



WebSphere MQ Queue Statistics Tools

Version 1.1.0

SupportPac MH04

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This edition applies to Version 1.1.0. of WebSphere MQ Queue Statistics Tools and to all subsequent releases and modifications unless otherwise indicated in new editions.

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Preface

Purpose

This document is the User Guide for **IBM SupportPac MH04 – WebSphere MQ Queue Statistics Tools**, simple but yet powerful command line tools to display various statistics and information about WebSphere MQ local queues.

Prerequisites

A working knowledge of WebSphere MQ administration on the supported platforms is required to use this SupportPac.

Software Licensing and Support

The IBM software agreement for Category 2 SupportPacs is contained in the license files that are included with the distribution media for SupportPac MH04.

This SupportPac has been designed, developed, tested and documented by Oliver Fissé (IBM Software Group – ISSW IBM Software Services for WebSphere). You may contact the author at e-mail address fisse@us.ibm.com to provide comments and feedback, ask questions and seek assistance with using this SupportPac, report problems and request enhancements.

Summary of Changes

Version	Date	Author	Description of changes
1.0.0	02/01/10	FISSE	Initial version of this SupportPac
1.1.0	10/31/10	FISSE	See description of changes in the Appendix

Supported Platforms and Software

The Queue Statistics Tools are written in Java and requires a JVM 5.0 or higher.

The tools can run on any platforms where WebSphere MQ Client or Server either version V6 or V7 are supported.

The tools can run against queue managers on any platforms supporting WebSphere MQ V6 or V7.

Note that currently the tools have been only tested against Windows, Linux, Unix (AIX, HP-UX, Solaris) and z/OS queue managers at versions V6 and V7. Queue managers on other operating systems may be compatible but have not been tested yet.

Introduction

IBM SupportPac MH04 – WebSphere MQ Queue Statistics Tools provides simple but yet powerful command line tools (xmqqstat and xmqqstab) to display various statistics about the activity on WebSphere MQ local queues and information about the applications using a queue. The statistics and information can be displayed on a set interval and optionally recorded to file.

Xmqqstat - Display real time statistics about a Websphere MQ local queue
 Xmqqstab - Display statistics for a list of WebSphere MQ local queues

The tools support connection to queue managers in both bindings mode and client mode. Connection can be made using different ways (MQ environment variables, client channel table and other). The tools also support SSL.

Xmqqstat

Xmqqstat displays real time statistics about a single WebSphere MQ local queue.

Possible uses for this tool are as follows:

- Troubleshoot application issues
- Determine the message throughput on a queue
- Monitor and record the activity on a queue
- Display which applications are using a queue

The following queue statistics and application information are displayed:

Queue Statistics

Time	Current time	OUC	Open output count
MxML	Maximum message size	MDC	Message dequeue count
MxQD	Maximum queue depth	MEC	Message enqueue count
GET	GET enabled/disabled	UNC	Number of uncommitted changes
PUT	PUT enabled/disabled	CQD	Current queue depth
OIC	Open input count		

- Time is the time (hh:mm:ss) at which the statistic is captured
- MxML is the maximum message size (queue attribute MAXMSGL)
- MxQD is the maximum queue depth (queue attribute MAXDEPTH)
- GET shows whether the queue is GET enabled (E) or disabled (D) (queue attribute GET)
- PUT shows whether the queue is PUT enabled (E) or disabled (D) (queue attribute PUT)
- OIC is the number of applications having the queue opened for input (queue attribute IPPROCS)
- OUC is the number of applications having the queue opened for output (queue attribute OPPROCS)
- MDC is the number of messages coming off the queue since the last interval
- MEC is the number of messages coming on to the queue since the last interval
- UNC is the number of messages currently uncommitted on the queue
- CQD is the current queue depth (queue attribute CURDPETH)

Additional Queue Statistics (extended mode, option -e)

PQF	Percentage queue full	QOM	Queue oldest message age
TQF	Time to queue full	OQTS	Time messages remain on queue (short)
TQE	Time to queue empty	OQTL	Time messages remain on queue (long)

