Using IBM MQ dmpmqmsg to delete only the first message from a queue

https://www.ibm.com/support/pages/node/7148300

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+++ Objective +++

The IBM MQ utility "dmpmqmsg" can do many tasks, and one of them is to delete only 1 message (or to move that message to another queue for later processing) but keep intact the other messages in the queue.

An example to delete the 1st message from queue Q1 and create an output file with the contents of that message (in the format used by dmpmqmsg) is:
```
dmpmqmsg -m QM93WIN -I Q1 -r 1 -f deleted-message-1.txt
```

An example to MOVE the 1st message from Q1 to Q2 is:
```
dmpmqmsg -m QM93WIN -I Q1 -o Q2 -r 1
```

++ Motivation

The sample amqsget could be used, but it will delete ALL the messages in the queue. Thus, when you want to delete ONLY the FIRST message, then amqsget is not the proper tool.

Some possible scenarios for when you want to delete only the 1st message are:

- You have an MQ Client application that reads the 1st message of a queue, but for some reason (such as the application is expecting a certain format, but the message in question has another format) the application cannot consume that message and the message is "stuck" in the queue.

- A Transmission Queue is failing to process the 1st message and this message is "stuck", preventing the other messages in that queue to be transmitted to the remote queue manager.

- Perhaps you do not want to delete the 1st message, but just move it to another queue for later processing or investigation.

++ Note about Poison Messages handling by MQ JMS

The MQ Classes for JMS, when configured properly, can automatically handle the so called "poison messages". This capability is NOT available in C-based applications.
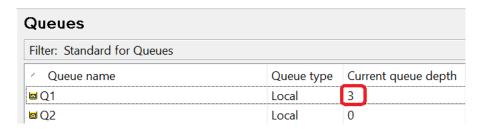
For more details see:
https://www.ibm.com/support/pages/node/603835
Handling undelivered messages in WebSphere MQ 7: Dead Letter Queue, Poison Messages (Webcast recording and PDF file)
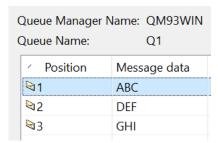
++ Scenarios

+ Baseline

There are 3 text messages in queue Q1

The payloads of the messages are:

Position 1: ABC
Position 2: DEF
Position 3: GHI

+ Delete the message in position 1 from queue Q1

You can "download" the 1st message from the queue into a file, using a Destructive Get, which effectively means that you are DELETING the message from the queue.

The attributes are:

```
-m QM93WIN  => the name of the queue manager
-I Q1        => DESTRUCTIVE GET from queue (DELETE)
-r 1         => position 1
-f filename => file that will contain the contents of the deleted message
-dt          => in the output file, the contents will be shown at the
                bottom as TEXT
```

```
C:\> dmpmqmsg -m QM93WIN -I Q1 -r 1 -f deleted-message-1.txt -dt
Processing message index 1 only.
IBM MQ Queue Load/Unload Utility
Read    - Files:   0  Messages:1  Bytes:3
Selected by Filters - Messages:1
Written - Files:   1  Messages:1  Bytes:3
```

After the message was deleted, let's confirm the deletion of the message in MQ Explorer:

Notice that there are now only 2 messages in Q1.

Let's browse the messages. Notice that the message with payload 'ABC' is no longer there.

+ Note about attribute: -dt

The default format for the payload to be represented in the output file is in binary.

For example, if the payload is: ABC

Then if the attribute -dt is NOT used, then the last line in the output file will be marked with an X and it is the binary representation:

```
X 414243
```

But if the attribute -dt is used, then the last line will be marked with a T and it is text:

```
T ABC
```


+ Output file from dmpmqmsg uses a special format

The output file "deleted-message-1.txt" (from the above example that deletes a message from Q1) is in the special format used by "dmpmqmsg".

For more details on this special format see:

https://www.ibm.com/support/pages/node/7027547
What is the meaning of the 3 letter codes in the output file from IBM MQ dmpmqmsg

+ Upload the message from the output file into another queue

You can use dmpmqmsg to upload the message in that output file into another queue (Q2):
```
dmpmqmsg -m QM93WIN -o Q2 -f deleted-message-2.txt
```

Where:
```
-o Q2         => PUT into queue
```

+ Move the 1st message from queue Q1 to Q2

Instead of deleting and "downloading" the 1st message into a file, you could MOVE the
message into another queue, such as Q2.
In that way, the message will no longer be in Q1.

```
C:\> dmpmqmsg -m QM93WIN -I Q1 -o Q2 -r 1
```
Processing message index 1 only.
IBM MQ Queue Load/Unload Utility
Read   - Files: 0 Messages:1 Bytes:3
Selected by Filters - Messages:1
Written - Files: 0 Messages:1 Bytes:3
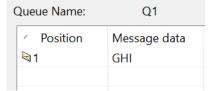
Let's confirm with MQ Explorer:
Notice that each queue has now 1 message:
In Q1, we had 2 messages. Now we have 1.
In Q2, we did not have any messages. Now we have 1.

✓ Queue name	Queue type	Current queue depth
Q1	Local	1
Q2	Local	1

The remaining message in Q1 has the letters "GHI"

Queue Name:	Q1
✓ Position	Message data
1	GHI

The message that was moved from Q1 to Q2 has the letters "DEF"

Queue Name:	Q2
✓ Position	Message data
1	DEF

+++ end +++