

😻 MQA-GUI : C:\C	apitalware\MQA\mqa.ini — 🗆 🗙
File View Tools	Help
General Audit C	Output Y Audit Data Y Filters Y Show API Y Show Structures Y Show Embedded Messages Y Overrides
General	
Active	Yes 🔻
Description	
License	
LicenseFile	C:\Capitalware\MQA\mqa_licenses.ini
IniFileRecheckTime	60
ExitPath	C:\Capitalware\MQA\
UserID Handling —	
UserIDFormatting	As Is 🔹
Logging	
LogMode	Normal
LogEile	
Rotatel ogDaily	
RotateLogDairy	
DebugUserID	C Update



Capitalware Inc. Unit 11, 1673 Richmond Street, PMB524 London, Ontario N6G2N3 Canada sales@capitalware.com https://www.capitalware.com

Last Updated: July 2020. © Copyright Capitalware Inc. 2010, 2020.

#### MQA-GUI User Guide

# **Table of Contents**

1 INTRODUCTION	1
1.1 Overview	1
2 INSTALLATION	3
2.1 PREREQUUSITES	3
2.2 SOFTWARE	3
2 3 HARDWARE / OS	3
2.4 SETTING UP AND RUNNING THE APPLICATION	3
2.4 1 For Windows Users	3
2.4.2 For Linux and Max OS X (requires JRE/JDK):	
3 CREATING OR UPDATING INIFILES	5
3.1 New INIFILE.	
3.2 Open an IniFile	
3.3 CLOSE AN INIFILE.	
3.4 Save IniFile	
3.5 Save As IniFile	9
4 TABS	10
4.1 General Tab	
4.1.1 General	11
4.1.2 UserID Handling	
4.1.3 Logging	
4.2 Audit Output Tab	
4.2.1 Audit Data to a Oueue.	
4.2.2 Audit Data to Files	
4.2.3 Audit Archive Files	
4.3 Audit Data Tab	
4.3.1 Monitor	
4.3.2 Message Data	
4.3.3 Mask for Binary Characters.	
4.3.4 Mask for Carriage Return Character	
4.3.5 Mask for Line Feed Character	
4.4 Filters Tab	
4.4.1 Include Filters	
4.4.2 Exclude Filters	
4.5 Show API Tab	
4.6 Show Structures Tab	
4.7 Show Embedded Messages Tab	
4.8 Overrides Tab	
4.8.1 Managing Overrides	
5 OTHER TOOLS	
5.1 Hex Converter	
5.2 Hex Editor	

5.3 TAIL FILE	
5.4 Text Editor	
5.5 Visual Difference	
5.6 XML Editor	
6 MISCELLANEOUS	
6.1 Language	
6.2 Reset View	
6.2.1 Windows Command Line	
6.2.2 Linux and macOS Command Line	
7 APPENDIX A – FREQUENTLY ASKED QUESTIONS (FAQ)	
8 APPENDIX B – MQA-GUI UPGRADE PROCEDURES	40
8 APPENDIX B – MQA-GUI UPGRADE PROCEDURES 8.1 Windows Upgrade	<b>40</b>
8 APPENDIX B – MQA-GUI UPGRADE PROCEDURES 8.1 Windows Upgrade 8.2 Linux or macOS Upgrade	<b>40</b> 40 40
<ul> <li>8 APPENDIX B – MQA-GUI UPGRADE PROCEDURES</li></ul>	40 40 40 40
<ul> <li>8 APPENDIX B – MQA-GUI UPGRADE PROCEDURES</li></ul>	
<ul> <li>8 APPENDIX B – MQA-GUI UPGRADE PROCEDURES</li></ul>	

## **1** Introduction

### 1.1 Overview

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

MQ Auditor (MQA) is a solution that allows a company to audit / track all MQ API calls performed by MQ applications that are connected to a queue manager. The API Exit operates with IBM MQ v7.1, v7.5, v8.0, v9.0, v9.1 and v9.2 in Windows, Unix, IBM i and Linux environments.

MQA audits the following MQ API calls:

- MQCONN, MQCONNX, MQOPEN, MQGET, MQPUT, MQPUT1, MQINQ, MQSET, MQCLOSE, MQDISC, MQBACK, MQBEGIN and MQCMIT.
- XASTART, XAEND, XAOPEN, XACLOSE, XACOMMIT, XACOMPLETE XAFORGET, XAPREPARE, XARECOVER, XAROLLBACK, AX REG and AX UNREG.
- MQCALLBACK, MQCB, MQCTL, MQSTAT, MQSUB and MQSUBRQ.

MQA is designed to provide the user with all of the information of an MQ API call in "human readable" format. Human readable implies that it will convert binary fields into their MQ defined names (i.e. ObjType=MQOT\_Q). It will convert Command Server / PCF messages into human readable messages. The user can control the fields that are outputted for each of the following MQ structures: MQCNO, MQOD, MQGMO, MQPMO and MQMD. For MQ v7 & higher, the following fields are outputted: Message Properties, MQCBC, MQCBD, MQSTS and MQSD.

MQA handles the following MQ embedded message types: MQCIH, MQDH, MQDLH, MQIIH, MQRFH, MQRFH2, MQRMH, MQTM, MQWIH, MQXQH, MQHSAP, SMQBAD. The user can control the fields that are outputted for each of the MQ embedded messages.

MQA's default behavior is to log all MQ API calls by all applications (users). To override the default, the user can define 4 types of filters: Applications, UserIDs, Queues and Topics.

- Applications means that MQ Auditor will log all MQ API calls whose application name matches the filter value.
- UserIDs means that MQ Auditor will log all MQ API calls whose UserID matches the filter value.
- Queues means that MQ Auditor will log all MQ API calls whose queue name matches the filter value.
- Topics means that MQ Auditor will log all MQ API calls whose topic name matches the filter value.

MQA is designed to output 1 line per API call (1 long line). The output (audit) information is written to plain text CSV (Comma Separate Value) files. There are 2 Audit CSV file types: QMgr and Queue/ Topic. Audit information for MQGET, MQPUT, MQPUT1, MQINQ and MQSET related to a queue

is written to the Queue Audit file and audit information for all other calls is written to the QMgr Audit file.

The user can choose to have the output (audit) information written to a local or remote queue rather than to a file. From an MQA point of view, this is a very dangerous feature. The reason it is dangerous is that MQA audits / monitors all MQ API calls and for each call it generates audit data. If the audit data is written to a queue then this action can potentially cause an endless loop (MQA will audit itself, over and over again). Therefore, the "audit queue" is not audited / monitored nor is the transmit queue if remote queue is used. If the user is using a remote queue then it is strongly recommended that a separate channel and transmit queue be used so that the normal transmit queue can be audited / monitored. The user will need a program to read the messages from the 'audit queue' and to write the information somewhere (i.e. database).

*Audit Queue Off Load* (AQOL) is a new companion application for MQ Auditor. The purpose of AQOL is to retrieve audit records from the audit queue and write the audit records to plain text CSV (Comma Separate Value) files. For more information regarding the AQOL program, please read the *AQOL Installation and Operation* manual.

MQA can explicitly not write audit information for particular queues, topics, UserIds and applications. It can also explicitly not write information when MQ issues particular reason codes (i.e. 2033).

On IBM i, Linux, Unix and Windows, MQA 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 MQA-GUI. For Windows users, the installation of MQA-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 MQA-GUI application.

