# How to identify MQ client connections and stop them

## IBM Techdoc: 7045669

http://www.ibm.com/support/docview.wss?uid=swg27045669

Date last updated: 14-Dec-2018

Angel Rivera – rivera@us.ibm.com
IBM MQ Support

+++ Objective

MQ client applications can connect to a queue manager through a transport type of "client", instead of "bindings". MQ runmqsc, MQ Explorer and SupportPac MS6B (chstat script) can be set to identify connections of this type, and stop them. To learn how to configure these options, use the information in this document.

The processes described here have been tested with the following configurations:
1: An MQ JMS client, used by WebSphere Application Server, with the automatic client reconnect option enabled.
2: The amqsputc sample MQ application, with the automatic client reconnect option disabled.
3: The amqsphac high availability put sample MQ application, with the automatic client reconnect option enabled.
4: MQ Explorer, with the automatic client reconnect option disabled.

If you already have some knowledge and experience in this area, here is a set of example commands for using runmqsc to identify MQ client connections and stop them:

- To display all the connections (both bindings and client), use:
display qmstatus conns

- To display the client applications using a server-connection channel:
display conn(*) where(channel NE '') APPLTAG CHANNEL CONNAME CONNOPTS

- To stop a connection (using the desired connection number from "display conn(*)"):
stop conn(connectionNumberfromDisplayConn)

- To stop a server-connection channel and allow it to be restarted by new connections:
stop channel(channelName) status(INACTIVE)

- To stop a server-connection channel and force it to remain stopped:
stop channel(channelName) status(STOPPED)

++ Displaying how many channels are in use (Updated on 14-Dec-2018)

The following excerpt is from:
http://www-01.ibm.com/support/docview.wss?uid=swg21449463
Finding the number of running channels

To display all the channels, use:

Windows: you can enter the following compound commands.
Ensure to replace QMGR with the proper values for your system:

```
echo DISPLAY CHSTATUS(*) | runmqsc QMGR | find /c "AMQ8417"
```

UNIX: you can enter the following compound commands.
Ensure to replace QMGR with the proper values for your system:

```
echo "DISPLAY CHSTATUS(*)" | runmqsc QMGR | grep 'AMQ8417' | wc -l
```

For UNIX: One possible way to apply this information is to create a cron job that issues the mentioned command and if the number of running channels is getting closer to the MaxChannels, then an MQ Administrator might be notified. The following technote could be used as a reference for creating a cron job:
http://www-01.ibm.com/support/docview.wss?uid=swg21249309
cron job for clearing all messages from a queue

On Distributed platforms the default value for MaxChannels is 100.

A system that is busy serving connections from the network might need a higher number than the default setting. Determine the value that is correct for your environment, ideally by observing the behavior of your system during testing.

On Distributed platforms, MaxChannels is an attribute in the qm.ini file.
The value for MaxChannels must be in the range 1 through 65535, with a default value of 100.

Example on how to change the maximum channels for a queue manager from the default 100 to 300:

Step 1: Modify the qm.ini of the queue manager:
CHANNELS:
MaxChannels=300

Step 2: Stop and restart the queue manager for the change in the qm.ini to take effect.

++ Best practice of creating a dedicated server-connection channel for applications

The default server-connection channel SYSTEM.DEF.SVRCONN is one that is intended to be used for sporadic connections, such as a testing of samples or for activities that are intermittent or of short duration.

But if a client application is going to be connected constantly to the queue manager, then it is best to create and use a dedicated server-connection channel for that application. There are some benefits for doing so:

- If the channel needs to be stopped, then only the dedicated application will be affected.

- You can exploit a customized "channel authentication record", which is a feature introduced in MQ 7.1.

- You could have different characteristics for the channel, such as SSL, MAXMSGL (maximum message length), MAXINST (maximum instances) and MAXINSTC (maximum instances per client).

+ The chapters are:

++ Configuration and topology

Even though the functions to identify and to stop the connections has not changed thru the versions, for completeness, this techdoc uses a variety of MQ versions and fix packs and multiple operating systems: 7.0.1, 7.1.0.6, 7.5.0.4, 8.0.0.2, Windows, Linux x86.

Queue manager in Linux:
  Name: QM_75
  Host: veracruz.raleigh.ibm.com  (IP 9.27.46.236) port 1430
  Version: 7.5.0.4

Client type 1:
MQ client in Linux x86-32 (MQ JMS 7.0.1.7 from WAS):
  Host: veracruz.raleigh.ibm.com (9.27.46.236)
  WAS 7.0.0.23 running with MQ JMS 7.0.1.7
  Server-connection channel:  SYSTEM.DEF.SVRCONN
  Reconnection note: The MQ JMS client connection from WAS specifies the reconnection option.

