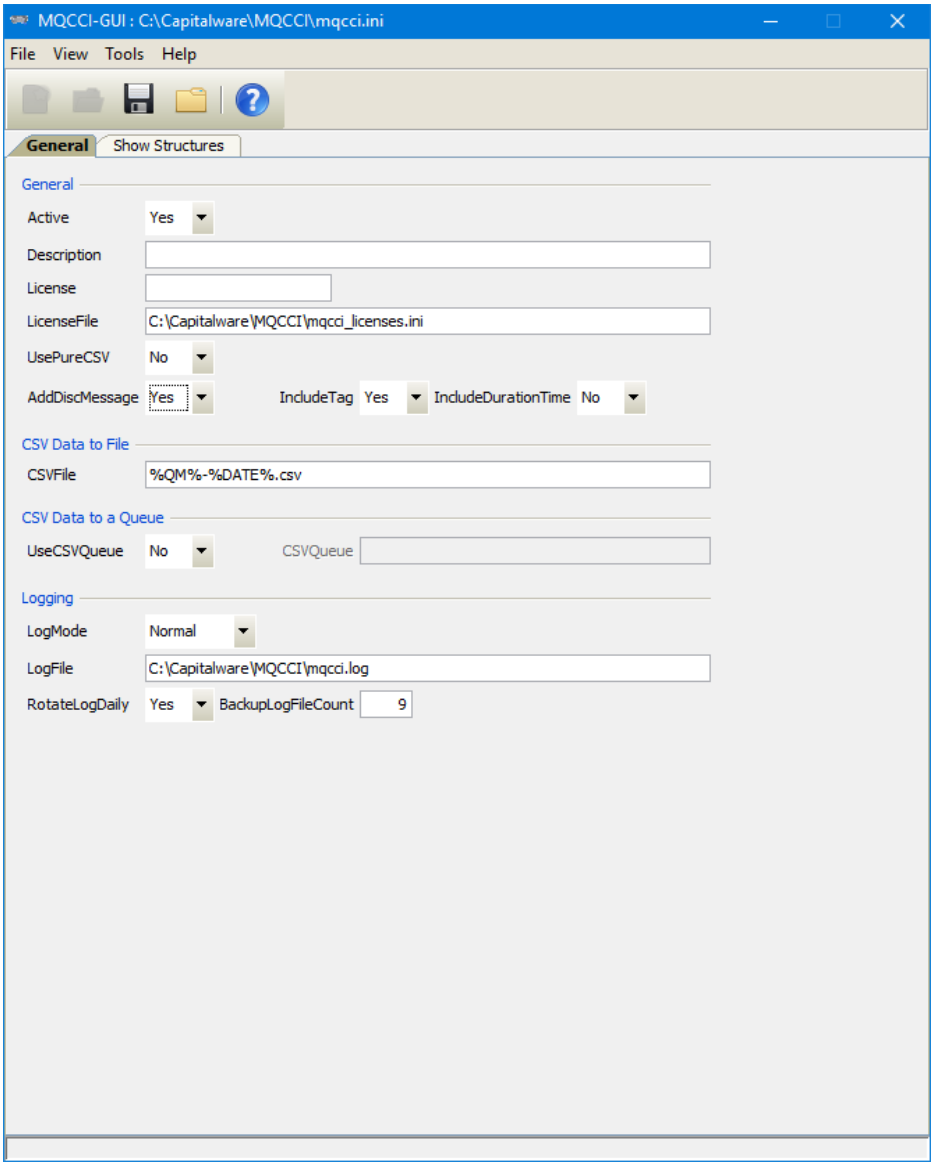


4 Tabs

This chapter will describe the various parameters on each tab.

4.1 General Tab

This section will describe various parameters on the General tab of a MQCCI IniFile.
The following is a General Tab with default values:



The IniFile keywords and their values on the General Tab are discussed below.

4.1.1 General

This section describes the general keywords and their values.

➢ **Active** controls enabling or disabling MQCCI.

➢ **Description** parameter is optional and is not used by MQCCI. It can be used to provide a brief description / purpose of the IniFile.

➢ **License key** is provided by Capitalware Inc. The license is for a particular queue manager. Your license will look something like: 1000-AAAA-BBBBBBBB (Note: This is a sample license only and will NOT work).

➢ **LicenseFile** specifies the location of License file that contains all of the customer's license keys. The following are the default values for LicenseFile:

- For Windows: **C:\Capitalware\MQCCI\mqcci_licenses.ini**
- For IBM MQ 32-bit on Unix & Linux: **/var/mqm/exits/mqcci_licenses.ini**
- For IBM MQ 64-bit on Unix and Linux: **/var/mqm/exits64/mqcci_licenses.ini**
- For IBM i: **/QIBM/UserData/mqm/mqcci/mqcci_licenses.ini**

➢ **UsePureCSV** specifies that MQCCI should also create the CSV record as a pure CSV record. It supports 2 values [Y / N]. The default value is N.

➢ **AddDiscMessage** specifies that MQCCI should also create a CSV record when the application disconnects from the queue manager. It supports 2 values [Y / N]. The default value is N.