## 2.2 Software

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

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

## 2.3 Hardware / OS

MQA-GUI is capable of running on the following hardware platforms that support Java v1.3 (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 MQA-GUI application.

### 2.4.1 For Windows Users:

> Run the install program called: **mqagui-setup-withjre.exe** 

 $\succ$  The installer should follow the standard Windows install procedures and provide default values for the users.

> When the install program has installed MQA-GUI, there will be a newly created folder under Start -> All Programs called MQA-GUI.

> To run MQA-GUI, select the MQA-GUI icon from within the MQA-GUI folder.

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

- > MQA-GUI is provided as a zip file: mqagui.zip
- > To unzip the file, open a shell prompt and execute the following commands:

#### unzip mqagui.zip

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

#### Capitalware/MQA-GUI

> Change directory by typing the following:

#### cd Capitalware/MQA-GUI

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

#### chmod +x mqagui.sh

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

./mqagui.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 MQA IniFile. The IniFile can be for a local or remote MQA implementation.

From the main menu of MQA-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 MQA IniFile.

## 3.2 Open an IniFile

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



From the main menu of MQA-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 MQA IniFile.

÷	MQA-GUI : C:\C	apitalware\N	/IQA\mo	qa.ini							
File	View Tools	Help	_								
B	New File										
D	Open File	Ctrl+0									
D	Close		t Data	Filters	Show API	Show Structure	es (	Show Embe	edded Messag	les	Overr
	Save	Ctrl+S									
	Save As										
	Recent Files	>									
<b>()</b>	Exit										
Li	icenseFile	C: \Capitalwa	re\MQA	mga_licen	ses.ini						
Ir	niFileRecheckTime	60									
E	xitPath	C:\Capitalwa	re\MQA	1							
		-									
US	erio nariuling —										
		A - T-	_								
U	serIDFormatting	As Is	•								
U Lo	gging	As Is	•								
U Lo Li	IserIDFormatting Igging IngMode	As Is Normal	•								
U Lo La	iserIDFormatting igging ogMode ogFile	As Is Normal C:\Capitalwa	▼ ▼ are\MQA	mqa.log							
U Lo Li R	serIDFormatting gging ogMode ogFile otateLogDaily	As Is Normal C:\Capitalwa Yes V Bac	▼ ire\MQA\ :kupLogF	mqa.log	9						
U Lo Li R	serIDFormatting gging ogMode ogFile otateLogDaily	As Is Normal C:\Capitalwa Yes V Bac	▼ are\MQA\ ckupLogF	mqa.log ileCount [	9					adata	

From

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 MQA-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 MQA IniFile.

From the mair	n menu of M	QA-GUI,	select ]	File 1	then S	bave
---------------	-------------	---------	----------	--------	--------	------

÷	MQA-GUI : C:\C	apitalware\MQA\mqa.ini	—		×
File	View Tools	Help			
8	New File	Ctrl+N			
	Open File	Ctrl+0			
ò	Close	t Data Filters Show API Show Structures Show Embedded Messages	Override	s	
Н	Save	Ctrl+S			
	Save As				
	Recent Files	>			
₽	Exit				
Li	censeFile	C:\Capitalware\MQA\mqa_licenses.ini			
In	niFileRecheckTime	60			
E	xitPath	C:\Capitalware\MQA\			
Us	erID Handling —				
U	serIDFormatting	As Is			
	-	-			
Lo	gging				
Lo	ogMode	Normal			
Lo	ogFile	C:\Capitalware\MQA\mqa.log			
R	otateLogDaily	Yes  BackupLogFileCount 9			
D	ebugUserID	😂 Update			

The parameter information will be saved to the IniFile.

The MQA-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 MQA IniFile with a new file name. From the main menu of MQA-GUI, select **File** then **Save As** 

۰	MQA-GU	I : C:\Ca	apitalware\M	QA\mqa.ini	—	×
File	View	Tools	Help			
	New Fil	e				
	Open Fi	le				
ò	Close			t Data Filters Show API Show Structures Show Embedded Messages	Overrides	
	Save		Ctrl+S			
	Save As					
	Recent	Files	>			
₽	Exit					
Lic	censeFile		C:\Capitalwar	e\MQA\mqa_licenses.ini		
In	iFileReche	ckTime	60			
Ð	kitPath		C: \Capitalwar	e\MQA\		
Us	erID Hand	ling —				
Us	serIDForm	atting	As Is	•		
				•		
Log	gging —					
Lo	gMode		Normal			
Lo	gFile		C: \Capitalwar	e\MQA\mqa.log		
Ro	otateLogD	aily	Yes 🔻 Bad	supLogFileCount 9		
De	ebugUserI	D		😂 Update	1	

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 MQA IniFile. The following is a General Tab with default values:

😻 MQA-GUI : C:\C	apitalware\MQA\mqa.ini	_		×
File View Tools	Help			
General Audit C	Dutput Y Audit Data Y Filters Y Show API Y Show Structures Y Show Embedded Messages	Overri	ides	
General				
Active	Yes 🔻			
Description				
License				
LicenseFile	C:\Capitalware\MQA\mqa_licenses.ini			
IniFileRecheckTime	60			
ExitPath	C:\Capitalware\MQA\			
UserID Handling —				
UserIDFormatting	As Is 🔻			
1i				
Logging	Neural			
LogMode				
LogFile	C: \Capitalware \MQA \mqa.log			
RotateLogDaily	Yes BackupLogFileCount 9			
DebugUserID	🛱 Update			

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 MQA.

**Description** parameter is optional and is not used by MQA. 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\MQA\mqa licenses.ini
- For IBM MQ 32-bit on Unix & Linux: /var/mqm/exits/mqa licenses.ini
- For IBM MQ 64-bit on Unix and Linux: /var/mqm/exits64/mqa\_licenses.ini
- For IBM i: /QIBM/UserData/mqm/mqa/mqa\_licenses.ini

**IniFileRecheckTime** specifies the amount, in seconds, before the IniFile is checked whether it has changed or not. The default value is 60.

**ExitPath** explicitly sets the API exit path.

#### 4.1.2 UserID Handling

This section describes the keywords related to UserID handling.

**UserIDFormatting** controls the handling of the UserID. It supports 3 values [A / U / L]. (As Is, Uppercase and Lowercase). The default value is A.

### 4.1.3 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\MQA\mqa.log
  - For IBM MQ 32-bit on Unix and Linux: /var/mqm/exits/mqa.log
  - For IBM MQ 64-bit on Unix and Linux: /var/mqm/exits64/mqa.log
  - For IBM I: /QIBM/UserData/mqm/mqa/mqa.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 MQA. The default value is 9.

**DebugUserID** allows MQA to limit debugging output to specific UserIDs. The default value is an empty field.

### 4.2 Audit Output Tab

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

🌞 MQA-GUI : C:\Cap	italware\MQA\mqa.ini	— C	×
File View Tools H	elp		
General Audit Out	tput Audit Data Filters Show API Show Structures Show Embedded Messages	Overrides	]
Audit Data to a Queue			
UseAuditQueue	No 🔻		
AuditQueue			
Audit Data to Files —			
AuditPath	C:\Capitalware\MQA\audit\		
OneFilePerConnection	No 🔻		
SharedQueueAuditFile	No 🔻		
UseRollingAuditFile	Yes VaditFileMaxSize 100 in MB		
StartUpCleanUp	No 🔻		
Audit Archive Files —			
AuditArchivePath	C: \Capitalware \MQA \audit \archive \		
ArchiveCleanUp	Yes   ArchiveDays 7		

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

#### 4.2.1 Audit Data to a Queue

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

- **UseAuditQueue** controls the use of AuditQueue. Set to Y to activate feature.
- > AuditQueue is either a local or remote queue of where the audit data is to be outputted to.