- PQF indicates how full is the queue as a percentage
- TQF is the time in either seconds, minutes, hours or days it will take to fill up the queue at the current message enqueue rate. If the time is more than 30 days then 'inf' (infinity) is displayed
- TQE is the time in either seconds, minutes, hours or days it will take to empty the queue at the current message dequeue rate. If the time is more than 30 days then 'inf' (infinity) is displayed
- QOM is the age of the oldest message on the queue. It is expressed either in seconds, minutes, hours or days. If the age is older than 30 days then '>30d' is displayed.
- OQTS indicates the time (in seconds) that the messages remain on the queue (value based on recent activity over a short period of time)
- OQTL indicates the time (in seconds) that the messages remain on the queue (value based on activity over a longer period of time)

Note: Attributes QOM, OQTS and OQTL require queue monitoring to be on.

Application (Handle) Information

PID	Process id (distributed)	USER ID	User id
TID	Thread id (distributed)	B	Queue opened for browse
AT	Application type	INP	Queue opened for input and mode
CHL	Channel name	I	Queue opened for inquire
APPL TAG	Application tag	O	Queue opened for output
CONN	Connection name	S	Queue opened for set

- PID is the process id of the application having the queue open
- TID is the thread id within the process id having the queue open
- AT is the application type. Values are:
 - QMGR (a queue manager process)
 - CHIN (the queue manager channel initiator)
 - USER (a user application)
- CHL is the name of the channel if the application is using a client connection
- APPL TAG is the name of the application
- CONN is the connection name if the application is using a client connection
- USER ID is the user id under which the application is running
- B indicates whether the application has the queue opened for Browse (Y/N)
- INP indicates whether the application has the queue opened for Input and what the input mode is. Values are:
 - NO (not opened for input)
 - SHR (opened for shared input)
 - EXC (opened for exclusive input)
- O indicates whether the application has the queue opened for output (Y/N)
- S indicates whether the application has the queue opened for set (Y/N)

Application (Handle) Information (z/OS)

ASID	Address space id	TASK	CICS task number
PSTI	Program spec table id	TRAN	CICS transaction id
PSB	Program spec block name		

- ASID is the address space id
- PSTI is the program specification table id (IMS)
- PSB is the program specification block name (IMS)
- TASK is the CICS task number
- TRAN is the CICS transaction id

Xmqqstab

Xmqqstab displays statistics for a list of WebSphere MQ local queues.

The following queue statistics are displayed:

Queue Statistics

CQD	Current queue depth	LGETDATE	Last GET date
PQF	Percentage queue full	LGETTIME	Last GET time
MxQD	Maximum queue depth	LPUTDATE	Last PUT date
OIC	Open input count	LPUTTIME	Last PUT time
OUC	Open output count	QOM	Oldest message age
MDC	Message dequeue count	GET	GET enabled/disabled
MEC	Message enqueue count	PUT	PUT enabled/disabled
UNC	Number of uncommitted changes		

- CQD is the current queue depth (queue attribute CURDPETH)
- PQF indicates how full is the queue as a percentage
- MxQD is the maximum queue depth (queue attribute MAXDEPTH)
- OIC is the number of applications having the queue opened for input (queue attribute IPPROCS)
- OUC is the number of applications having the queue opened for output (queue attribute OPPROCS)
- MDC is the number of messages coming off the queue since the last interval
- MEC is the number of messages coming on to the queue since the last interval
- UNC is the number of messages currently uncommitted on the queue
- LGETDATE is the date of the last GET
- LGETTIME is the time of the last GET
- LPUTDATE is the time of the last PUT
- LPUTTIME is the time of the last PUT

- QOM is the age of the oldest message on the queue. It is expressed either in seconds, minutes, hours or days. If the age is older than 30 days then '>30d' is displayed.
- GET shows whether the queue is GET enabled (E) or disabled (D) (queue attribute GET)
- PUT shows whether the queue is PUT enabled (E) or disabled (D) (queue attribute PUT)

Note: Attributes QOM, LGETDATE, LGETTIME, LPUTDATE and LPUTTIME require queue monitoring to be on.