➢ **IncludeTag** specifies whether or not MQCCI will include a 16 character tag on both the "CONN" and "DISC" records. The default value is Yes. Note: Only used if AddDiscMessage is set to 'Y'.

➢ **IncludeDurationTime** specifies whether or not MQCCI will include the duration time on the "DISC" record. The default value is No. Note: Only used if AddDiscMessage is set to 'Y'.

4.1.2 CSV Data to a File

This section describes the keywords related to CSVFile handling.

- **CSVFile** specifies the location of the CSV file. The default is as follows:

  For Windows:
  `CSVFile=C:\Capitalware\MQCCI\%QM%-%DATE%.csv`

  For IBM MQ 32-bit on Linux:
  `CSVFile=/var/mqm/exits/%QM%-%DATE%.csv`

  For IBM MQ 64-bit on Unix and Linux:
  `CSVFile=/var/mqm/exits64/%QM%-%DATE%.csv`

  For IBM MQ on IBM i:
  `CSVFile=/QIBM/UserData/mqm/mqcci/%QM%-%DATE%.csv`

4.1.3 CSV Data to a Queue

This section describes the keywords related to directing the audit data to an CSV Queue.

- **UseCSVQueue** controls the use of CSVQueue. Set to Y to activate feature.

- **CSVQueue** is either a local or remote queue of where the audit data is to be outputted to.

4.1.4 Logging

This section describes the keywords related to logging and their values.

- **LogMode** specifies what type of logging the user wishes to use. LogMode supports 4 values: Q (Quiet), N (Normal), V (Verbose) and D (Debug). The default value is N.

- **LogFile** specifies the location of the log file. The default values are as follows:
  - For Windows: **C:\Capitalware\MQCCI\mqcci.log**
  - For IBM MQ 32-bit on Linux: **/var/mqm/exits/mqcci.log**
  - For IBM MQ 64-bit on Unix and Linux: **/var/mqm/exits64/mqcci.log**
  - For IBM I: **/QIBM/UserData/mqm/mqcci/mqcci.log**

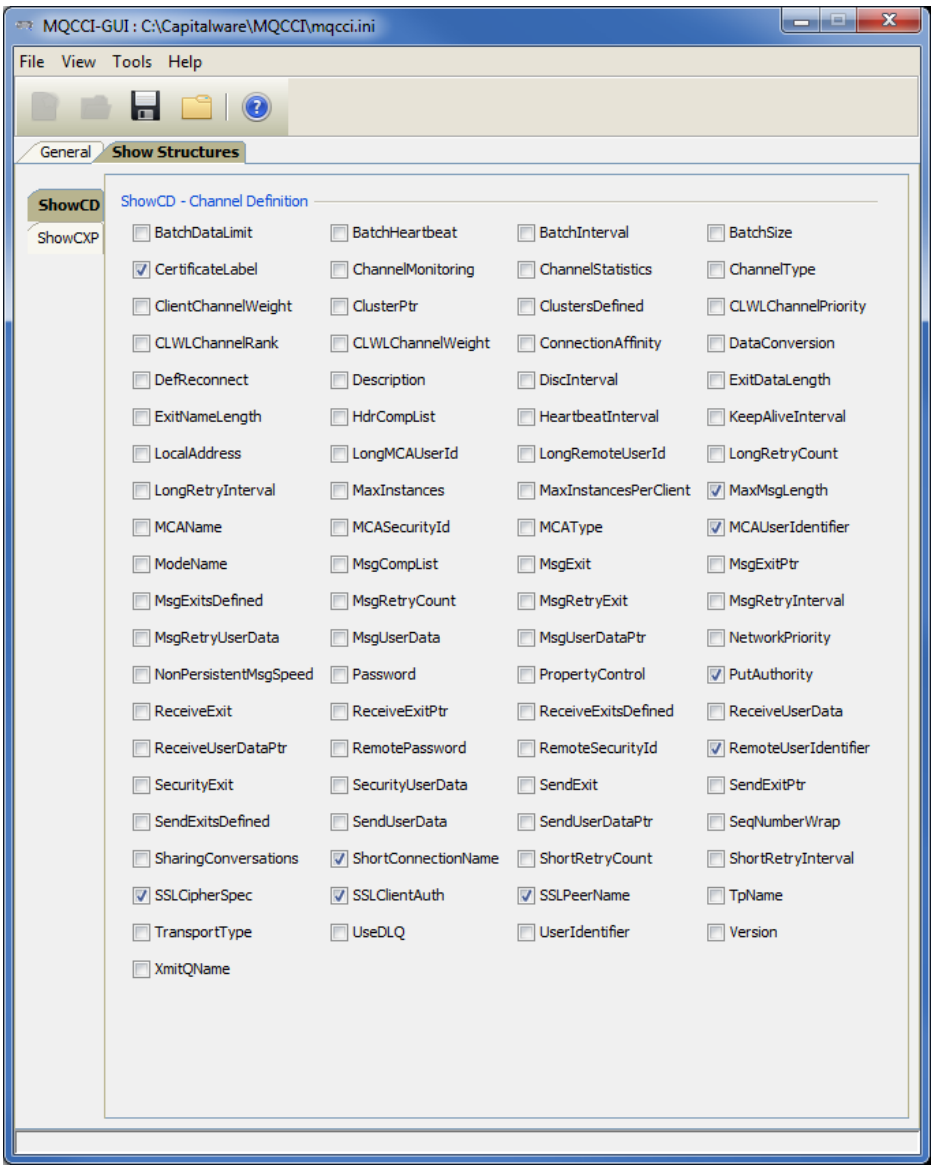
- **RotateLogDaily** specifies whether or not the daily log file rotation should take place. The default value is Y (Yes).