#### 4.2.2 Audit Data to Files

This section describes the keywords related to directing the audit data to Audit Files (QMgr and Queue).

> AuditPath specifies path to the Audit files Setting this parameter will override the default value for AuditPath. The default values are as follows:

For Windows: AuditPath=C:\Capitalware\MQA\audit\

For IBM MQ 32-bit on Unix and Linux: AuditPath=/var/mqm/audit/

For IBM MQ 64-bit on Unix and Linux: AuditPath=/var/mqm/audit/

For IBM MQ on IBM i: AuditPath=/QIBM/UserData/mqm/mqa/audit/

**OneFilePerConnection** allows the MQAdmin wishes to have all audit information outputted only to the Queue Manager Audit file. The default value is N (No). Setting 'OneFilePerConnection' to 'Y' (Yes) will cause MQA to output all audit information to the Queue Manager Audit file (the Queue Audit file will not be used).

SharedQueueAuditFile allows the MQAdmin wishes to have all audit information for a particular queue outputted to a single audit queue file. The default value is N (No). Setting 'SharedQueueAuditFile' to 'Y' (Yes) will cause MQA to output all audit queue information to a single Queue Audit file.

**UseRollingAuditFile** enables MQA to manage of the Audit (QMgr and Queue) file size. This is controlled by the IniFile's property keyword 'UseRollingAuditFile'. The default value is Y (Yes). Setting 'UseRollingAuditFile' to 'Y' will activate this feature.

AuditFileMaxSize specifies how large an Audit file can become before it is moved to the archive directory. The value represents the maximum size in MB (MegaBytes) for the Audit file before it is archived (moved to the Archive directory). The default value is 100. This keyword is only used if UseRollingAuditFile is set to 'Y'.

**StartUpCleanUp** runs the cleanup task of the audit directory on queue manager startup. The default value is N (No). Setting 'StartUpCleanUp' to 'Y' (Yes) will activate this feature.

### 4.2.3 Audit Archive Files

This section describes the keywords related to Audit Archive files.

> AuditArchivePath specifies the path to the Audit files in the archive directory Setting this parameter will override the default value for AuditArchivePath. The default values are as follows:

For Windows: AuditArchivePath=C:\Capitalware\MQA\audit\archive\

For IBM MQ 32-bit on Unix and Linux: AuditArchivePath=/var/mqm/audit/archive/

For IBM MQ 64-bit on Unix and Linux: AuditArchivePath=/var/mqm/audit/archive/

For IBM MQ on IBM i: AuditArchivePath=/QIBM/UserData/mqm/mqa/audit/archive/

> ArchiveCleanUp turns on the cleanup of the archive directory. The default value is Y (Yes).

ArchiveDays specifies the number of days the archive files should be kept for. The default value is 7. This keyword is only used if ArchiveCleanUp is set to 'Y'.

### 4.3 Audit Data Tab

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

onitor onitorInternal No ▼ onitorType After ▼ isgDataAsHex No ▼ MsgDataLength 25 isk for binary characters iskBinaryChars No ▼ UseAsBinaryChar isk for Carriage Return (CR) character isk for Line Feed (LF) character	Monitor   MonitorType   After   Message Data   Message Data   Mask for binary characters   Mask for binary characters   Mask for Carriage Return (CR) character   Mask for Line Feed (LF) character   Mask IF   No   V   UseAsLF	
anitorInternal No  After	MonitorInternal No  After After After Message Data MsgDataAsHex No  MsgDataLength 25 Mask for binary characters MaskBinaryChars No  UseAsBinaryChar Mask for Carriage Return (CR) character MaskCR No  UseAsCR Mask for Line Feed (LF) character MaskLF No  UseAsLF	
anitorType After   After	MonitorType After  Message Data Message Data Message Data MsgDataAsHex No  MsgDataLength 25 Mask for binary characters Mask for Carriage Return (CR) character Mask for Carriage Return (CR) character Mask for Line Feed (LF) character Mask for Line Feed (LF) character MaskLF No  UseAsLF	
assage Data agDataAsHex No  MsgDataLength 25 ask for binary characters askBinaryChars No  UseAsBinaryChar ask for Carriage Return (CR) character askCR No  UseAsCR Isk for Line Feed (LF) character useAsCR	Message Data         MsgDataAsHex       No       MsgDataLength       25         Mask for binary characters       MsgDataLength       25         Mask for Carriage Return (CR) character       MsgDataLength       MsgDataLength         Mask for Carriage Return (CR) character       MsgDataLength       MsgDataLength         Mask for Line Feed (LF) character       MsgDataLength       UseAsCR         MaskLF       No       UseAsLF       UseAsLF	
sgDataAsHex No ▼ MsgDataLength 25 sk for binary characters skBinaryChars No ▼ UseAsBinaryChar sk for Carriage Return (CR) character skCR No ▼ UseAsCR sk for Line Feed (LF) character sk for Line Feed (LF) character	AssDataAsHex       No       MsgDataLength       25         Aask for binary characters	
ask for binary characters askBinaryChars No ▼ UseAsBinaryChar ask for Carriage Return (CR) character askCR No ▼ UseAsCR use for Line Feed (LF) character use for Line Feed (LF) character use for Line Feed (LF) character	Aask for binary characters         AaskBinaryChars       No         Mask for Carriage Return (CR) character         Aask for Carriage Return (CR) character         Aask for Line Feed (LF) character         Aask for Line Feed (LF) character         AaskLF       No         No       UseAsLF	
ask for binary characters askBinaryChars No ▼ UseAsBinaryChar ask for Carriage Return (CR) character askCR No ▼ UseAsCR use for Line Feed (LF) character usk for Line Feed (LF) character	Task for Dinary Characters       UseAsBinaryChar         Task BinaryChars       No         Task for Carriage Return (CR) character       UseAsCR         Task for Line Feed (LF) character       UseAsLF         TaskLF       No       ▼         UseAsLF       No	
Isk for Carriage Return (CR) character Isk for Carriage Return (CR) character Isk for Line Feed (LF) character Isk for Line Feed (LF) character Isk for Line Feed (LF) character	Hask for Carriage Return (CR) character       Hask for Carriage Return (CR) character       Hask for Line Feed (LF) character       Hask IF     No       No     ✓       UseAsLF	
ask for Carriage Return (CR) character	Mask for Carriage Return (CR) character         MaskCR       No         Mask for Line Feed (LF) character         MaskLF       No         MaskLF       No	
Isk for Line Feed (LF) character	Iask for Line Feed (LF) character IaskLF No ▼ UseAsLF	
isk for Line Feed (LF) character	lask for Line Feed (LF) character	
skLF No VuseAsLF	<b>taskLF No ▼</b> UseAsLF	

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

#### 4.3.1 Monitor

This section describes the monitor related keywords and their values.

MonitorInterval enables monitoring of internal MQ applications issuing MQ API calls.

MonitorType specifies what type of monitoring the user wishes to have. i.e. Both, After & Conversion

#### 4.3.2 Message Data

**MsgDataAsHex** specifies how MQA will handle the message data when the audit information is generated. Setting 'MsgDataAsHex' to 'Y' (Yes) will cause the message data to be converted to hexadecimal format in the audit record.