Client type 2:
MQ client in Windows 64-bit (sample amqsputc)
  Host: angelillo.raleigh.ibm.com [9.27.46.181]
  Version:  7.1.0.6
  Server-connection channel:  SYSTEM.DEF.SVRCONN
  Commands:
    set MQSERVER=SYSTEM.DEF.SVRCONN/TCP/veracruz.raleigh.ibm.com(1430)
    amqsputc Q1 QM_75
  Reconnection note: The amqsphac sample, written in C, does not specify the option for automatic client reconnection.

Client type 3:
MQ client in Linux x86-64 (high availability put sample amqsphac):
  Host: mosquito.raleigh.ibm.com (9.27.47.38)
  Version: 8.0.0.2
  Server-connection channel:  TEST.SVRCONN
  Commands:
    export MQSERVER='TEST.SVRCONN/TCP/veracruz.raleigh.ibm.com(1430)'
    amqsphac Q1 QM_75
  Reconnection note: The amqsphac sample, written in C, specifies the following option for the connection handle:
      cno.Options = MQCNO_RECONNECT;  /* reconnectable connection       */

Client type 4:
MQ Explorer in Windows 7:
  Host: angelillo.raleigh.ibm.com [9.27.46.181]
  Version:  8.0.0.2

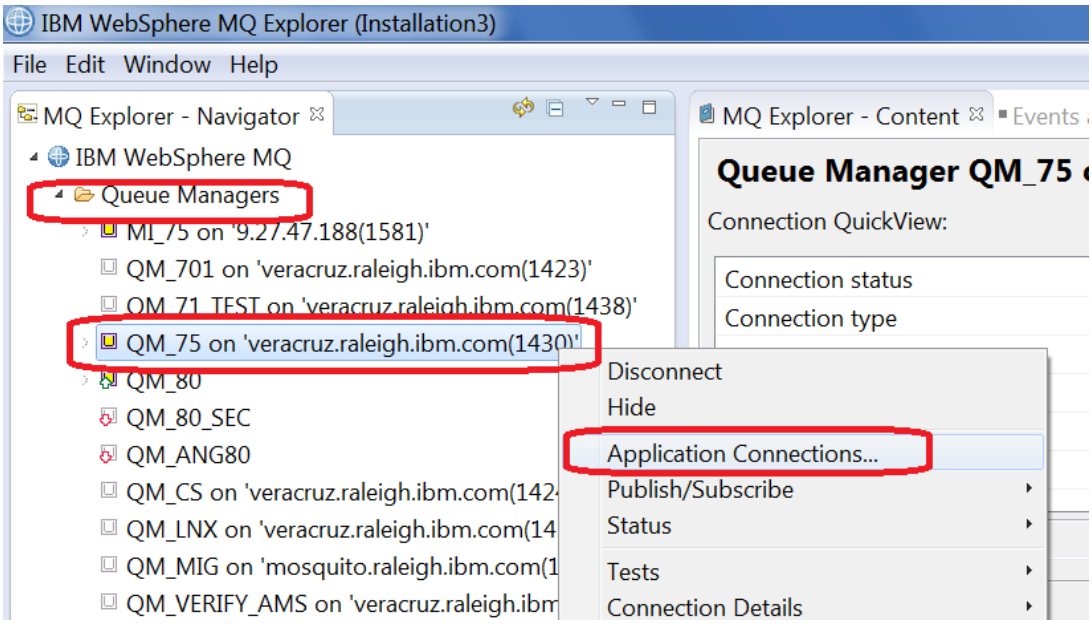
Server-connection channel: SYSTEM.ADMIN.SVRCONN

Reconnection note: When the MQ Explorer connects to a remote queue manager, does not use the reconnection option.

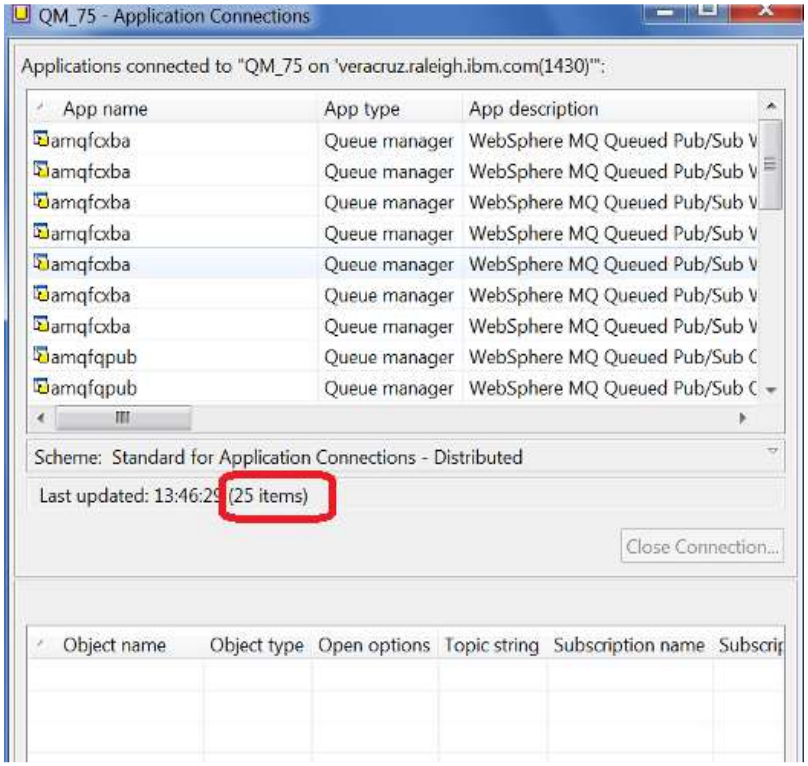
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++ Chapter 1: Identifying the clients that are connected through channels from the MQ Explorer
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