- **BackupLogFileCount** specifies the number of backup log files to be kept / retained by MQCCI. The default value is 9.

4.2 Show Structures Tab

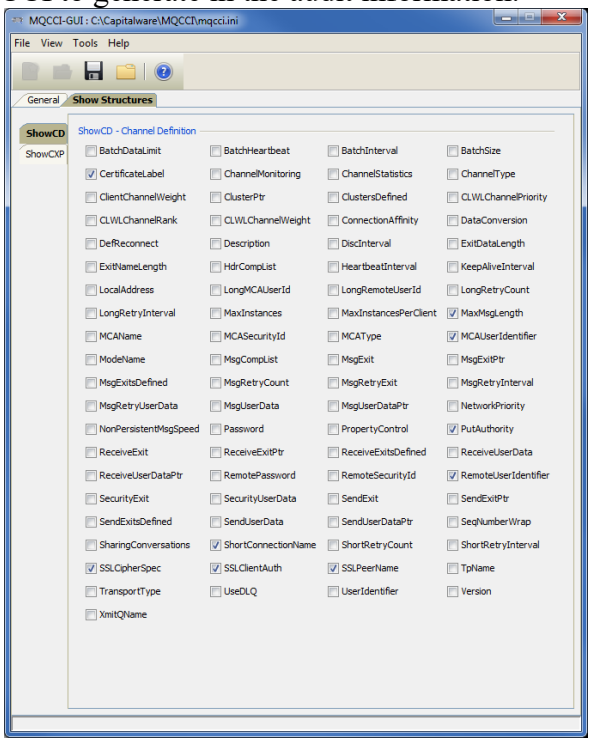
This section will describe various parameters on the Show Structures tab of a MQCCI IniFile.

The following is the Show Structures Tab with sample values:

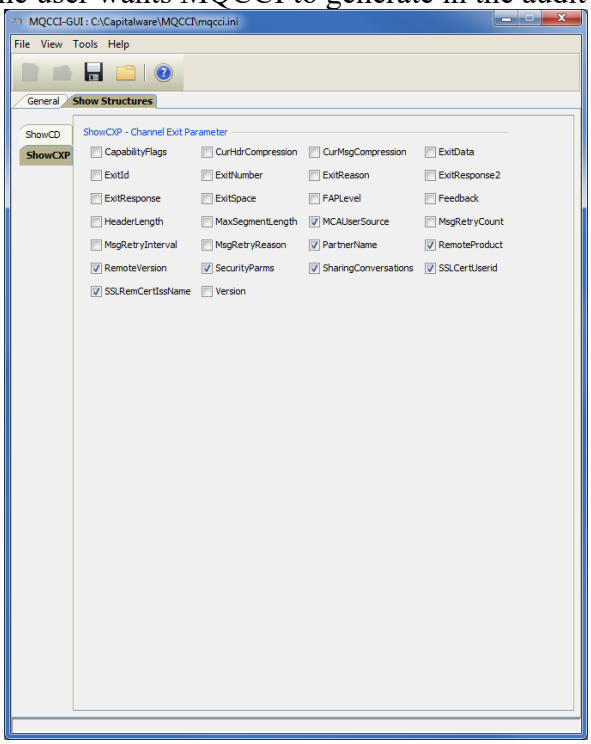


The parameters on the Show Structures Tab are as follows:

- **ShowCD** specifies the MQCD (Channel Definition) fields of the MQCONN / MQCONNX API calls that the user wants MQCCI to generate in the audit information.



- **ShowCXP** specifies the MQCD (Channel Exit Parameters) fields of the MQCONN / MQCONNX API calls that the user wants MQCCI to generate in the audit information.



5 Other Tools

This chapter will describes how the other tools included with MQCCI-GUI.

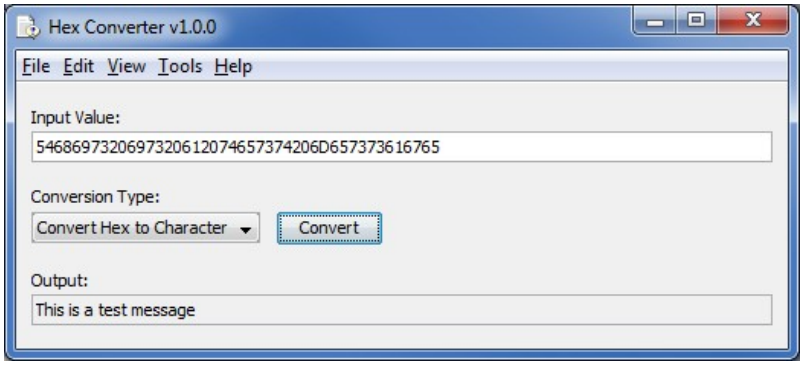
5.1 Hex Converter

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 MQCCI-GUI.