**MsgDataLength** specifies how much of the message data will be generated with the audit information

#### 4.3.3 Mask for Binary Characters

This section describes the keywords related to 'Mask for Binary' characters.

- 1. **MaskBinaryChars** controls whether UseAsBinaryChar is used or not. Set to Y to activate feature.
- 2. UseAsBinaryChar specifies a character to be used when a binary character is found in the message data. Single quotes are required. There are 3 ways to specify a value for UseAsBinaryChar:
  - To remove the character from the message data, use " (nothing between the single quotes)
  - To specify a replacement character, use '.' (a single character between the single quotes)
  - To specify a replacement in hexadecimal format, use X'2E' (a hexadecimal number)

#### 4.3.4 Mask for Carriage Return Character

This section describes the keywords related to 'Mask for Carriage Return' (CR) character.

- 1. MaskCR controls whether UseAsCR is used or not. Set to Y to activate feature.
- 2. UseAsCR specifies a character to be used when a Carriage Return character is found in the message data. Single quotes are required. There are 3 ways to specify a value for UseAsCR:
  - To remove the character from the message data, use " (nothing between the single quotes)
  - To specify a replacement character, use '.' (a single character between the single quotes)
  - To specify a replacement in hexadecimal format, use X'2E' (a hexadecimal number)

#### 4.3.5 Mask for Line Feed Character

This section describes the keywords related to 'Line Feed' (LF) character.

- 1. MaskLF controls whether UseAsLF is used or not. Set to Y to activate feature.
- 2. UseAsLF specifies a character to be used when a Line Feed character is found in the message data. Single quotes are required. There are 3 ways to specify a value for UseAsLF:
  - To remove the character from the message data, use " (nothing between the single quotes)
  - To specify a replacement character, use '.' (a single character between the single quotes)
  - To specify a replacement in hexadecimal format, use X'2E' (a hexadecimal number)

## 4.4 Filters Tab

This section will describe the parameters on the Filters tab of a MQA IniFile.

The following is the Filters Tab with sample values:

🏶 MQA-GUI : C:\Capit	alware\MQA\mqa.ini	- [	×							
File View Tools He	lp									
General Audit Outpu	ut Audit Data Filters Show API Show Structures Show Embedded Me	ssages Overrides	)							
Include Filters										
Applications	*	😂 Update								
Queues	*	📬 Update								
Topics	*	😂 Update								
UserIDs	*	😂 Update								
Exclude Filters										
UseExcludeApplications	No 🔻									
ExcludeApplications	mo71;mqve	🔁 Update								
UseExcludeQueues	No 🔻									
ExcludeQueues		岸 Update								
UseExcludeTopics	No 🔻									
ExcludeTopics		🔁 Update								
UseExcludeUserIDs	No 💌									
ExcludeUserIDs		岸 Update								
Exclude Reason Codes -										
ExcludeRC		📬 Update								

The following are the IniFile parameters on the Filters Tab:

#### 4.4.1 Include Filters

This section describes the Include Filters keywords and their values.

> **Applications** specifies how to selectively monitor applications. The default value is '\*' (monitor all applications).

**Queues** specifies how to selectively monitor queues. The default value is '\*' (monitor all queues).

**Topics** specifies how to selectively monitor topics. The default value is '\*' (monitor all topics).

**UserIDs** specifies how to selectively monitor UserIDs connecting to the queue manager. The default value is '\*' (monitor all UserIDs).

#### 4.4.2 Exclude Filters

This section describes the Exclude Filter keywords and their values.

**UseExcludesApplications** controls the use of ExcludeApplications. Set to Y to activate feature.

- **ExcludesApplications** specifies which applications should not be tracked.
- **UseExcludesQueues** controls the use of ExcludeQueues. Set to Y to activate feature.
- **ExcludesQueues** specifies which queues should not be tracked.
- **UseExcludesTopics** controls the use of ExcludeTopics. Set to Y to activate feature.
- **ExcludesTopics** specifies which topics should not be tracked.
- **UseExcludesUserIDs** controls the use of ExcludeUserIDs. Set to Y to activate feature.
- **ExcludesUserIDs** specifies which queues should not be tracked.
- **ExcludeRC** specifies the MQ Reason Codes to not generate Audit information.

### 4.5 Show API Tab

This section will describe the parameters on the Show API tab of a MQA IniFile.

The following is the Show API Tab with sample values:

😻 MQA-GUI : C:\C	Capitalware\MQ	A\mqa.ini				—	×
File View Tools	Help						
General Audit (	Dutput Audit (	Data Filters	Show API St	now Structures	Show Embedded Messages	Overrides	
All versions of IBM N	MQ						
	MQBEGIN	MQCLOSE		MQCONN			
	MQDISC	MQGET	MQINQ	MQOPEN			
MQPUT	MQPUT1	MQSET					
Requires MQ v6.0.2	2.7 or higher —						
AX_REG	AX_UNREG	XACLOSE					
XAEND	XAFORGET	XAOPEN	XAPREPARE	XARECOVER			
	XASTART						
Requires MQ v7.0 o	r higher ———						
MQCALLBACK	MQCB	MQCTL	MQSTAT	MQSUB			
MQSUBRQ							

The one parameter is ShowAPI.

ShowAPI specifies the MQ API calls that the user wants MQA to generate in the audit information.

### 4.6 Show Structures Tab

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

The following is the Show Structures Tab with sample values:

File View Tools Help         General       Audt Output       Audit Data       Filters       Show API       Show Structures       Show Embedded Messages       Overrides         ShowCNO       ShowCNO       Connect Options       EmertComPtrip       ConnectionId       ConnTag       Options         ShowCNO       SstucomflyPt       SecurityParmsPtr       Version       SstucomflyPt       SecurityParmsPtr       Version         ShowCBD       ShowSD       ShowSTS       ShowSTS       ShowSD       ShowSTS       ShowSTS	File View Tools Help  General Audit Output Audit Data Filters Show API Show Structures Show Embedded Messages Overrides  ShowCNO - Connect Options  ShowCNO - Connect Options  ShowCMO ShowMD ShowMD ShowMD ShowMD ShowSD ShowSD ShowSTS	🐲 MQA-GUI : C:\Capitalware\MQA\mqa.ini	—		×
General       Audit Dutput       Audit Data       Filters       Show Structures       Show Embedded Messages       Overrides         ShowCNO       ShowCNO       - ConnectionId       ConnTag       Options         ShowCMO       Ssucconfight       SecurityParmsPtr       Version         ShowCBD       ShowCBD       ShowSTS       ShowSTS	General       Audit Dutput       Audit Data       Filters       Show XP1       Show Structures       Show Embedded Messages       Overrides         ShowCND       Connect Options       Image: ConnectionId       ConnTag       Options         ShowCMO       SSLConfigPt       SecurityParmsPtr       Version         ShowCBD       ShowSDD       ShowSD       ShowSTS	File View Tools Help			
General       Audit Dutput       Audit Data       Filters       Show API       Show Structures       Show Embedded Messages       Overrides         ShowCNO       Connect Options	General       Audit Output       Audit Data       Filters       Show Structures       Show Embedded Messages       Overrides         ShowCH0       ShowCNO-Connect Options				
ShowCNO       ShowCNO         ShowOD       CennectionId       ConnTag         ShowGMO       SsLConfigPtr       SecurityParmsPtr         ShowCBC       ShowCBD       ShowSD         ShowSTS       ShowSTS       ShowStripte	ShowCNO       ShowCNO         ShowCMO       SteintComPt*         ShowGMO       SSLConfigPt*         ShowGMO       SSLConfigPt*         ShowGMO       SSLConfigPt*         ShowGD       SscurityParmsPtr         Version       Version         ShowGD       ShowGD         ShowSD       ShowSD         ShowSTS       ShowSTS	General Audit Output Audit Data Filters Show API Show Structures Show Embedded Messages	Overrides	]	
		General       Audit Output       Audit Data       Filters       Show APIShow Structures       Show Embedded Messages         ShowCNO       ShowCNO - Connect Options	Verrides		

The parameters on the Show Structures Tab are as follows:

ShowCNO specifies the MQCNO (Connect Options) fields of the MQCONN / MQCONNX API calls that the user wants MQA to generate in the audit information.