Start the MQ Explorer.
From the left panel, select the desired queue manager and right click to show the context menu.
Select "Application Connections...".

The following screen capture is for the queue manager QM_75:



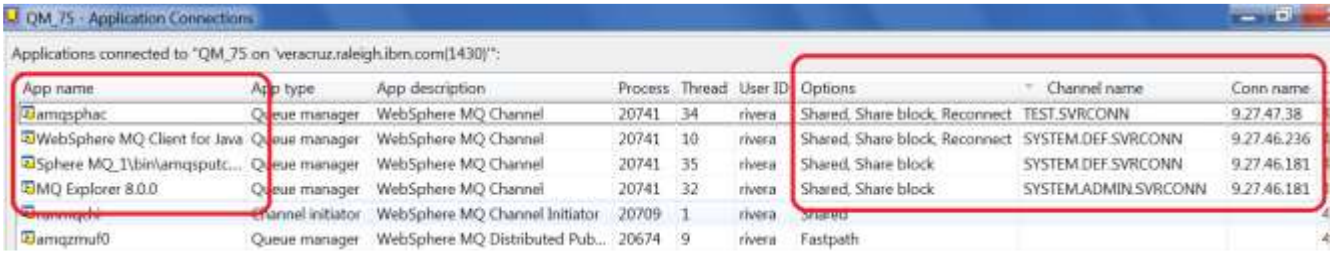
You will see a new window that has 2 panels.
The top panel shows all the connections.




Notice that there is a total of 25 connections (which includes both bindings and client connections).

Note about runmqsc to show the number of total connections:
This total can be found via runmqsc as follows:
To display all the connections (both bindings and client), use:
  display qmstatus conns
AMQ8705: Display Queue Manager Status Details.
   QMNAME(QM_75)                           STATUS(RUNNING)
   CONNS(25)

Because we need to take a look at the column "Channel name" (which is the 8th column from the left) and at the column "Conn name" (IP Address, which is the 9th column), it is recommended that you maximize the window and you click twice on the column title for "Channel name" in order to sort the values and to show the entries that have a channel name at the top.




Because the contents of the above screen capture is a bit hard to read, the plain text for the combined 1st column (App name), 8th column (Channel name) and 9th column (Conn name) is shown below.
A new column called "Index" is added for the convenience of being able to talk later about each entry, and referring to the index will facilitate the discussion.
Also, underneath each entry the Connection Options (column number 7) will be included:

```
Index  App name                        Channel name          Conn name

1      WebSphere MQ client for Java   SYSTEM.DEF.SVRCONN    9.27.46.236
       Connection Options: Shared, Share block, Reconnect

2      Sphere MQ_1\bin\amqsputc.exe   SYSTEM.DEF.SVRCONN    9.27.46.181
       Connection Options: Shared, Share block

3      amqsphac                       TEST.SVRCONN          9.27.47.38
       Connection Options: Shared, Share block, Reconnect

4      MQ Explorer 8.0.0              SYSTEM.ADMIN.SVRCONN  9.27.46.181
       Connection Options: Shared, Share block
```

The following has more explanation for each entry:

1: This connection is from the MQ Client from WAS, which is using the MQ classes for JMS (7.0.1.7), running in host "veracruz.raleigh.ibm.com" with IP address 9.27.46.236. It is a host with Linux x86-32.
The MQ client for Java is using the reconnect option.
The channel is SYSTEM.DEF.SVRCONN

2: It is from the MQ Client (at 7.1.0.6) from Windows sample "amqsputc.exe", which is running in host "angelillo.raleigh.ibm.com" with IP 9.27.46.181. It is a host with Windows 7.
It is not using the reconnect option.