From the main panel of MQCCI-GUI, 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

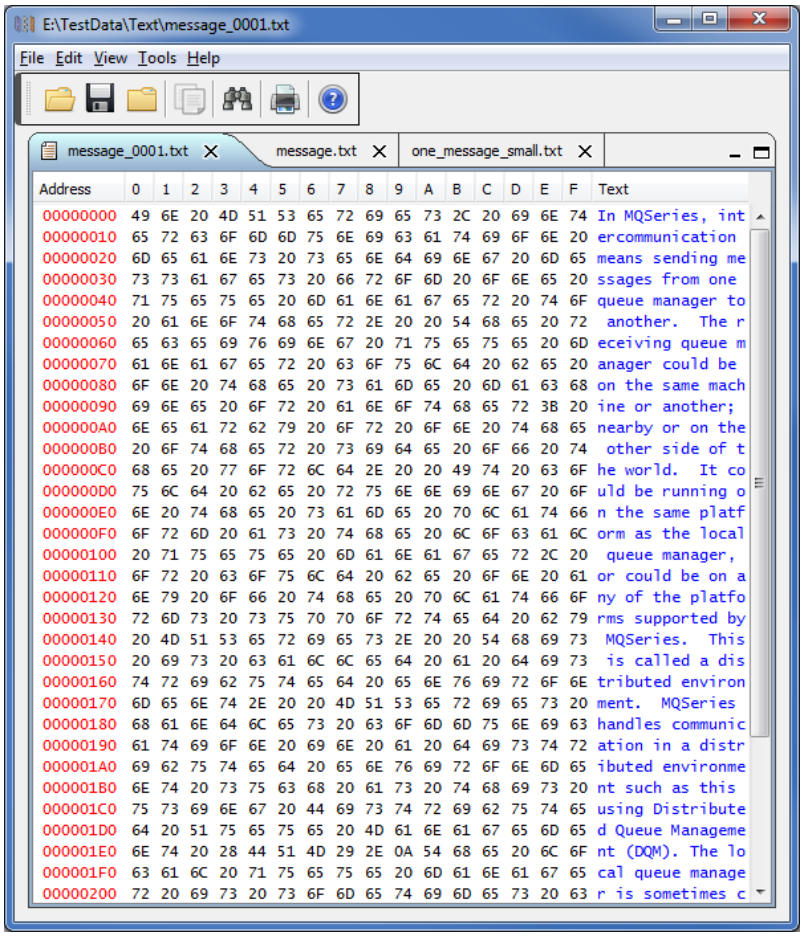
5.2 Hex Editor

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 MQCCI-GUI.

From the main panel of MQCCI-GUI, 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

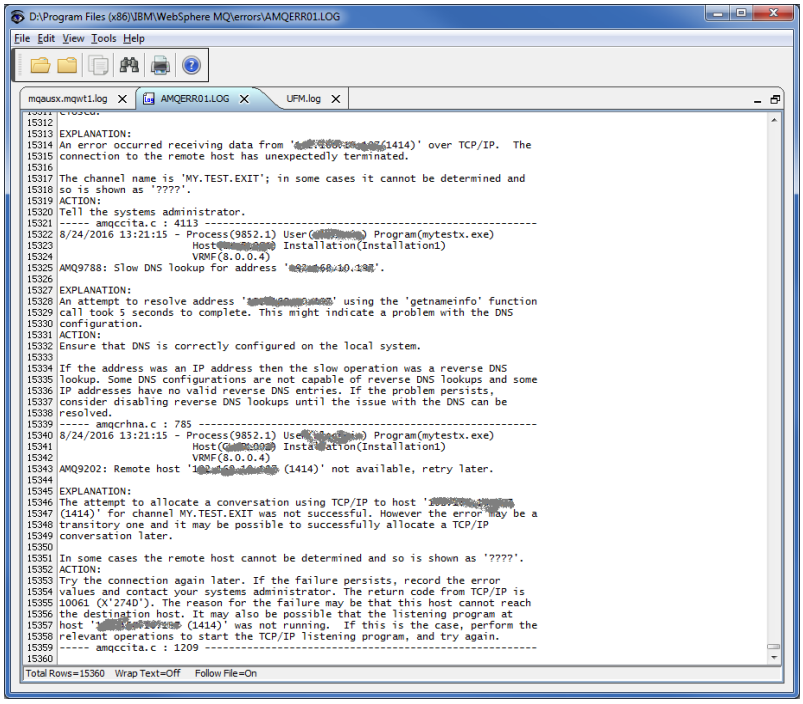
5.3 Tail File

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 MQCCI-GUI.