ShowOD specifies the MQOD (Object Descriptor) fields of the MQOPEN and MQPUT1 API calls that the user wants MQA to generate in the audit information.

ShowGMO specifies the MQGMO (Get Message Options) fields of the MQGET API call that the user wants MQA to generate in the audit information.

ShowPMO specifies the MQPMO (Put Message Options) fields of the MQPUT and MQPUT1 API calls that the user wants MQA to generate in the audit information.

ShowMD specifies the MQMD (Message Descriptor) fields of the MQGET, MPUT and MQPUT1 API calls that the user wants MQA to generate in the audit information.

**ShowMP** specifies the message properties that the user wants MQA to generate in the audit information.

ShowCBC specifies the MQCBC (Call Back Context) fields of the CallBack API call that the user wants MQA to generate in the audit information.

ShowCBD specifies the MQCBD (Call Back Data Descriptor) fields of the CallBack API call that the user wants MQA to generate in the audit information.

ShowSD specifies the MQSD (Subscription Descriptor) fields of the SUB API call that the user wants MQA to generate in the audit information.

ShowSTS specifies the MQSTS (Status Information Record) fields of the STAT API call that the user wants MQA to generate in the audit information.

## 4.7 Show Embedded Messages Tab

This section will describe various parameters on the Show Embedded Messages tab of a MQA IniFile.

The following is the Show Embedded Messages Tab with sample values:



The IniFile parameters on the Show Embedded Messages Tab are as follows:

ShowCIH specifies the MQCIH (CICS Information Header) fields that the user wants MQA to generate in the audit information.

ShowDH specifies the MQDH (Distribution Header) fields that the user wants MQA to generate in the audit information.

ShowDLH specifies the MQDLH (Dead Letter Header) fields that the user wants MQA to generate in the audit information.

ShowIIH specifies the MQIIH (IMS Information Header) fields that the user wants MQA to generate in the audit information.

ShowRFH specifies the MQRFH (Rules and Formatting Header) fields that the user wants MQA to generate in the audit information.

ShowRFH2 specifies the MQRFH2 (Rules and Formatting Header 2) fields that the user wants MQA to generate in the audit information.

ShowRMH specifies the MQRMH (Reference Message Header) fields that the user wants MQA to generate in the audit information.

ShowTM specifies the MQTM (Trigger Message) fields that the user wants MQA to generate in the audit information.

ShowWIH specifies the MQWIH (Work Information Header) fields that the user wants MQA to generate in the audit information.

ShowXQH specifies the MQXQH (Transmission Queue Header) fields that the user wants MQA to generate in the audit information.

ShowHSAP specifies the MQHSAP (SAP R/3 Header) fields that the user wants MQA to generate in the audit information.

ShowSBAD specifies the SMQBAD (SAP R/3 Bad Message Header) fields that the user wants MQA to generate in the audit information.

### 4.8 Overrides Tab

This section will describe various parameters on the Overrides tab of a MQA IniFile.

The following is the Overrides Tab with sample values:

File View Tools Help General Audit Output Audit Data Filers Show API Show Structures Show Embedded Messages Overrides Overrides Override Section Names:	🔅 MQA-GUI : C:\Capitalware\MQA\mqa.ini	— (	×
General Audit Output Audit Data Fiters Show API Show Structures Show Embedded Messages Overrides Override Section Names:	File View Tools Help		
General       Audit Dutput       Audit Data       Filters       Show API       Show Structures       Show Embedded Messages       Overrides         Overrides       Override Section Names:       Keywords and Values:       Image: Comparison of the section Names:       Keywords and Values:         T:TrestTopic       Image: Comparison of the section Names:       Keywords and Values:       Image: Comparison of the section Names:         Q:ABC.*       Image: Comparison of the section Names:       Keywords and Values:       Image: Comparison of the section Names:         Q:ABC.*       Image: Comparison of the section Names:       Keywords and Values:       Image: Comparison of the section Names:         Q:ABC.*       Image: Comparison of the section Names:       Keywords and Values:       Image: Comparison of the section Names:         Q:ABC.*       Image: Comparison of the section Names:       Keywords and Values:       Image: Comparison of the section Names:         Image: Comparison of the section Names:       Image: Comparison of the section Names:       Keywords and Values:         Image: Comparison of the section Names:       Image: Comparison of the section Names:       Keywords and Values:         Image: Comparison of the section of th			
Overrides         Override Section Names:         Intestforpic         Q:ABC.*         Image: Rename	General Audit Output Audit Data Filters Show API Show Structures Show Embedded Messages	Overrides	
	General       Audit Output       Audit Data       Filters       Show API       Show Structures       Show Embedded Messages         Overrides         Override Section Names:       Keywords and Values:         Maddpoint         Q:ABC.*       Add         Edit       Rename         Spectral       Edit         Spectral       Edit         Spectral       Edit         Spectral       Edit	)verrides	

This section describes IniFile keywords that override the global IniFile values. To explicitly override the global IniFile values by Application Name, UserID, Queue Name or Topic, the user can create an Inifile stanza to hold those specific values.

#### 4.8.1 Managing Overrides

This section describes the necessary steps to manage Application Name filtering entries.

Click the Add button to add an entry to the list and the following window will appear.

?	Type:	Application 💌
	Name:	MQPGM*

Select the Type (Applications, Queues or UserIDs) and input the Application, Queue or UserID name including wildcards and then click the **Ok** button.

Click the Edit button to update an entry in the list and the following window will appear.

Edit Overrides: A:MQPO	iM*						×
Audit Output Audi	t Data	Filters	Show API	Show Structures	Show Em	bedded Messages	]
Audit Files							
OneFilePerConnection	No	•					
SharedQueueAuditFile	No	•					
UseRollingAuditFile	Yes	<ul> <li>Auditi</li> </ul>	FileMaxSize	100 in MB			
						Save	O Cancel
						W Save	Cancer

Then update any field to be overridden and then click the Save button at the bottom

Please upo	date the (	Override type and name.
?	Type:	Application 👻
	Name:	MQPGM*
		OK Cancel

Click the **Rename** button to delete an entry in the list and the following window will appear.

Then update the override type and/or name then click the **Ok** button.

Click the **Delete** button to delete an entry in the list and the following window will appear.



Then click the **Yes** button to permanently remove the entry from the list.

## 5 Other Tools

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

From the main panel of MQA-GUI, select Tools, then Hex Converter.

This is the main panel of the Hex Converter.