Installation and Configuration

Installation

Unzip the mh04.zip package with your favorite tool and to a location of your choice.

Once unzipped, your directory should show the following files and directory:

xmqqstab.cmd	Windows script for xmqqstab
xmqqstab.sh	Linux/Unix script for xmqqstab
xmqqstat.cmd	Windows script for xmqqstat
xmqqstat.sh	Linux/Unix script for xmqqstat
com.ibm.xmq.utilities.jar	JAR file containing the tool
readme.txt	Readme file
mh04.pdf	Full documentation in PDF
Licenses	Licenses directory

Configuration

Four scripts, two for Windows and another two for Linux/Unix platforms, are provided to execute the tools. You need to customize the scripts for your specific environment as per instructions in the scripts. Customization requires you to at least:

1. Set/export the MQ_COMMAND_TOOLS environment variable
2. Uncomment the correct line to execute the tool for your platform and WebSphere MQ version
3. Update the lib to lib64 if your are running on a 64-bits platform

Other changes may be required depending on your environment.

Additionally, if you run the tools using WebSphere MQ V6 libraries you will need to download Supportpac **MS0B – WebSphere MQ Java classes for PCF** as the tool requires the Java PCF support provided in jar file com.ibm.mq.pcf-6.1.jar.

If you run the tools using WebSphere MQ V7 libraries you do not need to download SupportPac MS0B as the Java PCF support was added to WebSphere MQ in jar file com.ibm.mq.pcf.jar.

SupportPac MS0B can be downloaded using the following link:

[http://www-01.ibm.com/support/docview.wss?
rs=171&uid=swg24000668&loc=en_US&cs=utf-8&lang=en](http://www-01.ibm.com/support/docview.wss?rs=171&uid=swg24000668&loc=en_US&cs=utf-8&lang=en)

SSL Support

SSL is supported by using either a client channel table (options -b or -l) or using option -u (cipher suite) along with options -c and -x.

Using SSL requires that you already have a keystore and a truststore setup with the appropriate certificates as well as the proper WebSphere MQ channel definitions.

Since the tools are written in Java, JSSE is used to handle the SSL connectivity. The keystore and truststore should be of type JKS.

Before you can use SSL you need to update the scripts to add the following options to the java command line:

- -Djavax.net.ssl.keyStore=<path and name of keystore>
- -Djavax.net.ssl.keyStorePassword=<keystore password>
- -Djavax.net.ssl.trustStore=<path and name of truststore>
- -Djavax.net.ssl.trustStorePassword=<truststore password>

Options and Execution

Xmqgstat

Options

Running the tool without any options or with option ‘?’ displays the usage as shown below:

```
C:\MQ>xmqgstat
Xmqgstat v1.1 - Display realtime statistics about a Websphere MQ local queue
(c) Copyright IBM Corp. 2010, all rights reserved

Xmqgstat displays the statistics listed below in realtime for a
WebSphere MQ local queue on a set interval.

Usage: Xmqgstat -m qmgr-name -q q-name [-d duration] [-e] [-f filename] [-h]
[-i interval] [-p lines] [-s] [-t] [(-c chl-name -x conn-name
[-u ciph-suite] ! -v ! -l ! -b chl-tbl-name)]

Options:
-b chl-tbl-name Use the named client channel table
-c chl-name Channel name for client connection
-d duration Run for a specific duration (seconds)
-e Display extended data
-f file-name Record statistics to a file
-h Display handles information accessing the queue
-i interval Interval (seconds) at which to display statistics
-l Use the MQCHLTAB/MQCHLLIB environment variables
-m qmgr-name Name of the queue manager hosting the queue
-p lines Number of lines per page (without header)
-q q-name Name of the local queue to display statistics for
-s Do not display statistics if no activity
-t Display time
-u ciph-suite Cipher suite for SSL connection
-v Use the MQSERVER environment variable
-x conn-name Connection name as host(port) for client connection

Statistics displayed

Time Current time OUC Open output count
MxML Maximum message size MDC Message dequeue count
MxQD Maximum queue depth MEC Message enqueue count
G GEI enabled/disabled UNC Number of uncommitted changes
P PUI enabled/disabled CQD Current queue depth
OIC Open input count

PQF Percentage queue full QOM Queue oldest message age
IQF Time to queue full OQTS Time messages remain on queue (short)
IQE Time to queue empty OQTL Time messages remain on queue (long)

PID Process id USER ID User id
IID Ithread id B Queue opened for browse
AI Application type IMP Queue opened for input and mode
CHL Channel name I Queue opened for inquire
APPL TAG Application tag O Queue opened for output
CONN Connection name S Queue opened for set

ASID Address space id TASK CICS task number
PSTI Program spec table id TRAN CICS transaction id
PSB Program spec block name

Send bug reports, comments, etc... to Oliver Fisse (IBM) at fisse@us.ibm.com

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or further service implied or committed via IBM product service channels.
```