The channel is SYSTEM.DEF.SVRCONN

3: It is from the MQ Client (at 8.0.0.2) high availability sample "amqsphac", which is running in host "mosquito.raleigh.ibm.com" with IP 9.27.47.38. It is a host with Linux x86-64:
It is using the reconnect option.
The channel is TEST.SVRCONN

4: It is from the MQ Explorer (at 8.0.0.2), which is running in host "angelillo.raleigh.ibm.com" with IP 9.27.46.181. It is a host with Windows 7.
It is not using the reconnect option.
The channel is SYSTEM.ADMIN.SVRCONN

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++ Chapter 2: Identifying the clients that are connected through channels from runmqsc: DISPLAY CONN(*) where(channel NE '')
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

You can use runmqsc to list all the connections that are connected through a channel.

The following general command will be used:
  display conn(*)

This general command will show both the clients that are connected through bindings (local) and through client mode (network, using a server-connection channel).

However, to narrow down the list of connections that are connected through a channel, then we will use the filter 'where' and specify those entries that have a value in the attribute 'channel name'; that is, where the channel name is not null.
If the value for the attribute 'channel name' is null, then it means that it is a connection using bindings mode and we are not interested on them in this techdoc.

This type of 'where clause' is a bit tricky because the filter in runmqsc does not have the SQL equivalent of "where attribute is not null" and thus you have to use the following WHERE expression:
   ChannelName Not Equals to singleQuote singleQuote
Which translates into:
```
 where(channel NE '')
```

Note:
For completeness, the equivalent for "where attribute is null" is:
```
 where(channel EQ '')
```

Let's run the desired display conn(*) command with the filter, showing only certain attributes, in order to get a short output.

$ runmqsc QM_75

**display conn(*) where(channel NE '') APPLTAG CHANNEL CONNAME CONNOPTS**

# Note that for readability in this document, I am introducing a separating line between entries.

AMQ8276: Display Connection details.
   CONN(B097365514220020)
   EXTCONN(414D5143514D5F373520202020202020)
   TYPE(CONN)
   APPLTAG(WebSphere MQ Client for Java)   CHANNEL(SYSTEM.DEF.SVRCONN)
   CONNAME(9.27.46.236)

```
 CONNOPTS(MQCNO_HANDLE_SHARE_BLOCK,MQCNO_SHARED_BINDING,MQCNO_RECONNECT)
.

AMQ8276: Display Connection details.
   CONN(B097365501810020)
   EXTCONN(414D5143514D5F373520202020202020)
   TYPE(CONN)
   APPLTAG(Sphere MQ_1\bin\amqsputc.exe)    CHANNEL(SYSTEM.DEF.SVRCONN)
   CONNAME(9.27.46.181)
   CONNOPTS(MQCNO_HANDLE_SHARE_BLOCK,MQCNO_SHARED_BINDING)
.
AMQ8276: Display Connection details.
   CONN(B097365503800020)
   EXTCONN(414D5143514D5F373520202020202020)
   TYPE(CONN)
   APPLTAG(amqsphac)                    CHANNEL(TEST.SVRCONN)
   CONNAME(9.27.47.38)
 CONNOPTS(MQCNO_HANDLE_SHARE_BLOCK,MQCNO_SHARED_BINDING,MQCNO_RECONNECT)
.
AMQ8276: Display Connection details.
   CONN(B0973655027F0020)
   EXTCONN(414D5143514D5F373520202020202020)
   TYPE(CONN)
   APPLTAG(MQ Explorer 8.0.0)           CHANNEL(SYSTEM.ADMIN.SVRCONN)
   CONNAME(9.27.46.181)
   CONNOPTS(MQCNO_HANDLE_SHARE_BLOCK,MQCNO_SHARED_BINDING)


# For comparison with the shorter output, let's show all the attributes for only one of the
above connections, in that way, you can see most of the attributes.

display  CONN(B097365501810020)
AMQ8276: Display Connection details.
   CONN(B097365501810020)
   EXTCONN(414D5143514D5F373520202020202020)
   TYPE(CONN)
   PID(20741)                           TID(35)
   APPLDESC(WebSphere MQ Channel)
   APPLTAG(Sphere MQ_1\bin\amqsputc.exe)
   APPLTYPE(SYSTEM)                     ASTATE(NONE)
   CHANNEL(SYSTEM.DEF.SVRCONN)          CONNAME(9.27.46.181)
   CONNOPTS(MQCNO_HANDLE_SHARE_BLOCK,MQCNO_SHARED_BINDING)
   USERID(rivera)                       UOWLOG( )
   UOWSTDA( )                           UOWSTTI( )
   UOWLOGDA( )                          UOWLOGTI( )
   URTYPE(QMGR)
```

EXTURID(XA_FORMATID[] XA_GTRID[] XA_BQUAL[])
QMURID(0.0) UOWSTATE(NONE)