Hex Converter v1.0.0	
Eile <u>E</u> dit <u>V</u> iew <u>T</u> ools <u>H</u> elp	
Input Value:	
5468697320697320612074657374206D657373616765	
Conversion Type:	
Output:	

- 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 MQA-GUI.

From the main panel of MQA-GUI, select **Tools**, then **Hex Editor**.

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

081	🕅 E:\TestData\Text\message_0001.txt																	
Ei	<u>File Edit View Tools Help</u>																	
					ŕ	2			?									
	🗐 message	_000	1.tx	t >	<i>`</i> `		mes	sage	e.txt	х	0	one_r	ness	age_	smal	l.txt	х	
	Address	0	1	2	3	4	5	6	7	8	9	Α	в	С	D	Е	F	Text
	00000000	49	6E	20	4D	51	53	65	72	69	65	73	2C	20	69	6E	74	In MQSeries, int 🔺
	00000010	65	72	63	6F	6D	6D	75	6E	69	63	61	74	69	6F	6E	20	ercommunication
	00000020	6D	65	61	6E	73	20	73	65	6E	64	69	6E	67	20	6D	65	means sending me
	0000030	73	73	61	67	65	73	20	66	72	6F	6D	20	6F	6E	65	20	ssages from one
	00000040	71	75	65	75	65	20	6D	61	6E	61	67	65	72	20	74	6F	queue manager to
	00000050	20	61	6E	6F	74	68	65	72	2E	20	20	54	68	65	20	72	another. The r
	00000060	65	63	65	69	76	69	6E	67	20	71	75	65	75	65	20	6D	eceiving queue m
	00000070	61	6E	61	67	65	72	20	63	6F	75	6C	64	20	62	65	20	anager could be
	00000080	6F	6E	20	74	68	65	20	73	61	6D	65	20	6D	61	63	68	on the same mach
	00000090	69	6E	65	20	6F	72	20	61	6E	6F	74	68	65	72	3B	20	ine or another;
	000000A0	6E	65	61	72	62	79	20	6F	72	20	6F	6E	20	74	68	65	nearby or on the
	00000B0	20	6F	74	68	65	72	20	73	69	64	65	20	6F	66	20	74	other side of t
	00000C0	68	65	20	77	6F	72	6C	64	2E	20	20	49	74	20	63	6F	he world. It co
	00000D0	75	6C	64	20	62	65	20	72	75	6E	6E	69	6E	67	20	6F	uld be running o
	000000E0	6E	20	74	68	65	20	73	61	6D	65	20	70	6C	61	74	66	n the same platf
	00000F0	6F	72	6D	20	61	73	20	74	68	65	20	6C	6F	63	61	6C	orm as the local
	00000100	20	71	75	65	75	65	20	6D	61	6E	61	67	65	72	2C	20	queue manager,
	00000110	6F	72	20	63	6F	75	6C	64	20	62	65	20	6F	6E	20	61	or could be on a
	00000120	6E	79	20	6F	66	20	74	68	65	20	70	6C	61	74	66	6F	ny of the platfo
	00000130	72	6D	73	20	73	75	70	70	6F	72	74	65	64	20	62	79	rms supported by
	00000140	20	4D	51	53	65	72	69	65	73	2E	20	20	54	68	69	73	MQSeries. This
	00000150	20	69	73	20	63	61	6C	6C	65	64	20	61	20	64	69	73	is called a dis
	00000160	/4	72	69	62	/5	/4	65	64	20	65	6E	76	69	72	61	6E	tributed environ
	00000170	6D	65	6E	74	ZE	20	20	40	51	55	65	72	69	65	/3	20	ment. MQSeries
	00000180	68	61	6E	64	6C	65	/3	20	63	61	6D	6D	/5	6E	69	63	handles communic
	00000190	61	74	69	51	6E	20	69	6E	20	61	20	64	69	/3	74	12	ation in a distr
	000001A0	69	02	20	74	75	62	20	20	0E	70	20	74	60	0E	0U 72	20	nt such as this
	00000160	75	74	20	/ 3 6E	67	20	00	20	72	73	20	60	62	75	73	20	using Distribute
	00000100	61	20	51	0E 75	65	20	44	20	10	61	72 65	61	67	65	6P	65	d Queue Manageme
	00000150	65	74	20	28	44	51	40	20	-+0	01	54	68	65	20	60	65	nt (DOM) The lo
	000001E0	63	61	60	20	71	75	65	29	65	20	60	61	65	61	67	65	cal queue manage
	000001F0	72	20	60	73	20	73	65	73 6D	65	74	60	60	65	73	20	63	n is sometimes c T
	0000200	12	20	09	<i>, ,</i>	20	د ،	01	00	05	74	09	00	05	15	20	05	T TS SUMEETINES C

- 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 MQA-GUI.

From the main panel of MQA-GUI, select Tools, then Tail File.

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

File Edit Yuew Iools Help         Impound methods         Impou
Image: Angle State Stat
Impose required to prove the second program (second program (se
<pre>1333 EVELANATION: 1333 EVELANATION: 1334 EVELANATION: 1335 CAPACITY over TCP/IP. The 1335 Concertion to the remote host has unexpectedly terminated. 1336 on is shown as '777'. 1339 ACTION: 1330 Fell the systems administrator. 1331 Fell is shown as '777'. 1339 ACTION: 1330 Fell the systems administrator. 1332 ACTION: 1332 Fell Concerting and the systems administrator. 1332 ACTION: 1333 May 788: Slow DNS lookup for address 'meane@adm.1481 1335 May 788: Slow DNS lookup for address 'meane@adm.1481 1335 Advgr388: Slow DNS lookup for address 'meane@adm.1481 1336 Advgr388: Slow DNS lookup for address 'meane@adm.1481 1337 CAPCLANATION: 1338 Advgr388: Slow DNS lookup for address 'meane@adm.1481 1338 Advgr388: Slow DNS lookup for address 'meane@adm.1481 1339 Advgr388: Slow DNS lookup for everse DNS advgr388 1331 Advgr388: Slow DNS lookup for everse DNS advgr388 1333 Advgr388: Advgr388: Slow DNS lookups ent to capple for everse DNS 1338 Advgr388: Advgr388: Slow DNS lookups entrices. If the problem persists, 1339 Advgr388: Advgr388: Slow DNS lookups entrices. If the problem persists, 1339 Advgr388: Advgr388: Advgr388: Slow DNS lookups entrices. If the problem persists, 1339 Advgr388: Advgr388</pre>
13500 13501 [In some cases the remote host cannot be determined and so is shown as '????'. 13582 [ACTION: 13583 [Try the connection again later. If the failure persists, record the error 13584 [Values and contact your systems administrator. The return code from TCP/IP is 13585 [IOS (X'2740'). The reason for the failure may be that this host cannot reach 13585 [IOS (X'2740'). The reason for the failure may be that this host cannot reach 13595 [IOS (X'2740'). The reason for the failure may be that this host cannot reach 13595 [IOS and the failure may be that this listening program at 13589 [IOS and toperations to start the TCP/IP listening program, and try again. 13599 [IOS and contact is 1209 [IOS and the TCP/IP listening program.]
Total Rows=15360 Wrap Text=Off Follow File=On

- 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 MQA-GUI.