Usage:

```
xmqqstat -m qmgr-name -q q-name [-d duration] [-f filename] [-h]
        [-i interval] [-p lines] [-s] [-t] [(-c chl-name -x conn-name
        [-u ciph-suite] | -v | -l | -b chl-tbl-name)]
```

The following options are available:

? or no options

Displays usage and help.

-b <chl-tbl-name>

Use the specified client channel table to connect to the queue manager.

-c <chl-name>

Specifies the name of the client channel to use to connect to the queue manager hosting the local queue.

This option is used to connect to a queue manager remotely using a client connection. Use this option in conjunction with options -x and -u if SSL is required.

-d <duration>

Run the tool for a specific amount of time (in seconds) and then exits.

-e

Display extended statistics data.

-f <file-name>

Specifies the name of a file to record the output generated by this tool. If the file specified already exists output is appended. Output is always sent to standard output even when this option is specified.

-h

Displays information about handles (application having the local queue

opened for either input, output or other). The following information is displayed for each application using the queue:

- Process Id (distributed)
- Thread Id (distributed)
- Address Space Id (z/OS)
- Program Specification Table Id (z/OS – IMS)
- Program Specification Block Name (z/OS – IMS)
- Task Number (z/OS – CICS)
- Transaction Id (z/OS – CICS)
- Application Type
- Application Tag (name)
- Open Options
- User Id
- Channel Name (client connection only)
- Connection Name (client connection only)

-i <interval>

Specifies the interval (in seconds) at which to gather and display the statistics. If this option is not specified, the tool displays the most recent statistics and exits.

-l

Connects to the queue manager using the MQCHLTAB/MQCHLLIB environment variables. If MQCHLTAB is not defined AMQCLCHL.TAB is used as the name of the client channel table. If MQCHLLIB is not defined it defaults to the current directory.

-m <qmgr-name>

The name of the queue manager hosting the local queue.

-p <lines>

Specifies the number of lines to display before re-displaying a header. If this option is not specified the default of 25 lines is used. This option is also used to control how often application information is displayed (see option -h).

- q <q-name>
The name of the local queue to gather and display statistics for.
An ALIAS queue name can be used, it will automatically resolve to the LOCAL queue.
- s
Prevent display of statistics when no activity on the queue.
- t
Displays the time at which the statistic was gathered.
- u <ciph-suite>
Specifies which cipher suite to use for a SSL connection.
- v
Connects to the queue manager using the MQSERVER environment variable.
- x <conn-name>
Specifies the TCP/IP connection name to use to connect to the queue manager hosting the local queue. The format is server-address(port) and must be enclosed in double quotes ("").

This option is used to connect to a queue manager remotely using a client connection. Use this option in conjunction with options -c and -u if SSL is required.

Execution

Run the tool as follows in bindings mode:

```
xmqstat -m QM -q QUEUE -i 1 -s -t
```

Run the tool as follows in client mode:

```
xmqstat -c SYSTEM.DEF.SVRCONN -m QM -q QUEUE -i 1 -s -t -x "localhost(1414)"
```

Use CTRL-C to stop the tool.