From the main panel of MQCCI-GUI, 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

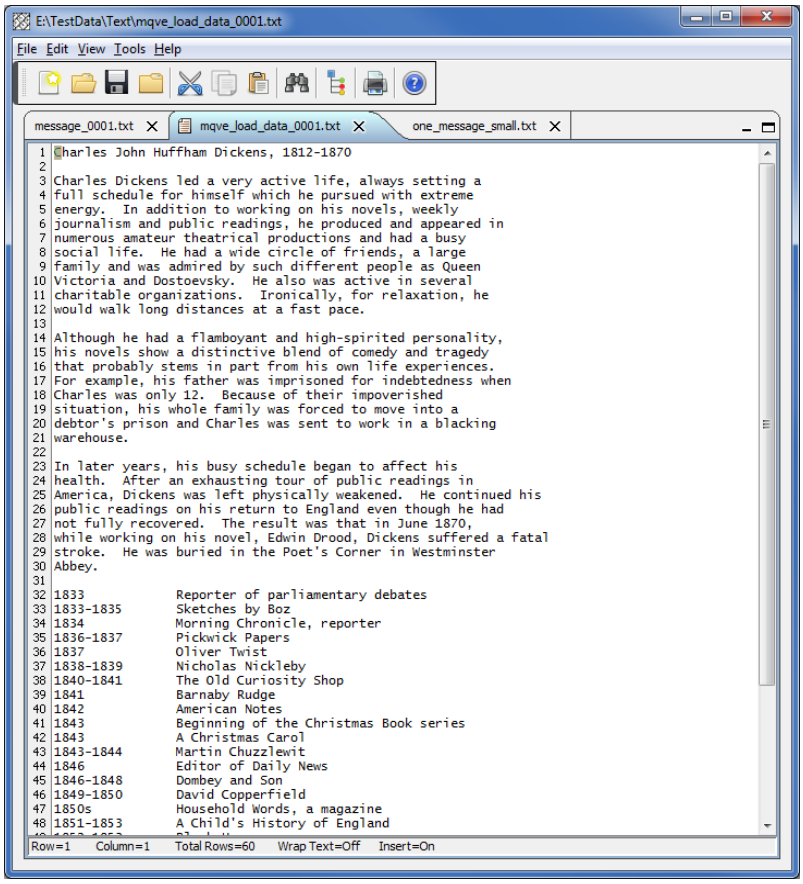
5.4 Text Editor

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 MQCCI-GUI.

From the main panel of MQCCI-GUI, select **Tools**, then **Text Editor**.

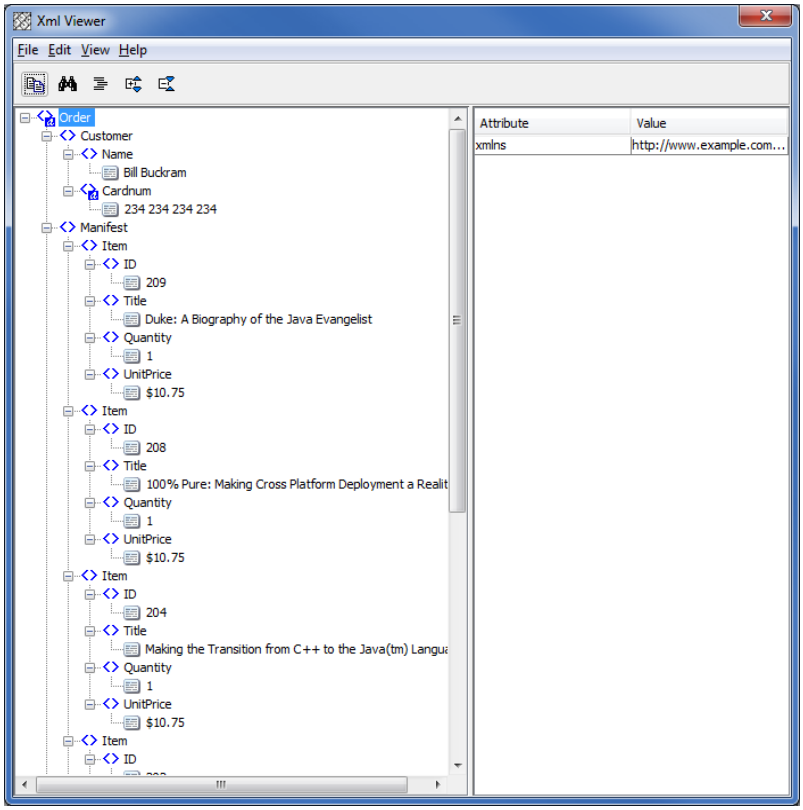
This is the main panel of the Text Editor and it has 3 open files.



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.