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

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

E:\TestData\Text\mqve	e_load_data_0001.txt	×
File Edit View Tools H	elp	
message_0001.txt X	mqve_load_data_0001.txt × one_message_small.txt ×	
1 Charles John Hu 2	uffham Dickens, 1812-1870	<u>^</u>
3 Charles Dickens 4 full schedule f 5 energy. In add 6 journalism and 7 numerous amateu 8 social life. + 9 family and was 10 Victoria and Do 11 charitable orgg 12 would walk long 13	s led a very active life, always setting a for himself which he pursued with extreme dition to working on his novels, weekly public readings, he produced and appeared in ur theatrical productions and had a busy le had a wide circle of friends, a large admired by such different people as Queen ostoevsky. He also was active in several anizations. Ironically, for relaxation, he g distances at a fast pace.	
14 Although he had 15 his novels show 16 that probably s 17 For example, hi 18 Charles was on 19 situation, his 20 debtor's prisor 21 warehouse. 22	d a flamboyant and high-spirited personality, v a distinctive blend of comedy and tragedy stems in part from his own life experiences. Is father was imprisoned for indebtedness when ly 12. Because of their impoverished whole family was forced to move into a n and Charles was sent to work in a blacking	E
23 In later years, 24 health. After 25 America, Dicker 26 public readings 27 not fully recov 28 while working of 29 stroke. He was 30 Abbey.	, his busy schedule began to affect his an exhausting tour of public readings in s was left physically weakened. He continued his s on his return to England even though he had vered. The result was that in June 1870, on his novel, Edwin Drood, Dickens suffered a fatal s buried in the Poet's Corner in Westminster	
31 32 1833 33 1833-1835 34 1834 35 1836-1837 36 1837 37 1838-1839 38 1840-1841 20 1841	Reporter of parliamentary debates Sketches by Boz Morning Chronicle, reporter Pickwick Papers Oliver Twist Nicholas Nickleby The Old Curiosity Shop	
39 1841 40 1842 41 1843 42 1843 43 1843-1844 44 1846 45 1846-1848 46 1849-1850 47 18505 48 1851-1853	Garnapy Kuage American Notes Beginning of the Christmas Book series A Christmas Carol Martin Chuzzlewit Editor of Daily News Dombey and Son David Copperfield Household Words, a magazine A Child': History of Ecoland	
Row=1 Column=1	Total Rows=60 Wrap Text=Off Insert=On	

- 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 MQA-GUI.

From the main panel of MQA-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 the comparison.



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

Look in:	📙 Text		- 🔹 🔊	<b></b>
Recent Items	b temp DInput-N message. message.	loCC.txt txt 		
Desktop	mqve_loa	ad_data_0001.txt ad_data_0001B.txt ad_data_0002.txt ad_data_0003.txt		
My Documents	mqve_loa Mugby Ju one_mes	ad_data_0099.txt unction.txt sage_per_line.txt sage_small.txt		
Computer				
	File <u>n</u> ame:	mqve_load_data_0001B.txt		<u>O</u> pen

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

😂 Visual Difference	
Eile View Tools Help	
E:\TestData\Text\mgve_load_data_0001.txt	E:\TestData\Text\mqve_load_data_0001B.txt
000: Charles John Huffham Dickens, 1812-1870	000: Charles John Huffham Dickens, 1812-1870
001:	001:
002: Charles Dickens led a very active life, always se	002: Charles Dickens led a very active life, always se
003: full schedule for himself which he pursued with e	003: full schedule for himself which he pursued with $\epsilon$
004: energy. In addition to working on his nov	004: energy. In addition to working on his novel
005: journalism and public readings, he produced and a	005: journalism and public readings, he produced and a
006: numerous amateur theatrical productions and had a	006: numerous amateur theatrical productions and had a
007: social life. He had a wide circle of frie	007: social life He had a wide circle of fr
008: family and was admired by such different people a	008: family and was admired by such different people a
009: Victoria and Dostoevsky. He also was active in s	009: Victoria and Dostoevsky. He also was active in s
010: charitable organizations. Ironically, for relaxa	010: charitable organizations. Ironically, for relaxa
011: would walk long distances at a fast pace.	011: would walk long distances at a fast pace.
012:	012:
013: Although he had a flamboyant and high-spirited pe	013: This is a test.
014: his novels show a distinctive blend of comedy and	014:
015: that probably stems in part from his own life exp	015: Although he had a flamboyant and high-spirited pe
016: For example, his father was imprisoned for indebt	016: his novels show a distinctive blend of comedy and
017: Charles was only 12. Because of their impoverish	017: that probably stems in part from his own life exp
018: situation, his whole family was forced to move in	018: For example, his father was imprisoned for indebt
019: debtor's prison and Charles was sent to work in a	019: Charles was only 12. Because of their impoverish
020: warehouse.	020: situation, his whole family was forced to move in
021:	021: debtor's prison and Charles was sent to work in a
022: In later years, his busy schedule began to	022: warehouse.
023: health. After an exhausting tour of public	023:
024: America, Dickens was left physically weake	
U25: public readings on his return to England e	
020: not runny recovered. The result was that	
027; while working on his novel, Edwin Drood, D	
020; Struke, ne was buried in the Poet's Corne.	
023. ADDCy.	
031: 1833 Penorter of parliamentary	
032. 1833-1835 Sketches by Roz	
033: 1834 Norning Chronicle reporte	
	< >

### 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 MQA-GUI.

From the main panel of MQA-GUI, select **Tools**, then **XML Editor**.

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

$\chi$ E:\TestData\XML\book-order2.xml		
<u>File Edit View Tools H</u> elp		
🔁 🖥 📫 🗊 🏘 🤻 🗞 🗶	💱 📴 📑 😰	
book-order2.xml × message_0001.xml × mes	sage_0004.xml 🗙	
□ Crder ▲	Attribute	Value
⊡ ··· <> Customer	xmlns	http://www.example.co
□ · · · · Name		
Bill Buckram		
Anifest		
i → √> Item		
209		
⊡<> Title		
🔤 Duke: A Biography of the Java Evangeli		
Quantity		
- E 1		
\$10.75		
100% Pure: Making Cross Platform Depl		
□ <> Ouantity		
⊡<> UnitPrice		
\$10.75		
i Item		
204		
⊡ · <> Title		
Making the Transition from C++ to the :		
U C Quantity		

- 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 MQA-GUI.

### 6.1 Language

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

Hungarian (hu)	Shona (sn)
> Igbo (ig)	Sindhi (sd)
Indonesian (in)	Spanish (es)
Italian (it)	Sundanese (su)
Japanese (ja)	Swahili (sw)
<ul> <li>Javanese jv)</li> </ul>	Swedish (sv)
Kannada (kn)	Tamil (ta)
Korean (ko)	Telugu (te)
Malay (ms)	Thai (th)
Malayalam (ml)	Turkish (tr)
Marathi (mr)	Vkrainian (uk)
<ul><li>Norwegian (no)</li></ul>	Urdu (ur)
Panjabi (pa)	Uzbek (uz)
Pashto (ps)	<ul><li>Vietnamese (vi)</li></ul>
<ul><li>Persian (fa)</li></ul>	Xhosa (xh)
Polish (pl)	Yoruba (yo)
Portuguese (pt)	Zulu (zu)
Romanian (ro)	
Russian (ru)	
	<ul> <li>Hungarian (hu)</li> <li>Igbo (ig)</li> <li>Indonesian (in)</li> <li>Italian (it)</li> <li>Japanese (ja)</li> <li>Javanese jv)</li> <li>Kannada (kn)</li> <li>Korean (ko)</li> <li>Malay (ms)</li> <li>Malay (ms)</li> <li>Malayalam (ml)</li> <li>Marathi (mr)</li> <li>Norwegian (no)</li> <li>Panjabi (pa)</li> <li>Pashto (ps)</li> <li>Persian (fa)</li> <li>Polish (pl)</li> <li>Portuguese (pt)</li> <li>Romanian (ro)</li> <li>Russian (ru)</li> </ul>

From the main panel of MQA-GUI, select View, then Language.