Sample Output

```

C:\MQ>mqqsstat -n TEST -q TEST -i 1 -s -t -h
mqqsstat v1.1 - Developed by Oliver Fisse (IBM)

Connected to queue manager 'TEST'

PLATFORM(WINDOWS NT) LEVEL(701) CCSID(437)
MAXHANDS(256) MAXMSGL(4194304) MAXPRTY(9) MAXUMSGS(250000) MONQ(HIGH)

Processing LOCAL queue 'TEST'

DESC(<)
CRDATE(2010-09-09) CRTIME(15.29.02) ALTDATA(2010-10-03) ALTTIME(09.14.32)
CLUSTER(<) CLUSNL(<) DEFBIND(OPEN)
BOTHRESH(0) BOQNAME(<)
MONQ(QMGR) USAGE(NORMAL) NOTRIGGER

Dumping 1 handle(s)...

  PID  TID  AT  CHL/APPL  TAG/CONN  USER ID  B INP I O S
-----
  7968   0  USER  Administrator@IBM-6AE723B N NO N Y N
         ere MQ\java\jre\bin\java.exe

  Time      MxML      MxQD G P  OIC  OUC  MDC  MEC  UNC  CQD
-----
10:19:09  4194304  2500000 E E  0    1    0   6300  0   6300
10:19:10  4194304  2500000 E E  0    1    0   350  0   6650
10:19:11  4194304  2500000 E E  0    1    0    0  0   6650
10:19:12  4194304  2500000 E E  0    1    0   350  0   7000
10:19:14  4194304  2500000 E E  1    1   7000  0  0    0
10:19:15  4194304  2500000 E E  1    1   350  350  0  0
10:19:16  4194304  2500000 E E  1    1    0    0  0  0
10:19:17  4194304  2500000 E E  1    1   350  350  0  0
10:19:18  4194304  2500000 E E  1    1    0    0  0  0
10:19:19  4194304  2500000 E E  1    1   350  350  0  0
10:19:20  4194304  2500000 E E  1    1    0    0  0  0
10:19:21  4194304  2500000 E E  1    1   350  350  0  0
10:19:22  4194304  2500000 E E  1    1    0    0  0  0
10:19:23  4194304  2500000 E E  1    1   303  316  0  16
10:19:24  4194304  2500000 E E  1    1    47   34  0  0
10:19:25  4194304  2500000 E E  1    1    18   62  0  40

Control-C caught. Shutting down...

Disconnected from queue manager 'TEST'
mqqsstat v1.1 ended.

```

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C:\MQ>mqqsstat -m LINUX_U6 -q TEST -s -t -p 5 -c SYSTEM.DEF.SURCONN -x '192.168.255.139<1414>' -h -e -i 1
mqqsstat v1.1 - Developed by Oliver Fisse (IBM)

Connected to queue manager 'LINUX_U6'

PLATFORM<UNIX> LEVEL<600> CCSID<1208>
MAXHANDS<256> MAXMSGLEN<4194304> MAXPRTY<9> MAXUMSGS<10000> MONQ<MEDIUM>

Processing LOCAL queue 'TEST'

DESC<>
CRDATE<2009-08-09> CRTIME<13.48.51> ALTDATE<2010-10-07> ALTIME<08.21.47>
CLUSTER<> CLUSNL<> DEFBIND<OPEN>
BOTHRESH<1> BOQNAME<TEST.BO>
MONQ<QMGR> USAGE<NORMAL> NOTRIGGER

Dumping 2 handle(s)...

PID	TID	AT	CHL/APPL TAG/CONN	USER ID	B	INP	I	O	S	Time	MxML	MxQD	G	P	OIC	OUC	MDC	MEC	UNC	CQD	PqF	IqF	IqE	QOM	OqIS	OqIL
5219	38	USER	SYSTEM.DEF.SURCONN	fisse	N	SHR	N	N	N	19:17:01	4194304	2500000	E	E	1	1	34037	1000	0	0	0.00%	0.00%	0.00%	0.00s	0.00s	
			WebSphere MQ Client for Java							19:17:02	4194304	2500000	E	E	1	1	189	189	0	2	0.00%	0.00%	0.00%	0.00s	0.00s	
			192.168.255.1							19:17:03	4194304	2500000	E	E	1	1	61	61	0	0	0.00%	0.00%	0.00%	0.00s	0.00s	
			WebSphere MQ Client for Java							19:17:04	4194304	2500000	E	E	1	1	0	0	0	0	0.00%	0.00%	0.00%	0.00s	0.00s	
			192.168.255.1							19:17:05	4194304	2500000	E	E	1	1	250	250	0	0	0.00%	0.00%	0.00%	0.00s	0.00s	

Dumping 2 handle(s)...