# To show even more data, such as which is the queue to which the application is connected, you can add: type(all)
In this example, the application is using the queue Q1:
```
   OBJNAME(Q1)                             OBJTYPE(QUEUE)
```

```
display CONN(B097365501810020) type(all)
     4 : display CONN(B097365501810020) type(all)
AMQ8276: Display Connection details.
   CONN(B097365501810020)
   EXTCONN(414D5143514D5F373520202020202020)
   TYPE(*)
   PID(20741)                              TID(35)
   APPLDESC(WebSphere MQ Channel)
   APPLTAG(Sphere MQ_1\bin\amqsputc.exe)
   APPLTYPE(SYSTEM)                        ASTATE(NONE)
   CHANNEL(SYSTEM.DEF.SVRCONN)             CONNAME(9.27.46.181)
   CONNOPTS(MQCNO_HANDLE_SHARE_BLOCK,MQCNO_SHARED_BINDING)
   USERID(rivera)                          UOWLOG( )
   UOWSTDA( )                              UOWSTTI( )
   UOWLOGDA( )                             UOWLOGTI( )
   URTYPE(QMGR)
   EXTURID(XA_FORMATID[] XA_GTRID[] XA_BQUAL[])
   QMURID(0.0)                             UOWSTATE(NONE)

   OBJNAME(Q1)                             OBJTYPE(QUEUE)
   ASTATE(NONE)                            HSTATE(INACTIVE)
   OPENOPTS(MQOO_OUTPUT,MQOO_FAIL_IF_QUIESCING)
   READA(NO)
```

NOTES:
.
The following attributes from the output of DISPLAY CONN are not about the channel itself, but about the client application:
```
   APPLDESC( )
   APPLTAG(WebSphere MQ Client for Java)
```
.
The information of the APPLTAG field in 7.5 and later, it is more descriptive (whenever possible), than in 7.0 or 7.1.
For example, when an MQ Explorer Version 7.5 or 8.0 connects to the queue manager, the DISPLAY CONN will show respectively:
```
  APPLTAG(MQ Explorer 7.5.0)
  APPLTAG(MQ Explorer 8.0.0)
```
.
But when an MQ Explorer Version 7.0 or 7.1 connects, then the APPLTAG will be the generic:
```
   APPLTAG(WebSphere MQ Client for Java)
```

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++ Chapter 3: Identifying the clients that are connected through channels, using 'chstat' from SupportPac MS6B
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

Another way to identify the client connections is to use the following SupportPac which provides a korn shell script (called 'chstat') to list and/or kill all connections to a queue manager by queue, channel, or IP address.

The script can be downloaded from:

http://www-01.ibm.com/support/docview.wss?acss=wmq032008&rs=171&uid=swg24017810
MS6B: WebSphere MQ Connection Management Utility

For this technical document, the script was downloaded in to the following directory of the Linux host that has the queue manager QM_75:
/downloads/mq/ms6b

Usage note: You can use the "-example" option to have the syntax for performing most of the functions provided by the script:
chstat -example

The following command shows the connected applications:

$ chstat -mQM_75 -channel

| Total Connections | Channel Name | Connections By IP | | Application Tag |
|---|---|---|---|---|
| 21 | BINDINGS_CONN | | | |
| | | 7 | LOCALHOST | amqfcxba |
| | | 3 | LOCALHOST | amqfqpub |
| | | 1 | LOCALHOST | amqpcsea |
| | | 1 | LOCALHOST | amqrrmfa |
| | | 1 | LOCALHOST | amqzdmaa |
| | | 1 | LOCALHOST | amqzfuma |
| | | 5 | LOCALHOST | amqzmuf0 |
| | | 1 | LOCALHOST | runmqchi |
| | | 1 | LOCALHOST | runmqsc |
| 1 | SYSTEM.ADMIN.SVRCONN | | | |
| | | 1 | 9.27.46.181 | MQExplorer8.0.0 |
| 2 | SYSTEM.DEF.SVRCONN | | | |
| | | 1 | 9.27.46.181 | SphereMQ_1/bin/amqsputc.exe |
| | | 1 | 9.27.46.236 | WebSphereMQClientforJava |
| 1 | TEST.SVRCONN | | | |
| | | 1 | 9.27.47.38 | amqsphac |