### 6.2 Reset View

This section will describe how to reset the view of MQA-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 MQA-GUI:

#### mqagui.exe RG

### 6.2.2 Linux and macOS Command Line

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

#### ./mqagui.sh RG

## 7 Appendix A – Frequently Asked Questions (FAQ)

Q. Can IniFiles be create on Windows for MQA 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 – MQA-GUI Upgrade Procedures

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

### 8.1 Windows Upgrade

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

### 8.2 Linux or macOS Upgrade

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

#### unzip mqagui.zip

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

### Capitalware/MQA-GUI

> Change directory by typing the following:

#### cd Capitalware/MQA-GUI

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

#### chmod +x mqagui.sh

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

#### ./mqagui.sh

# 9 Appendix C – Support

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

#### By email at:

support@capitalware.com

### By regular mail at:

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

## 10 Appendix D – Summary of Changes

- MQA-GUI v3.2.0
  - Added 'Audit Output' and 'Audit Data' tabs to better organize the presentation.
  - Added 6 new keywords to handle replacing Carriage Return, Line Feed or binary data for the message data of the audit record.
  - Added missing override fields for overriding Applications and UserId sections: Topics, UseExcludeQueues, ExcludeQueues, UseExcludeTopics & ExcludeTopics
  - Fixed a bug when resetting the view.
- > MQA-GUI v3.1.0
  - 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
- > MQA-GUI v3.0.0
  - Added the ability to filter topics new keyword: Topics
  - Added the ability to exclude topics new keywords: UseExcludeTopics & ExcludeTopics
  - Removed the keyword MQAPILevel as it is no longer required.
- MQA-GUI v2.4.0
  - Added the ability to exclude applications new keywords: UseExcludeApplications & ExcludeApplications
  - Added UserIDFormatting flag to force lowercase/uppercase/as\_is UserID formatting on all platforms
- MQA-GUI v2.3.0
  - Added MQOD v4 fields, MQPMO v3 fields & MQGMO v4 fields
  - o Added missing ShowMP keyword under the "Show V7 Structures" tab
- > MQA-GUI v2.1.0
  - Added keyword IniFileRecheckTime to only check the IniFile modification time after 'x' seconds
  - Added keyword DebugUserID to selectively enable debugging by UserID

- ▶ MQA-GUI v2.0.0
  - Added Conversion for MonitorType this causes audit records to be written for before and after conversion for MQGET.
- ▶ MQA-GUI v1.1.0
  - Added support for UseExcludeUserIDs & ExcludeUserIDs keywords
  - Added support for the following embedded message types: MQCIH, MQDH, MQDLH, MQIIH, MQRFH, MQRFH2, MQRMH, MQTM, MQWIH, MQXQH, MQHSAP, SMQBAD.
  - Added code to support the "NONE" value for the Show\*\*\* keywords.
- ▶ MQA-GUI v1.0.0
  - o Initial release.

# 11 Appendix E – License Agreement

This is a legal agreement between you (either an individual or an entity) and Capitalware Inc. By opening the sealed software packages (if appropriate) and/or by using the SOFTWARE, you agree to be bound by the terms of this Agreement. If you do not agree to the terms of this Agreement, promptly return the disk package and accompanying items for a full refund. SOFTWARE LICENSE

1. GRANT OF LICENSE. This License Agreement (License) permits you to use one copy of the software product identified above, which may include user documentation provided in on-line or electronic form (SOFTWARE). The SOFTWARE is licensed as a single product, to an individual queue manager, or group of queue managers for an Enterprise License. This Agreement requires that each queue manager of the SOFTWARE be Licensed, either individually, or as part of a group. Each queue manager's use of this SOFTWARE must be covered either individually, or as part of an Enterprise License. The SOFTWARE is in use on a computer when it is loaded into the temporary memory (i.e. RAM) or installed into the permanent memory (e.g. hard disk) of that computer. This software may be installed on a network provided that appropriate restrictions are in place limiting the use to registered queue managers only. Each licensed queue manager will be provided with a perpetual license key and the licensee may continue to use the SOFTWARE, so long as the licensee is current on the Yearly Maintenance Fee. If the licensee stops paying the Yearly Maintenance Fee, then the SOFTWARE must be removed from all systems at the end of the current maintenance period.

2. COPYRIGHT. The SOFTWARE is owned by Capitalware Inc. and is protected by United States Of America and Canada copyright laws and international treaty provisions. You may not copy the printed materials accompanying the SOFTWARE (if any), nor print copies of any user documentation provided in on-line or electronic form. You must not redistribute the registration codes provided, either on paper, electronically, or as stored in the files mqa.ini, mqa\_licenses.ini or any other form.

3. OTHER RESTRICTIONS. The registration notification provided, showing your authorization code and this License is your proof of license to exercise the rights granted herein and must be retained by you. You may not rent or lease the SOFTWARE, but you may transfer your rights under this License on a permanent basis, provided you transfer this License, the SOFTWARE and all accompanying printed materials, retain no copies, and the recipient agrees to the terms of this License. You may not reverse engineer, decompile, or disassemble the SOFTWARE, except to the extent the foregoing restriction is expressly prohibited by applicable law.

### LIMITED WARRANTY

LIMITED WARRANTY. Capitalware Inc. warrants that the SOFTWARE will perform substantially in accordance with the accompanying printed material (if any) and on-line documentation for a period of 365 days from the date of receipt.

CUSTOMER REMEDIES. Capitalware Inc. entire liability and your exclusive remedy shall be, at Capitalware Inc. option, either (a) return of the price paid or (b) repair or replacement of the SOFTWARE that does not meet this Limited Warranty and that is returned to Capitalware Inc. with a copy of your receipt. This Limited Warranty is void if failure of the SOFTWARE has resulted from accident, abuse, or misapplication. Any replacement SOFTWARE will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer.

NO OTHER WARRANTIES. To the maximum extent permitted by applicable law, Capitalware Inc. disclaims all other warranties, either express or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose, with respect to the SOFTWARE and any accompanying written materials.

NO LIABILITY FOR CONSEQUENTIAL DAMAGES. To the maximum extent permitted by applicable law, in no event shall Capitalware Inc. be liable for any damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss) arising out of the use or inability to use the SOFTWARE, even if Capitalware Inc. has been advised of the possibility of such damages.

# 12 Appendix F – Notices

### **Trademarks:**

AIX, IBM, MQSeries, OS/2 Warp, OS/400, iSeries, MVS, OS/390, WebSphere, IBM MQ and z/OS are trademarks of International Business Machines Corporation.

HP-UX is a trademark of Hewlett-Packard Company.

Intel is a registered trademark of Intel Corporation.

Java, J2SE, J2EE, Sun and Solaris are trademarks of Sun Microsystems Inc.

Linux is a trademark of Linus Torvalds.

Mac OS X is a trademark of Apple Computer Inc.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation.

UNIX is a registered trademark of the Open Group.

WebLogic is a trademark of BEA Systems Inc.