PID	TID	AT	CHL/APPL TAG/CONN	USER ID	B	INP	I	O	S	Time	MxML	MxQD	G	P	OIC	OUC	MDC	MEC	UNC	CQD	PqF	IqF	IqE	QOM	OqIS	OqIL
5219	38	USER	SYSTEM.DEF.SURCONN	fisse	N	SHR	N	N	N	19:17:06	4194304	2500000	E	E	1	1	0	0	0	0	0.00%	0.00%	0.00%	0.00s	0.00s	
			WebSphere MQ Client for Java							19:17:07	4194304	2500000	E	E	1	1	250	250	0	0	0.00%	0.00%	0.00%	0.00s	0.00s	
			192.168.255.1																							

Control-C caught. Shutting down...

Xmqqstab

Options

Running the tool without any options or with option ‘?’ displays the usage as shown below:

```
C:\MQ>xmqqstab
Xmqqstab v1.0 - Display statistics for a list of Websphere MQ local queues
(c) Copyright IBM Corp. 2010, all rights reserved

Xmqqstab displays and reports statistics for a list of Websphere MQ
local queues.

Usage: Xmqqstab -m qmgr-name [-q q-list] [-n] [-r] [(-c chl-name -x conn-name
[-u ciph-suite] | -v | -l | -b chl-tbl-name)]

Options:
-b chl-tbl-name  Use the named client channel table
-c chl-name      Channel name for client connection
-l              Use the MQCHLTAB/MQCHLLIB environment variables
-m qmgr-name     Name of the queue manager hosting the queue(s)
-n              Display only queues with non-zero queue depth
-q q-list        List of queues to display statistics for
-r              Display and reset dequeue and enqueue counts
-u ciph-suite    Cipher suite for SSL connection
-v              Use the MQSERVER environment variable
-x conn-name     Connection name as host(port) for client connection

q-list: list of queue names separated by space

Wildcards * and ? may be used for queue names. * replaces one or more
characters, ? replaces a single character.

Statistics displayed

CQD  Current queue depth          LGETDATE  Last GET date
PQF  Percentage queue full         LGETTIME  Last GET time
MxQD Maximum queue depth          LPUTDATE  Last PUT date
OIC  Open input count             LPUTTIME  Last PUT time
OUC  Open output count            QOM       Oldest message age
MDC  Message dequeue count        G         GET enabled/disabled
MEC  Message enqueue count        P         PUT enabled/disabled
UNC  Number of uncommitted changes

Send bug reports, comments, etc... to Oliver Fisse (ISSW) at fisse@us.ibm.com

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or further service implied or committed via IBM product service channels.
```

Usage:

```
xmqqstab -m qmgr-name [-q q-list] [-n] [-r] [(-c chl-name -x conn-name
[-u ciph-suite] | -v | -l | -b chl-tbl-name)]
```

The following options are available:

? or no options

Display usage and help

-b <chl-tbl-name>

Use the specified client channel table to connect to the queue manager.

-c <chl-name>

Specifies the name of the client channel to use to connect to the queue manager hosting the local queue.

This option is used to connect to a queue manager remotely using a client connection. Use this option in conjunction with options -x and -u if SSL is required.

-l

Connects to the queue manager using the MQCHLTAB/MQCHLLIB environment variables. If MQCHLTAB is not defined AMQCLCHL.TAB is used as the name of the client channel table. If MQCHLLIB is not defined it defaults to the current directory.

-m <qmgr-name>

The name of the queue manager hosting the local queues.

-n

Displays only queues with non-zero queue depth.

-q <q-list>

List of queue names to display statistics for. Separate the queue names with a space. Wildcards * and ? can be used in the queue names. * replaces one or more characters, ? replaces a single character. If no name is given it defaults to '*' (all queue names).