Total Active Channels: 4

Total Active Connections: 25
Total Unique Clients: 4

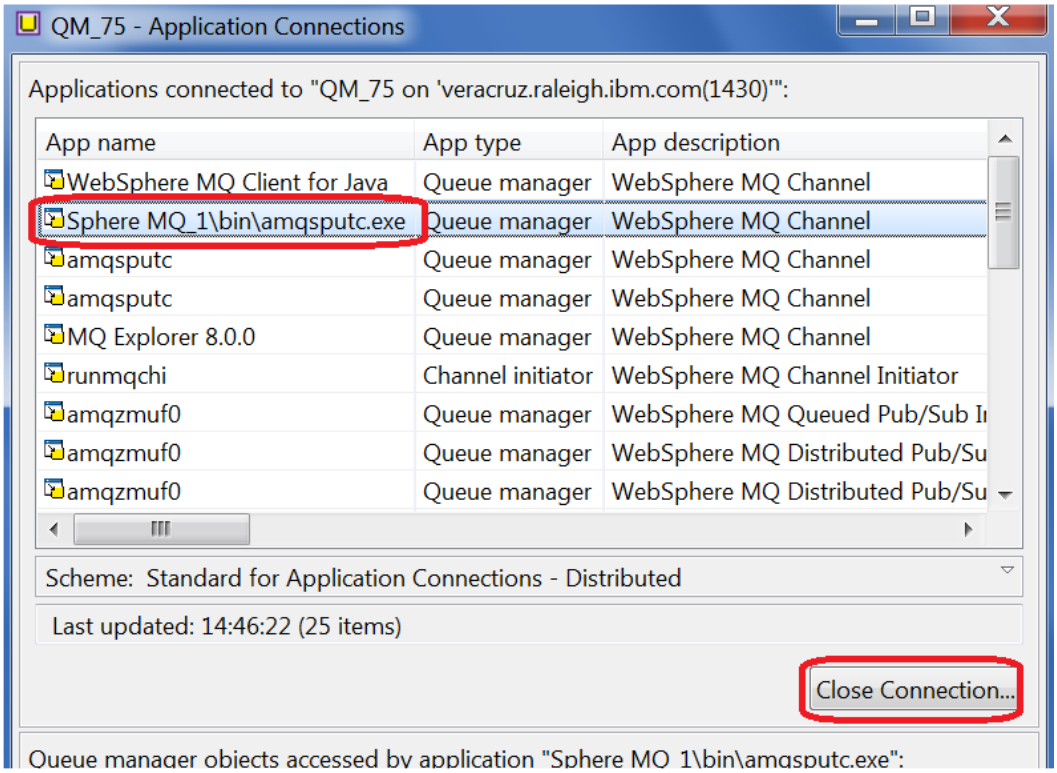
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++ Chapter 4: Stopping a connection through MQ Explorer
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

Let's terminate the connection from the amqsputc.exe in Windows, which currently looks like this:

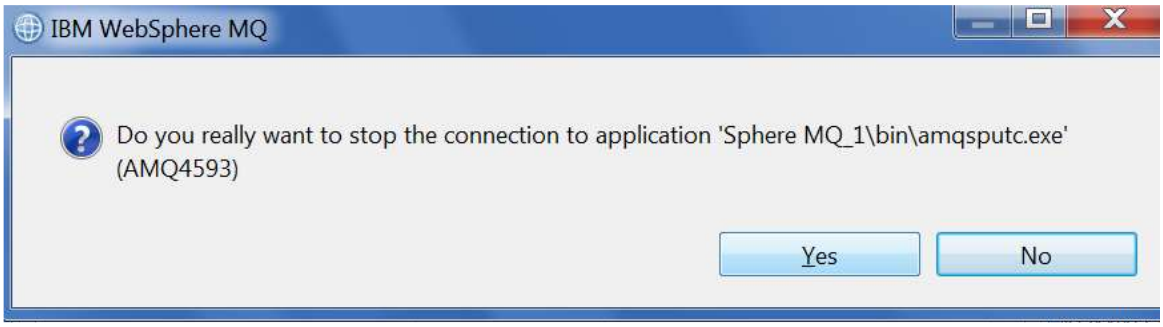
```
C:\> amqsputc Q1 QM_75
Sample AMQSPUT0 start
target queue is Q1
message-1
```

Notice that one message has been placed in the queue Q1: "message-1"

From MQ Explorer, select the connection for amqsputc.exe and then click on the button "Close Connection"



You will get a dialog to confirm the stopping of the connection:




Click Yes.

The connection is no longer active and it will not appear anymore in this window from the MQ Explorer.

When looking at the command prompt where the sample is running, it seems that nothing happened:

```
C:\>amqsputc Q1 QM_75
Sample AMQSPUT0 start
target queue is Q1
message-1
```

However, if you try to enter another message and press enter at the amqsputc.exe prompt, then you will get the rc 2009 indicating a broken.

```
C:\Users\IBM_ADMIN> amqsputc Q1 QM_75
Sample AMQSPUT0 start
target queue is Q1
message-1
message-2
MQCLOSE ended with reason code 2009
Sample AMQSPUT0 end

C:\Users\IBM_ADMIN>mqrc 2009
     2009  0x000007d9  MQRC_CONNECTION_BROKEN
```

