

## Duplication of messages in IBM MQ, including Streaming Queues which were introduced in MQ 9.2.3 CD

<https://www.ibm.com/support/pages/node/6416383>

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### +++ Question

Do the IBM MQ queue managers have a feature to automatically generate a duplicate message (for backup, archival or auditing reasons) for each message that arrives to a queue?

### +++ Summary of Answers:

- a) Starting with MQ 9.2.3 CD, the answer is: YES
- b) Prior to MQ 9.2.3 CD, the answer is: NO

### +++ DETAILS

++ a) Starting with MQ 9.2.3 CD, the answer is: YES

you can use the NEW feature introduced in MQ 9.2.3 CD called "Streaming Queues", which generates automatically 1 duplicate message.

The target queue for the duplicate message is any valid queue (local, alias, remote queue definition).

The duplicate message has the SAME messageid of the original message.

For more details please see:

(New Tutorial)

<https://www.ibm.com/support/pages/node/7153211>

Automatic duplication of messages using IBM MQ 9.3 Streaming Queues

<https://www.ibm.com/docs/en/ibm-mq/9.2?topic=configuring-streaming-queues>

IBM MQ / 9.2 /

[V9.2.3 Jul 2021][UNIX, Linux, Windows, IBM i]

Configuring streaming queues

++ b) Prior to MQ 9.2.3 CD, the answer is: NO

There are some alternatives though:

+ 1) However, the following technote provides an approach that involves only administrative objects (including a Topic) at the level of the queue manager, and this is transparent to the MQ Client applications. That is, the MQ client application is NOT affected at all (no changes!) and it is NOT aware that a duplicate is being generated by the queue manager.

NOTE: Strictly speaking, when using Topics/Subscriptions keep in mind that the messages received by the destination queues are NOT truly identical. Even though they will have the same payload and same characteristics, each message will have its own unique message-id.

Why? Because one of the fundamental features of a network of MQ queue managers in an enterprise, is that each message across the enterprise should have a unique message-id.

<https://www.ibm.com/support/pages/node/466493>

MQ: You want to put a message into a queue and you want to generate duplicate messages into other queues

These are the scenarios described in the article:

1.a) You are using point-to-point (queues) with your putting and getting applications. You want to use the MQ Pub/Sub under the covers and you do not want your putting and getting applications to be aware of Pub/Sub. That is, the application that puts messages into a queue continues to put messages into a queue, and the getting applications keep getting messages from a queue.

1.b) You are using point-to-point and you want to create "duplicate" messages that will be stored in queues Q1 and Q2, when the message is put into the queue "DESTINATION".

+ 2) If the suggestion of having a topic alias is not appealing to you, then I would suggest to use utilities that can copy the messages from one queue to another.

However, keep in mind that the queue manager does not invoke these utilities. You will need to manually invoke them (from a shell/batch file, using cron, etc.)

2.a) One option is to use the "q" utility (not supported by the MQ Support team though). The "q" utility was provided in the SupportPac MA01, which was moved to GitHub and can be found here.

<https://github.com/ibm-messaging/mq-q-qload>

Q program (q.exe)

This utility is NOT maintained by the MQ Support Team. It is supported by its author.

From the readme file, here are sample actions that are relevant to your question:

Move messages between Queues: q -lQ1 -oQ2

Copy messages between Queues: q -iQ1 -oQ2

From the readme:

The program also allows multiple Queue Managers to be in use.

Copy messages from QM1 to QM2: `q -xb -m QM1 -i Q1 -m QM2 -oQ2`

The `-xb` parameter is required on some platforms to allow connection to two different Queue Managers from the same thread.

Move messages from QM1 to QM2 : `q -xb -m QM1 -l Q1 -m QM2 -oQ2 -p20`

Where:

- Note that this does not use two phase commit. The transaction is committed on the target and then on the source.
- The `-xb` parameter is required on some platforms to allow connection to two different Queue Managers from the same thread.
- The `-p<Interval>` parameter is number of messages after which an MQCMIT is taken. If not specified message operations are not under syncpoint.

2.b) Another option is to use the "qload" utility (not supported by the MQ Support team though) for MQ 7.x.

However, starting with MQ 8.0, a new utility was added to MQ, "dmpmqmsg", and it is based on 'qload'. This utility dmpmqmsg is supported by MQ Support (but only works with MQ 8.0 and later).

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<https://github.com/ibm-messaging/mq-q-qload>

QLOAD program (qload.exe)

This utility is NOT maintained by the MQ Support Team. It is supported by its author.

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From the PDF manual for qload:

Example 5. Copy the messages from one Queue to another Queue

`qload -m QM1 -i Q1 -o Q2`

Example 7. Move the messages from one Queue to another Queue

`qload -m QM1 -l Q1 -o Q2`

Example 8. Move messages older than one day from one Queue to another Queue

`qload -m QM1 -l Q1 -o Q2 -T1440`

2.c) If you are using MQ 8.0 or MQ 9.x, then you can use the new utility "dmpmqmsg".

[https://www.ibm.com/support/knowledgecenter/en/SSFKSJ\\_9.2.0/com.ibm.mq.adm.doc/q117770.html](https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_9.2.0/com.ibm.mq.adm.doc/q117770.html)

IBM MQ 9.2 > IBM MQ > Administering > Administering local MQ objects >

Using the dmpmqmsg utility between two systems >

Examples of using the dmpmqmsg utility

Copy the messages from one queue to another queue

Replace the file parameter in Unload a queue to a file, with another queue name and use the following options:

```
dmpmqmsg -m QM1 -i Q1 -o Q2
```

This command allows the messages from one queue to be copied to another queue.

Move the messages from one queue to another queue

A variation on Load a queue from a file. Note the distinction between using -i (lower case) which only browses a queue, and -I (upper case) which destructively gets from a queue:

```
dmpmqmsg -m QM1 -I Q1 -o Q2
```

Move messages older than one day from one queue to another queue

This example shows the use of age selection. Messages can be selected that are older than, younger than, or within a range of ages.

```
dmpmqmsg -m QM1 -I Q1 -o Q2 -T1440
```

3) The utilities mentioned in item 2 do not have an option to schedule jobs. This means that you need to use something else to do the scheduling.

You can use in Unix the "cron" facility and the following technote can be useful to find out how to use it (of course, you will need to adapt the concepts for moving the messages):

<https://www.ibm.com/support/pages/node/87035>

Cron job for clearing all messages from a queue

+++ end