-r

Display and resets the dequeue and enqueue counts.

-u <cipher-suite>

Specifies which cipher suite to use for a SSL connection.

-v

Connects to the queue manager using the MQSERVER environment variable.

-x <con-name>

Specifies the TCP/IP connection name to use to connect to the queue manager hosting the local queue. The format is server-address(port) and must be enclosed in double quotes ("").

This option is used to connect to a queue manager remotely using a client connection. Use this option in conjunction with options -c and -u if SSL is required.

Execution

Run the tool as follows in bindings mode (for example):

```
xmqqstab -m QM  
xmqqstab -m QM -q "SYSTEM.*" -r
```

Run the tool as follows in client mode (for example):

```
xmqqstab -c SYSTEM.DEF.SVRCONN -m QM -n -x "localhost(1414)"  
xmqqstab -c SYSTEM.DEF.SVRCONN -m QM -q "SYSTEM.*" -r -x "localhost(1414)"
```

Sample Output

See sample output in the readme.txt file

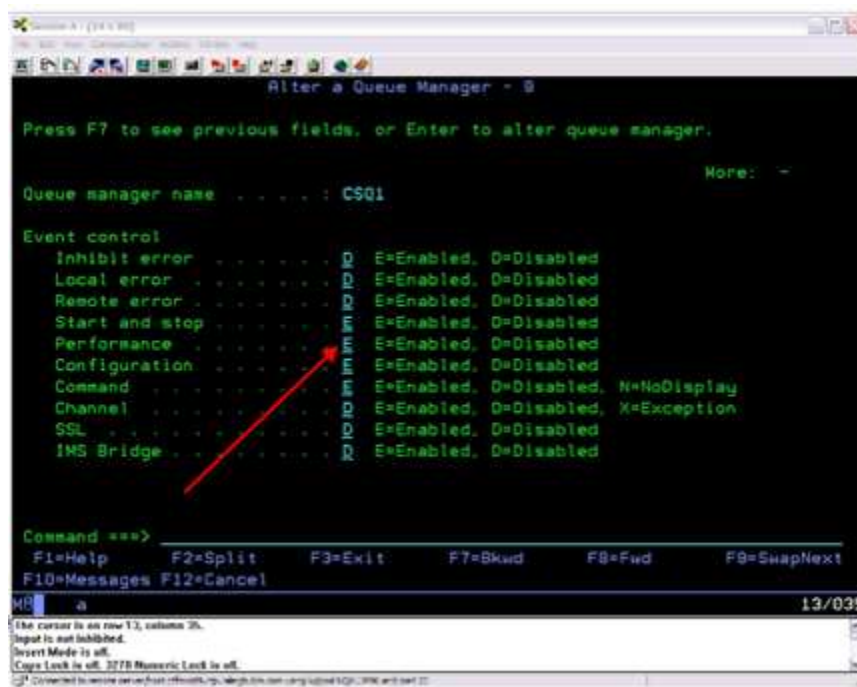
Additional Information

Please read the following important information:

- In order to gather enqueue/dequeue message counts the tool uses PCF command Reset Queue Statistics, therefore it not advisable to run multiple copies of this tool against the same queue at the same time.

Additionally, if you have a WebSphere MQ monitoring software which is also collecting enqueue/dequeue information, running this tool will certainly interfere with the collection of that information.

- Note that when running this tool on a queue hosted on a z/OS queue manager, performance events need to be enabled otherwise the tool will return an error code of 3224.



Appendix

Summary of Changes

Version 1.1.0

- Added support for SSL
- Added support for the MQSERVER environment variable
- Added support for the MQCHLLIB/MQCHLTAB environment variables
- Added new option -b to use a specific client channel table
- Added new option -d to run Xmqqstat for a set period of time
- Added new option -e to display extended stats for Xmqqstat
- Option -h for Xmqqstat now works properly for z/OS
- On CTRL-C, shut down cleanly Xmqqstat
- Fixed various bugs
- New Xmqqstab tool

Version 1.0.0

- Initial release