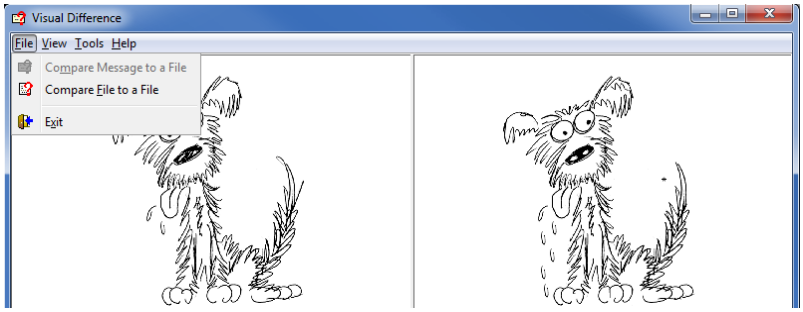
5.5 Visual Difference

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

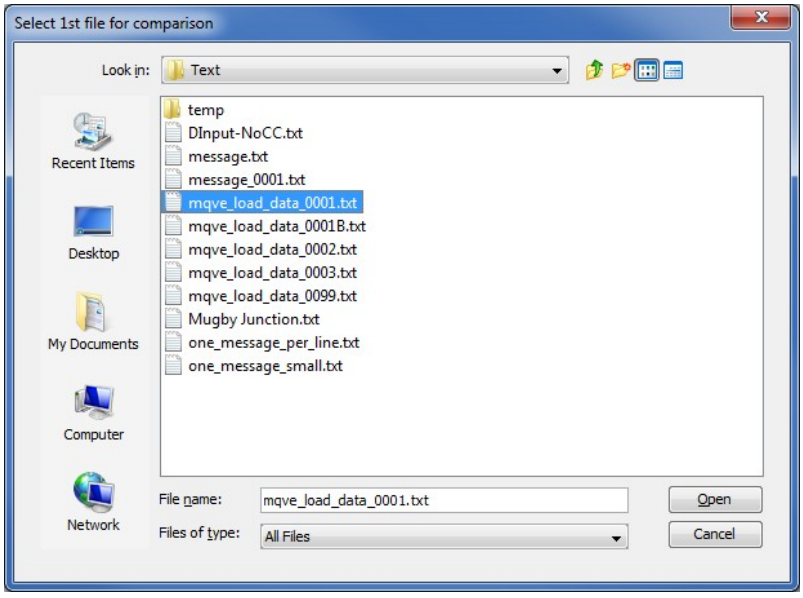
For the Other Tools, you can have unlimited number of them running (up to what your box can support). Also, while any of the Other Tools are running, the user can still use MQCCI-GUI.

From the main panel of MQCCI-GUI, select **Tools**, then **Visual Difference**.

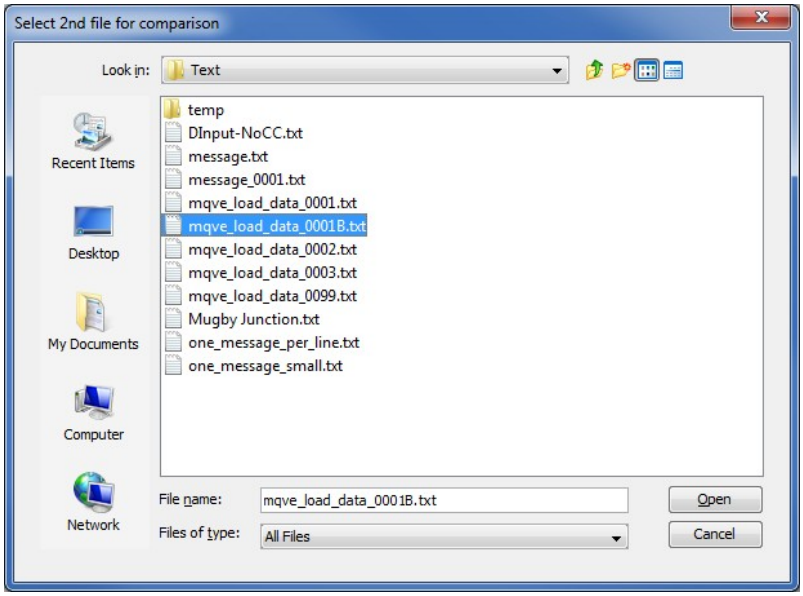
This is the main panel of the Visual Difference. To initiate the file comparison process, click File and then click Compare File to File



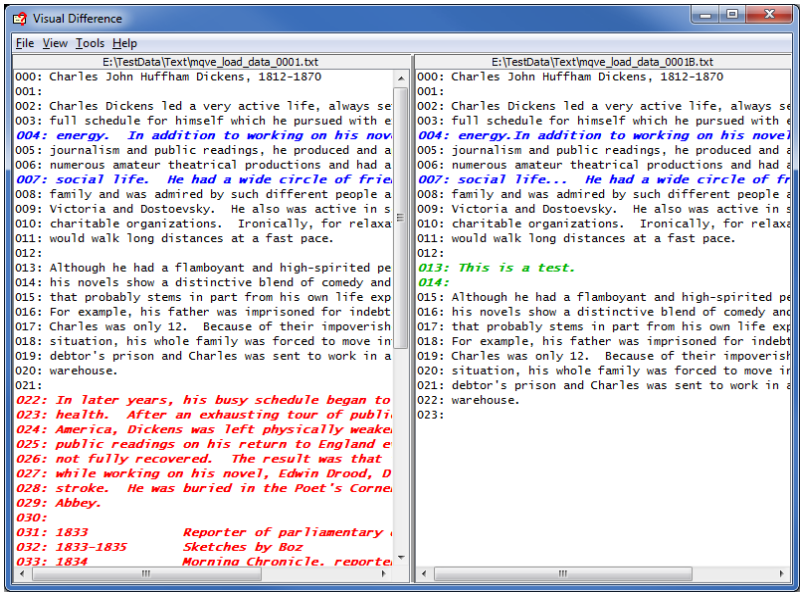
First the user needs to select the first file for comparison.