Look now at the bottom of the error log for the queue manager, and you will see an error entry that corresponds to the stopping of the connection:

```
04/23/2015 04:38:14 PM - Process(20741.5) User(rivera) Program(amqrmppa)
                    Host(veracruz) Installation(Installation2)
                    VRMF(7.5.0.4) QMgr(QM_75)
AMQ9546: Error return code received.
```

EXPLANATION:
The program has ended because return code 8409612 was returned from function

----- amqrcmsa.c : 4928 --------------------------------------------------
04/23/2015 04:38:14 PM - Process(20741.5) User(rivera) Program(amqrmppa)
Host(veracruz) Installation(Installation2)
VRMF(7.5.0.4) QMgr(QM_75)
AMQ9999: Channel 'SYSTEM.DEF.SVRCONN' to host '9.27.46.181' ended abnormally.
EXPLANATION:
The channel program running under process ID 20741 for channel 'SYSTEM.DEF.SVRCONN' ended abnormally. The host name is '9.27.46.181'; in some cases the host name cannot be determined and so is shown as '????'.

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++ Chapter 5: Stopping a connection through runmqsc: STOP CONN
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

+ Scenario 1: Stopping a connection from a client that is not using automatic client reconnect.

From Chapter 2, the output from runmqsc for DISPLAY CONN(*) that shows the entry for amqsputc (which does not use automatic client reconnect) is the following:

```
AMQ8276: Display Connection details.
   CONN(B097365501810020)
   EXTCONN(414D5143514D5F373520202020202020)
   TYPE(CONN)
   APPLTAG(Sphere MQ_1\bin\amqsputc.exe)    CHANNEL(SYSTEM.DEF.SVRCONN)
   CONNAME(9.27.46.181)
   CONNOPTS(MQCNO_HANDLE_SHARE_BLOCK,MQCNO_SHARED_BINDING)
```

To stop that connection, issue the following runmqsc, by copying the connection value from the above output:

```
  STOP CONN(B097365501810020)
AMQ8457: WebSphere MQ connection stopped.
```

If you issue again the DISPLAY CONN(*) command, you will see that the number of connections was decreased from 4 to 3, because the connection from amqsputc is no longer there.

You can wait around a minute and issue the DISPLAY CONN(*) again. You will notice that the count remains the same and that there is no entry for amqsputc.

This means that the sample amqsputc has not tried to reconnect, and effectively, its connection was terminated. Good!

+ Scenario 2: Trying to stop a connection from a client that is using automatic client reconnect.

From Chapter 2, the output from runmqsc for DISPLAY CONN(*) that shows the entry for amqsphac (which uses automatic client reconnect) is the following:

```
AMQ8276: Display Connection details.
   CONN(B097365503800020)
   EXTCONN(414D5143514D5F373520202020202020)
   TYPE(CONN)
   APPLTAG(amqsphac)                CHANNEL(TEST.SVRCONN)
   CONNAME(9.27.47.38)
 CONNOPTS(MQCNO_HANDLE_SHARE_BLOCK,MQCNO_SHARED_BINDING,MQCNO_RECONNECT)
```

Currently the amqsphac application is happily putting messages into the queue:

```
message <Message 974>
message <Message 975>
```

Now let's try to stop the connection using the method in the Scenario 1:

```
STOP CONN(B097365503800020)
     8 : STOP CONN(B097365503800020)
AMQ8457: WebSphere MQ connection stopped.
```

And if you quickly issue the DISPLAY CONN(*) again, you will notice that the output will not show the entry for the connection CONN(B097365503800020) and you may think that the connection from amqsphac has terminated.

But if you look again at the amqsphac application you will see that because the application is using automatic client reconnection, the MQ libraries detected the broken connection and they tried to reconnect, and were able to successfully reconnect!

```
message <Message 1096>
message <Message 1097>
14:39:27 : EVENT : Connection Reconnecting (Delay: 192ms)
14:39:27 : EVENT : Connection Broken
14:39:28 : EVENT : Connection Reconnected
message <Message 1098>
message <Message 1099>
```

If you issue again the DISPLAY CONN(*) from runmqsc, you will see that the entry for amqsphac is back!
But upon closer observation, you notice that the value for CONN is different, because it is indeed a new connection!

```
AMQ8276: Display Connection details.
   CONN(B097365505940020)
   EXTCONN(414D5143514D5F373520202020202020)
   TYPE(CONN)
   APPLTAG(amqsphac)                CHANNEL(TEST.SVRCONN)
   CONNAME(9.27.47.38)
 CONNOPTS(MQCNO_HANDLE_SHARE_BLOCK,MQCNO_SHARED_BINDING,MQCNO_RECONNECT)
```

Hum!

This means that STOP CONN will not effectively terminate the connection from a client application that is using the option for automatic client reconnect.

Now you have this question: is there a way to terminate the connection from such client application and prevent the application from trying to reconnect again?

The answer is 'yes' and it is explained in the next chapter.

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++ Chapter 6: Stopping a connection through runmqsc: STOP CHANNEL STATUS(STOPPED
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

The Scenario 2 from Chapter 5 shows that a client application that uses the automatic client reconnection cannot be effectively stopped by using the runmqsc command STOP CONN

One strategy is to allocated a separate server-connection channel for those applications that use the automatic client reconnection and if necessary, the MQ administrator can stop that dedicated channel, which in turn will terminate the connection.

However, it is important to specify the proper option, which is STATUS(STOPPED).

The rest of this document shows 2 scenarios, one with STATUS(INACTIVE) and the other with STATUS(STOPPED).

+ Scenario 1: Stopping a channel and specifying STATUS(INACTIVE)

In this document, the connection from the high availability sample amqsphac uses the dedicated server-connection channel named "TEST.SVRCONN".

I used the MQ Explorer to stop that channel:
Selected the desired server-connection channel, right-click and issued: Stop ...
Then specified for New State: "inactive"

This is the equivalent of the following in runmqsc:
  stop channel(channelName) status(INACTIVE)

The running amqsphac application got the following error message:

message <Message 112>
14:12:21 : EVENT : Reason(2202)
MQPUT ended with reason code 2202
Sample AMQSPHAC end

mqrc 2202:
 MQRC_CONNECTION_QUIESCING

And the following entry was logged in the error log of the queue manager:

05/05/2015 03:05:38 PM - Process(20741.28) User(rivera) Program(amqrmppa)
                Host(veracruz) Installation(Installation2)
                VRMF(7.5.0.4) QMgr(QM_75)
AMQ9528: User requested channel 'TEST.SVRCONN' to be stopped.
EXPLANATION:

The channel is stopping because of a request by the user.

OK! It seems that we reached the objective that an MQ administrator can terminate a connection from a client application.

... but ...

But the user from the remote system may try again to run the client application, and it will succeed, re-activating automatically the channel and creating a new connection!

```
rivera@mosquito: /home/rivera
$ amqsphac Q1 QM_75
Sample AMQSPHAC start
target queue is Q1
message <Message 1>
message <Message 2>
```

Thus, the use of STATUS(INACTIVE) will not prevent the remote application from trying again to contact the queue manager through the dedicated server-connection channel, which will start automatically.

Question: Is there a way to stop a server-connection channel and prevent that a remote application restarts that channel?
In order words, it is possible to force a server-connection channel to remain stopped and not to start automatically?

The answer is 'yes' and it is explained in Scenario 2 below.

+ Scenario 2: Stopping a channel and specifying STATUS(STOPPED)

To ensure that the channel remains stopped and does not restart in response from a new contact from a remote client, then specify that the new status should be "STOPPED":

I used the MQ Explorer to stop a channel:
Selected the desired server-connection channel, right-click and issued: Stop ...
Then specified for New State: "stopped"
This is the equivalent of:

```
  stop channel(channelName) status(STOPPED)
```

The running amqsphac application got the following error message 2202 MQRC_CONNECTION_QUIESCING

```
message <Message 112>
14:12:21 : EVENT : Reason(2202)
MQPUT ended with reason code 2202
```

Sample AMQSPHAC end

But if the user of the remote system tries to restart the client application will get an error 2537 MQRC_CHANNEL_NOT_AVAILABLE
rivera@mosquito: /opt/mqm80/inc
$ amqsphac Q1 QM_75
Sample AMQSPHAC start
MQCONNX ended with reason code 2537
Sample AMQSPHAC end

Then the following entry will be added to the queue manager:

05/05/2015 03:10:03 PM - Process(20741.30) User(rivera) Program(amqrmppa)
Host(veracruz) Installation(Installation2)
VRMF(7.5.0.4) QMgr(QM_75)
AMQ9534: Channel 'TEST.SVRCONN' is currently not enabled.
EXPLANATION:
The channel program ended because the channel is currently not enabled.
ACTION:
Issue the START CHANNEL command to re-enable the channel.

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++ Chapter 7: Stopping a connection through SupportPac MS6B
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

One way to use the chstat script from MS6B to stop a connection is to specify the -kill option. An example is shown below.

```
rivera@veracruz: /downloads/mq/ms6b
$ chstat -mQM_75 -kill -cSYSTEM.DEF.SVRCONN -ip9.27.46.236

Stopping Connections on SYSTEM.DEF.SVRCONN from 9.27.46.236 | total: 2

[Time: 04/20/15-15:55:26] [1] of [2] Stopping CONN(B599265502300020) |
EXTCONN(414D5143514D5F373520202020202020)
[Time: 04/20/15-15:55:26] [2] of [2] Stopping CONN(B5992655132E0020) |
EXTCONN(414D5143514D5F373520202020202020)
```

+++ end