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.



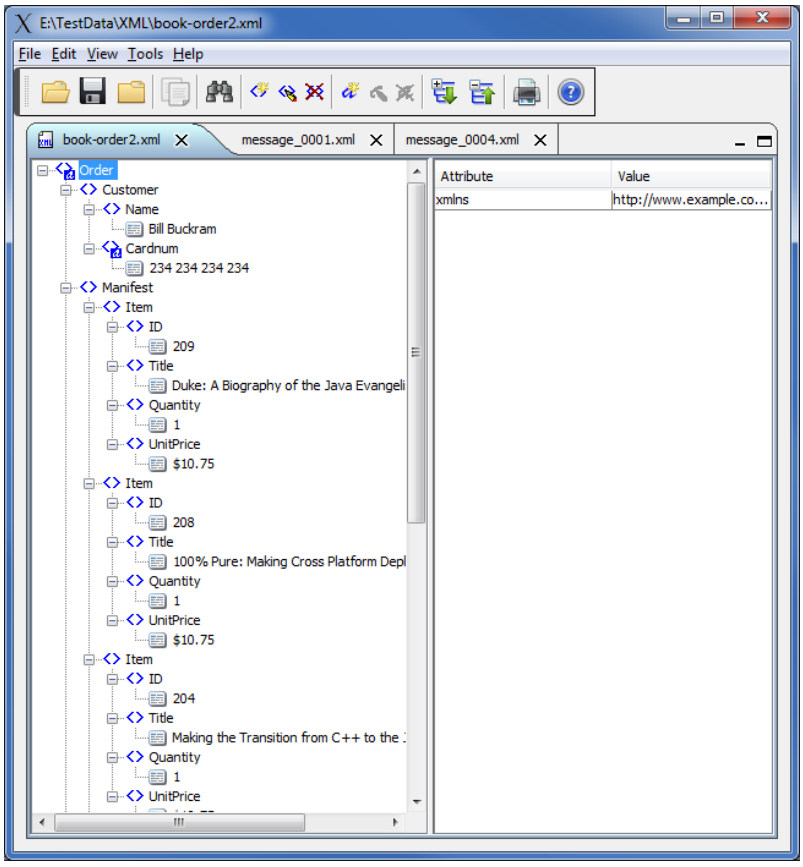
5.6 XML Editor

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 MQCCI-GUI.

From the main panel of MQCCI-GUI, 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

6 Miscellaneous

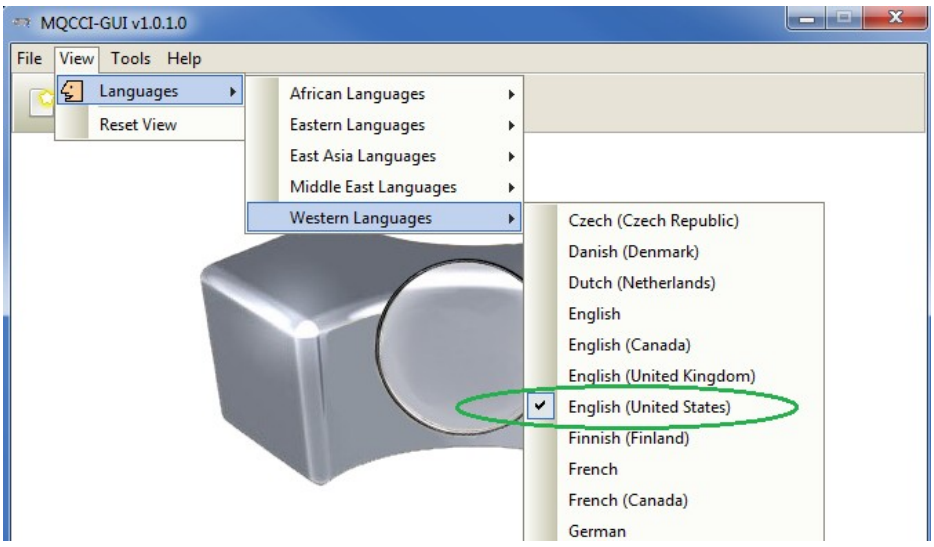
This chapter will describes how the miscellaneous features of MQCCI-GUI.

6.1 Language

This section will describe how to switch MQCCI-GUI's Language Text to another Language Text. MQCCI-GUI has been designed to support Java's multi-language environment. Currently, MQCCI-GUI has language support (menu items, buttons and titles) for the following 55 languages:

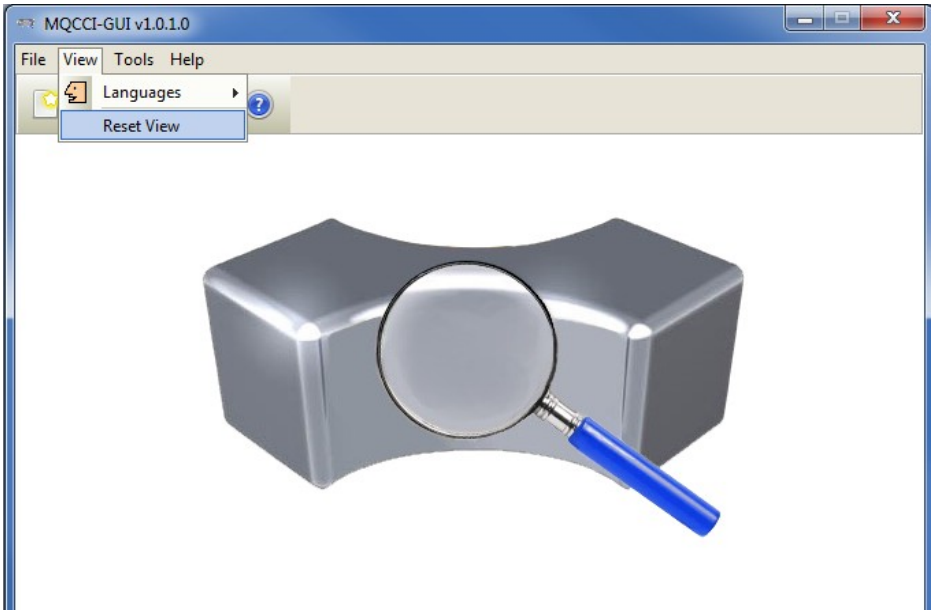
➢ Amharic (am)	➢ Hungarian (hu)	➢ Shona (sn)
➢ Arabic (ar)	➢ Igbo (ig)	➢ Sindhi (sd)
➢ Azerbaijani (az)	➢ Indonesian (in)	➢ Spanish (es)
➢ Bengali (bn)	➢ Italian (it)	➢ Sundanese (su)
➢ Cebuano (ceb)	➢ Japanese (ja)	➢ Swahili (sw)
➢ Chinese (China) (zh)	➢ Javanese jv)	➢ Swedish (sv)
➢ Chinese (Taiwan) (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 MQCCI-GUI, select **View**, then **Language**.



6.2 Reset View

This section will describe how to reset the view of MQCCI-GUI if the display is not correct.



The user can also reset the view from the command line by passing in the ***RG*** parameter.

6.2.1 Windows Command Line

On Windows, issue the following command to reset the view of MQCCI-GUI:

mqccigui.exe RG

6.2.2 Linux and macOS Command Line

On Linux and macOS, issue the following command to reset the view of MQCCI-GUI:

./mqccigui.sh RG

7 Appendix A – Frequently Asked Questions (FAQ)

Q. Can IniFiles be create on Windows for MQCCI on Unix?
A. Yes. Once the IniFile has been saved, the user can copy or ftp (in ASCII mode) the file to the remote server.

8 Appendix B – MQCCI-GUI Upgrade Procedures

To upgrade an existing installation of MQCCI-GUI, please do the following in the appropriate section below.

8.1 Windows Upgrade

- Stop all instances of MQCCI-GUI
- Backup any MQCCI-GUI data files in the MQCCI-GUI install directory
- Go to the Windows **Control Panel** and select **Program and Features**
- Select MQCCI-GUI and then click the **Uninstall** button
- Run the install program called: **mqccigui-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 **MQCCI-GUI**.
- Restore the MQCCI-GUI data files if necessary
- To run MQCCI-GUI, select the MQCCI-GUI icon from within the MQCCI-GUI folder.

8.2 Linux or macOS Upgrade

- Stop all instances of MQCCI-GUI
- Backup any MQCCI-GUI data files in the MQCCI-GUI install directory
- Remove the installation i.e. rm -Rf Capitalware/MQCCI-GUI/
- Unzip the file, open a shell prompt and execute the following commands:

  unzip mqccigui.zip

- When the unzip command has finished, there should be a directory tree as follows:

  Capitalware/MQCCI-GUI

- Change directory by typing the following:

  cd Capitalware/MQCCI-GUI

- Before running MQCCI-GUI for the first time, you need to add the execute attribute to the mqccigui.sh shell scripts. Type the following:

  chmod +x mqccigui.sh

- To run MQCCI-GUI from the Capitalware/MQCCI-GUI directory, then type the following:

  ./mqccigui.sh

9 Appendix C – Support

The support for MQCCI-GUI can be found at the following location:

By email at:
support@capitalware.com

By regular mail at:

Capitalware Inc.
Attn: MQCCI-GUI Support
Unit 11, 1673 Richmond Street, PMB524
London, Ontario N6G2N3
Canada

10 Appendix D – Summary of Changes

- MQCCI-GUI v1.2.0
  - Rearranged the fields on the General tab.

- MQCCI-GUI v1.1.0
  - Added support for IncludeTag keyword
  - Added support for IncludeDurationTime keyword
  - Added the 'Recent Files' menu option under the File menu option.
  - Added images to buttons for more user-friendly display.
  - Added support for 55 languages for the menu options, buttons and titles (not IniFile keywords).
  - Added the 'Reset View' menu option under the View menu option.
  - Added 6 tools under the Tools menu option:
    - Compare File to a File
    - Hex Converter
    - Hex Editor
    - Tail File
    - Text Editor
    - XML Editor

- MQCCI-GUI v1.0.0
  - Initial release.

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12 Appendix F – Notices

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